



REGIONAL SCHOOL DISTRICT 18

Lyme & Old Lyme

Facility Study – Mile Creek

August 15, 2021



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Existing Conditions Survey

1.0 Overview:

Mile Creek is located at 205 Mile Creek in Old Lyme, CT. The school has gone through several renovations and additions throughout the years, it currently houses the towns K-5 students. The school is located in the southern portion of Old Lyme in a wooded residential area just north for route 156. The latest large-scale renovation / addition work was completed in 2000.

Original and subsequent additions to the school have been constructed out of a masonry and steel design with CMU veneer finishes. The school is a single-story design which houses classrooms, a gymnasium, administrative offices, media center, cafetorium, around a central courtyard. Due to its single story design the building is relatively spread out however work in a loop with minimal offshoots off the central loop. The building is situated on a relatively flat portion of the site with minimal grade changes around the building and the site sloping down away from the southern portion of the building.



Figure 1.01: Mile Creek School Aerial Photograph

This report contains an architectural systems conditions analysis, accompanied by photographs, a building systems and infrastructure report, and finally a site and utilities evaluation.

A summary of the major concerns of the building, MEP systems, and site are as follows:

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Section 1: Architectural & Interiors

- Aging of exterior materials – CMU deterioration, control joint cracking
- Aged interior finishes including flooring and ceramic tile
- Aged classroom millwork
- Deteriorating exterior hollow metal door frames
- Layout not conducive to current secured entry standards
- Potential non-compliance with code requirements, egress, and plumbing fixtures
- Outdated technology and design

Section 2: Building Systems & Infrastructure

- Structural
- Mechanical
- Plumbing
- Electrical

Section 3: Site & Site Utilities



1.1 Exterior Wall & Roof Assembly:

Masonry: The primary exterior wall assembly is consistent throughout the building. The exterior walls are typically a masonry wall with CMU or metal stud backup and a CMU veneer. The CMU has been maintained over the years however there are several areas where there are noticeable cracks and repair due to a lack of control joints in the veneer. There is notable staining from metal pieces and infilled openings from past renovations.

Windows: The windows were replaced in a 2000 renovation project. They are double hung aluminum windows that are a more traditional design. The windows appear to be in good shape and have been maintained well. No cracked glazing was noticed or broken seals. The exterior aluminum flashing appears in good shape as well.



Wall Insulation: Based on the existing construction documents and age of the building the CMU exterior wall assemblies appear to have a mix of batt insulation when metal stud is the backup and no insulation when CMU is used as the backup. The classroom window design creates a large portion of glazing against the exterior wall providing minimal thermal performance. Similarly, the steel roof design appear to have steel supports that transition from the exterior to the interior with little to no thermal break.

1.2 Roofing, Waterproofing, & Insulation:

Review of the insulation and envelope protection systems was limited to the visible external components. Many of these protective systems are installed within the walls, below grade, and within the roof construction interstitial space.

Roof Assembly: The roof membrane system has been replaced in stages with the latest portion being done in 2011. There is a mix of flat EPDM roofing as well as low sloped PVC

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membrane roofing with faux standing seam profiles. Both roof membranes appear to be in good condition with general maintenance and repairs occurring over time. Older portions of the roof that were done in 2000 are starting to transition into their end of life however no noticeable defects or leaks were seen.

Insulation: As mentioned above in the exterior wall section, the exterior walls on the existing building are a concern for their insulating value. It appears that a good portion of the walls are glazing, however an insulated panel above the windows was added in the 2000 renovation. The masonry below the storefront does not appear to be insulated and the steel above the storefront appears to transition between the interior and exterior creating a thermal break in the assembly.

1.3 Doors, Windows & Hardware:

Interior doors appear to be in fair shape and are consistent throughout the building. Hardware and doors were updated as part of the 2000 project and are in reasonable shape. Exterior hollow metal doors have begun to weather but a majority of the exterior doors and frames are part of the aluminum storefront system. The main entrance doors are an aluminum storefront system and appear to be exposed to a large amount of salt and water with components of the frame and flooring starting to deteriorate.

Interior Doors: Interior doors are generally wood with a veneer finish and ½ height vision windows, they appear to be in good to fair condition. The doors were replaced during the 2000 renovation of the building several rooms have small bathrooms in them that appear to be more prone to water damage. Doors appeared to still be in working order but are starting to show their age. Door hardware appears to be fully functional and consistent with today's standards.



Exterior Doors: Exterior doors located at primary egress areas (Main Entrance, Corridors, etc.) are a mix of hollow metal and aluminum. These doors seem to be holding up well with the exception of the main entrance system. Water and salts have caused the main entrance frames and surrounding materials to begin to corrode and deform. Prolonged use has also caused some of the rubber seals on the doors to break and or tear away completely. The vestibule created at the main entrance provides a level of security as the doors can be controlled by the main office however the administrative offices are not directly connected to the vestibule



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providing a break in the security as visitors are buzzed into the school with full access without being forced to go through the main office or show identification beforehand.

Windows: As noted previously in the 1.1 Exterior Wall section the windows were replaced in 2000 and are generally in good condition and have been maintained well both from the inside and outside of the building. The building does not have central air conditioning however and window units have been installed in the windows for every exterior room. Since the windows weren't designed to house a window unit the sashes remain open providing a break in both the thermal envelope and acoustical separation from outside noise.

1.4 Interior Finishes:

There are a wide variety of finishes at Mile Creek in a range of conditions. General maintenance of the building has been good throughout the years given the age of some of the finishes still in the building. Many areas show significant signs of wear and tear over the years and given the age and condition of most of the existing finishes, some consideration should be given to update areas of the building with new materials that would be consistent throughout the school

Flooring:

- *Vinyl Tile:* Much of the school is vinyl tile that appears to be in good to fair condition. Many of the tiles have been maintained with minimal cracking or damage noted. There are certain rooms and spaces that show heavier wear and damage then other and would benefit from replacement.
- *Ceramic Tile:* In lavatories, the ceramic tile floors also appear to be in good condition with no noticeable cracked or broken areas. Grout damage or discoloration was minimal and consistent with the age of the tile.



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- **Wood Floors:** The gymnasium floor is a typical wood floating floor system. There are areas in the floor that are starting to show excessive wear including the custom transitions made to get down to the exterior door elevations.
- **Entrance Mat Systems:** As per the Connecticut high performance building standards, 3-part entrance mat systems are required to minimize particulars and maintain indoor air quality. Mile Creek uses a mix of walk off carpet tile as well as portable surface mats. While some are doubled up, a permanent full walk off system is suggested, and replacement of the deteriorated entrance walk off system.



Wall Finishes: A majority of the wall finishes in the school is gypsum board. These walls have been painted and patched over the years and are predominantly in good condition. Outside corners of heavily trafficked areas showed increased damage and repair work. Other wall finishes include painted CMU which is in good condition but is more prone to exposed conduit and reworked exposed raceway.

Ceiling Systems: Ceiling products age more quickly than others and require consistent replacement. Often these systems are replaced completely with lighting upgrades or mechanical installations. The ceilings at Mile Creek seem to generally be in good condition however are varied throughout the school. As expected, there are some areas where the ceiling should be replaced such as stained and damaged tiles in portions of the classrooms, and corridors; this most likely has been caused by ongoing maintenance or IT work in the school. There also seem to be more dated ceiling tiles in certain spaces that might benefit from the new acoustic properties provided by the newer tile designs.



Interior Wood Casework:

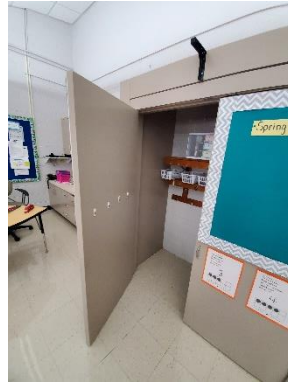
The condition of the existing cabinets and millwork in the building appears to be in fair to poor condition. They have been maintained well over the years but are quite old at this point and



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have several layers of repairs done to them. The design of the casework is also dated and does not function properly with today's curriculum and classroom setups. Many rooms have broken and not used recessed filing cabinets. Storage areas are not equipped with interior storage solutions and drawers do not have standard roller hardware.



1.5 Specialties & Equipment:

Visual Display Surfaces: The district maintenance and IT programs have updated the teaching walls in the classrooms to have smartboards and short throw projectors accessed by a desktop computer. As with all retrofits of a building this age, it is difficult to find a clean solution with power, data, and AV cables

Instructional Surfaces: Classrooms are equipped with at minimum one marker board and tack board system. Some classrooms have additional marker board spaces that are utilized as supplemental instructional spaces.



1.0 INTRODUCTION

Mile Creek School is located at 205 Mile Creek Road in Old Lyme, Connecticut, serving grades K through 5. The school facility is located on a 10.75-acre parcel identified by the Town of Old Lyme as parcel I.D. 8-41, and is located in an RU-40 Zone. The school site's access is from two driveways at Mile Creek Road. A diagram of the site is included herein as Figure 1.

This report presents the results of a facilities study that focused in exterior "site" elements of the school, and is organized into two main components as follows:

- Site operational conditions, including site ingress/egress, interior vehicle circulation, and general site security considerations; and
- Site physical plant, including utilities, driveways and parking facilities, pedestrian facilities, and exterior Handicapped Accessibility.

Code references utilized in this facilities study include the 2018 Connecticut State Building Code, and as referenced therein, the 2015 International Building Code (IBC) and International Code council (ICC) A117.1 (2019). It should be noted that this facility assessment did not include a complete code assessment of the "site" elements of the school facility. Rather, this assessment included a code "screening" with select items being evaluated. It is also important to note that these code items were compared to the codes currently in effect, and it is recognized that significant portions of the construction at the school pre-dated these codes. Ultimately, the local building official maintains authority for code items, and in the case of a public educational facility, the Connecticut State Department of Education, with regards to accessibility.

2.0 SITE OPERATIONAL CONDITIONS

2.1 Site Ingress/Egress and Interior Vehicle Circulation

Routine access to the school is from two driveways intersecting Mile Creek Road (Drive 1 and Drive 2). From these locations, vehicles access the campus in two ways:

- Drive 1 is generally located at the “front” of the school. Vehicles enter the drive and turn right to access a one-way loop that accommodates a small parking lot (Lot 1; including accessible parking)) and a passenger loading zone (Passenger Loading Zone 1; PL1) at the school’s main entrance. The one-way loop re-connects back to Drive 1, at which point vehicles can turn right into Lot 2 or proceed straight to exit the school site on Mile Creek Road. Lot 2 is, which is in front of the school, is considered “remote” as it is approximately 150 feet from the school’s main entrance (with pedestrian connections via a walkway and sidewalk).
- Drive 2 is located to the east of Drive 1 and provides access to the east side of Lot 2 and continues south to Lot 3. Lot 3 contains parking (including accessible parking) that is configured to access the east side of the school. The southern end of Lot 3 is configured with a drive loop that includes a passenger loading zone (Passenger Loading Zone 2; PL2).

Because school was not in session at the time of the facilities study, BSC interviewed school staff to gain an understanding of school bus and parent vehicle routes, including ingress/egress, circulation and student drop-off/pick-up. Buses access the school site at Drive 1 and discharge students at PL1 via the one-way loop. Private vehicle drop-off is accomplished with vehicles entering the campus from Drive 2 and proceed through Lot 3 to PL2. Walkers (non-bus/non drop-off) enter the building at the main entrance (Door 1).

2.2.1 Recommendations

The ingress/egress and circulation appear to be functional and no modifications are recommended at this time. School representatives indicate that at present, vehicles are currently parking on the grass during end of day pick-up. This is due to a lack of queuing space and short-term parking. Based on the discussions with school representatives, additional queuing space and/or short-term parking should be considered for the site. This could involve reconfiguration of Drive 1 and the loop area, and/or reconfiguration/expansion of Lot 2.

2.2 Site Security

BSC conducted a basic review of general site (exterior) security considerations such as site access controls, physical barriers, vehicle access/building proximity, lighting, surveillance systems, interior to exterior sight lines, vegetation, etc. The review did not include a review of the schools’ School Security and Safety Plan or similar plans. The security checklist is included in the “Tables” section of this report.

3.0 SITE PHYSICAL PLANT

3.1 Utilities

BSC interviewed the Region 18 Director of Facilities and Technology to gain an understanding of utility services currently in use at the school, including on-site utilities and directly-associated off-site utilities. This included information regarding the nature of these facilities and if any associated deficiencies have been noted. The school is served by the following utilities:

- Electricity: Local utility provider
- Back-Up Electricity: On-site generator (liquid fuel; buried tank in Lot 3)
- Gas: None
- Propane: None
- Water Supply - CT Water Company
- Sanitary Sewage: Regional School District 18 subsurface disposal system; 2 on-site systems located on 1) east side of building, and 2) southeast of building (see appendices).
- Telephone: Local utility provider
- Data: Local utility provider
- Storm Drainage: On-Site systems (2) with subsurface infiltration located on east side of site (see appendices).

Based on the information received from Region 18, no deficiencies in “site” utility systems serving the school facility have been identified. No obvious deficiencies or apparent failures (e.g. damage, obvious signs of failure, etc.) were observed at the time of the site visits portion of the study.

Site lighting appeared to be in a state of good repair. No photometric study was done to assess exterior lighting levels.

It was noted that the emergency generator and pad-mounted transfer, both located on the east side of the building, are in close proximity to pedestrian walkways and are not surrounded by any type of protective enclosures.

School representatives noted an occasional occurrence of flood on the west side of the school, near Door 22. It is noted that a catch basin is located in this area. The catch basin should be cleaned, and the condition monitored. If the condition persists, installation of a small grass swale, parallel with the existing bituminous walkway and connected to the north and south sides of the catch basin, should be considered.

Following significant rainfall as a result of Hurricane Ida over September 1st and 2nd, 2021, the school experienced flooding in the custodial room, teacher’s lounge, school office and front entryway. Based on security camera footage, it is probable that the water originated courtyard, although a specific location cannot be determined. It is highly probable that because of the intensity of the storm event, the stormwater system was overwhelmed. The courtyard is served by two yard drains that are at the far upstream, or beginning, of the drainage system the discharge into. Ultimately, this segment of the drainage system flows to the east, where the stormwater is discharged to an underground system, consisting of 3 rows of infiltrators. It is recommended that the drainage system, including the infiltration units, be inspected for sediment build-up, debris, or potential other sources of reduced conveyance capacity and/or infiltration capacity.

3.2 Driveways and Parking Facilities

BSC conducted a general visual assessment of the existing driveways and parking areas to review 1) the condition of bituminous pavement, and 2) the condition of associated ancillary features such as pavement markings and signage.

3.2.1 Bituminous Pavement

To document the existing condition of the bituminous pavement, BSC utilized an approach to the assessment that focused on three major indicators: 1) surface defects, 2) surface deformations, and 3) cracking. The table below summarizes these pavement defects along with the specific nature of each defect that was considered.

<u>Pavement Defect Classifications</u>	
Surface Defects	Ravelling and loss of surface aggregate
	Flushing
Cracking	Block Cracking
	Fatigue (Alligator) Cracking
	Longitudinal (Linear) Cracks
	Transverse Cracks
	Edge Cracks
	Slippage Cracks
	Joint Reflection Cracks
	Rippling and Shoving
Surface Distortion or Deformation	Rutting
	Distortion/Depression
	Potholes

Based on subjective observations guided by the defined types of pavement defects, the bituminous pavement was assigned into one of five categories, based on the observed conditions:

- “Satisfactory” (best condition).
- “Fair” (functional, with only minor repairs, such as crack sealing, required to maintain condition).
- “Poor” (functional, but repairs are needed to maintain condition or restore the pavement to “Fair” condition. Without repairs, the pavement will quickly deteriorate to “Serious” condition).
- “Serious” (functional, but generally beyond the point where basic repairs can restore the pavement to “Poor” or “Fair” condition. Repairs will only serve to maintain function; plan for pavement replacement).
- “Failed” (pavement is considered non-functional).

BSC segregated the access drives and parking areas into defined areas, which are depicted on Figure 1. The results of the pavement assessment are indicated in the table below. Photographs that support the pavement assessment are included in the “Photographs” section of this report.

<u>Pavement Condition Summary</u>		
Area	Classification	Commentary
Drive 1	Fair	Crack repairs recommended.
Drive 2	Fair	Crack repairs recommended.
Lot 1	Fair	Crack repairs recommended
Lot 2	Fair	Crack repairs recommended
Lot 3	Fair	Crack repairs recommended; monitor localized fatigue cracking and repair as needed.

3.2.1.1 Findings

Overall, the pavement condition on the campus can be classified in the “Fair” category. Globally, the pavement exhibits very mild to mild signs of weathering (loss of asphalt binder material over time). In general, few pavement surface defects were noted. The surface defects that were noted are localized and typical for pavement systems that are beyond 5-10 +/- years old.

A combination of transverse cracking and longitudinal cracking was noted to varying degrees in all areas observed. These cracks are indicative of the pavement material’s age. Pavement seams that have cracked at the edges of patching (presumably for utility installations and localized sections of pavement replacement) were also observed in Lot 3. Some areas of highly localized pavement deterioration/fatigue cracking were noted primarily in Lot 3, including locations where block cracking, longitudinal crack or transverse crack propagation has occurred. In these areas, it is probable that progressive block cracking has allowed water to penetrate the base, resulting in localized structural compromise, which in-turn causes further pavement degradation/cracking. Based on the overall condition of the pavement at the school, these areas are not indicative of a global base failure.

Many of the cracks observed have been treated with asphaltic crack sealer while other areas of cracking have not been treated. It is assumed that the untreated cracks have formed since the initial sealing operation was conducted. It was also noted that some of the previously treated/sealed cracks exhibit signs of additional crack expansion/sealing failure, including the presence of grassy vegetation.

In general, very few surface deformations were noted. Again, this suggests that global structural failure of the pavement system’s granular base is not an issue.

3.2.1.2 Recommendations

The life cycle of bituminous pavement systems is not linear. Depending on design life (unknown) and preventive maintenance, a typical pavement condition trend is for a slight deterioration following initial construction followed by a levelling off period, where the deterioration condition slows relative to elapsed time. The period of slower deterioration is when most of the desired condition, use, and life of the pavement system occurs. At the end of the “leveling off” period, there is a transition point, after which the deterioration of the pavement will accelerate towards a “failed” state. Typically, if preventive maintenance is performed before the transition point is reached, the life and use of the pavement can be extended within the leveling off period. Also, any major restoration work, such as overlay, that is done before a pavement deteriorates below the transition point usually costs substantially less than would be required if the rehabilitation work is delayed, due to the better condition of the pavement system.

Because the pavement system is rated as “Fair”, the following actions are recommended to monitor and maintain the pavement system at the school to extend its condition and overall useful life to the extent practicable.

- A Routine Maintenance Program should be implemented and revisited on (at least) an annual basis. This maintenance program should incorporate the following:
 - 1) Monitoring of cracks.
 - 2) Frequent and consistent removal of vegetation and debris from cracks.

- 3) Removal of debris (sand, etc.) from the pavement surface.
- 4) Crack sealing.
- 5) Surface sealing; (select areas or full coverage).

The primary goal of the maintenance program is to minimize the infiltration of water into the pavement base material (as noted above). Cracks offer numerous routes for water entry into the base section. In general, water will flow directly into cracks that are over 1/8-inch in width. Cracks below this width also allow water intrusion, primarily through a “pumping” mechanism, that is essentially created when water is forced into the cracks by the passage of vehicle tires. Once water enters the pavement base, freeze-thaw cycles impose stresses on the pavement matrix that result in crack propagation and additional crack formation.

- Funding should be allocated for localized repairs (removal and patching) when warranted. These localized repairs should target areas where localized pavement deterioration/fatigue cracking is significant, including locations where block cracking, longitudinal crack or transverse crack propagation has occurred, and where this deterioration has resulted in potholes.
- Coordination with the recommendations of other aspects of this facilities study should be noted to avoid expending maintenance efforts on pavement areas that may be subject to reconfiguration or replacement as a result of other repair or mitigation efforts.

3.2.1.3 Service Life

The pavement system exhibits signs of aging, primarily evidenced by the shrinkage cracking noted. In general, with ongoing monitoring of pavement conditions and implementation of a consistent maintenance program, the pavement system on the campus could be extended another 6 to 10 years (this timeframe should be considered approximate). If consistent monitoring and maintenance is not undertaken, a noticeable acceleration in pavement deterioration will likely occur within the next three to five years as water penetrates the cracks and freeze-thaw cycles accelerate pavement deterioration.

Well-constructed asphalt pavement can typically last 20 years before requiring a major rehabilitation or full-depth reconstruction. Surface treatments or thin overlays every 7-10 years can extend a pavement system well beyond that range.

3.2.2 Pavement Markings and Signage

Pavement markings and signage were generally observed across the school site. These facilities include crosswalks, stop bars, directional arrows, vehicular signs (stop, do not enter, etc.) and parking signs (accessible parking signs, student drop-off/pick-up signs, etc.). Select example photographs of these facilities are included in the “Photographs” section of this report.

3.2.2.1 Pavement Markings

Overall, pavement markings are in “Fair” condition. All pavement markings show signs of wear and/or discoloration, to varying degrees, with some being affected by crack sealing material. Pavement markings at accessible parking spaces or generally in “Satisfactory” to “Fair” condition, although as indicated herein, as marked, are not code compliant (refer to Section 3.4).

3.2.2.2 Signage

Overall, site signage is in “Fair” condition, although some signs are heavily faded or on posts that are damaged. All signs observed were metal sheeting on metal posts. Signs are mounted on a combination of U-channel and tube-type posts. All posts are ground penetration type configurations. No breakaway-type mounts were observed. Sign mounting height varied across the site. Several accessible parking signs are not mounted at the correct height (refer to Section 3.4). It should be noted that sign retroreflectivity testing was not conducted during the study.

3.2.2.3 Recommendations

Based on the anticipated rate of deterioration, funding should be allocated for the re-painting of existing pavement markings in approximately 3 to 5 years. More directional arrow pavement markings should be added at the school’s driveways at several locations. These are recommended at 1) Drive 1, at Mile Creek Road (direction in/direction out) and the loop drive adjacent to the existing “do not enter” sign to reinforce its one-way configuration, and 2) Drive 2, at Mile Creek Road (direction in/direction out).

Site signage that is heavily faded or on damaged posts should be replaced. Other signs should be monitored for degradation and replaced as needed. The District should also select a standard sign type, mounting type, and post type to facilitate upkeep and maintenance. It is recommended that all signs be aluminum backing with retroreflective sign face sheeting, in conformance with the Manual on Uniform Traffic Control Devices (MUTCD). It is recommended that signposts be galvanized steel, either U-channel steel or square steel tube, with all sign mounting systems utilizing anti-theft measures. Sign location and mounting heights should conform with MUTCD or Connecticut State Building Code as applicable. Additionally, some “sign clutter” was noted at Drive 1 and Drive 2. Sign clutter can be confusing to drivers and/or hinder visibility of signs. Consideration should be given to consolidating, relocating, and/or eliminating unneeded signs.

A pavement markings and signage maintenance program should be established to create a defined framework for the ongoing monitoring, maintenance of these important facilities. This program will also provide a vehicle through which funding can be incrementally allocated to maintain these facilities in a state of good repair. The pavement markings and signage maintenance program should generally include the following:

- Inventory of all pavement markings and signage, including type and location.
- Conducting annual condition inspections of pavement markings and signage.
- Conducting bi-annual retroreflectivity inspections of signs using industry standards.
- Maintenance-related activities/corrective actions, including sign cleaning, vegetation control, anti-theft measures and sign support adjustments.
- Maintenance-related activities/corrective actions, including those done in response to damaged, deteriorated, or obscured pavement markings or missing, damaged, deteriorated, or obscured signs.

3.3 Pedestrian Facilities

BSC conducted a general visual assessment of exterior “site” sidewalks, walkways and plazas to document their existing condition. BSC segregated these facilities into defined areas based on their location relative to the school building and/or key building features, which are depicted on Figure 1. Photographs that support the assessment of pedestrian facilities are included in the “Photographs” section of this report. Many aspects of the pedestrian facilities assessment directly relate to handicapped accessibility, which is address in Section 3.4 of this report.

The assessment classified the existing condition of the various walking surfaces into one of three primary categories, based on the observed condition of the surface material:

- 1) “Acceptable”
- 2) “Needs Repair”
- 3) “Needs Replacement”

The sidewalks and walkways at the school are constructed of bituminous pavement. Overall, the pavement condition of the sidewalks and walkways can be classified in the “Acceptable” category at present. Globally, the pavement material exhibits signs of weathering (loss of asphalt binder material over time). Transverse cracking was noted to varying degrees in all areas observed. These cracks are indicative of the pavement material’s age. In general, few pavement surface defects were noted. A summary of pedestrian facilities assessed is provided in the table below.

Pedestrian Facilities Condition Summary

Walking Area	Condition	Commentary
1-Bituminous sidewalks and walkways at front of school (north).	Acceptable	<ul style="list-style-type: none">- Remove vegetative growth in cracks.- Clean and repair cracks as needed.- Monitor for future cracks.
2- Bituminous sidewalks and walkways on east side of school; connections at Lot 3. Includes concrete walkway at boiler room door and Door 5	Acceptable	<ul style="list-style-type: none">- Remove vegetative growth in cracks.- Clean and repair cracks as needed. Fill cracks greater than 1/2 inch prior to crack sealing.- Monitor for cracks/repair as needed at seams between new pavement/old pavement.- Monitor for future cracks.- Monitor for settlements at utility covers that represent tripping hazard.
3-Bituminous walkway along south end of building along gymnasium.	Acceptable	<ul style="list-style-type: none">- Monitor for heaving or settlements.- Monitor for future cracks.- If possible, re-direct downspouts away from walking surface.
4-Bituminous walkway along west side of gymnasium.	Acceptable	<ul style="list-style-type: none">- Clean and repair cracks as needed.- Monitor for cracks; monitor for settlements.- If possible, re-direct downspouts away from walking surface.- Remove algae and debris from walking surface.
5-Bituminous walkway along south side of southwest classroom wing.	Acceptable	<ul style="list-style-type: none">- Monitor for cracks.
6- Bituminous walkway along west side of building. Includes bituminous walkway at Lot 1.	Acceptable	<ul style="list-style-type: none">- Monitor for water accumulation/ice accumulation.- If possible, re-direct downspouts away from walking surface.- Monitor for cracks; monitor for settlements.- Remove vegetation on west side of sidewalk at Lot 1.

At such time the District determines that the sidewalks and walkways have reached the end of their serviceable life, it is recommended that replacement facilities be constructed with concrete. Although higher in cost, concrete is a highly durable and stable material that can have a serviceable life beyond 20 years if installed and maintained properly. The sidewalks could be replaced in a phased manner or selective manner, with a prioritization based on condition (and projected condition over time) and/or use volume.

3.4 Exterior Handicapped Accessibility

BSC conducted a general assessment of exterior “site” handicapped accessibility at the Site relative to the 2018 Connecticut State Building Code. BSC conducted a visual assessment of each area along with notations and photo-documentation. The assessment included the following:

- Assessment of accessible parking spaces counts.
- Assessment of accessible parking spaces.
- Assessment of passenger loading zones.
- Assessment of “Accessible Routes”. A select number (sample set) of longitudinal and cross slopes were measured using a digital level (“smart-level”).
- Assessment of curb ramps.

3.4.1 Accessible Parking Spaces - Counts

The site contains a total of 80 parking spaces distributed between Lots 1, 2 and 3. Key code provisions considered during the facilities study relative to the number of accessible parking spaces include:

- 2018 Connecticut State Building Code, 2015 International Building Code, Section 1106: Where more than one parking facility is provided on a site, the number of parking spaces required to be accessible is calculated separately for each parking facility.
- 2018 Connecticut State Building Code, 2015 International Building Code, Section 1106.1: The number of accessible parking spaces required is based on the number of parking spaces provided.
- 2018 Connecticut State Building Code, 2015 International Building Code Section 1106.5, (CT Amended): For every six or fraction of six accessible parking spaces, at least one shall be a van-accessible parking space.
- 2018 Connecticut State Building Code, 2015 International Building Code, Section 1106.6: Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance. In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest route to an accessible pedestrian entrance to the parking facility. Where buildings have multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located near the accessible entrances.

A summary of parking spaces and required accessible parking spaces is summarized as follows:

Lot	Space Count	Required Accessible Parking Spaces, Car (2015 IBC 1106.1)	Required Accessible Parking Spaces, Van (CTSBC Amd 1106.5)	Actual Accessible Parking Spaces, Car	Actual Accessible Parking Spaces, Van	Notes
1	18	1	1	2	0	Adjacent to main building entrance.
2	18	1	1	0	0	Not necessarily required in this lot. Lot is considered “remote” from building.
3	44	2	1	2	0	Adjacent to east side of building. Various building entrances.

3.4.2 Accessible Parking Spaces - Configuration

The following table provides a summary of the evaluation of accessible parking spaces on the site. Tables with specific data summarized in comparison with the 2018 Connecticut State Building Code, 2015 International Building Code and ICC A117.1 are provided in the “Tables” section of this report.

Lot	Accessible Parking Space Number	Designation	Does the Space Comply with 2018 CTSB?	Notes
1	1(e)	PC	No	- Insufficient space width (access aisle meets dimensional requirements). - Incorrect signage. - Incorrect sign height. - No van-accessible space.
1	2(w)	PC	No	- Insufficient access aisle width (space meets dimensional requirements). - Incorrect signage. - Incorrect sign height. - No van-accessible space. - No connection to Accessible Route. Access Aisle ends at grass.
3	1(n)	PC	No	- Incorrect signage. - Incorrect sign height. - No van-accessible space. - No connection to Accessible Route. Access Aisle ends at bituminous curb.
3	2(s)	PC	No	- Insufficient space width. - Insufficient access aisle width. - Incorrect signage. - Incorrect sign height. - No van-accessible space.

Notes:

- 1) Progression of multiple spaces in numbered sequence denoted by compass heading (n/s/e/w).
- 2) “PC” denotes passenger car accessible parking space; “V” denotes van accessible parking space.
- 3) “NC” denotes a non-code item but noted for best management.

3.4.3 Passenger Loading Zones

The site contains two passenger loading zones, identified on Figure 1 as “PL 1” and “PL 2”. Passenger loading zone PL 1 is located at the front of the school, proximal to the main entrance (Door 1), and Passenger loading zone PL 2 is located at the south end of Lot 3 along the loop drive near Door 9.

Key provisions 2018 Connecticut State Building Code considered during the facilities study relative to passenger loading zones includes Section 1106 of the 2015 International Building Code and Section 503 of ICC A117.1. Tables that summarize the specific elements of these codes and findings at each of the passenger loading zones are included in the “Tables” section of this report. Both PL1 and PL2 appear to be non-complaint relative to the codes referenced.

3.4.4 Accessible Routes

A screening was conducted of Accessible Routes based on the location of handicapped parking, passenger loading zones, curb ramps and building access/egress ramp systems. The screening was completed relative to key components of ICC A117.1, Chapter 4 and 2018 Connecticut State Building Code amendments. As a screening, a complete code review was not conducted, particularly with regard to key slopes. Rather, a select number (sample set) of longitudinal and cross slopes were measured using a

digital level (“smart-level”). BSC segregated these facilities into defined areas based on their location relative to the school building and/or key building features, which are depicted on Figure 1. Photographs that support the assessment of pedestrian facilities are included in the “Photographs” section of this report. A summary of Accessible Routes assessed is provided in the table below.

Accessible Routes Screening Summary

Accessible Route	Commentary
1-From Accessible Parking in Lot 1 to main entrance.	<ul style="list-style-type: none"> - Access Aisle from west accessible space ends at grass. No connection to Accessible Route (ICC A117.1 CTBC Amd 502.4.1). - Bituminous walkway appears compliant. - Door 1 appears compliant (see Table 2, Door Checklist).
2-From Accessible Parking in Lot 3 to east side entrance at Door 4.	<ul style="list-style-type: none"> - Access Aisle from north accessible space ends at bituminous curb. No connection to Accessible Route (ICC A117.1 CTBC Amd 502.4.1). - Bituminous walkway appears compliant. - Door 4 appears compliant (see Table 2, Door Checklist).
3-From PL1 to main entrance.	<ul style="list-style-type: none"> - See Passenger Loading Zone tables. - Concrete at the bottom of the ramp should be repaired. The missing concrete results in a change in floor surface that is in conflict with ICC A117.1 303.2.
4-From PL2 to Door 9	<ul style="list-style-type: none"> - See Passenger Loading Zone tables. - Curb ramp does not have a landing (ICC A117.1 406.7). Slopes measured vary from 3% to 5%. - Accessible route at top of ramp on bituminous surface exceeds 1/48 (2%) cross-slope (ICC A117.1 403.3).
5-From Door 15 to Play Area 2	<ul style="list-style-type: none"> - Concrete landing/bituminous walkway interface has differential greater than 1/4 inch which results in a change in floor surface that is in conflict with ICC A117.1 303.2. - Bituminous walkway exceeds 1/48 (2%) cross-slope (ICC A117.1 403.3).
6-Egress from Door 5	<ul style="list-style-type: none"> - Concrete landing at door does not comply with 304.3.1 - The accessible route exceeds 1/20 (5%) running slope (ICC A117.1 402.2).
Exterior areas for assisted rescue	Exterior areas for assisted rescue should be confirmed and identified to comply with IBC 1009.7 which requires that these areas be accessed by an accessible route from the area served. Where the exit discharge does not include an accessible route from an exit located on the level of exit discharge to a public way, an exterior area of assisted rescue should be confirmed and identified on the associated exterior landing.
Public Access	<ul style="list-style-type: none"> - Curb ramp on Drive 1 sidewalk at north crossing of Lot 2 entrance has running slope that exceeds 1/12 (8.33%) (ICC A117.1 405.2). - Curb ramp on Drive 1 sidewalk at north crossing of Lot 2 entrance does not have a landing (ICC A117.1 405.7.1 and 406.7). - Curb ramp on Drive 1 sidewalk at south crossing of Lot 2 entrance has running slope that exceeds 1/12 (8.33%) (ICC A117.1 405.2). - Curb ramp on Drive 1 sidewalk at south crossing of Lot 2 entrance does not have a landing (ICC A117.1 405.7.1 and 406.7). - No Site arrival points per CT Bld Amd Code 1104.1, “At least one accessible route within the site shall be provided from public transportation stops, accessible parking and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance served.”

3.4.5 Recommendations

It is recommended that a comprehensive review of accessible parking spaces and their corresponding accessible routes be conducted. The assessment should include an evaluation of available space to determine if the required number of passenger car spaces and van spaces can be accommodated to the required dimensions, located as near as possible to a building entrance or walkway. Additionally, an accounting of accessible routes, including those that are associated with egress only and exterior areas for assisted rescue, should be conducted so a detailed assessment can be conducted to determine all areas of non-compliance. This would allow for a corrective strategy to be developed commensurate with the

appropriate funding. Additionally, directional signage for accessibility should be provided to direct pedestrians to accessible building access points.

3.5 Recreation/Play Areas

3.5.1 General Assessment

A general overview was conducted of the playground/play areas. This did not include any type of playground inspection or assessment of play equipment. A summary of the overview is provided below.

Area	Commentary
Play Area 1	<ul style="list-style-type: none"> - See Section 3.5.2. - If possible, re-direct downspouts away from bituminous play surface.
Play Area 2	<ul style="list-style-type: none"> - See Section 3.5.2. - Recommend replacement of utility covers with slip-resistant style.
Play Area 3	<ul style="list-style-type: none"> - Recommend inspection of play equipment by a qualified inspector. - Recommend de-compact/dress/replace playground mulch to applicable standards as needed. - Recommend use of sandbox cover. - Recommend implementation of a routine inspection and maintenance program.
Play Area 4	<ul style="list-style-type: none"> - Recommend inspection of play equipment by a qualified inspector. - Recommend de-compact/dress/replace playground mulch to applicable standards as needed. - Numerous trees adjacent to playground area. Recommend inspection of trees by licensed arborist to identify potentially hazardous limbs and/or trees.
Court 1	<ul style="list-style-type: none"> - Consider line painting. - Recommend removal of wood bench. - Recommend moving picnic table further away from court edge.
Baseball Field	<ul style="list-style-type: none"> - Remove vegetative growth within infield and base paths. - Monitor for animal damage.
Multi-Purpose Field	<ul style="list-style-type: none"> - Monitor for animal damage.

3.5.2 Bituminous Play Areas

BSC conducted a general visual assessment of the two bituminous play areas (Play Area 1 and Play Area 2) and the bituminous basketball court (Court 1) using the same methodology as the driveways and parking areas. A summary of this assessment is provided in the table below.

Pavement Condition Summary- Play Areas and Basketball Court

Area	Classification	Commentary
Play Area 1	Fair	<ul style="list-style-type: none"> - Remove vegetative growth in cracks. - Clean and repair cracks as needed. - Monitor for future cracks.
Play Area 2	Fair	<ul style="list-style-type: none"> - Remove vegetative growth in cracks. - Clean and repair cracks as needed. - Monitor for future cracks.
Court 1	Good	<ul style="list-style-type: none"> - Consider line painting - Monitor for cracks and repair as soon as observed.

3.5.3 Accessibility

Access to various areas/components of the site's recreation/play areas does not appear to comply with the standards for accessibility defined in the 2018 Connecticut State Building Code, IBC and ICC A117.1. School Districts are "public entities" as defined by Title II, 42 U.S.C. § 12131(1) and are therefore subject to the requirements of Title II of the Americans with Disabilities Act of 1990 (ADA). This requirement

extends to playgrounds and their associated access for children with disabilities under Title II of the ADA, 42 U.S.C. §§ 12131–12134, and the United States Department of Justice’s implementing regulation, 28 C.F.R. Part 35. It is recommended that the District conduct a review of their specific obligations in this regard and conduct a detailed assessment of accessible routes/accessibility relative the school’s recreation/play areas to determine all areas of non-compliance. This would allow for a corrective strategy to be developed commensurate with the appropriate funding.

FIGURES



FIGURE 1 - SITE DIAGRAM

PHOTOGRAPHS

Bituminous Pavement



Drive 1 looking south from Mile Creek Road.



Drive 1/Lot 1 looking north from accessible parking spaces.



Drive 1 loop drive at front of school at main entrance.



Drive 2 looking south from Mile Creek Road. Lot 3 visible in background.



Lot 2 looking west.



Lot 3 looking south. Sealed longitudinal cracks and fatigue cracks visible.



Sealed cracks and localized fatigue cracks visible.



Typical failure of crack sealant. Additional crack propagation visible.



Unsealed pavement shrinkage cracks.



Typical pavement markings.



Typical site sign.



Sign clutter at Drive 2.

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Mile Creek School
205 Mile Creek Road, Old Lyme, Connecticut
Pedestrian Facilities



Bituminous sidewalk at Drive 1 looking north.



Concrete walkway area at main entrance.



Bituminous sidewalk on west of side Lot 1. Vegetation should be cleared from walking areas.



Bituminous site walkways at front of school looking north.



Sidewalk along south side of Lot 2. south.



Walkway adjacent to Lot 2 providing access to Main Entrance (looking south).

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Mile Creek School
205 Mile Creek Road, Old Lyme, Connecticut



Sidewalk along west side of Lot 3, looking south.



Shrinkage crack in bituminous walkway (at Lot 3).



Typical paved area adjacent to building.



Bituminous walkway at far south end of building, looking east. Athletic fields to right of photo.



Bituminous walkway along west side of building serving Door 15.



Bituminous walkway along west side of building.

Accessibility



North curb ramp on east side of Drive 1 at Lot 2 crossing. Ramp is not in compliance with ICC A117.1, 406.



South curb ramp on east side of Drive 1 at Lot 2 crossing. Ramp is not in compliance with ICC A117.1, 406.



Existing accessible parking at Lot 1 (2 spaces). Right (west) access aisle not connected to "Accessible Route".



Existing accessible parking sign at Lot 3 (2 spaces). Right (north) access aisle not connected to "Accessible Route".



Existing accessible parking sign at Lot 1. Not compliant with CGS 14-253a subsection (h); CTBC Amd 1111.1



Passenger Loading Zone 1 (PL1) at main entrance to school (Door 1). See Passenger Loading Zone tables.

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Passenger Loading Zone 2 (PL2), east side of school in Lot 3 drive loop. See Passenger Loading Zone tables.



Typical accessible doorway, recessed, checked against ICC A 117.1 Chapter 4, 402 and 404.2.3.5.



Looking north towards Door 15. Accessible means of egress must be compliant with IBC 1009.2, 1104, and ICC A117.1 Chapter 4, 402. Downspouts should be modified to eliminate discharge to walking surfaces.

Recreation



Play Area 1 looking northeast. Bituminous concrete, multi-use play area.



Play Area 2 looking southwest. Bituminous concrete Multi-use play area. Doors 13 and 14 in background.



Basketball Court (Court 1) looking northeast.



Sandbox adjacent to Court 1, looking north. Sandbox cover recommended.



Seating area east of Play Area 3. No accessibility to this location.



Play Area 3 looking northeast.



Typical play equipment in Play Area 3 looking north.



Play Area 4, looking south.



Swing set 1 of 3 in Play Area 4, looking north. Proximity of wood line and overhanging branches visible.



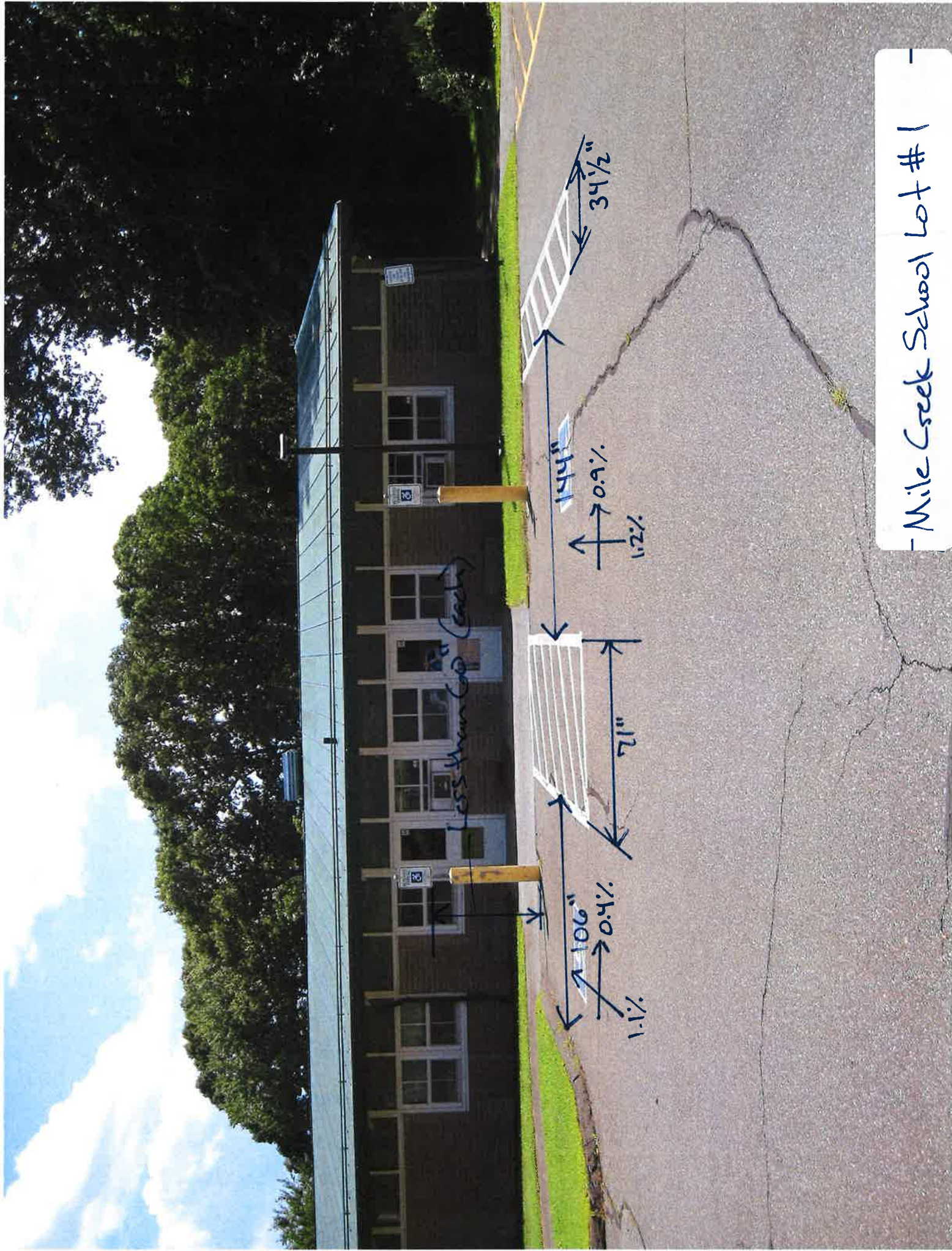
Dead branches near swing set in Play Area 4.



Baseball field looking south.



Multi-use field looking north. South end of school in Background.



- Mile Creek School Lot #1 -



-Mile Creek School Lot #3 -

TABLES

TABLE 1 - SITE SECURITY CHECKLIST

Location: Mile Creek School

Address: 205 Mile Creek Road, Old Lyme, CT

Date:

	Item	Yes	No	Not Applicable	Not Assessed	Notes
Grounds and Building Exterior						
1	Graffiti is promptly documented/photographed then removed after discovery.				X	
2	All trash and recycling dumpsters are located outside a child's travel area and equipped with plastic covers in place of steel covers that could cause injury.	X				
3	All trash and recycling dumpsters are either enclosed in a designated service area or surrounded on three sides by a high wall, preferably a see-through, climbing-resistant fence, and provided with a securable gate.	X				Chain link fence with privacy slats.
4	All trash and recycling dumpsters and their enclosures are positioned so that they cannot be used as ladders for gaining access to the school roof.	X				
5	A marquee or sign clearly indicating the school's name is visible from the road.	X				
6	The exterior numbers are clearly visible from a distance of at least 50'.	X				
7	Access to the roof is restricted (no climbable plantings or architecture).	X				
8	Speed limits are posted at all entrances.		X			
9	Walkways are in good repair.	X				See discussion of pedestrian facilities
10	Walkways are cleared of snow and ice during periods of inclement weather.				X	
11	Covered walkways and adjoining posts, structures, walls, planters, or other building features do not provide climbing access to adjoining windows, roofs, or other upper-level areas.	X				
12	Covered walkways and their surroundings are adequately lit to promote visual surveillance while in use.			X		
13	Windows in occupied areas of the building overlook walkways for natural surveillance.	X				Some windows
14	Exterior entrance canopies and walkways are engineered to withstand high winds and seismic activity.				X	
15	Fire hydrants are clearly visible.				X	At Drive2/Mile Creek Road; None observed on site
16	Grounds are fenced in appropriate areas.		X			Open campus
17	Grounds are adequately lit and school boundaries clearly marked.	X			X	Lighting not accessed
18	Grounds are visually separated from adjacent properties.		X			Woodlands at perimeter except frontage
19	Gates, if present, are secured when not in use.			X		
20	The perimeter of the school building is monitored by direct visual sitelines or surveillance cameras.	X	X			Not all area visible; cameras at front of building (near Door 1) and Door 10. Additional cameras recommended at rear of building.
21	Mechanical, electrical, and other equipment on ground level is surrounded by a protective enclosure.		X			Generator and transformer are not enclosed; air conditioners are enclosed (near Door 7).
22	Electrical panel access doors are locked.	X				
23	Landscape surrounding the school is tidy, trimmed, and structured to enhance visibility of windows, doors, etc. and minimize chance of suspicious visitors hiding.	X				

SITE SECURITY CHECKLIST (CONT.)

	Item	Yes	No	Not Applicable	Not Assessed	Notes
24	Basement windows are protected from unauthorized entry by security grills or window well covers.			X		
25	Access beneath portables is restricted with grates, fencing, siding, or other material, which such minimal spaces are suitable for hiding people, contraband, weapons, or incendiary or explosive devices.			X		
26	All portables are secured to their location; consistent with local wind resistance requirements and building regulation.			X		
27	All portables are labeled/numbered.			X		
28	Areas surrounding portables are adequately lighted.			X		
29	Portables are surrounded by fencing requiring use of the school's main entry.			X		
30	All exterior doors have non-removable hinge pins.	X				
31	Exterior doors are sized and arranged to reduce congestion and avoid crowding.	X				
32	Exterior doors have narrow windows, sidelights, fish-eye viewers, or cameras to permit seeing who is on the exterior side.	X	X			Some doors are configured with windows; Windows are large "full view" style.
33	Window and sidelights are sized and located so that if they are broken, vandals cannot reach through and open a door from the inside.		X			Some doors are configured with windows; none are narrow sidelight type; windows are large "full view" style.
34	Exterior doors are airtight. Airtight doors not only improve energy efficiency but they retard interior contamination during a hazardous chemical or other harmful outdoor release.				X	
35	Exterior doors are designed and certified to resist thrown and wind-blown objects.				X	
Buses and Parking						
36	The bus loading zone is visible from the main office or monitored by staff.	X			X	Front of school appears to be visible from office; rear of school unknown.
37	Unattended buses do not create a visual obstacle or hinder emergency access.				X	
38	Fire zones, bus unloading and drop off zones are clearly marked.		X			
39	Student drop off and pick up areas are clearly marked.		X			
40	Staff members are required to obtain parking decals or some other form of identification to authorize parking on school property.				X	
41	High School students are required to obtain parking decals or some other form of identification to authorize parking on school property.			X		
42	Someone is assigned to check for unregistered vehicles in parking areas.				X	
43	Access points for parking lots are gated.		X			
44	Parking lots are bordered by a wall, chain link fence, or some physical barrier.		X			
45	Parking lot signs direct staff, students, and visitors to designated parking areas.		X			
46	Parking lots can be viewed from the building or monitored by security.	X	X			Not all area visible; cameras at front of building (near Door 1) and Door 10.
47	Bicycle parking can be viewed from the building or monitored by security.	X				Windows and camera at front of building near Door 1.

SITE SECURITY CHECKLIST (CONT.)

	Item	Yes	No	Not Applicable	Not Assessed	Notes
	Play and Outdoor Recreation Areas					
48	Recreation/practice areas are fenced to restrict unauthorized access.		X			
49	Fences are in good condition and without gaps.			X		
50	Low-hanging tree branches are removed from the playground area.	X				Numerous trees in southeast playground area "Play Area 4". Recommend inspection of trees by licensed arborist to identify potentially hazardous limbs and/or trees.
51	Painted and preserved surfaces are in good and safe condition.	X				
52	Playground surfaces are free of excess water buildup.	X				No water observed
53	Sandboxes are clean of debris and covered at night to prevent access by animals.		X			Sandbox open
54	Unsafe and/or obsolete playground equipment has been removed from activity use. (i.e. old wooden teeter-totters, wooden swing seats, high un-railed metal slides, dome-style jungle gyms, etc.)				X	
55	All equipment is anchored firmly, including footings below ground surface which are not exposed.	X				
56	Playground attendants (teachers/staff) are clearly designated (vests, etc.), and first aid kits are on hand during recess hours.				X	
57	Landscape around field areas, playground, and outdoor recreation areas minimize potential for injury/hiding.	X				Recommend de-compact/dress/replace playground mulch to applicable standards as needed.
58	Vehicular access, except emergency vehicles, is restricted around play area.	X				Bollards
59	Play apparatus are free from sharp edges, and protruding or loose bolts or screws.				X	
60	Playground edging is well-maintained and away from fall area of equipment.	X				
61	Ground cover is adequate to provide protection from falls.				X	Recommend decompact/dress/replace playground mulch to applicable standards as needed.
62	Ground cover is free from holes and worn trenches.		X			
63	Outside drinking fountains are vandal-resistant by design, such as being wall-mounted and made of durable materials.			X		
64	Hard-surface play areas are located far enough from classrooms to protect windows and avoid being a classroom distraction.		X			
65	Benches/bleachers are well maintained (painted with no signs of rust or splinters)	X				

Location: Mile Creek School

Address: 205 Mile Creek Road, Old Lyme, CT

Date:

By: Kurt Prochorena

DOOR D.	Accessible Route (Y/N)	Door		Landing				NOTES
		Door Type	Width (Inches)	Dim A (Inches)	Dim B (Inches)	Running Slope %	Cross Slope %	
1	Y	a	35"	Full Width	60+			Two sets of double doors at main entrance
2	Y	a	42	25	60+	3.7	0.1	Concrete landing; right handle door exterior
3	N	a	47	61	60+	1.7	0.7	Concrete landing; handle left side exterior
4	Y	a	34 1/2	51	60+	4.4	0.3	Concrete landing; double doors w/single left handle on right door exterior
5	Y	EO	33 1/2	NA	44+	0.5	0.2	Concrete landing 36"+ wide; connects to concrete walk
6	N	EO	35	NA	44+	2.0	1.0	Concrete landing (36"+ wide) and ramp; terminates at grass; assumed not part of Accessible Route
7	N	a	47	35	60+	NM	NM	Concrete landing
8	Y	EO	33 1/2	NA	44+	2.3	0.1	Concrete landing 36"+ wide
9	Y	aR	35	37	60+	0.4	1.1	Concrete landing; double doors w/single left handle on right door exterior
10	Y	EO	33 1/2	NA	44+	3.0	0.2	Concrete landing 36"+ wide
11	Y	EO	33 1/2	NA	44+	2.0	1.0	Concrete landing 36"+ wide
12	Y	a	70	48	60+	2.5	0.2	Double doors; Concrete landing; Dim A is equal each side
13	Y	EO	34	NA	44+	2.1	0.1	Concrete landing 36"+ wide; direct access to Play Area 2
14	Y	EO	34	NA	44+	1.9	1.2	Concrete landing 36"+ wide; direct access to Play Area 2
15	Y	EO	33 1/2	NA	44+	0.4	0.3	Concrete landing; transitions to bit path; differential at concrete landing edge exceeds 1/4 inch; downspout discharges onto walkway
16	Y	a	35 1/2	60+	60+	0.5	0.4	Concrete landing
17	Y	EO	36 1/2	NA	44+	1.8	0.2	Concrete landing 36" + wide; connects to bit walkway
18	Y	EO	36 1/2	NA	44+	1.9	0.6	Concrete landing 36" + wide; connects to bit walkway
19	Y	EO	36 1/2	NA	44+	1.9	0.6	Concrete landing 36" + wide; direct access to Play Area 1
20	Y	EO	36 1/2	NA	44+	3.0	0.4	Concrete landing 36" + wide; direct access to Play Area 1
21	Y	EO	36 1/2	NA	44+	2.9	0.8	Concrete landing 36" + wide; direct access to Play Area 1
22	Y	a	34 1/2	46 1/2	60+	NM	NM	Concrete landing; double doors; handle on each door exterior; differential at concrete landing edge (south side) exceeds 1/4 inch
23	Y	EO	34	NA	44+	NM	NM	Concrete landing 36" + wide

24	Y	EO	34	NA	44+	NM	NM	Concrete landing 36" + wide
25	Y	EO	34	NA	44+	NM	NM	Concrete landing 36" + wide
26	Y	EO	34	NA	44+	NM	NM	Concrete landing 36" + wide

Notes:

- 1) For doors/landings that are not part of an Accessible Route (to the door/from the door) refer to 2015 IBC 1010.1.5 and 1010.1.6.
- 2) "EO" indicates egress only door type - Compliance with ICCA.117.1 404 not required at exterior; landing must be 44 inches in path of travel.
- 3) Door Types per ICC A.117.1 404- a,b,c,d,e,f,g or Recessed (R) a,b, c.
- 4) For Dimension "A" and "B" refer to ICC A 117.1 Figures 404.2.3.3, 404.2.3.5, and 404.2.5. For landings that are not part of an Accessible Route, refer to 2015 IBC 1010.1.5 and 1010.1.6 for landings.
- 5) "DD" denotes double door. Where no center jamb is present, record total width. Where center jamb is present, record width of each door.
- 6) Dimension A is cross dimension; Dimension B is path of travel dimension.

Passenger Loading Zones

References:

2018 Connecticut Building Code

2015 International Building Code

Accessible Useable Buildings and Facilities ICC A117.1-2009

Location: Mile Creek School

Address: 205 Mile Creek Road, Old Lyme

Date: August 2021

By: Kurt Prochorena

Location: Passenger Loading Zone 1 (PL1), Main Entrance

Item	Requirements	IBC 2015 Code Reference	Code Requirement	Complies?	Notes
Passenger Loading Zones	Accessible	1106.7	Passenger loading zones shall be accessible.	See ICC A117.1	
Item	Requirements	ICC A117.1- 2009 Code Reference	Code Requirement	Complies?	Notes
Vehicle Pull-up Space Size	Dimensions	503.2	Passenger loading zones shall provide a vehicular pull-up space 96 inches minimum in width and 20 feet minimum in length .	<input checked="" type="radio"/> Yes / No	Complies but not ideal - located within travelway of drive.
Access Aisle	Access Aisles	503.3	Passenger loading zones shall have an adjacent access aisle complying with Section 503.3.	Present? <input checked="" type="radio"/> Yes / No	See 503.3 items this sheet
Access Aisle, Location	Location	503.3.1	Access aisles shall adjoin an accessible route. Access aisles shall not overlap the vehicular way.	<input checked="" type="radio"/> Yes / No	Located at curb ramp and plaza to main entrance; "Vehicular Way" open to interpretation; vehicle bypass is feasible.
Access Aisle, width	Width, Dimension	503.3.2	Access aisles serving vehicle pull-up spaces shall be 60 inches minimum in width .	Yes <input checked="" type="radio"/> No	Varies along length
Access Aisle, length	Length, Dimension	503.3.3	Access aisles shall be 20 feet minimum in length .	<input checked="" type="radio"/> Yes / No	
Access Aisle, marking	Markings	503.3.4	Access aisles shall be marked so as to discourage parking in them.	<input checked="" type="radio"/> Yes / No	White cross hatch
Access Aisle, floor surfaces	Slope	503.4 1	Vehicle pull-up spaces and access aisles serving them shall comply with Section 302 and shall have slopes not steeper than 1:48 (2%) .	<input checked="" type="radio"/> Yes / No	
Access Aisle, floor surfaces	Level	503.4 2	Access aisles shall be at the same level as the vehicle pull-up space they serve.	<input checked="" type="radio"/> Yes / No	Bituminous pavement, continuous.
Floor Surfaces	Surface type	302.1	Floor surfaces shall be stable, firm, and slip resistant, and shall comply with Section 302. Changes in level in floor surfaces shall comply with Section 303.	<input checked="" type="radio"/> Yes / No	Bituminous pavement.
Openings	Dimensions	302.3	Openings in floor surfaces shall be of a size that does not permit the passage of a 1/2 inch diameter sphere, except as allowed in Sections 407.4.3, 408.4.3, 409.4.3, 410.4, and 805.10. Elongated openings shall be placed so that the long dimension is perpendicular to the predominant direction of travel.	Yes No <input checked="" type="radio"/> NA	

Passenger Loading Zones

References:

2018 Connecticut Building Code

2015 International Building Code

Accessible Useable Buildings and Facilities ICC A117.1-2009

Location: Mile Creek School

Address: 205 Mile Creek Road, Old Lyme

Date: August 2021

By: Kurt Prochorena

Location: Passenger Loading Zone 2 (PL2), Rear of School at Loop

Item	Requirements	IBC 2015 Code Reference	Code Requirement	Complies?	Notes
Passenger Loading Zones	Accessible	1106.7	Passenger loading zones shall be accessible.	See ICC A117.1	
Item	Requirements	ICC A117.1- 2009 Code Reference	Code Requirement	Complies?	Notes
Vehicle Pull-up Space Size	Dimensions	503.2	Passenger loading zones shall provide a vehicular pull-up space 96 inches minimum in width and 20 feet minimum in length .	<input checked="" type="radio"/> Yes / <input type="radio"/> No	Complies but not ideal - located within travelway of circular drive.
Access Aisle	Access Aisles	503.3	Passenger loading zones shall have an adjacent access aisle complying with Section 503.3.	Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	See 503.3 items this sheet
Access Aisle, Location	Location	503.3.1	Access aisles shall adjoin an accessible route. Access aisles shall not overlap the vehicular way.	Yes <input checked="" type="radio"/> No	Located at curb ramp in circular drive; "Vehicular Way" open to interpretation; vehicle bypass is feasible.
Access Aisle, width	Width, Dimension	503.3.2	Access aisles serving vehicle pull-up spaces shall be 60 inches minimum in width .	Yes <input checked="" type="radio"/> No	
Access Aisle, length	Length, Dimension	503.3.3	Access aisles shall be 20 feet minimum in length .	Yes <input checked="" type="radio"/> No	
Access Aisle, marking	Markings	503.3.4	Access aisles shall be marked so as to discourage parking in them.	Yes <input checked="" type="radio"/> No	No hatch
Access Aisle, floor surfaces	Slope	503.4 1	Vehicle pull-up spaces and access aisles serving them shall comply with Section 302 and shall have slopes not steeper than 1:48 (2%) .	<input checked="" type="radio"/> Yes / <input type="radio"/> No	
Access Aisle, floor surfaces	Level	503.4 2	Access aisles shall be at the same level as the vehicle pull-up space they serve.	Yes <input checked="" type="radio"/> No	No access aisle.
Floor Surfaces	Surface type	302.1	Floor surfaces shall be stable, firm, and slip resistant, and shall comply with Section 302. Changes in level in floor surfaces shall comply with Section 303.	<input checked="" type="radio"/> Yes / <input type="radio"/> No	Bituminous pavement.
Openings	Dimensions	302.3	Openings in floor surfaces shall be of a size that does not permit the passage of a 1/2 inch diameter sphere, except as allowed in Sections 407.4.3, 408.4.3, 409.4.3, 410.4, and 805.10. Elongated openings shall be placed so that the long dimension is perpendicular to the predominant direction of travel.	Yes <input type="radio"/> No <input checked="" type="radio"/> NA	

Accessible Parking Code Review Summary

References:
2018 Connecticut Building Code
2015 International Building Code
Accessible Useable Buildings and Facilities ICC A117.1-2009

Location: Mile Creek School
Address: 205 Mile Creek Road
Date: 8-13-21
By: Kurt Prochorena

Location: Lot 1 (2 spaces)

PAGE: 1/4

Item	Requirements	IBC 2015 Code Reference	Code Requirement	Complies?	Notes
Parking and Passenger Loading Facilities	Required	1106.1, Required	Where parking is provided, accessible parking spaces shall be provided in compliance with Table 1106.1, except as required by Sections 1106.2 through 1106.4. Where more than one parking facility is provided on a site, the number of parking spaces required to be accessible shall be calculated separately for each parking facility.	<input checked="" type="radio"/> Yes <input type="radio"/> No Lot 1 & Lot 3	3 lots/2 at building w/A.P. (Lot 2 considered "remote")
Parking and Passenger Loading Facilities - Exception	Exemption	1106.1	1106.1 does not apply to parking spaces used exclusively for buses, trucks, other delivery vehicles, law enforcement vehicles or vehicular impound and motor pools where lots accessed by the public are provided with an accessible passenger loading zone.	Applies / <input checked="" type="radio"/> NA	
Automobile accessible parking spaces	Space dimension	1106.1.1, Automobile accessible parking spaces (Add CT Bld Code)	(Add) 1106.1.1 Automobile accessible parking spaces. Pursuant to subsection (h) of section 14-253a of the Connecticut General Statutes, parking spaces for passenger motor vehicles designated for persons who are blind and persons with disabilities shall be as near as possible to a building entrance or walkway and shall be 15 feet wide including 5 feet of cross hatch.	See Notes	Space 1 - Yes / <input checked="" type="radio"/> No Space less than 10' Space 2 - Yes / <input checked="" type="radio"/> No Access aisle less than 5' Space 3 - Yes / <input checked="" type="radio"/> No Space 4 - Yes / <input checked="" type="radio"/> No Space 5 - Yes / <input checked="" type="radio"/> No Space 6 - Yes / <input checked="" type="radio"/> No Space 7 - Yes / <input checked="" type="radio"/> No Space 8 - Yes / <input checked="" type="radio"/> No
Van spaces, number required	Number required	1106.5, Van Spaces (Amd CT Bld Code)	(Amd) 1106.5 Van spaces. For every six or fraction of six accessible parking spaces, at least one shall be a van-accessible parking space. Each public parking garage or terminal shall have a minimum of two van-accessible parking spaces complying with this section.	Yes <input checked="" type="radio"/> No	No van @ Lot 1
Van Spaces, location and dimensions	Space dimension	1106.5.1, Van accessible parking spaces (Add CT Bld Code)	(Add) 1106.5.1 Van accessible parking spaces. Pursuant to subsection (h) of section 14-253a of the Connecticut General Statutes, parking spaces for passenger vans designated for persons who are blind and persons with disabilities shall be as near as possible to a building entrance or walkway and shall be 16 feet wide including 8 feet of cross hatch.	See Notes	Space 1 - Yes / <input checked="" type="radio"/> No Space 2 - Yes / <input checked="" type="radio"/> No > No van Space 3 - Yes / <input checked="" type="radio"/> No Space 4 - Yes / <input checked="" type="radio"/> No Space 5 - Yes / <input checked="" type="radio"/> No Space 6 - Yes / <input checked="" type="radio"/> No Space 7 - Yes / <input checked="" type="radio"/> No Space 8 - Yes / <input checked="" type="radio"/> No
Van Spaces, vertical clearance	Vertical dimension	1106.5.1.1, Van access clearance (Add CT Bld Code)	(Add) 1106.5.1.1 Van access clearance. Pursuant to subsection (i) of section 14-253a of the Connecticut General Statutes, each public parking garage or terminal shall have 8 feet 2 inches vertical clearance at a primary entrance and along the route to at least two parking spaces for passenger vans that conform to Section 1106.5.1 and that have 8 feet 2 inches of vertical clearance.	Yes <input type="radio"/> No <input checked="" type="radio"/> NA	
Parking spaces, location	Location	1106.6, Location	Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance. In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest route to an accessible pedestrian entrance to the parking facility. Where buildings have multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located near the accessible entrances.	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Parking spaces, location - Exception	Exception	1106.6	1. In multilevel parking structures, van-accessible parking spaces are permitted on one level. 2. Accessible parking spaces shall be permitted to be located in different parking facilities if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance or entrances, parking fee and user convenience.	Yes <input type="radio"/> No <input checked="" type="radio"/> NA	

Parking signs, where required	Where Required	1111.1, Signs (Amd CT Bld Code)	1111.1 Signs. Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations.	See below	
Parking signs, where required	Where Required	1111.1, Signs (1) (Amd CT Bld Code)	1. Accessible parking spaces as required by Section 1106. Pursuant to subsection (h) of section 14-253a of the Connecticut General Statutes, such spaces shall be designated by above-grade signs with white lettering against a blue background and shall bear the words "RESERVED Parking Permit Required" and "Violators will be fined" in addition to the International Symbol of Accessibility. When such a sign is replaced, repaired or erected, it shall indicate the minimum fine for a violation of subsection (l) of section 14-253a of the Connecticut General Statutes. Such indicator may be in the form of a notice affixed to such sign. Newly installed signs shall be 60 inches minimum above the floor or ground of the parking space, measured to the bottom of the sign.	Yes <input checked="" type="radio"/> No NA	
Parking signs, where required	Where Required	1111.1, Signs (2) (Amd CT Bld Code)	2. Accessible passenger loading zones.	Yes No <input checked="" type="radio"/> NA	
Parking signs, where required	Where Required	1111.1, Signs (4) (Amd CT Bld Code)	4. Accessible entrances where not all entrances are accessible.	Yes <input checked="" type="radio"/> No NA	
Parking signs, where required	Where Required	1111.1, Signs (8) (Amd CT Bld Code)	8. Exterior areas for assisted rescue in accordance with Section 1009.9.	Yes No <input checked="" type="radio"/> NA	None observed.

Item	Requirements	ICC A117.1- 2009 Code Reference	Code Requirement	Complies?	Notes
Parking space dimensions	Space dimension	502.2, Vehicle Space Size (Amd CT Bld Code)	(Amd) 502.2 Vehicle space size. Pursuant to section 14-253a of the Connecticut General Statutes, car parking spaces shall be 15 feet in width including 5 feet of cross hatch. Van parking spaces shall be 16 feet in width including 8 feet of cross hatch.	See Notes	Space 1 - Yes / No Space 2 - Yes / No Space 3 - Yes / No Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No Space less than 10' Access aisle less than 5' NA No van
Parking space markings	Dimension measurements	502.3, Vehicle Space Marking	Vehicle Space Marking. Car and van parking spaces shall be marked to define the width. Where parking spaces are marked with lines, the width measurements of parking spaces and adjacent access aisles shall be made from the centerline of the markings.	See Notes	Space 1 - Yes / No Space 2 - Yes / No Space 3 - Yes / No Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No > Markings good but dim. are incorrect NA
Parking space dimensions- Exeption	Exception	502.3	Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.	Yes No NA	East space @ curb
Access Isles	Required	502.4, Access Aisles	Access Aisle. Car and van parking spaces shall have an adjacent access aisle complying with Section 502.4 (Note: See CT Amendments).	See Below	
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 1	(Amd) 502.4.1 Location. Access aisles (cross hatch) shall adjoin an accessible route.	Yes No NA	East space - yes West space - no
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 2	(Amd) 502.4.1 Location. Two parking spaces shall be permitted to share a common access aisle.	Yes No NA	
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 3	(Amd) 502.4.1 Location. Two parking spaces shall be permitted to share a common access aisle. If a car and a van space share a common access aisle, that aisle shall be 96 inches minimum in width.	Yes No NA	71" between east and west spaces
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 4	(Amd) 502.4.1 Location. Access aisles shall not overlap with the vehicular way.	Yes No NA	
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 5	(Amd) 502.4.1 Location. Parking spaces may have access aisles placed on either side of the car or van parking space.	Yes No NA	
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 6	(Amd) 502.4.1 Location. Van parking spaces that are angled shall have access aisles located on the passenger side of the parking space.	Yes No NA	No van
Access Aisle width	Dimension (Width)	502.4.2, Width (Amd CT Bld Code)	(Amd) 502.4.2 Width. Access aisles (cross hatch) serving car parking spaces shall be 60 inches minimum in width. Access aisles serving van parking spaces shall be 96 inches minimum in width.	See Notes	Space 1 - Yes / No Space 2 - Yes / No Space 3 - Yes / No Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No "east" car space 34 1/2" NA
Access Aisle length	Dimension (Length)	502.4.3, Length	Access aisles shall extend the full length of the parking spaces they serve.	See Notes	Space 1 - Yes / No Space 2 - Yes / No Space 3 - Yes / No Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No NA
Access Aisle markings	Markings required	502.4.4, Marking	Marking. Access aisles shall be marked so as to discourage parking in them. Where access aisles are marked with lines, the width measurements of access aisles and adjacent parking spaces shall be made from the centerline of the markings.	See Notes	Space 1 - Yes / No Space 2 - Yes / No Space 3 - Yes / No Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No NA

Access Aisle markings-Exception	Exception	502.4.4	Where access aisles or parking spaces are not adjacent to another access aisle or parking space, measurements shall be permitted to include the full width of the line defining the access aisle or parking space.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> NA	East space @ curb
Parking space surface and slope (Floor Surface)	Slope	502.5, Floor Surfaces.	Parking spaces and access aisles shall comply with Section 302 and have surface slopes not steeper than 1:48 (2%) . Access aisles shall be at the same level as the parking spaces they serve.	See Notes and below.	Space 1 - <input checked="" type="radio"/> Yes / No Space 2 - <input checked="" type="radio"/> Yes / No Space 3 - Yes / No NA Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No ↓
Floor surfaces	Surface type	302.1	Floor surfaces shall be stable, firm, and slip resistant, and shall comply with Section 302. Changes in level in floor surfaces shall comply with Section 303.	<input checked="" type="radio"/> Yes <input type="radio"/> No	Bit
Openings	Dimensions	302.3	Openings in floor surfaces shall be of a size that does not permit the passage of a 1/2 inch diameter sphere, except as allowed in Sections 407.4.3, 408.4.3, 409.4.3, 410.4, and 805.10. Elongated openings shall be placed so that the long dimension is perpendicular to the predominant direction of travel.	<input checked="" type="radio"/> Yes <input type="radio"/> No	None
Vertical clearance	Dimensions	502.6, Vertical Clearance (Amd CT Bld Code)	(Amd) 502.6 Vertical clearance. Vertical clearance for accessible van parking spaces shall be in accordance with Section 1106.5 and 1106.5.1.1 of the 2015 International Building Code portion of the 2018 Connecticut State Building Code.	Yes <input type="radio"/> No <input checked="" type="radio"/> NA	
Accessible parking space identification	Identification (Signs)	502.7, Identification (Amd CT Bld Code)	(Amd) 502.7 Identification. Accessible parking spaces shall be identified by above grade signs in accordance with Section 1111.1 of the 2015 International Building Code portion of the 2018 Connecticut State Building Code.	See 1106.5.1.1 Van access clearance, above.	
Relationship to Accessible Routes	Location/Relationship to Accessible Route	502.8, Relationship to Accessible Routes	Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> NA	
Signage	Symbol Required	703.6.3.1 International Symbol of Accessibility (Amd CT Bld Code)	(Amd) 703.6.3.1 International Symbol of Accessibility. Pursuant to section 29-269c of the Connecticut General Statutes, references in this code to the International Symbol of Accessibility shall be deemed to mean Connecticut's symbol of access and shall comply with Figure 703.6.3.1.	See Notes	Space 1 - <input checked="" type="radio"/> Yes / No Space 2 - <input checked="" type="radio"/> Yes / No Space 3 - Yes / No NA Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No ↓

Item	Requirements	IBC 2015 Code Reference	Code Requirement	Complies?	Notes
Parking and Passenger Loading Facilities	Required	1106.1, Required	Where parking is provided, accessible parking spaces shall be provided in compliance with Table 1106.1, except as required by Sections 1106.2 through 1106.4. Where more than one parking facility is provided on a site, the number of parking spaces required to be accessible shall be calculated separately for each parking facility.	<input checked="" type="radio"/> Yes <input type="radio"/> No	3 lots / 2 at building w/A.P. (Lot 2 considered "remote")
Parking and Passenger Loading Facilities - Exception	Exeption	1106.1	1106.1 does not apply to parking spaces used exclusively for buses, trucks, other delivery vehicles, law enforcement vehicles or vehicular impound and motor pools where lots accessed by the public are provided with an accessible passenger loading zone.	Applies / <input checked="" type="radio"/> NA	
Automobile accessible parking spaces	Space dimension	1106.1.1, Automobile accessible parking spaces (Add CT Bld Code)	(Add) 1106.1.1 Automobile accessible parking spaces. Pursuant to subsection (h) of section 14-253a of the Connecticut General Statutes, parking spaces for passenger motor vehicles designated for persons who are blind and persons with disabilities shall be as near as possible to a building entrance or walkway and shall be 15 feet wide including 5 feet of cross hatch.	See Notes	Space 1 - Yes / <input checked="" type="radio"/> No north space Space 2 - Yes / <input checked="" type="radio"/> No south space Space 3 - Yes / No NA Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No ↓
Van spaces, number required	Number required	1106.5, Van Spaces (Amd CT Bld Code)	(Amd) 1106.5 Van spaces. For every six or fraction of six accessible parking spaces, at least one shall be a van-accessible parking space. Each public parking garage or terminal shall have a minimum of two van-accessible parking spaces complying with this section.	Yes / <input checked="" type="radio"/> No	No van
Van Spaces, location and dimensions	Space dimension	1106.5.1, Van accessible parking spaces (Add CT Bld Code)	(Add) 1106.5.1 Van accessible parking spaces. Pursuant to subsection (h) of section 14-253a of the Connecticut General Statutes, parking spaces for passenger vans designated for persons who are blind and persons with disabilities shall be as near as possible to a building entrance or walkway and shall be 16 feet wide including 8 feet of cross hatch.	See Notes	Space 1 - Yes / <input checked="" type="radio"/> No > No van Space 2 - Yes / <input checked="" type="radio"/> No Space 3 - Yes / No NA Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No ↓
Van Spaces, vertical clearance	Vertical dimension	1106.5.1.1, Van access clearance (Add CT Bld Code)	(Add) 1106.5.1.1 Van access clearance. Pursuant to subsection (i) of section 14-253a of the Connecticut General Statutes, each public parking garage or terminal shall have 8 feet 2 inches vertical clearance at a primary entrance and along the route to at least two parking spaces for passenger vans that conform to Section 1106.5.1 and that have 8 feet 2 inches of vertical clearance.	Yes No <input checked="" type="radio"/> NA	
Parking spaces, location	Location	1106.6, Location	Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance. In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest route to an accessible pedestrian entrance to the parking facility. Where buildings have multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located near the accessible entrances.	<input checked="" type="radio"/> Yes / <input type="radio"/> No	
Parking spaces, location - Exception	Exception	1106.6	1. In multilevel parking structures, van-accessible parking spaces are permitted on one level. 2. Accessible parking spaces shall be permitted to be located in different parking facilities if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance or entrances, parking fee and user convenience.	Yes No <input checked="" type="radio"/> NA	

Parking signs, where required	Where Required	1111.1, Signs (Amd CT Bld Code)	1111.1 Signs. Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations.	See below	
Parking signs, where required	Where Required	1111.1, Signs (1) (Amd CT Bld Code)	1. Accessible parking spaces as required by Section 1106. Pursuant to subsection (h) of section 14-253a of the Connecticut General Statutes, such spaces shall be designated by above-grade signs with white lettering against a blue background and shall bear the words "RESERVED Parking Permit Required" and "Violators will be fined" in addition to the International Symbol of Accessibility. When such a sign is replaced, repaired or erected, it shall indicate the minimum fine for a violation of subsection (l) of section 14-253a of the Connecticut General Statutes. Such indicator may be in the form of a notice affixed to such sign. Newly installed signs shall be 60 inches minimum above the floor or ground of the parking space, measured to the bottom of the sign.	Yes No NA	
Parking signs, where required	Where Required	1111.1, Signs (2) (Amd CT Bld Code)	2. Accessible passenger loading zones.	Yes No NA	
Parking signs, where required	Where Required	1111.1, Signs (4) (Amd CT Bld Code)	4. Accessible entrances where not all entrances are accessible.	Yes No NA	
Parking signs, where required	Where Required	1111.1, Signs (8) (Amd CT Bld Code)	8. Exterior areas for assisted rescue in accordance with Section 1009.9.	Yes No NA	None observed

Item	Requirements	ICC A117.1- 2009 Code Reference	Code Requirement	Complies?	Notes
Parking space dimensions	Space dimension	502.2, Vehicle Space Size (Amd CT Bld Code)	(Amd) 502.2 Vehicle space size. Pursuant to section 14-253a of the Connecticut General Statutes, car parking spaces shall be 15 feet in width including 5 feet of cross hatch. Van parking spaces shall be 16 feet in width including 8 feet of cross hatch.	See Notes	Space 1 - Yes / No Space 2 - Yes / No <i>seave less than 10' Aisle less than 5'</i> Space 3 - Yes / No <i>NA</i> Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No <i>NO VAN</i>
Parking space markings	Dimension measurements	502.3, Vehicle Space Marking	Vehicle Space Marking. Car and van parking spaces shall be marked to define the width. Where parking spaces are marked with lines, the width measurements of parking spaces and adjacent access aisles shall be made from the centerline of the markings.	See Notes	Space 1 - Yes / No Space 2 - Yes / No Space 3 - Yes / No <i>NA</i> Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No
Parking space dimensions- Exeption	Exception	502.3	Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.	Yes No <i>NA</i>	
Access Isles	Required	502.4, Access Aisles	Access Aisle. Car and van parking spaces shall have an adjacent access aisle complying with Section 502.4 (Note: See CT Amendments).	See Below	
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 1	(Amd) 502.4.1 Location. Access aisles (cross hatch) shall adjoin an accessible route.	<i>Yes</i> <i>No</i> <i>NA</i>	<i>North space = no (curb)</i> <i>South space = yes</i>
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 2	(Amd) 502.4.1 Location. Two parking spaces shall be permitted to share a common access aisle.	Yes No <i>NA</i>	
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 3	(Amd) 502.4.1 Location. Two parking spaces shall be permitted to share a common access aisle. If a car and a van space share a common access aisle, that aisle shall be 96 inches minimum in width.	Yes No <i>NA</i>	
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 4	(Amd) 502.4.1 Location. Access aisles shall not overlap with the vehicular way.	<i>Yes</i> No <i>NA</i>	
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 5	(Amd) 502.4.1 Location. Parking spaces may have access aisles placed on either side of the car or van parking space.	<i>Yes</i> No <i>NA</i>	
Access Aisle location	Location and Dimension (Width)	502.4.1, Location (Amd CT Bld Code) 6	(Amd) 502.4.1 Location. Van parking spaces that are angled shall have access aisles located on the passenger side of the parking space.	Yes No <i>NA</i>	<i>NO VAN</i>
Access Aisle width	Dimension (Width)	502.4.2, Width (Amd CT Bld Code)	(Amd) 502.4.2 Width. Access aisles (cross hatch) serving car parking spaces shall be 60 inches minimum in width. Access aisles serving van parking spaces shall be 96 inches minimum in width.	See Notes	Space 1 - <i>Yes</i> / No Space 2 - Yes / <i>No</i> <i>North space</i> Space 3 - Yes / No <i>South space</i> Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No
Access Aisle length	Dimension (Length)	502.4.3, Length	Access aisles shall extend the full length of the parking spaces they serve.	See Notes	Space 1 - <i>Yes</i> / No Space 2 - <i>Yes</i> / No Space 3 - Yes / No <i>NA</i> Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No
Access Aisle markings	Markings required	502.4.4, Marking	Marking. Access aisles shall be marked so as to discourage parking in them. Where access aisles are marked with lines, the width measurements of access aisles and adjacent parking spaces shall be made from the centerline of the markings.	See Notes	Space 1 - <i>Yes</i> / No Space 2 - <i>Yes</i> / No Space 3 - Yes / No <i>NA</i> Space 4 - Yes / No Space 5 - Yes / No Space 6 - Yes / No Space 7 - Yes / No Space 8 - Yes / No

Access Aisle markings-Exception	Exception	502.4.4	Where access aisles or parking spaces are not adjacent to another access aisle or parking space, measurements shall be permitted to include the full width of the line defining the access aisle or parking space.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> NA	
Parking space surface and slope (Floor Surface)	Slope	502.5, Floor Surfaces.	Parking spaces and access aisles shall comply with Section 302 and have surface slopes not steeper than 1:48 (2%) . Access aisles shall be at the same level as the parking spaces they serve.	See Notes and below.	Space 1 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 2 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 3 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 4 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 5 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 6 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 7 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 8 - <input checked="" type="radio"/> Yes / <input type="radio"/> No NA ↓
Floor surfaces	Surface type	302.1	Floor surfaces shall be stable, firm, and slip resistant, and shall comply with Section 302. Changes in level in floor surfaces shall comply with Section 303.	<input checked="" type="radio"/> Yes / <input type="radio"/> No	Bit
Openings	Dimensions	302.3	Openings in floor surfaces shall be of a size that does not permit the passage of a 1/2 inch diameter sphere, except as allowed in Sections 407.4.3, 408.4.3, 409.4.3, 410.4, and 805.10. Elongated openings shall be placed so that the long dimension is perpendicular to the predominant direction of travel.	<input checked="" type="radio"/> Yes / <input type="radio"/> No	None
Vertical clearance	Dimensions	502.6, Vertical Clearance (Amd CT Bld Code)	(Amd) 502.6 Vertical clearance. Vertical clearance for accessible van parking spaces shall be in accordance with Section 1106.5 and 1106.5.1.1 of the 2015 International Building Code portion of the 2018 Connecticut State Building Code.	Yes <input type="radio"/> No <input checked="" type="radio"/> NA	
Accessible parking space identification	Identification (Signs)	502.7, Identification (Amd CT Bld Code)	(Amd) 502.7 Identification. Accessible parking spaces shall be identified by above grade signs in accordance with Section 1111.1 of the 2015 International Building Code portion of the 2018 Connecticut State Building Code.	See 1106.5.1.1 Van access clearance, above.	
Relationship to Accessible Routes	Location/Relationship to Accessible Route	502.8, Relationship to Accessible Routes	Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> NA	
Signage	Symbol Required	703.6.3.1 International Symbol of Accessibility (Amd CT Bld Code)	(Amd) 703.6.3.1 International Symbol of Accessibility. Pursuant to section 29-269c of the Connecticut General Statutes, references in this code to the International Symbol of Accessibility shall be deemed to mean Connecticut's symbol of access and shall comply with Figure 703.6.3.1.	See Notes	Space 1 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 2 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 3 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 4 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 5 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 6 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 7 - <input checked="" type="radio"/> Yes / <input type="radio"/> No Space 8 - <input checked="" type="radio"/> Yes / <input type="radio"/> No NA ↓

APPENDICES

NOTES:

- 1) THE DISPOSAL OF ALL CONSTRUCTION MATERIALS SHALL COMPLY WITH ALL STATE AND CITY ORDINANCES.
- 2) THE EXISTING DRYWELLS SHALL BE PUMPED, CLEANED AND REPAIRED AS NECESSARY. THE MANHOLE FRAME AND COVERS SHALL BE REPLACED AND EXTENDED TO GRADE.
- 3) VERIFY ALL UTILITY LOCATIONS - CALL BEFORE YOU DIG 1-800-922-4455.
- 4) THE UTILITIES DEPICTED ON THESE PLANS ARE BASED ON LIMITED FIELD INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR FINAL VERIFICATION OF UTILITY LOCATIONS AFFECTING THE PROPOSED WORK AND ANY ASSOCIATED FIELD MODIFICATIONS. ANY MODIFICATION TO THE WORK OUTLINED IN THESE PLANS OR THE PROJECT SPECIFICATIONS SHALL BE TO THE SATISFACTION OF THE ENGINEER.
- 5) THE REMOVAL OF CATCH BASINS, DRAINS OR MANHOLES WITHIN THE PROJECT LIMIT AREA SHALL INCLUDE THE REMOVAL AND CAPPING OF EXISTING PIPES CONNECTED TO THE STRUCTURES.
- 6) THE CONTRACTOR IS RESPONSIBLE FOR THE CLEANING OF LOCAL ROADS OR PAVED AREAS WITHIN THE CONTRACT LIMIT LINES OF ANY DEBRIS FROM HIS CONSTRUCTION ACTIVITIES. WATER FOR DUST CONTROL SHALL BE CONTINUOUSLY AVAILABLE AND SHALL BE APPLIED FOR DUST CONTROL AS ORDERED BY THE ENGINEER. ANY REQUIRED CLEANING OF ROADS OR DUST CONTROL SHALL BE AT THE CONTRACTORS EXPENSE.
- 7) THE CONTRACTOR SHALL INSTALL REPAIR AND REPLACE (AT HIS OWN EXPENSE) ANY SEDIMENTATION/EROSION CONTROLS AS ORDERED IN ADDITION TO THOSE SHOWN ON THE PLANS. SEE BELOW.

Kaestle Boos Associates, Inc. 44 Gillet Street Hartford, Connecticut 06105 Phone: (860) 548-6100	PROJECT: ADDITIONS AND RENOVATIONS TO MILE CREEK ELEMENTARY SCHOOL 205 MILE CREEK RD. OLD LYME, CONNECTICUT 06371 STATE PROJ. #218-031EA	THIS SKETCH TO BE READ IN CONJUNCTION WITH CONTRACT DOCUMENTS TITLE: PVC YARD DRAIN Add #2 DRAWING NO. SKC-04 DATE: 9/18/01 SCALE: 1"=30' PROJECT NO. 0001
	SKETCH GENERATED FOR: ADDENDUM A.S.I. R.F.P. REFERENCE SHEET: SU-01	

CUT, SEAL AND ABANDON EXISTING WATER LINE. REMOVE WELL PUMP AND CASING TO 24" BELOW GRADE IN ACCORDANCE WITH THE WELL DRILLING CODE. BACKFILL IN ACCORDANCE WITH THE SPECIFICATIONS.

ATRIUM GRATE WITH PVC YARD DRAIN
NOT TO SCALE

ATMOSPHERIC STORAGE TANK
VENT TO BUILDING

CONCRETE VAULT
ENT TO BUILDING

18"-6" RCP
S=1.0%

15"-6" RCP
S=0.6%

15"-6" RCP
S=0.6%

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15"-6" RCP
S=0.6%

PROPOSED DRYWELLS
T.F.=40.00
EXTEND EXIST. 15" RCP AS REQUIRED
CONNECT DRYWELLS W/
5' - 6" PVC TO 50' DOUBLE ROW
HIGH CAPACITY INFILTRATOR UNITS
TRENCH BOTTOM ELEV. = 37.00

SEPTIC DESIGN DATA

1. DESIGN FLOW = 351 STUDENTS x 3 GPD/STD = 1053 GPD
2. PERCOLATION RATE = 6.4 M/IN
3. LEACHING AREA REQUIRED = 1053 GPD / 0.8 GPD/S.F. = 1316.3 S.F.
4. DOUBLE ROW, HIGH CAPACITY INFILTRATOR: EFFECTIVE LEACHING AREA = 6.2 S.F./L.F.
5. LENGTH REQUIRED = 1317 S.F. / 6.2 S.F./L.F. = 212.3 L.F.
6. LENGTH PROVIDED = 225 L.F.
7. MLSS: HF=28 (d=40", s=3.5%); PF=1.2 (6.7 MIN/IN); FF=1053 GPD/300=3.51
MLSS = HF x PF x FF = 28 x 1.2 x 3.51 = 117.9 FT.
8. ADDITIONAL SOIL TESTING IS REQUIRED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OLD LYME SANITARIAN (860-434-1605), STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH (860-509-7384) AND THE ENGINEER (860-548-6100) PRIOR TO START OF CONSTRUCTION. COST OF TEST PITS SHALL BE INCLUDED IN THE COST OF THE WORK.

SKETCH GENERATED FOR: ADDENDUM A.S.I. R.F.P. REFERENCE SHEET: SU-01 DRAWING NO. SKC-05 DATE: 9/18/01 SCALE: 1"=30' PROJECT NO. 0001

TITLE: **STORMWATER EXFILTRATION TRENCH**
Add #2

MANHOLE
T.F.=53.4
INV.=46.78

24"-15" RCP
S=0.6%

TYPE 'C' C.B.
T.F.=51.20
INV.=45.73

52"-6" PVC
S=1.0% (MIN.)

55"-6" PVC
S=1.0% (MIN.)

YARD DRAIN
T.F.=51.14
INV.=47.50

REPLACE EXIST. CB
WITH YARDRAIN
FRAME AND GRATE
T.F.=51.30
INV.=47.50

REPLACE EXIST. CB
WITH YARDRAIN
FRAME AND GRATE
T.F.=51.30
INV.=47.50

REPLACE EXIST. CB
WITH YARDRAIN
FRAME AND GRATE
T.F.=51.30
INV.=47.50

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WITH YARDRAIN
FRAME AND GRATE
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FRAME AND GRATE
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WITH YARDRAIN
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INV.=47.50

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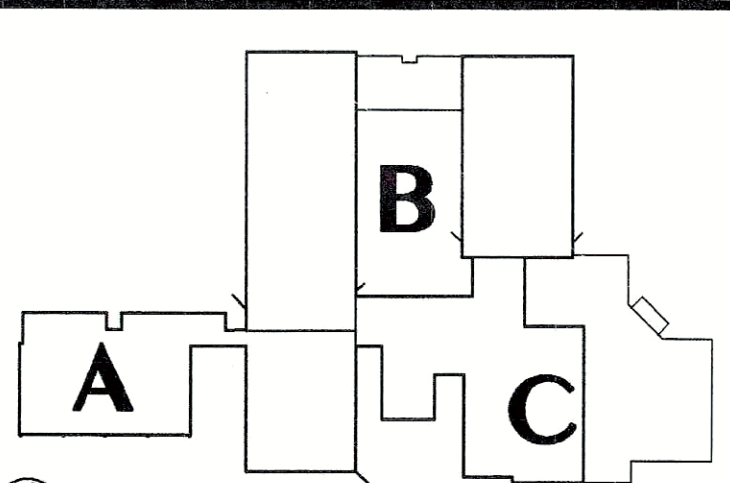
REPLACE EXIST. CB
WITH YARDRAIN
FRAME AND GRATE
T.F.=51.30
INV.=47.50

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T.F.=51.30
INV.=47.50

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WITH YARDRAIN
FRAME AND GRATE
T.F.=51.30
INV.=47.50

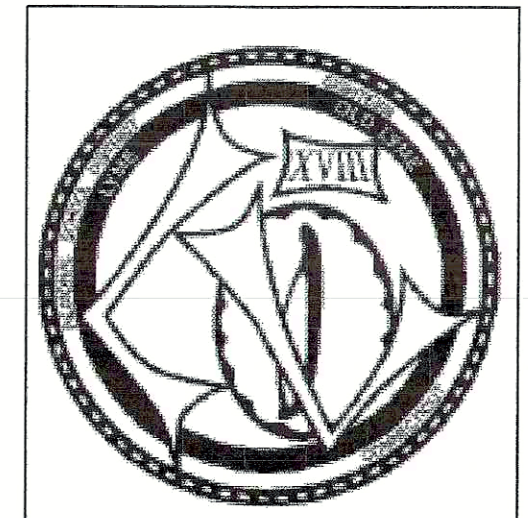
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WITH YARDRAIN
FRAME AND GRATE
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INV.=47.50



KEY PLAN

FOR ALL ABBREVIATIONS, SYMBOL LEGENDS
GENERAL NOTES AND WALL TYPES
SEE SHEETS NO. 01 & NO. 02

DATE	MARK	DESCRIPTION
AUGUST 28, 2000		ISSUED FOR STATE DEPT. OF EDUCATION REVIEW
DECEMBER 20, 2000		ISSUED FOR BIDDING AND CONSTRUCTION PURPOSES



ADDITIONS AND RENOVATIONS TO MILE CREEK ELEMENTARY SCHOOL

205 MILE CREEK RD.
OLD LYME, CONNECTICUT
06371

STATE PROJ. #218-031EA

Macchi Engineers
44 Gillet Street
Hartford, Connecticut 06105
Phone: (860) 548-6100



KAESTLE BOOS ASSOCIATES, INC. ARCHITECTS

DRAWN BY: RGS SCALE: 1"=30'-0"

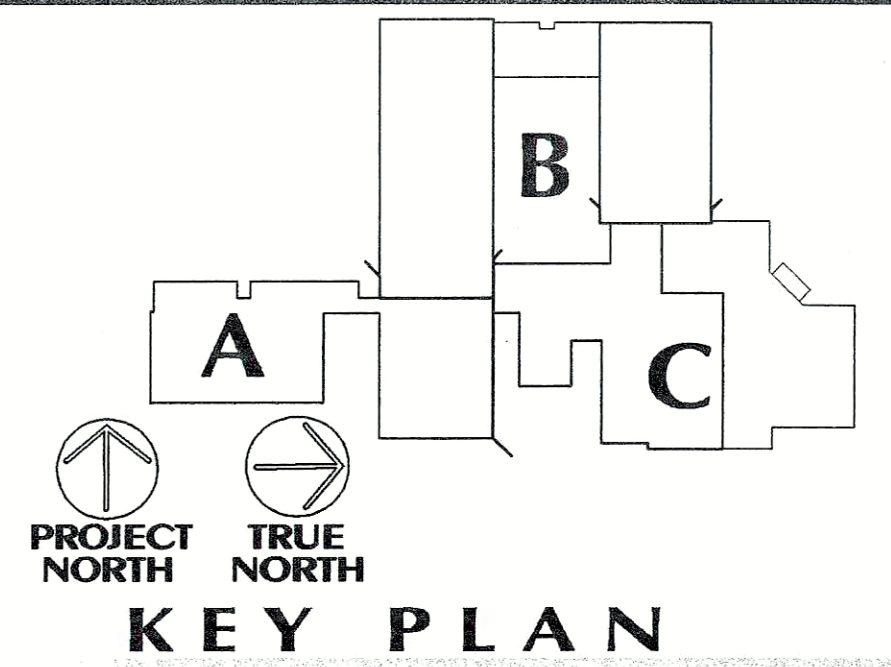
CHECKED BY:

SITE UTILITY PLAN

PROJECT NO.: 0001

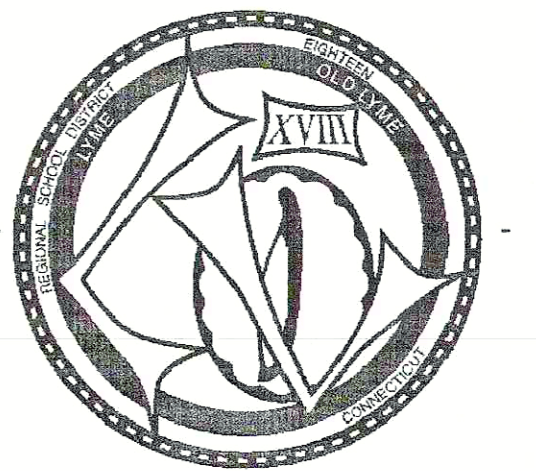
DRAWING NO.: SU-1

DATE: AUGUST 16, 2000



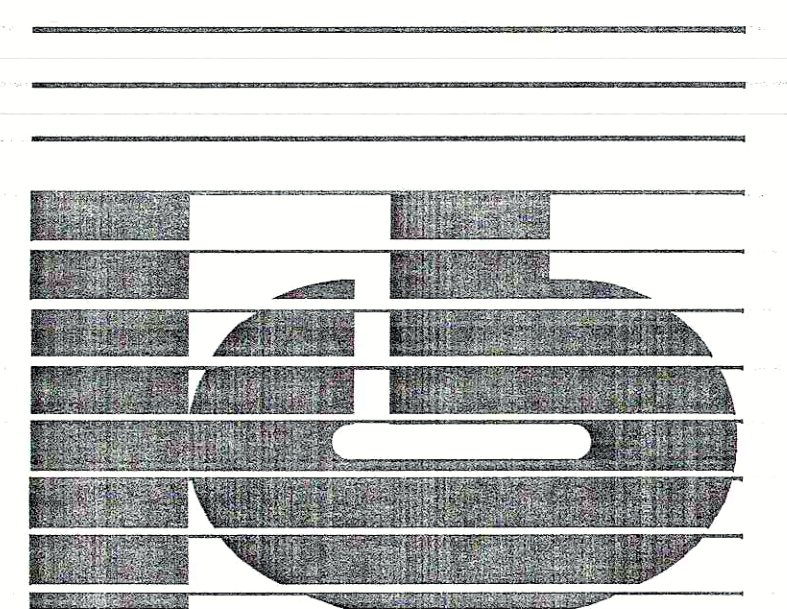
FOR ALL ABBREVIATIONS, SYMBOL LEGENDS
GENERAL NOTES AND WALL TYPES
SEE SHEETS R0.01 & R0.02

REVISIONS		
DATE	MARK	DESCRIPTION
AUGUST 28, 2000		ISSUED FOR STATE DEPT. OF EDUCATION REVIEW
DECEMBER 20, 2000		ISSUED FOR BIDDING AND CONSTRUCTION PURPOSES



**ADDITIONS AND
RENOVATIONS TO
MILE CREEK
ELEMENTARY SCHOOL**
205, MILE CREEK RD.
OLD LYME,
CONNECTICUT
06371

STATE PROJ. #218-031EA



**KAESTLE BOOS
ASSOCIATES, INC.
ARCHITECTS**

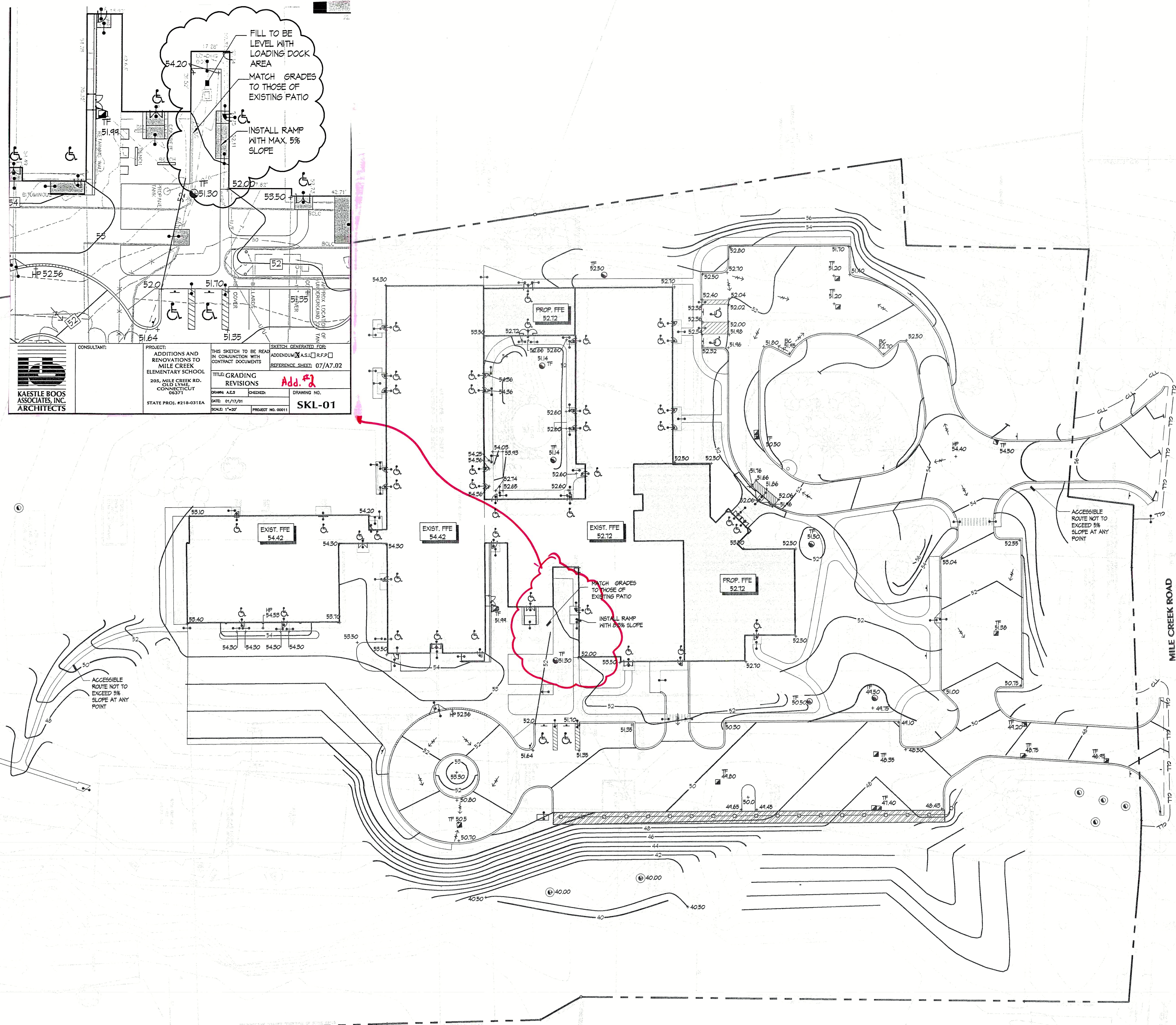
416 SLATER RD., NEW BRITAIN, CT 06050-2590 (860) 229-3361
DRAWN BY: SPN SCALE: 1"=30'-0"
CHECKED BY:

**SITE
GRADING
PLAN**

PROJECT NO.: 00011 DRAWING NO.:

DATE: AUGUST 16, 2000

L4.01



BACK COVER



MICHAEL PLICKYS, P.E.
JOHN BROCHU, P.E.
DOUGLAS CAMP, P.E.

MACCHI ENGINEERS, LLC

Diversified Structural and Civil Engineering Services

July 28, 2021

Ms. Angela Cahill, AIA
QuisenberryArcariMalik, LLC
195 Scott Swamp Road
Farmington, CT 06032

Re: Structural Engineering Evaluation
Mile Creek Elementary School
205 Mile Creek Road
Old Lyme, CT 06371

Dear Angela,

Pursuant to your request, on 7/23/21 Macchi Engineers conducted a cursory visual inspection of the above referenced facility. The purpose of our inspection was to determine the general overall structural condition of the facility and provide recommendations for repairs where required. Our inspection included walking the facility along the interior and exterior. No finishes were removed during our inspection, therefore only those areas exposed to view were inspected. Our work also included a review of the available structural drawings.

Existing Conditions:

The original facility is comprised of a single-story structure. There were no existing drawings available and the constructed date is unknown. Renovation drawings dated 2000 were made available which indicated a single-story steel addition on the north side of the building. Window replacement drawings dated from 2012 were also made available. It appears that several windows and doors were replaced during this time.

Field Observations:

Our inspection indicates that overall, the existing building structures are in good overall condition. We did not observe any signs of significant structural distress in the perimeter walls, exterior walls, interior finishes, floors, or roofs. A control joint along the west side of the building was observed to be missing caulking, see Photo 1. The gutters along the west side of the building adjacent to the special education room were observed to be growing vegetation and full of debris. A crack was observed in the exterior masonry wall adjacent to the boiler room, see Photo 2. The southern boiler room wall is approximately 60 feet in length and contains no masonry control joints throughout the entire wall elevation. At Vestibule 1121, on the east side of the kindergarten wing, cracking was observed in the masonry mortar. Caulking was observed in several locations along the length of said cracks,

Tel. 860 / 549-6190

44 Gillett Street, Hartford, CT 06105-2694

Fax. 860 / 524-5088

An Equal Opportunity Employer

Ms. Angela Cahill, AIA
QA+M

July 28, 2021

reference Photo 3. The caulking around the louvers, as seen in Photo 3, was failing and was also missing in some locations around the louver perimeter. Surface rust on the steel lintel above the masonry opening at Vestibule 1121 was observed. Structural steel located in the roof soffit was observed to also have surface rust, reference Photo 4.

There should be limited removal of existing lateral elements, and expansion joints should be provided between any existing buildings and proposed additions.

In general, the building appears to be in good overall structural condition. However, due to its age and lack of maintenance, isolated areas will require remedial work. These include but are not limited to the following:

1. Repointing of isolated areas around the buildings. (Photos 2,3)
2. Painting of exposed masonry lintels. (Photo 3).
3. Painting of exposed structural steel at soffits. (Photo 4).
4. Remove debris and flush roof drainage system.

If you have any questions, please do not hesitate to call.

Sincerely,
MACCHI ENGINEERS, LLC



Johnathan A Hurlburt, P.E.
Structural Engineer

JobsAct\Lyme Schools\Mile Creek Elementary School\structural evaluation.doc

Encl.



PHOTO 1: 7/23/2021 – West Wall – Control Joint



PHOTO 2: 7/23/2021 – Boiler Room – Mortar Crack



PHOTO 3: 7/23/2021 – Mortar Cracks at Vestibule 1121



PHOTO 4: 7/23/2021 – Deteriorated caulking and rusted structural steel at soffit

MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION NARRATIVE

APPLICABLE CODES AND STANDARDS

The mechanical, electrical, plumbing, and fire protection systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

- 2018 Connecticut State Building Code
- 2015 International Building Code (IBC)
- 2015 International Existing Building Code (IEBC)
- 2015 International Mechanical Code (IMC)
- 2015 International Energy Conservation Code (IECC)
- Portions of the 2015 International Fire Code (IFC)
- Illuminating Engineering Society Lighting Handbook (IESNA), 10th Edition.
- NFPA, Latest Versions.
- ASHRAE 90.1.

EXECUTIVE SUMMARY

The mechanical central plant for the facility is generally at it's useful life and due for replacement. Air handling and ventilation systems are both due for replacement and also not compliant with current standards. Domestic water heaters are due for replacement. Fire sprinklers do not exist, with the exception of several heads connected to the domestic system. A complete fire protection system is recommended when future renovations occur. Several issues with the building will be identified below.

Electrical infrastructure is in fair operating condition overall. Items have been replaced over time, however, multiple systems are becoming dated. Specific items will be addressed below.

MECHANICAL SYSTEMS

Heat Generation

1. Heating for the building is generated by two oil fired boilers manufactured by Weil McClain, with 2,000 MBH capacity each. The boilers are 20 years old and nearing their approximately 25 year useful life. Regular maintenance appears to be occurring based on maintenance notes on the units.
2. The boilers are controlled with a Heat-Timer system controller which circulates hot water based on time and outside temperature. Though commonplace in the past, this system does not give the same efficiency of modern systems.
3. Hot water circulation pumps are 7-1/2 HP base mounted constant speed end suction pumps which appear to be regularly maintained. Any changes to the hot water heating plant should include upgrade to newer pumps with variable speed drives for energy efficiency.

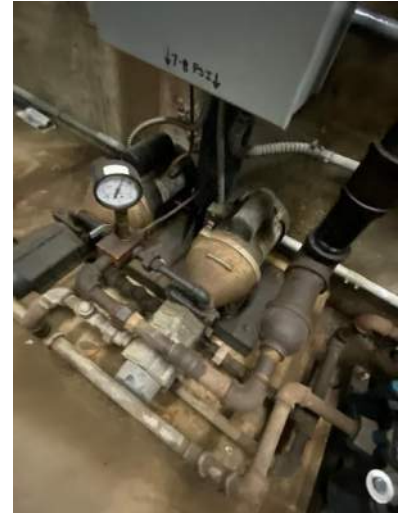
4. Oil for the boiler and water heater systems is circulated through a duplex Webster oil pump set. This appears to be 20 years old and nearing its useful life expectancy. Oil piping from the pumps to the outdoor tank appears to have been replaced recently with composite piping. The oil level controller is a Pneumercator system which appears to have been recently replaced.
5. Hot water piping for the building exists both underground and above ceilings. The majority of piping is not visible, however, existing drawings indicate that the majority of the piping was reused 20 years ago and is therefore well over 20 years old. It is recommended that more detailed analysis of the piping take place. Heating piping has a useful life of 40-50 years which this may be coming close to.



Boilers



Hot Water Pump



Oil Pump

Space Heating

1. Heating throughout the occupied portions of the building is provided by a combination of perimeter radiation, cabinet unit heaters and unit ventilators. The majority of the indoor heating devices are in fair condition. The perimeter unit ventilators will be addressed in a later section.



Unit Ventilator



Perimeter Radiation



Baseboard Radiation

Ventilation

1. Ventilation (fresh air) for the building is provided through multiple sources, the majority of which are outdated or due for replacement.
 - a. Many classrooms contain unit ventilators at the exterior wall which bring ventilation air through perimeter louvers and into the space after heating it. The incoming air can be poorly filtered and humid which contributes to poor indoor air quality. In addition, unit ventilators have a high noise emission level which is generally not compliant with newer code limitations. The unit ventilators are generally 20 years into an approximately 30 year useful life and should be replaced during any upcoming renovations. New systems should include dehumidification and enhanced filtration.
 - b. The gymnasium is ventilated and heated through two indoor air handling units which appear to be greater than 30 years old and beyond their useful life. The units show



Gym AHU



Unit Ventilator

some signs of minor corrosion on the connected piping. Newer units could provide variable speed control and enhanced efficiency for an energy savings.

Cooling

1. The majority of the building does not have cooling capabilities. It is recommended that future projects consider the addition of cooling throughout to meet modern standards.
2. A cooling system exists for the psychologist's office, tel/data room, main office, media center, and Pre-K area. The majority of the central rooftop cooling units are approximately 20 years old and at their 20 year useful life.
3. Window AC units are evident throughout the school. A significant amount of energy is being used on localized units without timed controls which can run 24/7 if not carefully monitored. Also, maintenance costs are utilized to maintain, install, and store these window units. It is strongly recommended that future projects consider a more substantial cooling system with better efficiency and maintainability.

Exhaust

1. Bathrooms and classrooms throughout the school are generally equipped individual inline exhaust fans and ductwork directing air to a roof vent. The exhaust fans have a 30-40 year useful life and are approximately 20 years old. With regular maintenance the fans will continue to provide service, however, future major renovations of the ventilation system may render the existing fans obsolete.
2. The kitchen contains a grease hood which is exhausted via a grease rated exhaust fan. This fan could not be observed due to its location, however, it's age is approximately 20 years old and has a life expectancy of 20-30 years due to the typical runtime and duty of a grease fan. Any future renovations should consider replacement of this fan as well as consideration for a more energy efficient variable speed hood exhaust system. Significant energy savings can be attained by controlling kitchen hood exhaust.
3. The kitchen also contains a dishwasher exhaust fan with the same age and useful life as the grease fan due to the exhausting of hot vapors.

Controls

1. Controls were observed to generally be a mix of ages from the previous renovation 20 years ago as well as prior to that time. This included Direct Digital Control (DDC) capabilities for some equipment and analog controls for other equipment. Controls hardware, devices, and wiring generally have a 20-30 year useful life which much of this system is equal to or older than. Any future renovations should include replacement of controls hardware and upgrade to a newer DDC platform. Existing systems can be integrated into the new platform if partial renovations occur. The condition of controls within this building is worse than other sites in the Town.



Analog controls



Digital controls

ELECTRICAL SYSTEMS

Electrical Service

1. The Main Service Switch and distribution section is rated at 1600A, 120/208V, 3-phase, and is manufactured by Siemens. The main switchgear is approximately 20 years old and is in good condition. All panelboards and conduits within the electrical room appear to be clean, dry, and well labeled. Switchgear which is well maintained has a useful life of 30-50 years or more.
2. The incoming service from the street is stepped down in voltage to 208V by a site mounted 300 kVA exterior transformer owned by the utility company.
3. A 350 kW Kohler diesel generator is located outside the kitchen area and provides backup power for the facility. The generator appears to be 20 years old and in fair condition. Regular testing and service on this generator could lead to a 30 year useful life.

4. No lightning protection was observed in the facility.



Generator



Automatic Transfer Switch

Electrical Distribution

1. The Main Service Switch and distribution section feed branch panels located throughout the building. Feeders exposed in the electrical room are in conduit/EMT. Branch circuits visible within the building were in armored cable or conduit. No wiring open junction boxes or exposed wires were visible.
2. Most of the electrical equipment (branch panelboards, disconnect switches, motor starters, etc.) appears to be dating back to the renovation 20 years ago. Panelboards are located throughout the building in concealed and exposed areas.
3. The central IT closet contained several electrical panels with items stored too close to the panels. In addition, a large amount of IT cabling was hung without properly securing to the structure.
4. Receptacles in the building were mostly observed to be 3-prong type. GFCI receptacles were observed near sinks and in other areas as required. A large percentage of the existing building contains perimeter plug-mold for wire and data cable to be routed on the existing perimeter walls. Receptacle placement and quantity appears to be fair for the usage in the building. Future renovations should consider the addition of power outlets for more modern technology which generally necessitates more power receptacles.
5. No exposed wiring was observed.
6. Fire alarm cabling could not be observed.



IT Room



IT Room

Lighting

1. Interior lighting in classrooms, corridors and office areas is generally fluorescent type. Lighting control in classrooms is generally via manual wall switches.
2. Several classrooms used linear pendant fixtures with uplight pattern.
3. The gymnasium has been upgraded to LED 2x2 fixtures exposed.
4. Emergency lighting appears to be accomplished with lighting on the generator. Wall packs or other battery fixtures were not readily apparent.
5. Exterior building mounted light fixtures appear to be LED and in good condition.



Linear Pendant Fixtures



LED fixtures in gymnasium

Emergency Lighting

1. The use of exit signage in most areas of the building appeared to be compliant with current codes. Much of the exit signage is made up of backlit, code compliant, LED lighted signs with battery backup.

Telecommunication Systems

1. The data communications system consists of a cabled backbone system and a combination of wired outlets and wireless access points located throughout the facility. The main equipment server rack is located in the technology room connected to the lounge. The technology room has a significant amount of wiring and devices that aren't fully organized or arranged.
2. The building paging/public address system is a Bogen PA system with wall switches in each room. The system appeared to be powered and active. Other schools in this district have paging via the room phones which can be a better system to manage and is recommended at this site.

Security Systems

1. IP cameras were observed at various locations around the interior of the building. All systems appeared to be functioning. A Honeywell intrusion detection system and keypad were installed and active at the time of survey.

Fire Alarm Systems

1. The building is equipped with a Notifier AFC-600 addressable fire alarm system with a control panel in the main corridor near the lounge. Assembly spaces include a voice evacuation feature. The system appears to be in good working condition.
2. Fire alarm horn/strobe coverage throughout the building appears to be sufficient. Locations of manual pull boxes appear to be in compliance.
3. Smoke detectors are located in all classrooms, corridors, storage areas and electrical rooms. Heat detectors are located in mechanical rooms. System devices appear to be operational. Locations appear to be in compliance.



Fire Alarm Control Panel



Remote Fire Alarm Annunciator

PLUMBING SYSTEMS

Plumbing Services

1. Domestic Water: The 4" cold water main enters the mechanical room below the stairs. The piping enters a dual meter assembly with bypass. The piping in the mechanical room appears to be in fair condition, is 20 years old, and has a 40-50 year useful life.



Domestic Water Service



Domestic Water Meters

1. Sanitary:
 - a. The building is served by several 4" cast iron sanitary mains. The piping is buried and could not be observed directly, however, existing plans noted a mixture of piping to remain and piping being replaced 20 years ago. The useful life of this piping is expected to be approximately 50 years. A camera investigation of the piping mains is recommended if issues have been apparent in the past.
2. Storm:
 - a. Much of the building's storm water lands on pitched roofs and is captured by an exterior gutter system. Several areas with flat roofs included storm piping renovations during the previous project 20 years ago. Storm piping could not be reviewed as it is above ceilings, in walls, and below floors. The useful life of this piping is expected to be approximately 50 years.

Plumbing Fixtures

1. Plumbing fixtures within the building are generally of the 20 year age from the previous renovation. Fixtures appeared to be clean, well maintained, and in fair condition with a 30 year useful life.

2. In general plumbing fixtures are as follows:

- Water Closets in gang bathrooms are wall mounted, vitreous china with manual flush valves. Several floor mounted fixtures were observed in the building.
- Urinals are wall mounted, vitreous china with manual flush valves.
- Lavatories serving single use bathrooms are wall mounted vitreous china with manual faucets.
- Lavatories in gang bathrooms are Bradley style multi station units which are in good condition.
- Electric drinking fountains are surface mounted and appear to be in good condition.
- Classroom sinks are top mount stainless steel, with manual faucets. These fixtures appear to be in good condition.



Wall mounted sinks



Typical single bathroom

3. In general commercial kitchen plumbing fixtures are as follows:

- a. Hand wash, prep, and pot sinks are stainless steel with manual faucets. Grease waste exists the building via a separate line to an assumed exterior mounted grease trap.

Domestic Hot Water Systems

1. There are two oil fired hot water heaters serving the main, located in the mechanical room. Both units are AO Smith brand, model COF-140-720 with 140 gallon storage capacity each. Both units are approximately 20 years old and at the end of their useful life. Water Heater #1 appeared to have undergone service recently.

2. An electric water heater is located in the rear of the building near the gym in a storage closet. This unit is an AO Smith model PEC 52 with 50 gallon capacity. The unit is over 20 years old, in fair condition, and beyond its useful life expectancy. This unit appears to only service the gym bathrooms.
3. Two hot water mixing stations exist in the mechanical room. One serves general hot water at 110 degrees, and the other serves kitchen hot water at 140 degrees. Each service is served by a hot water recirculation pump which appear to be in good condition.



Oil Water Heater



Electric Water Heater

END OF REPORT