



KENNEDY-LONGFELLOW BUILDING

158 Spring Street
Cambridge, MA 02141

Facilities Condition Assessment : October 14, 2022

Capacity Analysis
Master Plan

Facilities Condition Assessment, Capacity Analysis and Master Plan for CPS



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7.7 | KENNEDY-LONGFELLOW SCHOOL BUILDING APPENDIX

Historical Summary

The Kennedy-Longfellow School is located at 158 Spring Street, in Cambridge, MA. The current school is the result of the merger between the Longfellow School named for poet Henry Wadsworth Longfellow and the Robert F. Kennedy Elementary School (named this in mid 1973 after the attorney general). The building that now houses KLO was built in 1971, taking over the space after the third Thorndike School was demolished in 1968. It is a brick and concrete structure staying in line with the design standards of the time. The current building was determined to contain nonfriable ACBM.

The Kennedy-Longfellow School serves children in grades Junior Kindergarten through 5th grade. In addition to this curriculum, the building also houses a preschool program part of the Department of Human Service Programs for children 2.9-5 years of age.



Robert F. Kennedy School, 1969, Paul G. Feloney. Photograph 1972.

FCA FORMS - SCORING BREAKDOWN

The Facilities Condition Assessment was performed by the architectural team and consultants to assess the current physical conditions of the building and the building systems. Each assessor utilized checklists and the assessment criteria and rating scale below to maintain consistency across all fields.The Conditions criteria grades the overall quality of the building and systems, and the *Priority* criteria sets the time frame for addressing the issues noted. The two numbers were used together to rate the different areas of the facilities. To complete the analysis, each school was given an overall condition and priority score. These were calculated by combining and weighing all individual assessments based on the District’s priorities. Detailed reports for this school individually can be seen in the following pages.

ASSESSMENT CRITERIA				
CONDITION		PRIORITY		
Excellent	A	No visible defects, new or near new condition, may still be under warranty if applicable	Currently Critical (Immediate	1 Requiring immediate action including a cited safety hazard and ares of accelerated deteriorating, returning a building component to normal operation.
Good	B	Good condition, but no longer new, may be slightly defective or deteriorated, but is overall functional	Potentially Critical	2 Requiring action in the next year including components experiencing intermittent operations, potential life safety issues, and rapid deterioration, returning a building component to normal operation.
Adequate	C	Moderately deteriorated or defective, but has not exceeded useful life	Necessary - Not Yet Critical	3 Requiring appropriate attention to preclude predictable deterioration, potential downtime, additional damage, and higher cost to remediation if deferred further
Marginal	D	Defective or deteriorated in need of replacement; exceeded useful life	Recommended	4 Representing a sensible improvement to the existing conditions (not required for the most basic function of the facility; however, will improve overall usability and/or reduce long-term maintenance costs).
Poor	E	Critically damaged or in need of immediate repair; well past useful life	Does Not Meet Current Code but “Grandfathered”	5 No action required at this time, but should substantial work be undertaken correction would be required

2.1 FCA SCORE SUMMARY

ARCHITECTURAL - EXTERIOR	CONDITION	PRIORITY
<ul style="list-style-type: none">A scope of masonry cleaning and repointing should be undertaken in areas of deteriorated mortar and any cracked brick shall be replaced. Remove spray foam insulation from abandoned façade penetrations and infill with brick. Provide proper backer rod and sealant joints in conditions where spray foam insulation is installed around current façade penetrations.Isolated crack repair is recommended for all hairline concrete cracking areas discovered.CMU in good condtion overallReplace all metal flashings located at the top of the brick facades with new metal reglet flashings and lap sealants.The cementitious panels at the roof monitors should be coated/waterproofed to reduce potential moisture migration within the panels and to reduce potential for further cracking and rusting.Replacement of all existing steel windows assemblies with new thermally broken aluminum assemblies with insulated glass and Low-E coatings is recommended.Consideration should also be given to replacement of the aluminum windows, or at least the spandrel panels that are corroded.Replace existing steel door and frame assembliesAll façade sealants should be replaced, including those within the masonry facades and at the perimeter of fenestrations and façade penetrations.Roofing in good condition overall	C	3
ARCHITECTURAL - INTERIOR	CONDITION	PRIORITY
<ul style="list-style-type: none">ACT ceilings in typical calssrooms in poort conditionCMU walls and VCT floors in good conditionWood doorsCMU walls throughout the school in fair condition	C-	3
STRUCTURAL SYSTEM	CONDITION	PRIORITY
<ul style="list-style-type: none">General Construction (Roof, Floor, Foundations)Repair/patch concrete-encased structural elements at exterior of buildingExterior Walls: Repoint brick masonry, repair steel lintelsInvestigate water intrusion above stage.Lateral Force Resisting System - General	B	5
	C	3
		4
		5
FOOD SERVICE	CONDITION	PRIORITY
<ul style="list-style-type: none">Replace or repair floor and wall finishesReplace serving support equipmentReplace cooking equipment, exhaust hood and fire suppression	D	2

CONVEYING SYSTEM	CONDITION	PRIORITY
<div><div>◦ Scrape and clean debris from hall and car door sills.</div><div>◦ Clean cartop equipment.</div><div>◦ Clean all hall and car door equipment.</div><div>◦ Replace all COP floor button light bulbs.</div></div>	D	2
BUILDING SYSTEMS	CONDITION	PRIORITY
<div><div>◦ Replace plumbing fixtures and fittings, replace storm water system piping, replace sump pumps, replace waste and vent piping, replace air handling and H&V units, replace classroom heating/cooling units, replace terminal heating units, replace building automation system, replace some lighting fixtures, upgrade lighting controls with energy code compliant system</div></div>	C-D	3-4
<div><div>◦ Water heaters show excessive corrosion, one heater has failed. Address ponding at roof drains.</div><div>Replace electrical service and distribution – 60+ years old</div></div>	E	1-2
<div><div>◦ Fire Protection systems – none exist.</div></div>	N/A	5
<div><div>Note: "5" not counted in priority average.</div></div>	C- 2+	

Site

Existing Condition

The Kennedy-Longfellow School is bordered by residential, institutional, and industrial spaces. The main entrance to the school is located on the north side of the site, roughly in the middle, and recessed in from the sidewalk creating a courtyard space in the front. This area is hardscaped and features a series of concrete planters with vegetation and trees. The main entrance to the school is recessed further from the courtyard up three steps from grade, following a large, covered, hardscaped with bike racks. There is also a ramp leading to this space for accessibility. An additional egress door is mirrored across the main office area, with a similar covered space and bike racks. Before rounding the corner to the west of the site, there is an additional egress door. The north side of the site is lined with trees and in good to fair condition. The northwest corner has a small green space with trees and a walkway. Next to this, is an area for trash and recycling on the west side of the building, directly next to two large garage doors that lead into the school’s interior loading dock and service spaces. This side is in fair condition.

On the south area of the site, the building has an additional egress door as well as the entry into the transportation office. There is secured outdoor pipe access and an additional service space/trash area, and a parking area with 30 parking spaces. At the time of the visit, the parking overflowed to the wood mulch and driving lane areas. The southeast area of the site closest to the building has secured fenced areas, the first is a garden space for the CitySprouts program, which includes a shed, composting area, and a series of wood planters. Next to this is a side egress door on grade, followed by an additional fenced area for preschool play with seating, planters, and play elements. This larger area is divided with fences and gates in between the different classrooms that open directly into the space. These spaces are all in good to fair condition.

Across the driving lane on south side of the site, there is a baseball field, six soccer fields, two fenced full-size basketball courts, and an additional multipurpose field, all in good condition.

The east side of the site has one fenced rubber-paved area with playground equipment for older kids and a similar one for toddler aged children. In between the two playgrounds, there is an asphalt-paved area with a large tent, at the time of the visit, some tables were setup here. Two side egress doors are located on this side, and an asphalt-paved walkway borders the building until reaching the sidewalk on the north side. A blue bike post and parking are located on the walkway closest to the north side.



Front entrance, North



Side walkway/tent area, East

Architectural - Exterior

Existing Condition

The building exterior of the Kennedy Longfellow School comprises exposed cast in place concrete structure with brick and concrete block infill. There are steel and aluminum windows of different vintages and a recently installed TPO roof.

The masonry façade is in good condition overall with isolated areas in need of repair. The fenestrations are in fair to poor condition and the roofs are in very good condition.

Facade:
The façade comprises exposed cast in place concrete structure with brick and concrete block infill. The brick and concrete block masonry is in good condition overall with isolated step cracking observed. (Ref: Photo AE-10) The concrete block is primarily located at the exterior of the ground level and has been painted.

Hairline cracking of the concrete façade elements was typically noted in the form of vertical cracking at the center of the concrete panels between floors. (Ref: Photos AE-11-12) Miscellaneous previous concrete repairs were noted and included repair patches and sealant application. (Ref: Photo AE-18) Some concrete patches have begun to fail and spall. (Ref: Photo AE-14)

Metal flashings terminated with a lap sealant are located along the top of the brick masonry facades, with several areas observed where the metal flashing is no longer fully secured, and the sealant has failed. (Ref: Photos AE-13-16)

The façade sealants at transitions between masonry and concrete and around the steel window and louver assemblies has reached the end of its service life. (Ref: Photos AE-19, 36) Exterior perimeter sealants around the newer aluminum windows are in fair condition. A few penetrations in the façade are filled or sealed with spray foam insulation. (Ref: Photo AE-17)

There are a few roof monitors clad with cementitious panels and metal windows. The cementitious panels have hairline cracking and some isolated rusting. There are previous repairs to these panels in the form of sealant application. (Ref: Photos AE-20-22)

Fenestrations:
The fenestrations comprise original steel windows with fixed lites and operable vents, as well as newer aluminum windows with aluminum spandrel panels. The ground level classrooms have a metal framed doors within a steel window assembly. Steel framed ribbon windows are present within the Cafeteria and in other locations such as the corridor on the upper floor overlooking the roof.



AE-A: Typical façade area at main entrance



AE-B: Typical aluminum hung windows with aluminum spandrel panels

Architectural - Exterior

Existing Condition

The steel windows are not thermally broken, have single pane glass and are in poor condition. Many are exhibiting rusting on the interior and exterior of the frames, and some have multiple sealants applied around the glazing to address leakage issues. There are operability issues with most of the steel windows. (Ref: Photos AE-23, 27-32) Most classrooms with steel windows have recently installed casement windows which were installed as part of the COVID-19 pandemic for ventilation requirements. (Ref: Photo AE-35)

The newer aluminum windows are comprised of thermally broken frames with insulated glazing and are in fair to good condition. The condition of the aluminum spandrel panel below these windows varies as corrosion was observed within these panels in many areas of the building. (Ref: Photos AE-24-26, 33)

The building’s exterior doors are in poor condition in most locations and comprise hollow-metal framed doors that exhibit rusting and peeling paint on the base of these frames at most locations. Daylight is visible around some of the doors from the interior due to deficient weatherstripping. (Ref: Photos AE-37-42)

Perimeter sealants around most fenestration assemblies have reached the end of their service life. (Ref: Photos AE-39-40)

Roofing:
All roof areas have recently been replaced with a fully adhered TPO roofing assembly. The extent of insulation (if any) or presence of other existing roofing systems below the current roofing assemblies is unknown. (Ref: Photos 43-60) PV solar panels are installed at portions of most roof areas.

Access to the roof is via exterior doors above the roof. Wall mounted exterior ladders provide access to the other roof levels.

Roof drainage occurs via internal roof drains. There is some sediment gathering around a few roof drains and within the field of the roof in a few locations, indicative of minor drainage and ponding issues. (Ref: Photos AE-51-54) New roof edge fascia is installed at the perimeter of all roof areas and a portion of the chimney is clad with metal standing seam panels. There is failed sealant around the flue penetrations in these panels cladding the chimney. (Ref: Photos AE-59-60)

Reported Envelope Issues:
While on site, discussions were held with facilities personnel to identify any building exterior-related issues that may exist. It was mentioned that there are operability issues with most steel windows and that condensation occurs in colder months on



AE-C: Representative steel window and door assembly with concrete block façade at exterior of typical ground level classroom.



AE-D: Representative newly installed TPO roof

Architectural - Exterior

the interior of the steel framed windows in the Cafeteria. Many of the exterior doors do not close freely.

There are water leaks near a roof drain above the Auditorium which reportedly existed prior to when the roof was replaced and continues to be an issue. The interior CMU wall within this space shows efflorescence and moisture on the floor due to this leakage. (Ref: Photos AE-61-63)

Water leakage also occurs from below the large unit skylight within the main lobby, as evidenced by damaged interior finishes and peeling paint. (Ref: Photo AE-64)

Recommendations

Facade:

A scope of masonry cleaning and repointing should be undertaken in areas of deteriorated mortar and any cracked brick shall be replaced. Remove spray foam insulation from abandoned façade penetrations and infill with brick. Provide proper backer rod and sealant joints in conditions where spray foam insulation is installed around current façade penetrations.

Replace all metal flashings located at the top of the brick facades with new metal reglet flashings and lap sealants.

All façade sealants should be replaced, including those within the masonry facades and at the perimeter of fenestrations and façade penetrations.

Isolated crack repair is recommended for all hairline concrete cracking areas discovered.

The cementitious panels at the roof monitors should be coated/waterproofed to reduce potential moisture migration within the panels and to reduce potential for further cracking and rusting.

Fenestrations:

Replacement of all existing steel windows and door assemblies with new thermally broken aluminum assemblies with insulated glass and Low-E coatings is recommended. Consideration should also be given to replacement of the aluminum windows, or at least the spandrel panels that are corroded.

Miscellaneous:

A scope of diagnostic water leakage field testing is recommended to identify the source(s) of leakage around the unit skylight above the main lobby and above the Auditorium. Repair work identified through this testing is recommended to be completed thereafter.

Architectural - Interior

Existing Condition

The interior condition of Kennedy Longfellow is in need of attention. Some of the original materials, like CMU walls and brick floors are quite durable so minimal upgrades could make them last for an extended period of time. However, many interior elements fall in the marginal to poor range which indicates they are at the end of their useful life.

The shared use space such as gym, library and cafeteria have had limited upgrades and most finish materials appear to be original. The cafeteria, library and auditorium require replacement of some major elements to keep them in useful condition. While the gym appears to only need minor surface upgrades and equipment replacement. The toilet room conditions vary throughout; some are new and some appear to have original finishes.

Ceilings:

The majority of the ceilings are acoustical tile ceilings (ACT). A few appear to have been recently replaced however, the remainder are either in moderate condition or are defective/ in poor condition. The exposed structure ceilings are also in marginal to moderate condition at best. The auditorium ceiling appears to be acoustic plaster or similar; it is in marginal condition with stains and damage apparent.

Walls:

Exposed brick is used as an interior wall finish, predominantly on the first floor. It is very durable and has worn well. The remainder of the walls are mostly CMU. The block itself is in good condition but most of it has deep struck joint and much of it is unpainted which makes the spaces look unfinished and worn. Most of the rooms are in very similar condition with a few exceptions. Some toilet rooms near the entry have been recently modernized and have new tile walls. On the opposite end of the spectrum, the art/music/specials spaces in the ‘G’ wing are in overall poor condition. The gym appears to have had a more recent paint job and the wood acoustic panels in the auditorium seem to be in good condition. The library is one of the few spaces with gypsum walls; these are worn and show signs of water damage. Some corridors and some stairs are brick and have worn well; they are in good condition. Two stairs have an open-cell concrete which has been painted. It is in fair condition. Note: many classrooms have operable partitions between spaces. It appears that many of these are not operational and should either be replaced or repaired.



Main Lobby



Music/ Art Wing

Architectural - Interior

Existing Condition

Floors:
The majority of the rooms have VCT floors which are in adequate to marginal condition. A small number of rooms have newer linoleum floors and are in good condition. Epoxy floors in some of the restrooms and back-of-house spaces also appear in good condition. Sealed concrete is present in most of the support spaces and is generally in adequate condition with slightly less than half of it showing more wear, making it marginal, at best. The auditorium carpet is well past its useful life. The gym floor is wood and appears to be in functional condition.

Windows:
This section addresses the conditions of the exterior windows from the interior view. The windows are either aluminum windows or steel windows. Both are past their useful life with leaks apparent in many locations and the steel windows showing rust both inside and out. and appear in good condition from the inside. No evidence of leaks was apparent. There is a limited number of interior windows which are typically hollow metal frames. They are in adequate condition.

Doors:
Doors are about one-half wood doors in hollow metal frames and one half hollow metal doors and frames. The wood doors vary from functional to moderate with bathroom doors in particular being in marginal condition. The hollow metal doors vary widely from about one half of them being in functional condition to the other half being in poor condition and in need of immediate attention showing rust and water damage and not doing a good job of protecting the rest of the interior.

FFE:
The furniture, fixtures and equipment vary in age throughout the school with the majority of it being in adequate to marginal condition.

Millwork:
The condition of the millwork, while limited in quantity, was fairly consistent throughout the building. All of the millwork is in poor condition.

Plumbing:
A limited number of classrooms have plumbing, and it is in adequate to marginal condition. Many of the rest room fixtures appear to be more recent replacements; they and are covered in more depth by MEP analysis.



Classroom Typical



Typical Folding Walls

Architectural - Interior

Recommendations

Recommendation would be for a full renovation and/ or replacement of the majority of the interior finishes and equipment. life of the gypsum wall surfaces and wainscot tile.



Exposed Piping in Science



Third Floor- Worn out Flooring



Wood Vertical slats for wall finish



Typical Art Room

Architectural - Interior



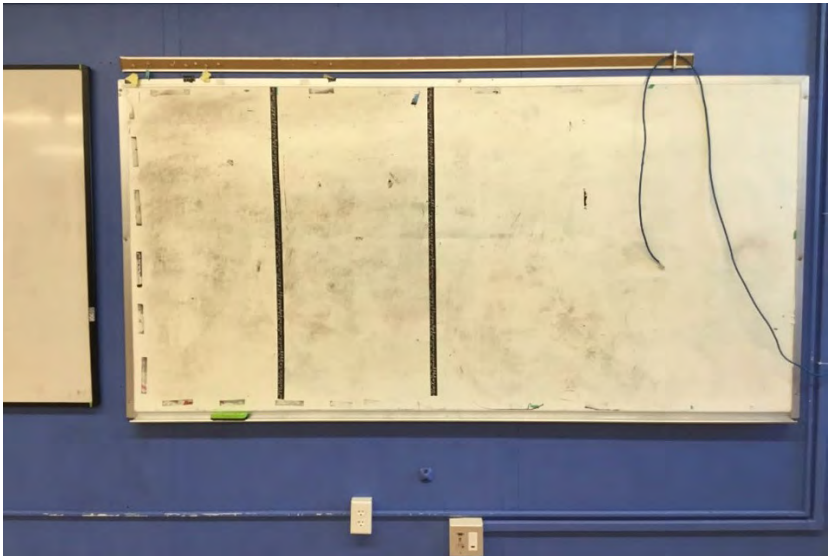
New restrooms 1st Floor



Library



Third Floor Upgraded Corridor



Damaged Visual Display Boards

Theater

Existing Condition

The theatrical equipment systems at the Kennedy-Longfellow School are in fair to poor condition.

Fixed audience seating is in poor condition with many seats showing damage. Dedicated accessible seating locations were not observed.

The stage rigging consists of pipe battens and track for stage drapery connected to directly structure. Hand winch operated linesets provide support for stage lighting fixtures. Support is by wire rope or chain. Hand winch lift lines and equipment are showing significant wear.

The stage drapes, track, and other hardware are showing signs of wear and some drapes and components are damaged.

The theatrical lighting consists of incandescent strip lighting above the stage. Front lighting positions exist in the space, but fixtures have been removed from them and are stored in backstage spaces.

The stage lighting is controlled directly from the local panelboard. Some temporary cable has been installed to provide additional lighting power. Cables are suspended and may foul stage curtains.

Recommendations

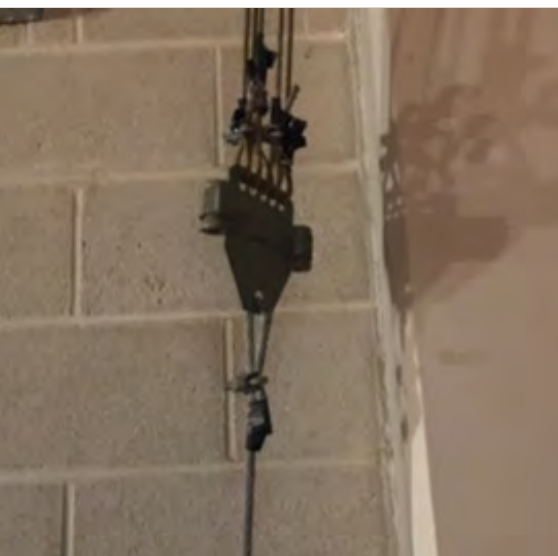
Audience Seating:
Audience seating should be replaced with new seats. Seating layout should be reviewed and modified to modern standards and to meet all current code requirements including ADA.

Theatrical Rigging:
Fixed connections to structure should be inspected by a ETCP Certified rigging professional. Components not rated for overhead suspension or not appropriate for this application should be replaced. Some components may be reused. Front of house lighting positions in the auditorium should be similarly inspected. Hand-winch suspended battens (lighting) should be replaced with industry standard motorized package hoists.

Stage Drapery:
Stage draperies should be replaced with new, inherently flame-retardant drapes. All drapery tracks and hardware should be inspected and replaced or maintained as needed.



Damaged Auditorium Seat



Hand Winch Clew Showing Wear

Theater

Theatrical Lighting:
This system should be upgraded. Panelboards serving theatrical lighting should be replaced with relay panels. Fixtures upgraded to LED spot, wash, and strip lights. Existing power infrastructure is likely to be able to be reused. Low-voltage control wiring (category cable) must be added to serve each lighting position.



Damaged Stage Drapery



Local Panelboard Used to Control Stage Lighting



Obsolete Theatrical Lighting Fixtures



Temporary Cable Suspended Backstage

Structural System

Existing Condition

General
The Kennedy-Longfellow School was constructed in 1972. A complete set of existing structural drawings was available to the design team at the time of our visit to the school. The three-story building structure consists of either non-composite slab on metal lath over steel framing or two-way reinforced concrete joist (waffle) slab floor construction, steel framed roof construction and conventional, soil-supported foundations. The building structure generally appears to be in satisfactory condition.

Existing Structural Systems and Observations
Foundations consist of concrete slabs on grade, reinforced concrete foundation walls with continuous wall footings, and individual spread footings at building columns. Foundations have been designed based on a 3.0 tons per square foot bearing pressure and appear to be performing adequately; there are no apparent signs of significant total or differential settlements.

Floor Construction typically consists of concrete slabs on metal lath draped over steel bar joists supporting by steel beams, which span to steel (wide flange) columns. In the Gymnasium wing of the building, floor construction consists of a two-way reinforced concrete joist slab spanning to reinforced concrete beams that are supported by reinforced concrete columns. Concrete encased steel spandrel beams are provided around the perimeter of the building. Floor construction appears to be performing satisfactorily; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated, or failed structural members.

Roof Construction typically consists of concrete slabs on metal lath draped over steel bar joists supported by steel beams which span to steel (wide flange) columns. Roof construction over the Auditorium consists of precast concrete planks spanning to long span steel bar joists supported by steel (wide flange) columns. Roof construction over the Gymnasium consists of bulb tees spanning to steel beams and/or plate girders supported on steel (wide flange) columns. Loading information was not noted on the available original Structural Drawings; however, schools designed and constructed in the 1960s were likely required to comply with the requirements of Building Regulations for Schoolhouses, issued by the Commonwealth of Massachusetts Department of Public Safety. Accordingly, the roof structure was likely designed for a snow load of 30 psf, which meets the current building code requirements for flat snow loading. However, it is unknown if drifting snow loads were accounted for in the original design. Photovoltaic panels were installed on the Gymnasium roof at an unknown time, which would have increased loading on the roof structure. Overall, the roof construction appears to be performing satisfactorily; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated, or failed structural members.



Photo ST-1: Brick Joints and Rusted Lintels



Photo ST-2: Water-Stained Finishes above Stage

Structural System

Existing Condition

Exterior Wall Construction consists of brick masonry veneer and unreinforced concrete block back-up walls. Interior walls are typically non-bearing, unreinforced concrete block construction. The exterior brick masonry veneer appears to be in need of repointing.

The lateral force resisting system (wind and seismic loads) is not clearly defined on the original Structural Drawings. However, the building was presumably designed under the Massachusetts Building Regulations for Schoolhouses, which required consideration of wind loads. By default, the lateral forces are likely being resisted by the perimeter and interior, unreinforced concrete block walls. Due to the lack of a formal lateral force resisting system, the structure does not meet current design code wind and seismic load requirements. Lateral force resistance and seismic hazards, including unreinforced masonry wall issues, would need to be addressed in conjunction with a future major renovation of the building.

Recommendations

Structural conditions at the school were reviewed at the site (to the extent possible) on August 30, 2022. While the building structure was observed to generally be in satisfactory condition, specific structural/structurally related conditions that may require further investigation and/or remediation in the future are listed below.

Repointing of brick joints and the replacement/repair of rusting/sagging steel lintels will likely be required in the future. Refer to Photo ST-1.

Evidence of water infiltration was observed at the interior finishes above the Stage. Roofing repairs may be required, if they have not been completed already. Additionally, investigation of the concrete roof planks in this area is recommended to confirm that the roof structure has not been compromised by leaks. Refer to Photos ST-2.

Minor cracks and limited areas of spalling concrete were observed around the building exterior. It does not appear that the building structure has been affected. However, patching, filling and/or other minor repairs may be required to prevent further deterioration. Refer to Photos ST-3 and ST-4.



Photo ST-3: Cracked Concrete Encasement



Photo ST-4: Exposed Reinforcing Steel

Structural System

Recommendations

General Comments on Renovations, Alterations, Repairs, and Additions
Renovations, alterations, repairs, and additions to existing buildings in Massachusetts are governed by the provisions of the Massachusetts State Building Code (MSBC – 9th Edition) and the Massachusetts Existing Building Code (MEBC), which defines three compliance methods for the repair, alteration, change of occupancy, addition, or relocation of an existing building. The method of compliance is chosen by the Design Team (based on the project scope and cost considerations) and cannot be combined with other methods. The Work Area Compliance Method (IEBC Chapters 4 through 12) is the most common compliance method chosen.

The design and construction of any proposed addition(s) to the existing building would be conducted in accordance with the Code for new construction. Generally speaking, additions should be structurally separated from the existing, adjacent construction by an expansion (seismic) joint to avoid an increase in gravity loads or lateral loads to existing structural elements.

Where proposed alterations to existing structural elements carrying gravity loads result in a stress increase of over 5%, the affected element will need to be reinforced or replaced to comply with the Code for new construction. Alterations to existing structural elements resisting lateral loads (i.e., unreinforced block walls) which result in an increase in the demand - capacity ratio of over 10% should be avoided; otherwise, a seismic evaluation and potential upgrade will be required. Essentially, this means that removal of, or major alterations to the existing lateral force resisting elements (unreinforced block walls) should be avoided if possible. Structurally attached additions (horizontal or vertical) which result in an increase in the demand - capacity ratio of over 10% would also trigger a seismic evaluation and potential seismic evaluation.

Mechanical System

Executive Summary

Fire Protection Systems
The existing building is not provided with an automatic sprinkler system or a manual-wet standpipe system in the egress stairwells.

Mechanical Systems
The existing building is provided with a centralized hot water boiler heating system, (6) air handling units for distributed ventilation with heating coils and DX cooling, perimeter induction units, ceiling mounted fan coil units, cabinet and propellor unit heaters, general exhaust fans, and a hybrid (pneumatic and DDC) control system.

The air handling system and classroom/interior room terminal units are original to the building (1969). The central heating system boilers, pumps, controls, etc. were replaced in the 2002 time frame. The AHU condensing units for the DX coils were replaced in 2005.

Plumbing Systems
The existing building is provided with conventional plumbing systems which include a domestic water distribution system, sanitary waste and vent system, storm water system and a natural gas system.

The plumbing piping systems have an expected service life of 50-100 years. The existing plumbing systems were installed in 1969 with some updates to specific equipment. The plumbing systems are generally in fair condition.

Electrical Systems
The existing electrical distribution is original to the 1969 building renovation project, approximately 53 years old, and have had minor modifications to support program changes. Solar panels were added to the roof in the past five years.

The existing lighting and fire alarm have been upgraded over the years and range in age from 1969 to present.

The electrical distribution system is past its useful life.

Mechanical System

Heating System

Existing Condition
The heating source for the building consists of (4) Benchmark Aerco boilers with two heating hot water pumps all located in the mechanical room. Heating hot water is distributed throughout the building using two (2) base mounted pumps located in configured for lead/standby operation. The boilers have local controllers which are interfaced to a Johnson Controls (JCI) Metasys system. The JCI system is connected to the Cambridge Schools campus BAS network via JCI Facility Explorer.

The heating hot water system was replaced in 2002 and appears to be in reasonably good condition. Service tags were noted on the boilers and routine maintenance has been occurring on a regular basis. There is evidence of some residual repairs and upkeep, such as relief valve replacement, which is not unusual for equipment of this age. All equipment appears to be in working order.

The median service life is for high efficiency, gas fired, condensing boilers and base mounted pumps of this type is anticipated to be 20-25 years.

Recommendations
Although service life for this type of equipment is ultimately related to run time duty, environmental conditions, quality and periodicity of routine maintenance, etc. it is recommended that replacement of the heating hot water system should be considered in the next 5-10 years.

Cooling System

Existing Condition
There is no centralized cooling/chilled water system. Cooling for the building consists of condensing units on the roof serving DX coils in various air handling units. See “Ventilating and Air Conditioning System” section for additional information.

Recommendations
N/A



M-1: (2) of (4) existing Benchmark Aerco boilers



M-2: Existing hot water pumps

Mechanical System

Ventilating and Air Conditioning System

Existing Condition
Ventilation and air conditioning for the building is provided primarily through all-air systems using a total of six (6) air handling units. All of the units utilize heating hot water coils, five of the six utilize DX cooling coils, and one unit is a heating and ventilation only unit. Two of the units (with DX and hot water) supply constant volume air to the classrooms which is distributed by duct work system. The other units serve dedicated areas consisting of the gymnasium, auditorium, cafeteria, and practice rooms. All air handling equipment is located indoors except the associated condensing units which are located on the roof. There are four condensing units, two of which serves the air handling units on the third floor and the other two serve air handling units on the second floor. The condensing units have been replaced in 2005 and the air handling units are original to the building (1969). There is some rudimentary level of direct digital control (DDC) associated with the air handling units which basically consists of temperature monitoring, start/stop control, and minimal alarms. The DDC system for the air handling units is vintage JCI Metasys.

Classrooms and interior spaces are served by a combination of perimeter induction units, ceiling mounted fan coil units, wall heaters, cabinet unit heaters, and propellor unit heaters. General exhaust fans provided ventilation to toilet and restroom spaces. All this equipment appears to be original to the building (1969).

The air handling equipment is generally in poor condition. It was observed that most, if not all, the outside air damper actuators for the units have either been disconnected or removed. Air flow imbalances were noted on the units with mixed air chambers/sections operating in a negative pressure condition (should be somewhat neutral pressure), possibly due to the damper issue previously noted. An excessive amount of air leakage was noted on the duct work mains in the mechanical rooms and from the air unit casings in numerous areas. Fan motor/bearing noises were present indicating operational issues/concerns for some units. Condensate drainage appears to be a problem on the 3rd floor units. Custom temporary drain pans were observed to have been constructed to prevent the condensate which is leaking from the unit casings from leaking down into occupied areas. Corrosion was noted on both the duct work and hot water system piping. Insulation is missing or becoming detached throughout the mechanical rooms in which the air handling units are located. The air handling unit fan motor disconnects were observed to be operating the “hand” position throughout. Also, numerous local exhaust fans were noted to have been shut off at their respective disconnects.



M-3: 2005 Existing Condensing Unit Under Repair



M-4: Existing Air Handling Unit With Condensate Pan Leakage

Mechanical System

Recommendations
The air handling units and associated distribution systems are functioning well beyond their expected service life and should be replaced with new units, duct work, and piping. The exception to this would be the two condensing units on the roof which were replaced in 2005. This equipment is still within the expected service life of 20-25 years and have some operational value left in them. Although service life for this type of equipment is ultimately related to run time duty, environmental conditions, quality and periodicity of routine maintenance, etc. it is recommended that replacement of the condensing units should be considered in the next 5-10 years. It was observed at the time of this site review that the condensing unit serving the 2nd floor air handling units had been placed out of service and was actively under repair.

It is further recommended that in conjunction with air handling unit replacement all occupied space terminal units such as the induction units, fan coil units, exhaust fans, etc. also be replaced as all this equipment is beyond the excepted service life and are original to the building.

Mechanical System

Building Automation System

Existing Condition
The existing building automation system is a hybrid of the original pneumatic control system and a newer, though vintage, direct digital control system (DDC). The pneumatic control system compressor appears to have been replace some time in the past though it is not clear exactly when. The current compressor appears to be in reasonable condition but is nearing the end of its service life. Run cycle time on the compressor is excessive, indicating possible pneumatic tubing leaks. It was reported to RFS by the custodian that the compressor dryer needs to be drained of condensate frequently though typically air dryers are equipped with automatic drain devices. The pneumatics system interfaces to the air handling unit damper heating valve actuators. Additionally, the pneumatics are responsible for control of the occupied space terminal units and associated room thermostats. The air handling units are provided with a minimal DDC interface via JCI Metasys controllers and components. Review of documents on site within the DDC control panels indicate that this DDC interface consists primarily with basic air handling unit start/stop, status, temperature monitoring, and nominal alarming. However it was noted that the air handling unit local motor starters were in the "hand" position, indicating that the DDC system is not actively providing automatic scheduling of these units. This is in line with statements by the custodian who reported that these units are regularly manually started and stopped. There appears to be a more current DDC JCI Metasys system interface to the heating hot water system. This JCI system is providing remote access to the heating hot water system via a JCI Facility Explorer device. This would have been installed during the boiler replacements and is approximately 20 years old.

Recommendations
The existing pneumatic system in its entirety should be replaced. It is well past its expected operational service life. This replacement should be concurrent with any replacement or upgrades of the air handling units and/or the occupied area terminal units. Included in this would be the minimal control currently provided to the existing air handling units. The heating hot water/boiler system DDC controls are more technologically current and are still serviceable. However, the majority of the Cambridge School system BAS network resides on a more modern Tridium Niagara platform and ultimately a plan should be developed to transition to this newer platform as the older Metasys system is no longer supported and reaching the end of its expected median service life of 20-years. Control system upgrades should include a complete system of DDC controllers, sensors, actuators, and head-end graphics.



M-5: JCI BAS Network Interface



M-6: JCI Air Handling Unit DDC Control Panel

Electrical System

Power Distribution

Existing Condition
The Kennedy Longfellow School building is currently served by a utility owned transformer, located in a vault at the northeastern interior of the building. The electrical service is an 2500A, 480/277VAC, 3-phase, 4-wire, underground service, located in the electrical room at the lower level of the school. The General Electric switchboard main service is floor mounted; this panel is from the 1969 renovation.

This switchboard is provided with a normal and emergency section. The normal power is provided with a 2500A bus for general power distribution. The emergency is provided with a 200-amp bus and is provided power by the normal bus and switched to the generator via an Automatic transfer switch during power loss.

Solar panels were observed on the roof, along with the associated panelboard, inverters, and disconnects.

Numerous electrical equipment (panels) were observed during a walk-through of the building. It has been observed that the locations of panel boards are poorly designed, as they are situated in corridors and general areas where students frequent. Panel boards are in fair/poor condition given their age, and there were no signs of maintenance being performed on them since 1969.

Emergency Electrical Distribution
The school has an emergency diesel generator, located in the main electrical room with the transfer equipment and related distribution. This is required to be in a two-hour rated room segregated from other electrical systems, and this is considered a code violation.

The generator is a 125KW//156 standby generator @ 277/480V,3P,4W,.80 P.F. The generator is in good condition along with the associated transfer equipment.

The Distribution appears to mix normal and emergency power in wire paths. The electrical code requires complete separation between normal and emergency power. This is a NFPA 70 code violation. It also appears the standby loads and Life safety loads are provided in the same raceway/panel. These types of electrical distribution are to be completely segregated.

There were no indications of generator testing or general maintenance. Emergency lighting is provided by dedicated emergency lighting fixtures which energize upon loss of power.



E-1: Main Electrical Service (Entrance)



E-2 Generator – Good Condition

Electrical System

Recommendations
It is generally accepted that the life of an electrical system is thirty (30) years. Beyond that point, it becomes increasingly difficult to cost effectively maintain the system. Wire insulation and equipment failure becomes more common as the system ages, with an increase in outage longevity due to the design of the system and the availability of replacement parts. Often new systems need to be installed to bypass the old system without the benefit of a comprehensive plan designed for the needs of the building. With the aged electrical devices, the devices may not operate under faulty conditions.

The main electrical distribution provides 1,662 kW with an area of 121,080 square feet or 14W/SF. New highly efficient mechanical designs generally require 19-24W/ SF. The main service would be required to be upgraded complete for a large-scale mechanical upgrade.

The electrical code now requires Arc Fault Protection labeling for the safety of the electrical staff. It is recommended that an Arc Fault/Coordination study be performed, and associated labeling be provided to meet today’s electrical code. Arc fault reduction is now a code requirement for electrical services 800A and larger to reduce the available Arc Fault, this is not available on the existing equipment.

The emergency generator appears to be in good condition. Full electrical testing should be performed.

Due to the age of the existing electrical distribution system (53yrs), it is recommended that the existing systems be provided with a full range of electrical preventive maintenance, to include:

- Panelboards and switchgear:
- Inspection and cleaning
 - Ground resistance test
 - Thermal imaging
 - Insulation resistance testing



E-3: Spares from subpanel



E-4: Dated Subpanel

Electrical System

- Cables:
- Inspection
 - Verify tightness of bolted connections
 - Insulation resistance testing
 - Circuit Breakers
 - Inspection and cleaning
 - Measure contact resistance
 - Thermographic Survey
 - Operate circuit breaker to verify smooth operation
 - Verify tightness of bolted connections
 - Verify trip operation of circuit breaker by primary current injection
 - Verify setting required by coordination study
 - Verify operation of any auxiliary function (i.e. remote trip and close)

Due to the age of the existing electrical distribution system, it is recommended that the existing systems be scanned with an infrared camera to identify any loose or weak electrical connections. The generator should be tested, and a testing regime should be established.

The electrical distribution system should be replaced completely with the next renovation or large-scale mechanical upgrade. It is now approaching 53 years old and is significantly past its useful life.



E-5: Solar panels – roof



E-6: PV equipment – Subpanel, Inverters, Disconnects

Electrical System

Lighting & Devices

Existing Condition
Lighting controls are accomplished with manual switches in most spaces. A comprehensive LED fixture upgrade was recently completed, including the gymnasium. LED lighting fixtures save energy and have reduced maintenance costs as compared to fluorescent fixtures.

Emergency egress lighting is provided by dedicated emergency lighting fixtures. However, upon inspection, it was observed that the quantity of emergency lighting fixtures present was insufficient to provide the required illumination for emergency egress lighting. Additionally, although emergency exit signs were present, they were found to be non-compliant with the relevant building codes.

A spot check of wiring devices indicated varying conditions. Light switches and receptacles were generally in poor to fair condition, while many were older and showing wear. Lack of a sufficient quantity of receptacles was noted. In the cafeteria, ground fault circuit breakers were not provided as required by the latest electrical code. Tamper resistance receptacles are also required in Preschools and elementary education facilities.

Recommendations
If a major renovation is undertaken, RFS recommends upgrading the lighting controls in their entirety to comply with current energy codes. A thorough review on a per-area basis would be necessary in order to determine which areas would benefit most from a lighting upgrade.

Lighting design should include modern lighting and controls to include zoned indirect lighting, dimming for audio visual presentations coupled with low level direct lighting, and high efficiency light fixtures with controls (Day Light Harvesting). Occupancy sensors would also be provided to comply with current energy conservation requirements. A new daylighting controls system may be provided in applicable spaces; although not required by code, it may offer additional energy savings. Provide a full test of the emergency lighting, verify light levels meet existing code required levels and ensure compliance with NFPA 70 and NFPA 110.

Emergency lighting should be upgraded by providing additional fixtures in areas that lack sufficient levels of emergency lighting (stairways). Exit lighting should be upgraded to cover all means of egress corridors and exit doors, where required.



E-7: Receptacle



E-8: Typical Lighting Upgrade

Electrical System

Fire Alarm

Existing Condition
The existing Fire Control System (FCI) Fire Alarm System has been recently upgraded since the last renovation and appears in fair to good condition. The system is in good operating condition. There is an additional annunciator at the main entrance. Also at the main entrance is a Knox Box and Beacon.

The International Building Code (IBC) requires that a speaker type system be provided in an education occupancy (K-12). This system is a horn-type system and does not meet today’s code requirements.

Smoke detectors are present in most emergency egress paths. Heat detectors were also noted in utility closets, kitchens, and mechanical spaces. The devices appear to be in fair working order.

Pull stations were observed at most exits and at entrance points to level change. CO detection was not noted in classrooms or areas adjacent to carbon monoxide producing equipment.

Horns/lights are installed in corridors and some common spaces to provide alarm notification to occupants. The devices appear in fair/poor working order with white strobe lenses in several areas, and not clear as required by code.

Recommendations
The existing fire alarm control panel is not code complaint and requires a speaker/strobe type indicating system. A new addressable voice system should be installed due to occupancy requirements within the building to replace the existing system. Additional speaker strobe coverage and proper relocation of pull stations should be conducted to meet code.

It is recommended that a speaker type-system be provided for transmitting voice notifications in the event of a fire alarm and/or mass notification.

Install carbon monoxide devices in alarm devices in every classroom where carbon emitting devices are located. Verify all devices are provided as required by NFPA 72, currently adopted IBC and the Mass Fire Alarm code (Missing pull stations, smoke detection not code compliant etc.)



E-5: Existing Fire Alarm Control Panel



E-6: Indicating device Added

Plumbing System

Domestic Water System

Existing Condition
Water Service Entrance: A 6” domestic service enters the ground level water service room and is provided with a Neptune T-10 meter with remote read.
Domestic Water Quality: Cambridge water supply has been known to contain hard water containing minerals below the Maximum Contaminant Level by the Cambridge Water Department. It is suspected that faster than normal corrosion of domestic systems is caused by scale build of from the water being supplied to the building.

Domestic Water Heater: Domestic hot water is generated from a simplex Raypak gas fired boiler and two remote 175 gallon storage tanks. The storage tanks are manufactured by Rheem Model ST175A and has a date of manufacture of 2001. One tank has completely failed due to corrosion and has been decommissioned. The hot water system is fully circulated back to the heaters with the use of a Taco Model 010-SF3 cartridge circulator which was installed in April 2021. The domestic hot water system is provided with a Leonard master thermostatic mixing valve delivering 90-degree water and is showing signs of extensive corrosion. The hot water system is not provided with an expansion tank. The heater and storage tank were installed in April 2002 and are in poor condition. The expected service life for the water heaters is 20 years.

An electric point-of-use water heater was observed at one of the classroom lab sinks. The heater was provided with a safe waste pan. The heater appeared new.

Site Irrigation: A 2-inch backflow preventer serves an exterior site irrigation system. The system is located in the domestic water service entrance room.

System Piping: The piping serving the domestic water system includes soldered copper with brass ball valves. New repairs and equipment updates use press fittings. The piping system appears to be in fair condition. The expected service life for copper pipe is 80 years.

Non-Potable Piping: Many of the plumbing fixtures have stickers above them stating “NOTICE NON-POTABLE WATER NOT FOR DRINKING OR COOKING USE” The existing science classrooms appear to be served with non-potable hot and cold water supplied by two backflow preventers located in room C220 janitor’s closet. Further investigation is necessary to determine if there are no plumbing fixtures requiring non-potable water connected to the potable system.



PL-1: Failed Hot Water Tank



PL-2: Corroded Mixing Valve

Plumbing System

Recommendations
Replace corroded pipe, valves, and fittings as required.

The existing domestic hot water system has exceeded its service life and should be replaced. It was reported the existing system was sized and installed when the kitchen was providing meals to other schools in the district which is no longer happening. The new hot water system should be sized for the demand of the building.

Provide adequate hot water to the domestic plumbing fixtures located within the building. The Massachusetts Plumbing Code, 248 CMR, defines hot water at a temperature of at least 120-degrees.

Provide a water quality report for the building to determine the characteristics of the domestic water. Provide water softening equipment on domestic water supply to the building to slow the degradation of existing domestic systems if required.

Trace all domestic piping serving existing plumbing fixtures that required non-potable water supplies. All science classroom lab sinks shall be provided with a protected water system. Hot and cold water supplies shall be protected with the use of reduced pressure backflow preventers. A dedicated water heater with circulator shall be provided if it is determined hot water is required in the labs.

Check all piping insulation for asbestos containing materials. All existing domestic water piping should be provided with fiberglass insulation. Insulation with the presence of mold should be replaced.

Remove and replace all existing domestic water pipe which contains lead-solder.



PL-3: Insulation with Mold



PL-4: Insulation with Mold

Plumbing System

Domestic Plumbing Fixtures

Existing Condition
The domestic plumbing fixtures located within the building include wall mounted and floor mounted water closets with manual flush valves. Some water closets were older 3.5 gpf fixtures while some have been updated to dual flush. The building also includes wall mounted urinals with manual flush valves, wall mount china lavatories with push button manual metering faucets, stainless-steel wall mount handwashing sinks with push button manual metering faucets, and stainless-steel wall mount drinking fountains. Some drinking fountains have been updated with integral bottle fillers and usage counters.

The drinking fountain spout at the classroom sinks are provided with point-of-use water filters.

Science classrooms are provided with lab sinks which include epoxy basins and manual faucets. Emergency shower and eyewashes with integral Leonard mixing valves were recently provided. The water supplies are provided with a reduced pressure backflow preventer at each fixture.

Many of the domestic plumbing fixtures appear to be in poor condition except for some fixtures that have been recently replaced. The domestic plumbing fixtures have an expected service life of 30-40 years.

Hose bibs are located on the outside perimeter of the building. The devices are recessed and are not provided with vacuum breakers. The fixtures are in poor condition.

Recommendations
Public lavatories shall be provided with thermostatic mixing valves to limit the outlet temperature to a maximum of 110-degrees. Insulation kits shall be provided at all ADA lavatories at the supplies, stops, p-trap and tailpiece.

Urinals shall be side shielded for privacy as required by the Massachusetts Plumbing Code, 248 CMR.

Replace plumbing fixtures and floor drains which are heavily corroded and exceeded their useful service life.

Replace plumbing fixtures throughout the building with water conserving low-flow fixtures.

Exterior hose bibbs should be frost-free and include integral vacuum breakers.



PL-5: Typical Classroom Sink Condition



PL-6: Failed P-Trap at Teachers Room Sink

Plumbing System



Image P4: Exterior Hose Bibb



PL-7: Privacy Shields Should Be Provided

Plumbing System

Sanitary Waste and Vent System

Existing Condition
The building is provided with a sanitary waste and vent system which collects sanitary sewage from the domestic plumbing fixtures located throughout the building.

The 2-bay pot sink in the kitchen is provided with a floor-mounted 20 GPM grease interceptor. The outlet of the interceptor is piped to the sanitary waste piping.

The 4-bay and 3-bay dishwashing sinks drain to a second floor-mounted 50 GPM grease interceptor. The outlet of the interceptor is piped to the sanitary waste piping. The waste stream from the science classrooms sinks drains to the central neutralization chip tank located in room C220 janitors closet. The chip tank is piped to the sanitary sewer system.

The waste piping serving the two (2) existing industrial art room sinks in room G112 connect directly to the sanitary waste system. There is no clay/sediment trap and there is a plunger on one of the sink counters indicating regular clogging.

Drainage from the two domestic backflow preventers in room C220 janitor's closet is spilling to a bucket.

The observed waste piping is cast iron pipe with 4-band clamps. The expected service life for cast iron pipe is 80-100 years.

Recommendations
Provide clay trap to serve existing industrial arts sinks.

Replace existing corroded and failed piping and fittings as required.

Coordinate the need to provide an exterior grease interceptor with the Cambridge Sewer Department. Assure interior grease interceptor is properly maintained.



PL-8: Industrial Art Sink Clogging

Plumbing System

Storm System

Existing Condition
The building is provided with a storm system which collects rainwater from the roof drains located on all flat sections of roof. The piping is installed down through the building and discharges to the municipal storm sewer by gravity.

The storm system consists of cast iron pipe. Horizontal sections of pipe appear to be insulated. The piping appears to be in good condition. The expected service life for cast iron pipe is 80-100 years.

Recommendations
There were visible areas of ponding at numerous roof drains. Assure roof insulation is adequate pitched to all roof drains and strainers are routinely cleaned to assure drain can properly function.

Any storm piping or drain bodies with known leaking issues should be replaced it its entirety.

Natural Gas System

Existing Condition
The building is provided with a natural gas system. The service entrance is on the south-west side of the building. Natural gas serves the mechanical boilers, domestic water heater, and kitchen equipment. The natural gas piping is black steel and appears to be in fair condition.

The expected service life of black steel pipe is 75 years.

Recommendations
No immediate action required.



PL-9: Ponding at Roof Drain.

Fire/Life Safety

Sprinkler System

Existing Condition
The existing building is not provided with an automatic sprinkler system.

Recommendations
Provide an automatic sprinkler system when required based on proposed building renovations.

Standpipe System

Existing Condition
The existing building is not provided with a manual-wet standpipe system.

Recommendations
Provide a manual-wet standpipe system when required based on proposed building renovations.

Code

Existing Condition

Kennedy Longfellow School is an existing 121,080 ft2 three-story Cambridge public school. The building is currently temporarily occupied by the Vassal Lane Upper School while a new building on another site is constructed.

- Occupancy Classification
- Use Group E (School)

Construction Type

Based on the field observations the building appears to be a concrete structure, classified as Type I or II construction. All new construction must be non-combustible except where permitted by IBC Section 603: Combustible Material in Types I and II Construction.

Vertical Openings

All existing vertical openings in the work area connecting two or more floors must be enclosed with 1 hour rated construction and approved opening protectives unless the openings meet one of the exceptions in IEBC 803.2.1.

The building includes a two-story high floor opening and open stairs at the main entrance lobby. These openings are permitted by IBC Sections 712.1.9 and 712.1.12 if the building is fully sprinklered in a future renovation.

The three-story section of the building that are somewhat enclosed on the upper levels but are all open at the 1st Floor. These stairs could potentially remain semi-enclosed under IEBC Section 803.2.1 Exception 6 if the building is fully sprinklered in a future renovation.

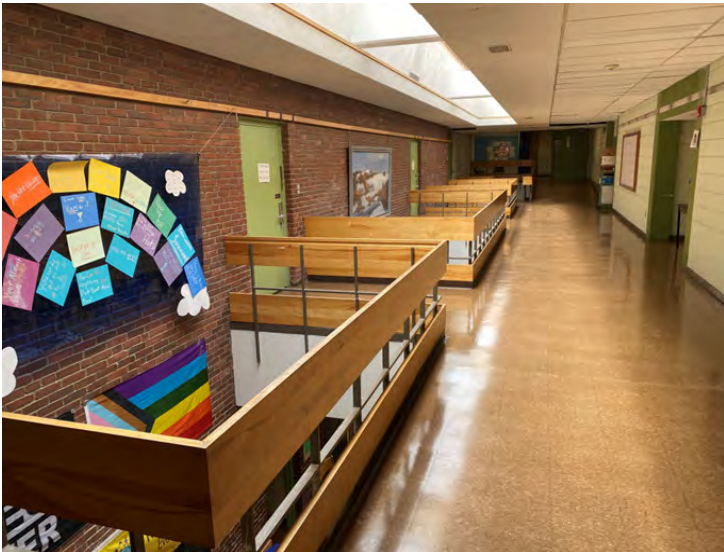
Interior Finishes

The existing interior finish of walls and ceilings in the work area and in all exits and corridors serving the work area must comply with the code requirements for new construction (IEBC 803.4).

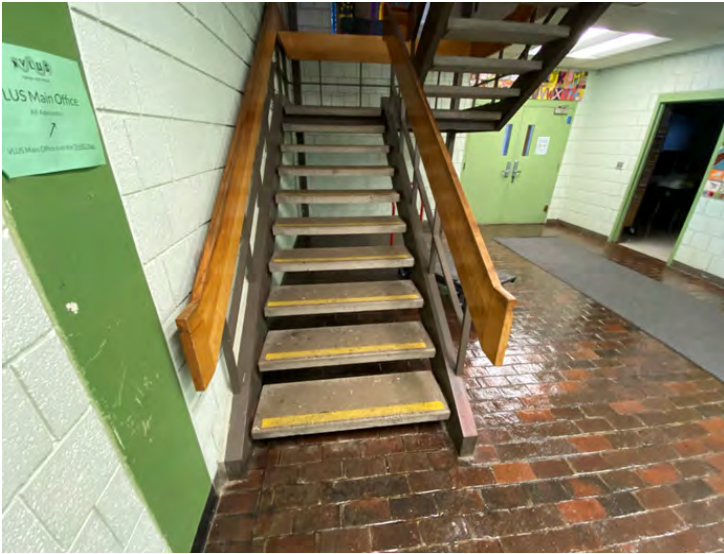
Walls & Ceilings (IBC Table 803.11)

Use Group:	E (Sprinklered)	E (Non-Sprinklered)
Exit Enclosures	Class B	Class A
Exit Access Corridors	Class C	Class B
Rooms & Enclosed Spaces	Class C	Class C

Existing interior finishes in both buildings typically consist of painted gypsum wallboard, tile, or masonry which meets these requirements.



Main Lobby Floor Openings



Egress Stair

Code

Existing Condition

Means of Egress

Means of egress conforming to the requirements of the building code under which the building was constructed are considered compliant means of egress if, in the opinion of the code official, they do not constitute a distinct hazard to life (IEBC 805.1). This section allows the existing means of egress stairs, doors, etc. to remain unless they are considered hazardous.

There are three egress stairs serving the 3rd Floor, six egress stairs serving the 2nd Floor, as well as various exterior egress doors on the 1st Floor. No significant hazardous egress conditions were noted during the site visit, however various rated stair doors are held open with wooden floor wedges which must be removed. There are existing illuminated exit signs and emergency lighting, however it appeared additional exit signs are needed in some areas.

Fire Protection Systems

The building does not have sprinkler protection, but does have an existing modern fire alarm and detection system, as well as fire extinguishers. The following fire protection systems are required in the areas noted if the building is renovated:

- Automatic sprinkler protection is required throughout the work area if the work area includes exits or corridors serving an occupant load greater than 30 and the work area exceeds 50% of an individual floor area (IEBC 804.2.2). Since the gross area of the building is more than 7,500 ft2, if it undergoes a major renovation Massachusetts General Law Chapter 148 Section 26G would require sprinkler protection throughout the building.
- Existing previously approved fire alarm systems are permitted to remain if the building undergoes a Level 1 or Level 2 alteration (IEBC 804.4.1). A Level 3 alteration would require the fire alarm system to comply with the code requirements for new construction, which would require a voice-alarm system (IEBC 904.2).
- Fire extinguishers (527 CMR 1 Section 13.6 & IBC 906.1). Fire extinguishers must be maintained and located throughout the building so that the maximum travel distance to an extinguisher is less than 75 feet.



Entrance



Drinking Fountain

Code

Existing Condition

Accessibility for Persons with Disabilities
The building has an accessible entrance, toilet room, and drinking fountain. Therefore, if the cost of future renovations exceeds \$100,000 additional modifications would not be required.

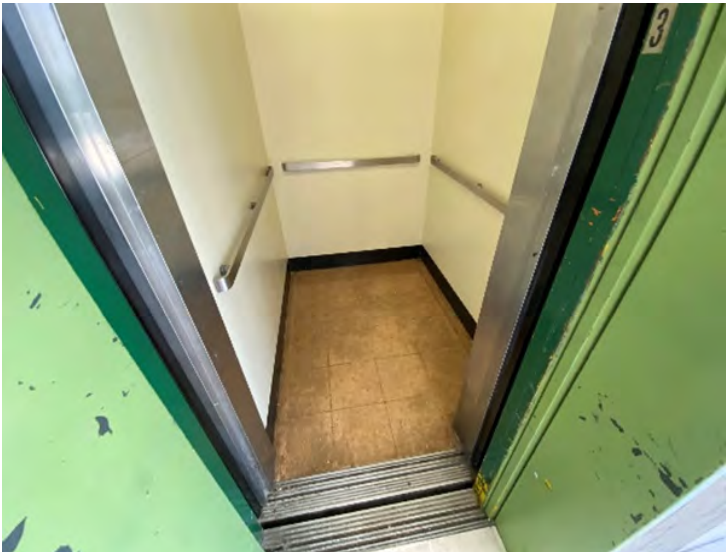
The Cambridge Assessor’s on-line database indicates the Kennedy Longfellow School has an assessed value of \$32,493,100 and the Massachusetts Department of Revenue’s website indicates the assessment ratio for Cambridge is 0.92. Therefore, the 100% equalized assessed value is \$35,318,586 and 30% of this value is \$10,595,575. Full compliance with 521 CMR would be required if the aggregate cost of renovations in any three-year period exceed this amount. Significant alterations would be required to achieve full compliance (i.e. all entrances are not accessible, all new stair and ramp handrails, all toilet rooms must be accessible, compliant room signage, wheelchair access to the stage, modifications to typical classroom doors to provide the required clear floor space and hardware, etc. (note this is not a comprehensive list)). The elevator size is sufficient for an existing building (> 4’ x 4’) but the controls are not compliant (no Braille).



Toilet Room Door



Typical Classroom Doors



Elevator

Conveying System

Existing Condition

The Kennedy School is serviced by one (1) direct (in-ground) hydraulic passenger elevator. The elevator has a rated capacity of 2,000 lbs. and travels at a rated speed of 85 fpm. The entrances are 3’-0” wide by 7’-0” high, front opening. The elevator services 3 landings - *G, 2, and 3.

The elevator was originally installed in 1970 by Montgomery Elevator. Montgomery Elevator was sold to KONE Elevator in 1994, becoming MontgomeryKONE, until 2000, when all Montgomery product lines were discontinued, and the brand ended. Today, the company is KONE Elevator.

The door operation is all original MAC equipment. While this equipment is still supported by KONE and various third party parts suppliers, the design is substantially outdated. The jack is not original; it has previously been replaced with a Canton Elevator direct jack, which can likely be assumed to have a PVC containment liner and may be retained for future use.

The existing signal fixtures and car operating panel are not compliant with current 521 CMR / ADA requirements pertaining to button height.

The elevator does not have Firefighter Services operation in the event of a building fire, or emergency lowering in the event of a building power failure.

- Maintenance Deficiencies:
- Scrape and clean debris from hall and car door sills.
 - Clean cartop equipment.
 - Clean all hall and car door equipment.
 - Replace all COP floor button light bulbs.

Recommendations

We recommend budgeting for a modernization of the elevator within the next 0-3 years. As part of the modernization, we recommend the scope include replacement of the controls, power unit, signal fixtures, machine room and hoistway wiring, car and hoistway door equipment, including door panels, and car enclosure and finishes.

Budget: \$120,000 - \$150,000 (Budget estimates are based on commencement of work in 2023)





Door Hardware

Existing Condition

Site survey showed the majority of doors in adequate condition. All exterior and corridor doors look to meet egress requirements. Exterior doors are beginning to show slight deterioration.

Food Service

Executive Summary

The Kennedy Longfellow school is an average sized kitchen serving a medium population of students at the preschool through 5th grade levels. The finishes and kitchen equipment in many circumstances are original to the building. All kitchen equipment at this facility is very outdated and in need of updates. The foodservice operation and programming for this school would benefit greatly from modernized foodservice equipment which would allow the operation some flexibility to adapt, grow and more efficiently serve the district’s needs.

Improving cooking, preparation and serving equipment will modernize the program allowing it to more easily meet the demands of health code regulations as well as improve the appeal of the food offerings. Modernizing workstations, preparation and cooking equipment will allow the kitchen staff to focus on food production resulting in a more efficient operation. Overall, the program is well run and the staff are highly trained and dedicated. However, they lack the full complement of tools needed to truly operate at a higher level of service.

Kitchen and Servery

General Overview
The Kennedy Longfellow School Foodservice program currently serves a population of approximately 285 students from Pre-K through the fifth grade. This kitchen is extremely dated in both finishes and age of equipment. It’s evident that there’s been minimal upgrades to equipment and finishes to this kitchen space over many years. Overall, the kitchen staff does an adequate job of maintaining and keeping the kitchen clean. However, due to the age of equipment and building finishes, it’s a challenge to maintain this kitchen properly.

The kitchen walls and storage areas are finished in a durable painted CMU block and have held up pretty well over the years. Ceilings are an older drop in style tile which are acceptable by code, but very dated and in poor condition. The flooring material in the kitchen is a sealed concrete and shows significant signs of wear and tear. Over the years the seal on the floor has worn off and the paint is worn and tarnished.

This school was one of the only schools included in this study that had both walk-in cooler and freezer storage rooms. The size of both compartments seems adequate for the space and programming, but the equipment itself is older in age. The walk-in compartment is located in a storage room with a sealed concrete floor. This floor is not coved at the exterior of the cooler as it should be for proper cleanability to meet health code. This storage room has no finished ceiling and the CMU blocks are not sealed which is a requirement for proper cleaning. Above the walk-in cooler is



FS-1: Exposed utilities in the cooking area present cleanability issues. Utilities should be enclosed and provided with a smooth washable surface.



FS-2: Sealed concrete flooring is in poor condition. The seal on the floor is worn and damaged in many locations. The prevent the kitchen floor from being properly cleaned and sanitized.

required to be provided with vertical closure panels to the ceiling which do not exist on site. The lack of closure panels allows dirt, dust and debris to collect on top of the walk-in cooler and this space does not get cleaned.

Food preparation tables are older and some tables are also provided with wood tops. Wood tops are not allowed in kitchen food prep unless is being used specifically for baking or other dough processing. Wood surfaces are difficult to maintain in the long term and they require frequent oiling and other maintenance. If not oiled the wood shrinks and splits causing health code violation since the gaps fill with debris and it is not possible to properly clean and sanitize. All wood table tops should be replaced with stainless steel built to NSF standards. The majority of stainless-steel prep tables are provided with galvanized steel legs which rust and chip over time. They require to be painted regularly to slow down process. In new construction, work tables are now fabricated with all stainless components and built to NSF standards.

The island style production cooking area has no half wall or utility chase present for equipment utilities. Therefore, all utilities stub up from the concrete floor and are completely exposed. This creates a major cleanability issue in this space. The exhaust hood in the kitchen is very dated and should be updated to modern day finishes and technology advancements. The grease filters do not meet current standards and are far more difficult to clean than what is provided with newer exhaust technology. The fire protection system is made of up iron piping and also difficult to maintain clean. Stainless steel or chrome materials are more suitable for cleanability in this environment. Along the cookline at the braising pan location there is no floor trough. In new construction a floor trough with a non-slip grate is recommended in these areas for proper drainage and containment of the braising pan operation.

The serving line and support equipment for this kitchen are set up well design wise for a functional operation, however the equipment is in poor condition and failing the staff. The heated wells, hold holding cabinets and some refrigeration units that support the line have long track records of service and are not currently fully operational.

This facility has no means of mechanical ware washing which requires all cooking utensils to be manually washed by the staff. While it’s a small operation, this does require a lot of time and dedicated staff to keep up with this operation. Modern day ware washing equipment allows staff to properly clean and sanitize cooking equipment and utensils at a higher level within a matter of minutes. This facilities operation could be improved by the addition of a mechanical ware washer.



FS-3: Walk-in coolers are required to have vertical closure panels from the top of the box to the finished ceiling. This prevents dirt, dust and debris build up and is required by code. The floor at the exterior of the box is required to be coved in order to properly mop and clean the space. Neither of these requirements are met and require updates.

The following specific issues will reference codes and standards. For the purposes of this report when the health code is referenced, we are citing requirements of the Federal Food Code, 2017 addition, published by the FDA as well as the Merged Massachusetts Food Code 2013 addition.

We will also reference the National Sanitation Foundation (NSF). This is an independent governing body that develops standards for foodservice equipment and facility design. All equipment, in commercial kitchens must be built in accordance to NSF standards as a requirement of the food codes.



FS-4: Wood surfaces are not allowed in a kitchen unless it is being used in a specific task as part of baking or other dough processing. Wood surfaces are difficult to maintain in the long term and they require frequent oiling and other maintenance. If not oiled the wood shrinks and splits causing health code violation since the gaps fill with debris and it is not possible to clean and sanitize. Replace wood table tops with stainless steel built to NSF standards.

FCA FORMS - KLO

Kennedy Longfellow School			Architectural				
EXTERIOR							
Room # on Site:							
Area	Part	Type	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Exterior	Façade	Brick Masonry		B	3	AE-9-10	A scope of masonry cleaning and repointing should be undertaken in areas of deteriorated mortar and any cracked brick shall be replaced. Remove spray foam insulation from abandoned façade penetrations and infill with brick. Provide proper backer rod and sealant joints in conditions where spray foam insulation is installed around current façade penetrations.
Exterior	Façade	Concrete		B	3	AE-11-16, 18	Isolated crack repair is recommended for all hairline concrete cracking areas discovered.
Exterior	Façade	CMU		B	4		CMU in good condtion overall
Exterior	Façade	Metal Flashing at top of Brick		E	2	AE-13-16	Replace all metal flashings located at the top of the brick facades with new metal reglet flashings and lap sealants.
Exterior	Façade	Cementitious Panels		C	3	AE-20-22	The cementitious panels at the roof monitors should be coated/waterproofed to reduce potential moisture migration within the panels and to reduce potential for further cracking and rusting.
Exterior	Façade	Steel Windows		E	2	AE-23, 27-32	Replacement of all existing steel windows assemblies with new thermally broken aluminum assemblies with insulated glass and Low-E coatings is recommended.
Exterior	Façade	Aluminum Windows		C	3	AE-24-26, 33	Consideration should also be given to replacement of the aluminum windows, or at least the spandrel panels that are corroded.
Exterior	Façade	Hollow Metal Doors		D	3	AE-37-42	Replace existing steel door and frame assemblies
Exterior	Façade	Sealants		C, D	3, 2	AE-18-19, 39-40, 60	All façade sealants should be replaced, including those within the masonry facades and at the perimeter of fenestrations and façade
Exterior	Roofing	TPO Roofing		A	4	AE-43-60	Roofing in good condition overall
					3C		

Room Schedule_KLO

		RM #	AREA	CEILING MATERIAL	CEILING CONDITION	CEILING PRIORITY	WALL MATERIAL	WALL CONDITION	WALL PRIORITY	FLOOR MATERIAL	FLOOR CONDITION	FLOOR PRIORITY	WINDOWS MATERIAL	WINDOWNS CONDITION	WINDOWNS PRIORITY	DOORS MATERIAL	DOORS CONDITION	DOORS PRIORITY	FFE CONDITION	FFE PRIORITY	MILLWORK CONDITION	MILLWORK PRIORITY	PLUMBING CONDITION	PLUMBING PRIORITY
VESTIBULE	-		108 SF	ACT	D	3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
STORAGE	102A		335 SF	ACT	C	3	CMU	B	3	CMU	-	3	N/A	N/A	N/A	N/A	WD	B	4	B	4	N/A	N/A	N/A
AIR HANDLER	244		1257 SF	EXP	C	3	CMU	C	3	CONC	C	3	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
STAIR	250D		282 SF	EXP	D	3	CMU	D	3	CONC	D	3	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
STAIR	250G		289 SF	EXP	D	3	CMU	D	3	CONC	D	3	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
?	1154		369 SF	ACT	C	4	CMU	C	4	VCT	C	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BATHROOM	1174		131 SF	ACT	C	4	CMU	C	4	CONC	C	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D	3
?	1182		250 SF	ACT	C	4	CMU	C	4	VCT	C	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR	1217		152 SF	ACT	D	3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
STORAGE	1219		315 SF	ACT	C	3	CMU	B	3	CMU	C	3	N/A	N/A	N/A	WD	B	4	B	4	N/A	N/A	N/A	N/A
HALLWAY	A100		135 SF	EXP	C	3	CMU	C	3	CONC	C	3	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR	A100		2670 SF	ACT	D	3	BRICK	B	4	BRICK	B	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ELEV MECH	A100		60 SF	EXP	C	3	CMU	C	3	CONC	C	3	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
VESTIBULE	A100A		69 SF	ACT	D	3	BRICK	B	4	BRICK	B	4	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
VESTIBULE	A100B		69 SF	ACT	D	3	BRICK	B	4	BRICK	B	4	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
HALLWAY	A100E		111 SF	ACT	D	3	CMU/GYP	D	3	VCT	D	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAIN OFFICE	A101		588 SF	ACT	D	3	BRICK	B	4	VCT	D	3	STL	E	3	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
PRINCIPAL	A101A		258 SF	ACT	D	3	BRICK	B	4	VCT	D	3	STL	E	3	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
CONFERENCE	A101B		213 SF	ACT	D	3	BRICK	B	4	VCT	D	3	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
BATHROOM	A101C		37 SF	ACT	C	3	GYP	D	3	VCT	D	3	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	D	3
STORAGE	A101D		67 SF	ACT	D	3	BRICK	B	4	VCT	D	3	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
OFFICE	A102A		158 SF	ACT	D	3	CMU/GYP	D	3	VCT	D	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OFFICE	A102B		166 SF	ACT	D	3	CMU/GYP	D	3	VCT	D	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OFFICE	A102C		140 SF	ACT	D	3	CMU/GYP	D	3	VCT	D	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OFFICE	A102D		148 SF	ACT	D	3	CMU/GYP	D	3	VCT	D	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WELLNESS ROOM	A103A		142 SF	ACT	D	3	CMU/GYP	D	3	VCT	D	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PRACTICE	A103B		158 SF	ACT	D	3	CMU/GYP	D	3	VCT	D	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AUDITORIUM	A104		2843 SF	ACT/GYP	D	3	WD	1	CONC/CPT	D	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
STAGE	A104A		1913 SF	EXP	B	4	CMU	B	4	WD	D	4	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
OFFICE	A104B		118 SF	ACT	D	3	BRICK	B	4	VCT	D	3	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
TIME OUT?	A104C		240 SF	ACT	D	3	CMU/GYP	D	3	VCT	D	3	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
STORAGE	A104D		95 SF	ACT	D	3	BRICK	B	4	VCT	D	3	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
STORAGE	A104E		101 SF	ACT	D	3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A
NURSE	A105		275 SF	ACT	E	3	CMU	C	3	LIN	C	3	STL	E	3	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
HEALTH	A105A		91 SF	ACT	E	3	CMU	C	3	LIN	C	3	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
OFFICE	A105B		440 SF	ACT	E	3	CMU	C	3	LIN	C	3	STL	E	3	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
HEALTH	A105D		79 SF	ACT	E	3	CMU	C	3	LIN	C	3	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A
BATHROOM	A106A		52 SF	ACT	B	4	CMU/TILE	B	4	LIN	B	4	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	D	3
BATHROOM	A106B		55 SF	ACT	B	4	CMU/TILE	B	4	LIN	B	4	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	D	3
BATHROOM	A106C		63 SF	ACT	B	4	CMU/TILE	B	4	LIN	B	4	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	D	3
BATHROOM	A106D		66 SF	ACT	B	4	CMU/TILE	B	4	LIN	B	4	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	D	3
BATHROOM	A110B		47 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	3
BATHROOM	A110D		26 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	3
BATHROOM	BC105A		52 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	3
CORRIDOR	C100		1604 SF	ACT	D	3	CMU	B	3	VCT	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR	C100B		1619 SF	ACT	D	3	CMU	B	3	VCT	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VESTIBULE	C100C		300 SF	ACT	D	3	CMU	B	3	VCT	C	3	STL	E	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TEACHER'S LOUNGE	C101		163 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	D	3
LONGFELLOW ROOM	C101		1691 SF	ACT	C	3	CMU	B	3	VCT/CPT	B	4	N/A	N/A	N/A	WD	B	4	B	4	N/A	N/A	N/A	N/A
BATHROOM	C101		121 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	3
SUITE	C101B		216 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	D	3
-	C101C		56 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	D	3
COMMUNITY SCHOOLS	C104		398 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	N/A	N/A
CLASSROOM	C105		1150 SF	ACT	E	3	CMU	B	3	VCT	D	3	STL	E	3	HM	E	2	C	3	E	3	D	3
STORAGE	C105A		161 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	N/A	N/A
BATHROOM	C105C		30 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	3
CLASSROOM	C106		1139 SF	ACT	E	3	CMU	B	3	VCT	D	3	STL	E	3	HM	E	2	C	3	E	3	D	3
STORAGE	C106A		103 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	N/A	N/A
BATHROOM	C106B		49 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	3
BATHROOM	C106C		26 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	3
CLASSROOM	C107		1043 SF	ACT	E	3	CMU	B	3	VCT	D	3	STL	E	3	HM	E	2	C	3	E	3	D	3
STORAGE	C107A		95 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	N/A	N/A
CLASSROOM	C108		1579 SF	ACT	E	3	CMU	B	3	VCT	D	3	STL	E	3	HM	E	2	C	3	E	3	D	3
STORAGE	C108B		92 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	N/A	N/A
CLASSROOM	C109		1180 SF	ACT	E	3	CMU	B	3	VCT	D	3	STL	E	3	HM	E	2	C	3	E	3	D	3
STORAGE	C109B		101 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	N/A	E	2	C	3	E	3	N/A	N/A
BATHROOM	C109C		47 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	3
BATHROOM	C109E		26 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	3
CLASSROOM	C110		1203 SF	ACT	E	3	CMU	B	3	VCT	D	3	STL	E	3	HM	E	2	C	3	E	3	D	3
STORAGE	C110A		101 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	N/A	N/A
CLASSROOM	C111		1577 SF	ACT	E	3	CMU	B	3	VCT	D	3	STL	E	3	HM	E	2	C	3	E	3	D	3
STORAGE	C111A		92 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	N/A	N/A
CLASSROOM	C112		1043 SF	ACT	E	3	CMU	B	3	VCT	D	3	STL	E	3	HM	E	2	C	3	E	3	D	3

STORAGE	C112A		95 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	N/A	N/A
CLASSROOM	C113		1187 SF	ACT	E	3	CMU	B	3	STL	E	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	D	3
STORAGE	C113A		103 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	HM	E	2	C	3	E	3	N/A	N/A
BATHROOM	C113B		49 SF	ACT	E	3	CMU	B	3	VCT	D	3	N/A	N/A	N/A	WD	D	3	N/A	N/A	N/A	N/A	D	

LIBRARY	238	2465 SF	ACT	C	D	3	BRICK/GYP	C	3	VCT	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STORAGE	238A	163 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR	239	341 SF	ACT	C	D	3	CMU	B	3	VCT	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CUSTODIAL CLOSET	239A	85 SF	EXP	C		3	CMU	C	3	CONC	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LITERACY	239B	271 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAKERSPACE	240	1358 SF	ACT	C		3	CMU	B	4	VCT	C	3	AL	C	3	WD	C	3	B	4	E	2	N/A	N/A	N/A	
CORRIDOR	241	2125 SF	ACT	C	D	3	BRICK/CMU	B	4	TERRZ	B	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OFFICE	241A	135 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OFFICE	241B	189 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ART	242	1376 SF	ACT	C		3	CMU	B	4	VCT	C	3	AL	C	3	WD	C	3	B	4	E	2	E	2	N/A	
STORAGE	242A	83 SF	ACT	C		3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	3	B	4	E	2	N/A	N/A	
CONTROL ROOM	243A	57 SF	GYP	B	4	CMU	B	4	CONC	B	4	N/A	N/A	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
CORRIDOR	245	1403 SF	ACT	C	D	3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CUSTODIAL	245A	39 SF	EXP	C		3	CMU	C	3	CONC	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
TEACHERS BATHROOM	246	74 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
CLASSROOM	246	2060 SF	ACT	C		3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	3	B	4	E	2	N/A	N/A	
TEACHERS BATHROOM	247	145 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
HALLWAY	248	142 SF	ACT	C	3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
SCHOOL PSYCHOLOGIST	248A	118 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
SPEECH LAN PATHOLOGIST	248B	159 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
CONFERENCE ROOM	248C	132 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
GYM STORAGE	249	819 SF	ACT	C		3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	3	B	4	E	2	N/A	N/A	
GYMNASIUM	250	6400 SF	EXP	C		3	CMU	B	4	WD	B	4	N/A	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
GIRLS LOCKER	250A	362 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
OFFICE	250B	132 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
BATHROOM	250C	60 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
STORAGE	250E	333 SF	ACT	D	3	BRICK/CMU	C	3	CONC	C	3	N/A	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
STORAGE	250F	351 SF	EXP	D	3	CMU	D	3	CONC	D	3	N/A	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
BATHROOM	250H	48 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
OFFICE	250I	139 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
CLASSROOM	251	797 SF	ACT	C	3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	N/A	WD	C	3	B	4	E	2	N/A	N/A	
CLASSROOM	252	664 SF	ACT	C	3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	N/A	WD	C	3	B	4	E	2	N/A	N/A	
OT/PT?	253	400 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
BOYS LOCKER ROOM	254	659 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
SERVER	254A	459 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
STAIR	C200B	595 SF	ACT	A	4	CMU	B	3	LIN	A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
STAIR	214F	412 SF	ACT	D	3	CMU	B	3	VCT	C	3	N/A	N/A	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
MAIN OFFICE	301	388 SF	ACT	C		3	CMU/GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	N/A	N/A	
ASSISTANT PRINCIPAL	301A	189 SF	ACT	C	3	CMU/GYP	B	4	VCT	C	3	AL	B	4	WD	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
HEAD OF SCHOOL	301B	213 SF	ACT	C	3	CMU/GYP	B	4	VCT	C	3	AL	B	4	WD	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CLASSROOM - 6TH CHORUS	302	916 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CLASSROOM - 6TH HEALTH	303	875 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CLASSROOM - 6TH MATH	304	900 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CLASSROOM - 6TH SCI	305	910 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
OFFICE	306	159 SF	ACT	C	3	GYP/CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CONFERENCE	306B	195 SF	ACT	C	3	GYP/CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
OFFICE	306C	183 SF	ACT	C	3	GYP/CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CLASSROOM - 7TH SCI	307	929 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CLASSROOM - 7TH S.S.	308	892 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CLASSROOM - 7TH ELA/CHORUS	309	913 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
OFFICE	310A	145 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
7TH MATH	310B	261 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CLASSROOM - 7TH MATH	311	930 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CLASSROOM - 8TH S.S.	312	872 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CLASSROOM - 8TH ELA/ART	313	890 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CLASSROOM - 8TH MATH	314	886 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
MATH	315A	472 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
ESL	315B	321 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	N/A	N/A	N/A	N/A	
CORRIDOR	315C	113 SF	ACT	C	3	CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	HM/WD	B-C	3.5	C	4	E	3	D	3	D	
CLASSROOM - 8TH SCI	316	884 SF	ACT	C	3	CMU	B	4	VCT	C	3	AL	B	4	HM/WD	B-C	3.5	C	4	E	3	D	3	D	3	
CORRIDOR	320	780 SF	ACT	D	3	CMU	B	3	VCT	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
BOYS BATHROOM	321	241 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
GIRLS BATHROOM	322	257 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
CORRIDOR	323	341 SF	ACT	D	3	CMU	B	3	VCT	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
STORAGE	323A	85 SF	ACT	D	2	CMU	C	3	CONC	C	3	N/A	N/A	N/A	N/A	N/A	HM	B	4	N/A	N/A	N/A	N/A	N/A	N/A	
CORRIDOR	326	787 SF	ACT	D	3	CMU	B	3	LIN	A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
GUIDANCE	327	242 SF	ACT	C	3	GYP/CMU	B	4	VCT	C	3	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A	
CLASSROOM	328	391 SF	ACT	C	3	GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A	
BATHROOM	328A	124 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
BATHROOM	328B	126 SF	ACT	C	4	CMU	C	4	EP	C	4	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	C	4	
STAIR	329	595 SF	ACT	D	3	CMU	B	3	LIN	A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CORRIDOR	330	258 SF	ACT	D	3	CMU	B	3	VCT	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
STAIR	331	587 SF	ACT	D	3	CMU	B	3	VCT	C	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
OFFICE	332	321 SF	ACT	C	3	GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	N/A	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A	
OFFICE	332A	249 SF	ACT	C	3	GYP	B	4	VCT	C	3	N/A	N/A	N/A	N/A	N/A	WD	C								

Kennedy-Longfellow School	Structural			
Structural or Structurally-Related Item		Priority (1-5)	Photos	Notes
Roof Construction - General	B	5		Evaluate roof structure in snow drift areas in conjunction with a future renovation.
Floor Construction - General	B	5		Limited work.
Foundations - General	B	5		Limited work.
Lateral Force Resisting System - General	C	5		Building does not meet current seismic code. Unreinforced masonry walls; future modification of existing walls may require seismic upgrades to the building.
Exterior Walls - General	C	4	ST-1	Repointing of brick masonry and repair/replacement of steel lintels recommended.
Concrete-encased structural elements	C	3	ST-3, ST-4	Patching and/or filling of exposed concrete encasements on the exterior of the building (columns and spandrel beams) recommended.
Water/Moisture Intrusion	C	4	ST-2	Evidence of water/moisture above the stage may indicate failed roofing and/or roof drainage systems.; further investigation recommended.

Kennedy Longfellow School			Foodservice				
Kitchen							
Room # on Plan:			Room Use on Plan:				
Room # on Site:			Room Use on Site:				
Area	Part	Type	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Kitchen	Finishes	Ceilings, Walls & Floors		D	2		
Kitchen	Refrigerated Storage	Walk-ins and Reach-ins		D	2		
Kitchen	Food Preparation Equipment	Work Tables, Prep Tables, Prep Equipment		C	4		
Kitchen	Cooking Equipment	Hoods, Ovens, Ranges, Kettles, Braising Pans, Steamers, etc.		D	2		
Kitchen	Serving Equipment	Serving Counters, Heated and Refrigerated Holding & Support		D	3		
			Overall	D	2		Comments:

Kennedy Longfellow School			Plumbing				
Domestic Water System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Water Service	G109	P1.01		B	4		
Water Heater	G108	P1.02		D	2	PL-1, PL-2	The existing domestic water heater system is showing signs of excessive corrosion. One tank has completely failed. System has exceeded it service life.
Domestic Water Piping	Building Wide	P1.03		C	3	PL-3, PL-4	Domestic water pipe fittings throughout the bulding indicate general corrosion at various pipe fittings at fixtures and equipment due to the municipal water. Fittings should be replaced as required. Molded insulation should be replaced immediately.
Domestic Plumbing Fixtures							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Water Closets	Building Wide	P2.01		B	4		
Lavatories	Building Wide	P2.02		B	4		
Urinals	Building Wide	P2.03		B	2	PL-7	Provide side shielding for privacy as required by the Massachusetts Plumbing Code, 248 CMR
Service Sinks	Building Wide	P2.04		D	3		
Classroom Sinks	Building Wide	P2.05		D	3	PL-5, PL-8	
Kitchenettes	Building Wide	P2.06		D	3	PL-6	
Floor Drains	Building Wide	P2.07		D	3		
Drinking Fountains	Building Wide	P2.08		C	3		

Sanitary Waste and Vent System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Piping - Above Grade	Building Wide	P3.01		C	4		
Piping - Below Grade	Building Wide	P3.02		C	4		
Storm Water System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Piping - Above Grade	Building Wide	P4.01		C	4		
Piping - Below Grade	Building Wide	P4.02		C	4		
Roof Drains	Building Wide	P4.03		C	2		Address ponding at roof drains.
Natural Gas							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Gas Service	Site	P5.01		B	4		
Gas Piping	Building Wide	P5.02		B	4		

Kennedy Longfellow School			Fire Protection				
Sprinkler System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Fire Service	N/A	N/A	N/A	N/A	N/A		
Piping	N/A	N/A	N/A	N/A	N/A		
Sprinkler Heads	N/A	N/A	N/A	N/A	N/A		
Standpipe System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Hose Valves	N/A	N/A	N/A	N/A	N/A		
Piping	N/A	N/A	N/A	N/A	N/A		

Kennedy Longfellow School			Mechanical				
Heating							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Boilers	Boiler Room	M1.01	None	B	4		Replaced in 2002
Pumps	Boiler Room	M1.02	None	B	4		Replaced in 2002
Piping	Boiler Room	M1.03	None	B	4		Piping within the boiler mechanical room replaced in 2002 concurrent with boiler/pump replacements.
Piping	Rest of Building	M1.04	TBD	C	4		Additional review of piping needed to determine need for replacement. Recommend removal of pipe sections to review for potential internal corrosion.
Cooling							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
AHU Condensing Units	Roof	M2.01	None	C	4		Replaced in 2005
Piping	Roof to Mechanical Rooms	M2.02	None	C	4		Replaced in 2005

Ventilation							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Air Handling Unit, AC-3	Mechanical Room 2nd Floor	M3.01	1	D-E	2		The unit is still operational. However, unit runs in "hand" and not via an occupancy schedule by the BAS. Dampers are disconnected, controls don't appear to be functioning, unit casings leak, fan/motor belts are exposed, air flow imbalance within the unit, etc.
Air Handling Unit, AC-4	Mechanical Room 2nd Floor	M3.02	1	D-E	2		The unit is still operational. However, unit runs in "hand" and not via an occupancy schedule by the BAS. Dampers are disconnected, controls don't appear to be functioning, unit casings leak, fan/motor belts are exposed, hot water piping is corroded, fan/motor exhibiting unusual noise, etc.
Air Handling Unit, AC-5	Mechanical Room 2nd Floor	M3.03	1	D-E	2		The unit is still operational. However, unit runs in "hand" and not via an occupancy schedule by the BAS. Dampers are disconnected, controls don't appear to be functioning, unit casings leak, fan/motor belts are exposed, air flow imbalance within the unit, etc.
Air Handling Unit, HV-6	Mechanical Room 2nd Floor	M3.04	1	D-E	2		The unit is still operational. However, unit runs in "hand" and not via an occupancy schedule by the BAS. Dampers are disconnected, controls don't appear to be functioning, etc.
Air Handling Unit, AC-1	Mechanical Room 3rd Floor	M3.05	1	D-E	2		The unit is still operational. However, unit runs in "hand" and not via an occupancy schedule by the BAS. Dampers are disconnected, condensate pan leaks out of the unit and into the mechanical room floor - temporary drain pans installed, unit casings leak air, return fan exhibiting unusual cyclical rubbing noise, etc.
Air Handling Unit, AC-2	Mechanical Room 3rd Floor	M3.06	1	D-E	2		The unit is still operational. However, unit runs in "hand" and not via an occupancy schedule by the BAS. Dampers are disconnected, condensate pan leaks out of the unit and into the mechanical room floor - temporary drain pans installed, unit casings leak air, flexible duct connections repaired with duct tape, etc.
Duct	Building Wide	M3.07		C-D	3		Duct work showing signs of deterioration in some locations. Insulation missing/failing. Excessive air leakage observed.
Air Cooled Condensers	Roof	M3.08	4	C	4		Units were replaced in 2005 and are beginning to show signs of age though still functional. One unit was shut down and actively under repairs at the time of the site review.
Classroom Terminal Units	Building Wide	M3.09		C-D	3		Units have exceeded their expected service life and show signs of deterioration. Units are pneumatically controlled via local pneumatic thermostats. Thermostats are wearing, some have covers missing, some are not correctly affixed to the wall, etc. Interiors of units need to be cleaned. Units largely appear to still be functional.
Building Automation System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
AHU Controls	In Mechanical Rooms	M4.01	6	D	2		Units are all running in "hand" mode. DDC control is not being utilized for scheduling the units. Temperature control via pneumatics. Pneumatic system is well past life expectancy.
Hot Water System Controls	Boiler Room	M4.02	1	C	4		Hot water system controls are functional and appear to be interfaced to the campus network. However, the existing controls are nearing the end of service life and the current platform (JCI Metasys) is being phased out.
Pneumatic System and Air Compressor	2nd Floor Mechanical Room	M4.03	1	D	3		Pneumatic systems are antiquated and original to the building. Repair and maintenance are increasingly difficult to implement. Air compressor is cycling excessively, indicating pneumatic tubing, actuator, or thermostat leakage. Compressor air dryer not functioning properly. Custodian reports having to manually drain condensate frequently.

Kennedy Longfellow School			Electrical				
Power Distribution Systems							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Main Electric Service	Lower level	E1.01	Main Electric Room	E	2	See Report	Service equipment is ~ 60 years old and well past its useful life.
Main and General Distribution	All Electrical Distribution	E1.02		Electrical Distribution	E	2	See Report
Coordination/Arc Fault Study	All Electrical Distribution	E1.03	Electrical Distribution	C+	5	See Report	Provide Arc Fault labels
Electrical	All Electrical	E1.04	Electrical	C+	1	See Report	Provide electrical maintenance on all equipment.
Emergency Power	Main Electric Room	E1.05	N/A	B	5	See Report	Apears in Good Condition. The generator requires its on emergency electrical room per the NEC. We require an intallation date to deterimne if it is grandfathered.
Emergency Power	Main Electric Room	E1.06	N/A	B	1	See Report	Provide full system test and full test of all emergency egress paths.
Lighting Systems							
Room # on Site:			Room Use on Site:				
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Lighting	Building Wide	E1.05	Building Wide	B/E	4 & 2	See Report	Provide energy code compliant lighting. Light fixtures range from aged HID to Energy efficient upgrades.
Lighting Controls	Building Wide	E1.06	Building Wide	D	3 & 5	—	Provide energy code compliant lighting controls.
Fire Alarm							
Room # on Site:			Room Use on Site:				
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Fire Alarm	Mechanical Room	E1.07	Building Wide	B	4 & 5	See Report	Provide complete testing of existing fire alarm system and detailed review of devices. The fire alarm system is a horn type system and a speaker type fire alarm system is required for this occupancy type.
CO Detection	Classrooms	E1.08	Building Wide	B	5	See Report	CO detection is required for Group E Class Rooms.

Kennedy Longfellow Building Assesment			Doors				
Entire School Door Assesment							
Room # on Plan:		N/A	Room Use on Plan:		All of Kennedy Longfellow		
Room # on Site:			Room Use on Site:				
Area	Part	Type	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes:
Interior	Doors	Auditorium	Survey only for site typcals, quantities and locations not recorded	C	3	See Links	Auditorium
Interior	Doors	Bathroom	Survey only for site typcals, quantities and locations not recorded	C	3	See Links	Bathroom 1
Interior	Doors	Cafeteria	Survey only for site typcals, quantities and locations not recorded	D	2	See Links	Cafeteria 1 Cafeteria 2
Interior	Doors	Classroom	Survey only for site typcals, quantities and locations not recorded	B-D	4-2	See Links	Classroom 1 Classroom 2 Classroom 3 Classroom 4 Classroom 5 Classroom 6 Classroom 7
Interior	Doors	Corridor 1	Survey only for site typcals, quantities and locations not recorded	C	4	See Links	Corridor 1
Interior	Doors	Corridor 2	Survey only for site typcals, quantities and locations not recorded	C	4	See Links	Corridor 2
Interior	Doors	Exterior 1	Survey only for site typcals, quantities and locations not recorded	C	3	See Links	Exterior 1
Interior	Doors	Exterior 2	Survey only for site typcals, quantities and locations not recorded	C	4	See Links	Exterior 2
Interior	Doors	Exterior 3	Survey only for site typcals, quantities and locations not recorded	C	4	See Links	Exterior 3
Interior	Doors	Exterior 4	Survey only for site typcals, quantities and locations not recorded	C	4	See Links	Exterior 4
Interior	Doors	Exterior 5	Survey only for site typcals, quantities and locations not recorded	C	4	See Links	Exterior 5
Interior	Doors	Exterior 6	Survey only for site typcals, quantities and locations not recorded	D	4	See Links	Exterior 6
Interior	Doors	Gym	Survey only for site typcals, quantities and locations not recorded	C-D	4-3	See Links	Gym 1 Gym 2 Gym 3
Interior	Doors	Janitor	Survey only for site typcals, quantities and locations not recorded	C	4	See Links	Janitor
Interior	Doors	Main Entry	Survey only for site typcals, quantities and locations not recorded	B	4	See Links	Main Entry
Interior	Doors	Main Entry Vestibule	Survey only for site typcals, quantities and locations not recorded	B	4	See Links	Main Entry Vestibule
Interior	Doors	Office	Survey only for site typcals, quantities and locations not recorded	C	4	See Links	Office
Interior	Doors	Passage	Survey only for site typcals, quantities and locations not recorded	B	4	See Links	Passage 1 Passage 2
Interior	Doors	Vestibule	Survey only for site typcals, quantities and locations not recorded	C	3	See Links	Vestibule1

EAQ FORMS - SCORING BREAKDOWN

The Educational Adequacy Assessment looked at how existing spaces in each school support specific educational criteria and needs as identifies by our research. Each assessor utilized checklists and the assessment criteria and rating scale below to maintain consistency across all fields. All line items were then averaged for the Educational Adequacy Quotient. Detailed reports for this school individually can be seen in the following pages.

ASSESSMENT CRITERIA	
4	Functions excellently
3	Functions well/good enough condition to support educational needs
2	Exists; baseline functionality; doesn't support educational needs
1	Exists; does not function/needs to be replaced
0	Does not exist, but is needed
N/A	Not Applicable; not required

2.1 EDUCATIONAL ADEQUACY FORMS - KENNEDY-LONGFELLOW

Metric	Description	Score	Comments
SITE- Size, Location, Access, Cultural Context		Consider overall school for this category	
Site Size	Site is 10-15 acres in size; Adequate space for playgrounds & fields	3	Some parking; some play. Adjacent fields used by school, not part of property
Location	Distance to students, near pollution/noise, appropriate to community	3.5	Very near King Open
Access	Parent/Bus drop-off & pick-up; space for queuing, separation of cars, bus & peds, ADA; access for community to recreation & events	3.5	No pick-up area; parking at back for staff. Entrances all on grade
Identity & Cultural Context	The campus has a positive identity & represents the mission/values of the school community & surrounding community.	2	Dark brick; minimal windows at upper floor make it feel heavy & not very welcoming. First floor has better articulation. Lots of block & interior spaces- dark & gloomy impression.

SECURITY- Site & Building		Consider overall school for this category	
Building Entry and Sequence	Are there appropriate sightlines from the building entry to parking? Can you get from parking/bus to the door protected from elements?	3.5	Great sightlines from Admin to front door, but this admin is for 1 school (ES) only. Main office for MS is at 3rd floor. Front door and bike parking are covered. Side entry not covered
Building Security	Secure Vestibule for building entry; internal zones of security	3.5	Vestibules at entries except classroom doors. Internal doors for separation; confirm if they have appropriate locks
Site Security	Safe or Secure Perimeter; Minimal entry points with good visibility & lighting	4	
Wayfinding	Building organization is easily understood; students, parents & visitors can find their way	3	Gym wing and art/music areas are confusing, but rest of school easy to understand; MS hard to find- need to understand if it will continue to be used as two schools.
Community Connections	Campus provides for community use & interaction; Campus supports after hours use in a secure way.	4	Public lobby provides access to public spaces; separate from academic wings. Library & multi-purpose large conference room only space that does not have direct connection to public lobby

LEARNING AREAS		Consider overall school for this category	
Differentiated Learning	Overall compliment of classrooms provide areas for different learning modalities	2.5	First floor is different from 2nd & 3rd floors; there are small science rooms on 3rd floor & small group rooms distributed. Sizes are repetitive at 2 & 3.
Inquiry Based Learning	Learning area has access to space for project based learning	3.5	All of the classrooms have sinks; they are in bad shape and not HC accessible; 1 room used for science does not have enough sinks.
Large Group Instruction	Area(s) exist for combined classes to gather collectively	3	Lots of connecting walls, but they are not used. They may be broken
Distance Learning	Space dedicated for distance learning for individuals or small groups of students; learning labs for distance interventions (infrastructure with computers/technology/display	3	
Independent Study	Areas available for students to study independently	2	some small alcoves; better at larger classrooms, but most don't have anyplace specific- area created w/furniture id they exist
Small Group Instruction	"Pull-out" spaces available for individual instruction for special needs students	2.5	Distributed - not sure if quantity is enough
Self-Contained Classrooms	Space exists for special needs students within an independent classroom	3	
All School Gathering Area	Spaces exist for campus wide meeting/activities	4	Gym; auditorium; cafeteria
Break Out Areas	Common spaces for students to collaborate and work in small group of 10 or less. Should be assessed on passive supervision, display infrastructure, and spatial acoustics	1	corridors and spaces not conducive to break out spaces
Presentation Areas	Space exists for student, teacher & guest presentations for various size groups	3.5	multi-purpose room + space in auditorium, library & cafeteria, but acoustics in cafeteria would be challenge
	Space exists for learning and instruction in appropriate outdoor environments. Should be assessed on passive supervision, display infrastructure, and spatial acoustics		lots of access outside connected to different floors of classroom; front courtyard and side area where could be used by all; no access at upper floors

Metric	Description	Score	Comments
EDUCATIONAL IEQ		Consider overall school for this category	
Student Centered Sustainable Design™			
Stimulating Architecture	The school environment is welcoming and inspiring. The occupants are engaged.	2	
Safe & Healthy	The school has good sight lines and connections between spaces & to places of vulnerability (stairs/restrooms) to support sense of community & create a safe environment.	2	Some stairs are very isolated (Gym) & donut plan with enclosed corridor means that there are places to hide or always get around the next corner. Most stairs are very open
Views & Connections	Views provided from classrooms/core learning spaces to outdoors, corridors, or other learning spaces	1	first floor has good connections to outside; upper floors do not. no connection to corridors (mostly solid doors; no sidelights) From Survey: Windows too high for view. No daylight. Interior rooms with no view.
Daylighting	Windows/Skylights: daylighting provided with solar shades or overhangs where appropriate	1	Majority of classrooms do not have good daylight; also lots of internal spaces. From Survey: No natural light. Windows are too filthy. ZERO natural light. Would be helpful if there was not open access to general light switches.
Lighting	Sufficiency (quantity/quality) & differentiation (provides choice/change)	2.5	"basket" light in 2x4 grid in relatively low ceilings
Acoustics	Space should have appropriate sound absorption materials to allow for conversations to be heard. Walls designed to minimize sound transfer	2	Most have 2x4 ACT & block walls or folding walls - concern about folding walls.
Thermal Comfort/Air Quality	Spaces are not too hot or too cold; not too much heat gain from sun. The air is "fresh" w/o noticeable odors/staleness/mustiness (Ventilation)	1.5	From Survey: Heat and AC are extreme; no in-between. No temperature control. Regularly hot when it is a warm day. Black stains around the outside of the vents. Feel a breeze near vents but stagnant in the back of the room. I have developed allergies from the air in my class. Regular headaches. No circulation; windows don't open. Soot-looking stains. I have to take breaks outside of my office.
Universal Design	Are spaces designed to meet the needs of all people, including those with physical or SEB challenges or cultural differences.	1.5	Many doors don't have pull side clearances; sinks not HC accessible; stairs can be disconcerting because of open risers; lots of corners & no sense of place at nodes & intersections make it confusing.
Display of Work	Is there adequate areas for student work to be displayed both inside and outside learning spaces	3	Quite a bit of display in front lobby area, including a 3D trophy case; but not as much in learning corridors; not any for 3D project work
Movement & Exploration	Does the space allow for the different learning modalities to happen dynamically	3	
Adaptability & Flexible Space	How much can the space (walls) change shape or allow change in use by opening or combine with other spaces.	2.5	Lots of moveable walls, but they are not used

Furniture			
Design	Ergonomic needs of students are met; furniture is appropriately sized for age group, per DLR furniture sizing guide	1	Furniture should be replaced
Flexibility	Furniture easily moved to allow for classroom reconfiguration	3	
Variety of Seating Types	Combination of formal and soft seating available within the space. Is their choice in seating.	1	Some SPED rooms do, but many don't have soft seating. Everyone is expected to sit at a desk and all the same
Movement	Furniture design allows for individual student movement which increases attention	1.5	Most rooms have hard chairs w/no flex; some have slightly more up to date chairs

Metric	Description	Score	Comments
INSTRUCTIONAL SPACES			
Classrooms- regular instructional spaces (average for all spaces)			
Size	Physical square footage of rooms as compared to standards	3	Rooms are undersized except for those on 1st floor (Kinder?)
Appropriate Support Spaces	Resources Classrooms; Small Group Rooms, etc. nearby	3	
Storage for Materials	Space for student material storage including books, work projects, backpacks, coats. Storage for teacher personal materials, classroom supplies	3.5	Storage & backpack/coat features are old, but they are incorporated into the space. Rooms at 1st floor have dedicated storage rooms; lockers for 2nd & 3rd in corridors are tight.
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2.5	Good tech, but limited power on CMU walls & folding walls; so much casework/shelves limit areas with power; 6th grade science has pull-down cords
Sink &/or equipment	Provided in-rooms, if needed	3.5	Most rooms have them, but they are not HC accessible
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	2	limited because of windows and storage; many rooms have old chalk boards in place of
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	2.5	Layout is ok; doors mostly not HC accessible (hardware).

Classrooms - Specialty spaces: SPED			
Size	Physical square footage of rooms as compared to standards	2.5	Rooms labeled on plans are a bit small
Appropriate Support Spaces	Testing & Conf. Rooms; Life Skills; Sensory or Decompression Rooms, etc. as required	2	
Storage for Materials	Space for student material storage including books, work projects, backpacks, coats. Storage for teacher personal materials, classroom supplies	2	Rooms near gym are lacking in storage
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2.5	
Sink &/or equipment	Provided in-rooms, if needed	2	ES rooms have sinks but MS don't
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	2.5	
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	1.5	Some are with other classrooms; those for MS are isolated due to lack of space

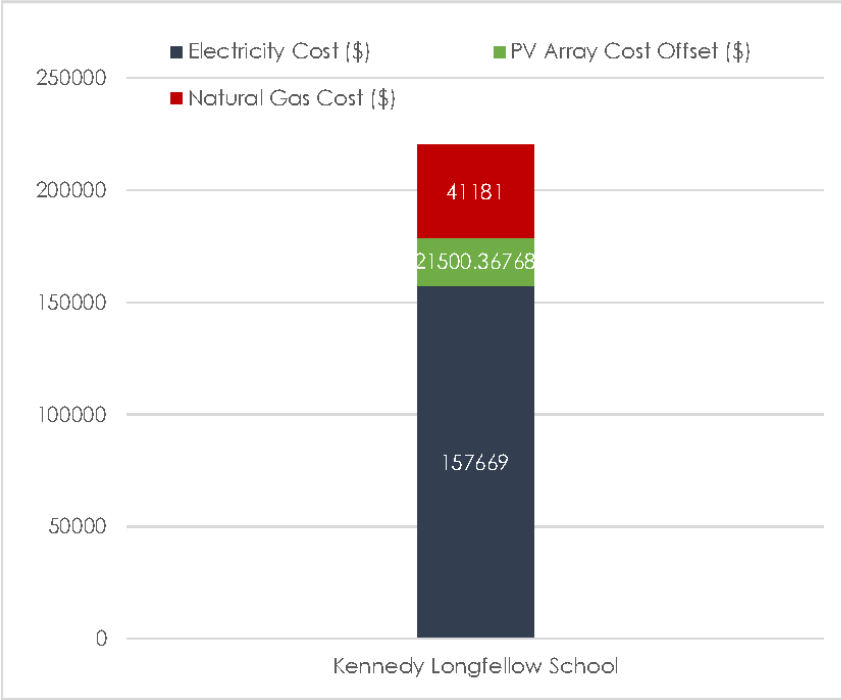
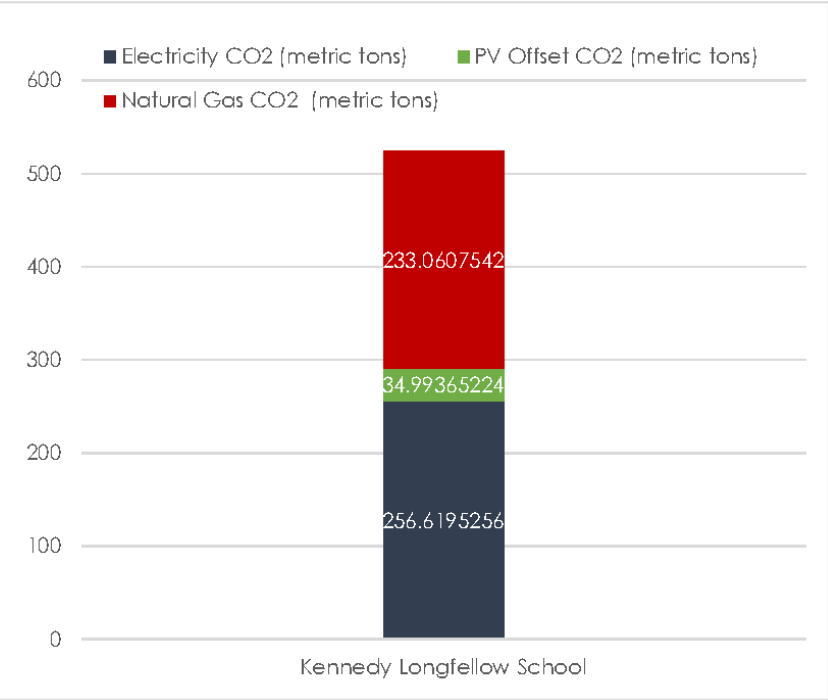
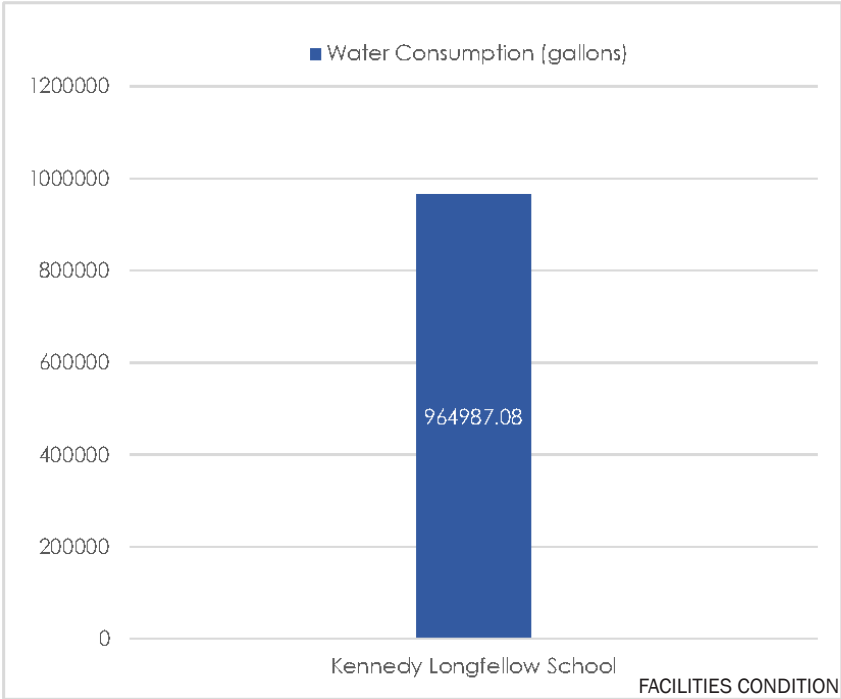
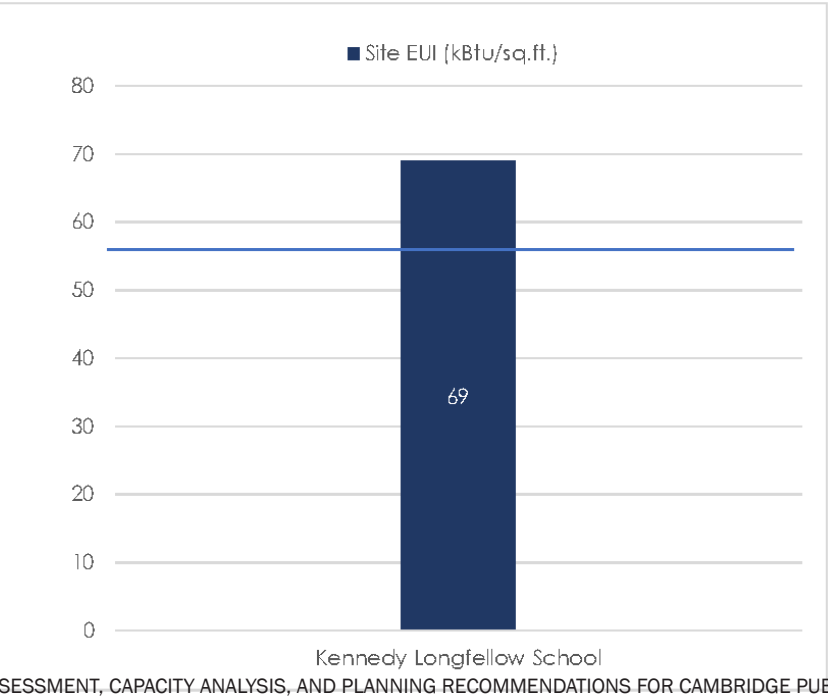
Metric	Description	Score	Comments
Classrooms - Specialty spaces: Science, Applied Learning (Maker Spaces), CTE			
Size	Physical square footage of rooms as compared to standards	2	Two or three MS science rooms - small for science; no maker space for ES
Appropriate Support Spaces	Prep Rooms, Chemical Storage; Equipment Storage; Recording, etc. Public Entrance or Waiting as appropriate to program	2.5	Some have a prep room adj but others don't
Storage for Materials	Space for student material storage including books, work projects, backpacks, coats. Storage for teacher personal materials, classroom supplies	3	
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2.5	Good tech, but limited power on CMU walls & folding walls; so much casework/shelves limit areas with power; 6th grade science has pull-down cords
Sink &/or equipment	Provided in-rooms, if needed	2.5	One room has sinks & an ADA sink; others have only 1 not ADA.
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	2	
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	2.5	Good location; hardware not accessible

Classrooms - Specialty spaces: Visual & Performing Arts & Fitness/Health			
Size	Physical square footage of rooms as compared to standards	2	Some rooms really small
Appropriate Support Spaces	Kiln Room; Practice Rooms; Instrument &/or Music Storage; Equipment Storage	2.5	There are some storage rooms but not enough for two separate schools. Pract
Storage for Materials	Space for student material storage including books, work projects, backpacks. Storage for teacher personal materials, classroom supplies	2	
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2	Tech appears to be older in most of the arts rooms; not much power
Sink &/or equipment	Provided in-rooms, if needed	2	Some had them; some didn't
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	2	limited because of storage doors; some rooms have old chalk boards in place of whiteboards; no 3D display for art
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	1	Location close to auditorium & lobby is good, but the rooms have been cut-up into smaller rooms w/access that is difficult to navigate (easy to get lost); also, no natural light in any of the rooms; no views; no connections

Metric	Description	Score	Comments
PUBLIC & SUPPORT SPACES			
Public Spaces: Media Center, Cafeteria, Gymnasium, Auditorium & Stage			
Accessibility & Location	Degree to which spaces are accessible (ADA) & appropriately located in relation to each other & other functions	2.5	Good location for public spaces, but hardware is (mostly) not accessible hardware & many pull-side lack clearances (tight corridors), especially to offices
IEQ - average for all	Daylight, Views, Thermal Comfort, Air Quality (Ventilation)	2	Gym has no daylight. library has no views.
Lighting - average for all	Sufficiency (quantity/quality) & differentiation (provides choice/change) for intended uses.	2.5	"basket" light in 2x4 grid in relatively low ceilings in library & cafeteria
Acoustics & Privacy - average for all	Do spaces have proper acoustics for intended use & afford ability to achieve visual & auditory privacy when needed.	2.5	Materials are there in library, not sure how well cafeteria functions with only ACT panels in coffers.. Lots of hard surfaces & no wall treatment in gym; Not all of gym ceiling has acoustic panels.
Technology, power & data - average for all	Sufficient technology, power & data for intended uses (i.e. public address system in gym; adequate audio-visual for presentations & performances, etc.)	2.5	
Display of Student Work, Awards, Notices, etc.	Is there adequate areas for display and communication (cases, screens, interactive dashboards, etc.) in appropriate places to be seen.	3	Adequate amount of display in corridors; quite a bit in public areas; could use more 3D for projects (not just a trophy case)
Storage for equipment - average for all	Space for the storage of specialized equipment to meet student needs.	2.5	
Media Center	Exists/Adequacy: size & configuration	3	
Cafeteria	Exists/Adequacy: size & configuration; Adequate kitchen & Servery	3	servery is small
Gymnasium	Exists/Adequacy: size & configuration	3	Not at ground floor- no direct access to outside; isolated from other public spaces
Auditorium &/or Stage	Exists/Adequacy: size & configuration	4	

Administrative & Health Offices			
Accessibility & Location	Degree to which spaces are accessible (ADA) & appropriately located in relation to each other & other functions	2	MS main office is hidden and not connected to public space. Hardware need to be upgraded
IEQ - average for all	Daylight, Views, Thermal Comfort, Air Quality (Ventilation)	3	Good daylight and view
Lighting - average for all	Sufficiency (quantity/quality) & differentiation (provides choice/change)	2.5	Dimming/choice? Color?
Acoustics & Privacy - average for all	Do spaces have proper acoustics for conversations & afford ability to achieve visual & auditory privacy when needed.	4	
Mail, Copy & Storage	Appropriate for number of staff; record storage & supply storage	1.5	
Reception & Welcome Area	Appropriate for the space & size of school; welcoming; appropriate furniture; appropriate acoustics	2	small - too much other work stations
Admin Offices	Number appropriate for the number of students and configuration the school; indicate how many exist	2	two offices in main offices - others elsewhere
Health Office	Size & configuration appropriate for the number of students and configuration the school; secure meds; privacy & acoustics (HIPPA), etc.	2.5	has more than one room, but they are small; not enough separation for cot area
Conference Room (s)	Number appropriate for the number of students and configuration the school; indicate how many exist	2	One small one for MS & 1 large multi-purpose for ES - need to confirm if others..

Metric	Description	Score	Comments
Student & Staff Support			
Accessibility & Location	Degree to which spaces are accessible (ADA) & appropriately located in relation to each other & other functions	2	Centrally located within learning communities, but small; dark
IEQ - average for all	Daylight, Views, Thermal Comfort, Air Quality (Ventilation)	1.5	Most are internal w/o daylight or views.
Lighting - average for all	Sufficiency (quantity/quality) & differentiation (provides choice/change)	2.5	Dimming/choice? Color?
Acoustics & Privacy - average for all	Do spaces have proper acoustics for conversations & afford ability to achieve visual & auditory privacy when needed.	3	
Storage for equipment - average for all	Space for the storage of specialized equipment to meet student needs	0	
Counseling, Guidance Offices &/or Career Ctr	Exists/Adequacy: size & configuration	2	very small
OT/PT & Speech	Exists/Adequacy: size, configuration (sink, swing, mats, equipment, storage)	2.5	
Conference Rms	Exists/Adequacy: size & configuration	2	See notes above; there are some other rooms which may be small testing or conference
Toilet Rooms	Availability throughout school	3	
Storage	Book Storage; General Storage; Supply Storage	2.5	
Teacher Lounge; Health & Lactation Rooms	Exists/Adequacy: size & configuration; with kitchenette	0	Did not see a "lounge" separate from teacher work
Teacher Workrooms & Planning	Exists/Adequacy: size & configuration; Copy & print locations; collaboration & focus	2.5	one on each floor, although the one on 1st floor is VERY small



SURVEY RESPONSE DATA - KLO

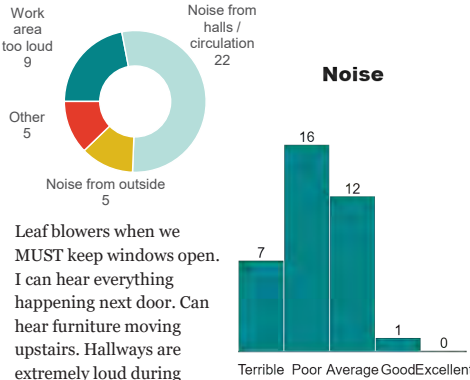
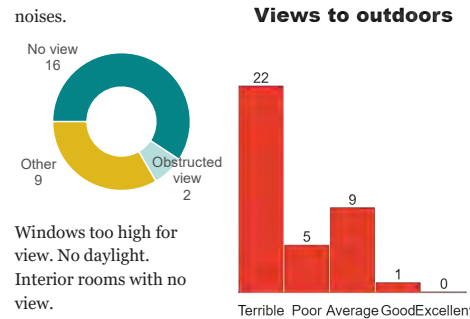
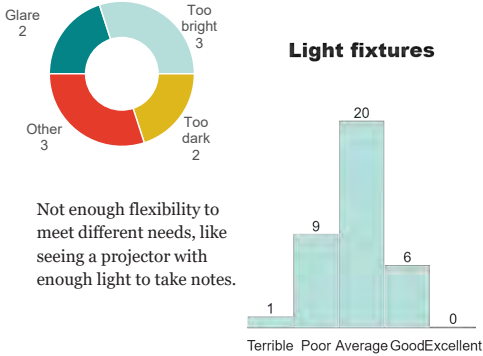
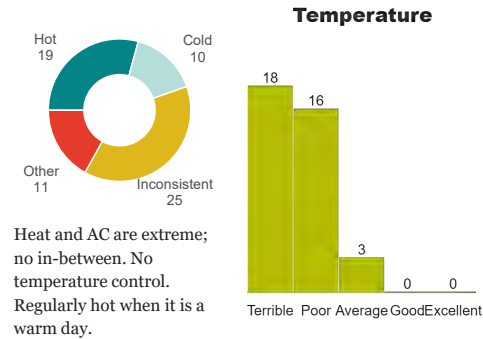
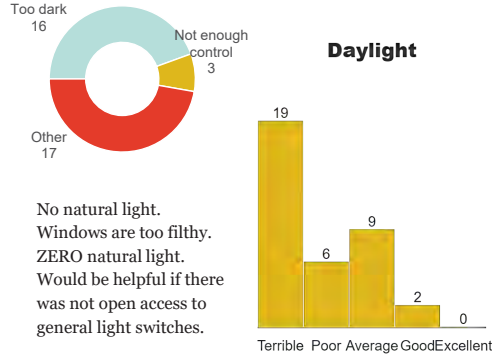
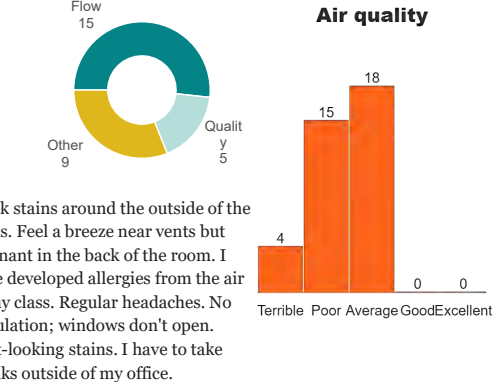


Kennedy-Longfellow

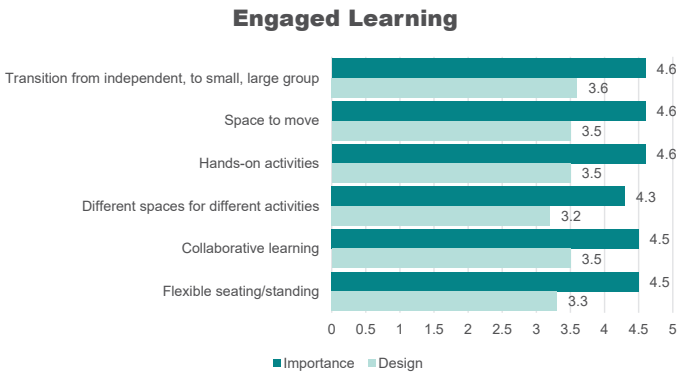




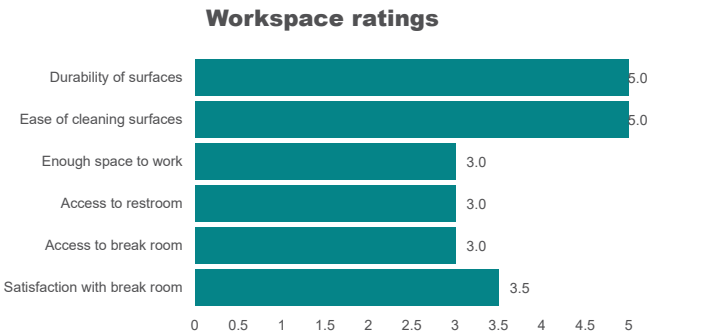
Kennedy-Longfellow: IEQ



Kennedy-Longfellow: Working + Learning



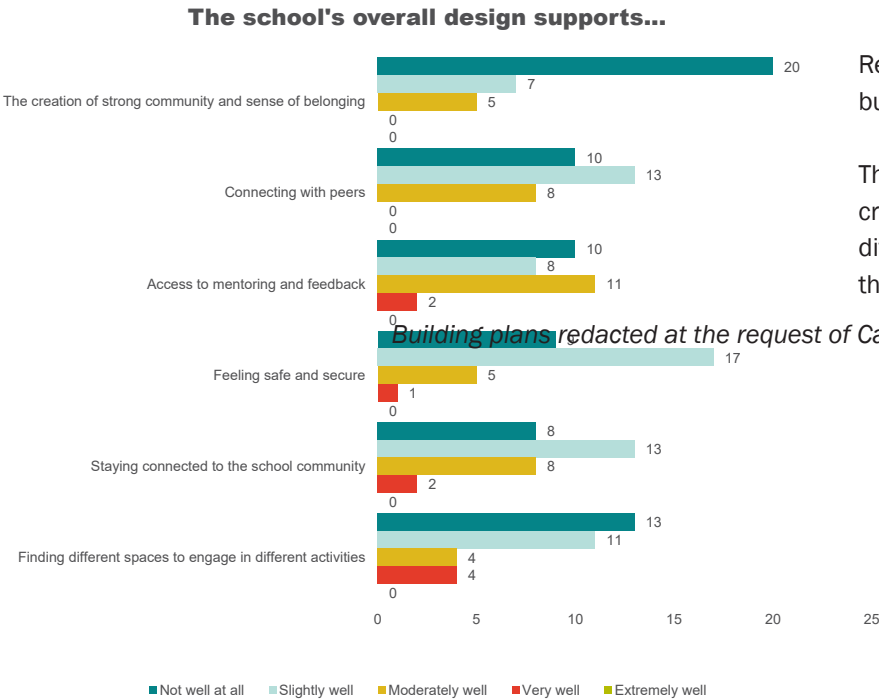
Averages here are determined from a scale of 1 (*Not at all Important*) to 5 (*Extremely Important*). Teachers view all options as important to engaged, active learning. The overall design of their classrooms could be updated to better support engaged learning and teaching.



2 administrative, kitchen, custodial, or maintenance respondents evaluated their workspaces on a scale of 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). They gave positive ratings for the durability of their work surfaces the ease of cleaning them. They rated space for work, access to bathrooms and break rooms, and satisfaction with break space around the 3 (*Neutral*) mark.



Kennedy-Longfellow: Community



Respondents were asked to consider how the overall design of their building supported staff and students and a sense of community.

The biggest areas for improvement were having a building design to create a strong community and sense of belonging, as well as finding different spaces to engage in different activities. Respondents also feel the building could better support feeling safe and secure.

Building plans redacted at the request of Cambridge Public Schools.

3.2 PLAN DIAGRAMS

Building plans redacted at the request of Cambridge Public Schools.

Building plans redacted at the request of Cambridge Public Schools.

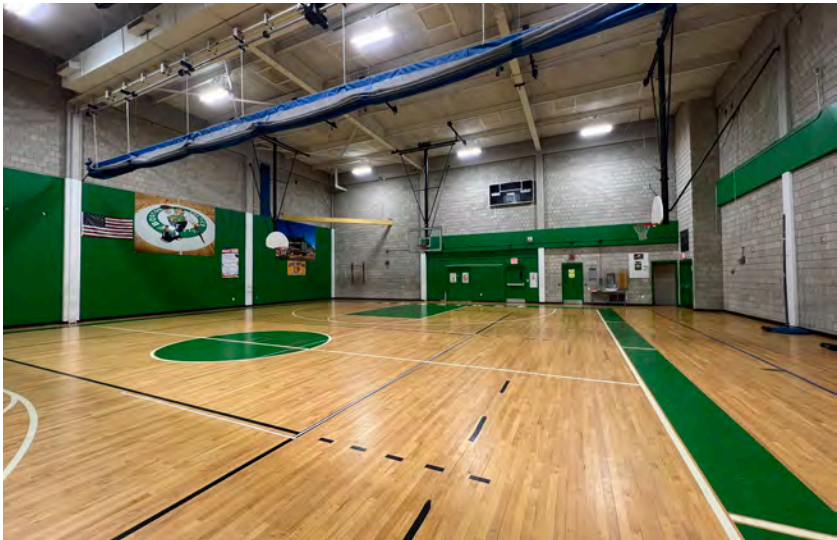
Building plans redacted at the request of Cambridge Public Schools.

3.3 SCHOOL IMAGES

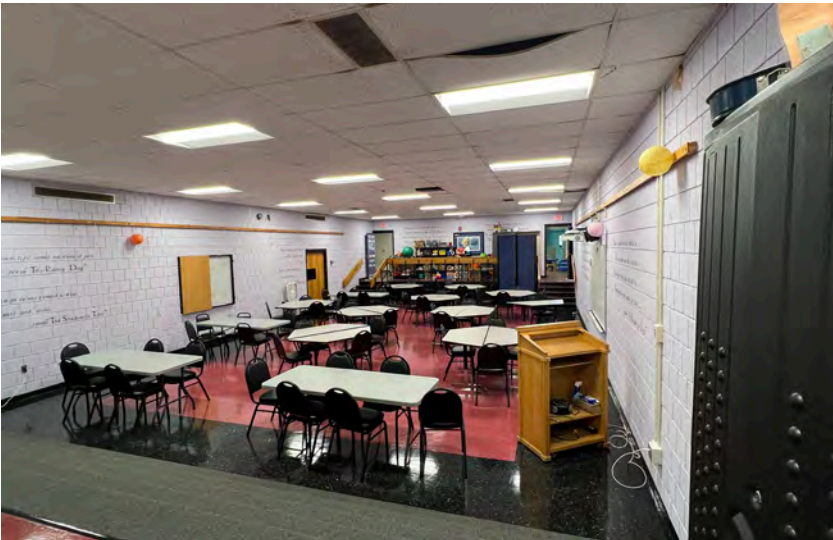
Interior



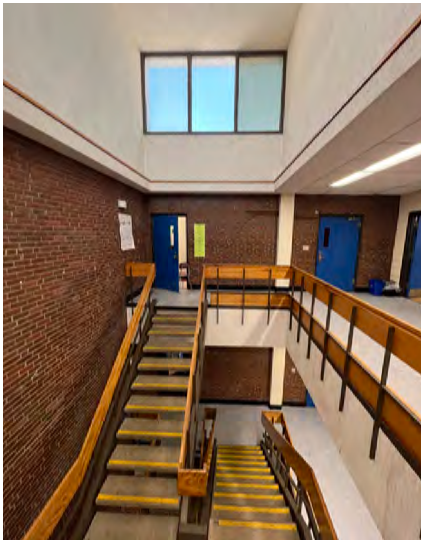
Auditorium



Gym



Multipurpose room



Stairs



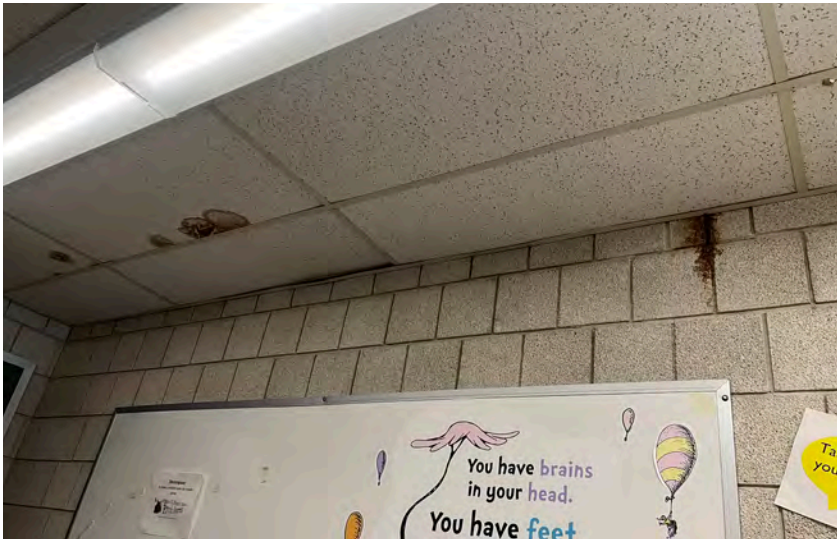
Cafeteria



Library



Beam in gym



Ceiling and wall damage

Exterior



AE-1: Partial North Elevation at classroom wing



AE-2: Partial North elevation at main entrance



AE-3: East Elevation



AE-4: Partial South Elevation at classroom wing



AE-5: Partial West Elevation



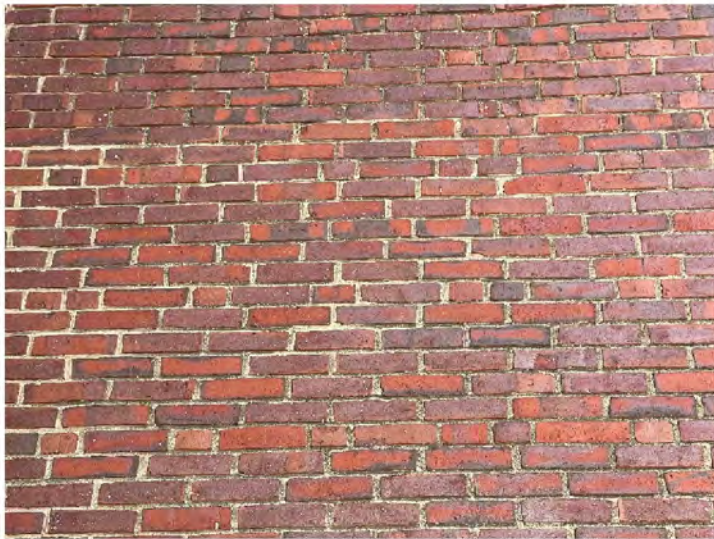
AE-6: Typical façade conditions with hung windows, exposed concrete floor at floor slabs and brick masonry veneer.



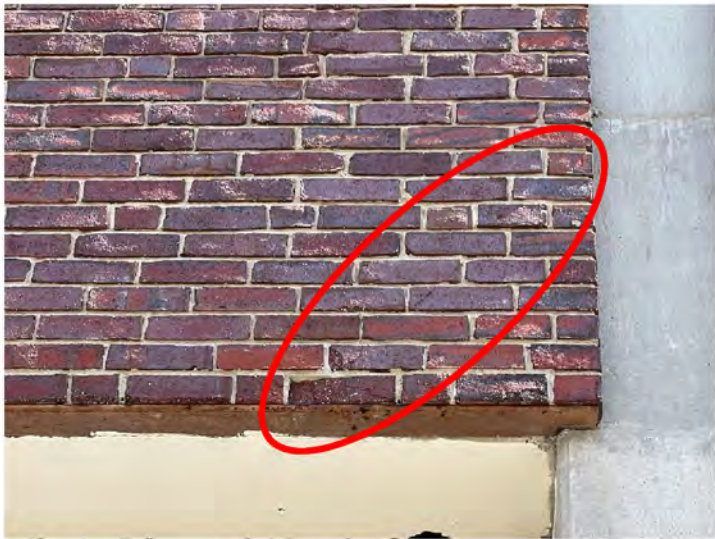
AE-7: Typical façade condition at lower level where concrete block provides façade infill between structural concrete elements.



AE-8: Representative façade conditions with exposed cast in place structural concrete and brick infill facades.



AE-9: Representative brick masonry façade, some evidence of previous repointing.



AE-10: Typical isolated cracked brick within masonry facade



AE-13: Typical cast in place concrete structural elements and brick façade, with metal flashings along top of brick.



AE-14: Typical previous concrete repair at exposed cast in place concrete that has cracked and spalled.



AE-11: Representative vertical cracking at exposed concrete between floors. Condition observed in many locations throughout building.



AE-12: Representative vertical cracking at exposed concrete between floors. Condition observed in many locations throughout building.



AE-15: Typical failed sealant along top of metal flashing located on top of brick masonry façade.



AE-16: Representative metal flashing along top of brick masonry façade. Note flashing is no longer engaged to concrete facade, sealants have failed.



AE-17: Typical façade penetrations filled with spray foam insulation.



AE-18: Typical sealants applied over cracking in exposed cast in place concrete structural elements.



AE-21: Typical sealant application on crack in cementitious cladding at roof monitor.



AE-22: Typical surface rusting and some cracking of cementitious cladding at roof monitors.



AE-19: Typical sealant at intersection of concrete and brick façade elements, nearing the end of its expected service life.



AE-20: Representative roof monitor with metal framed windows and clad with cementitious panels



AE-23: Representative steel framed windows with fixed and operable vents, rusting observed on frame.



AE-24: Representative hung aluminum window assembly with spandrel panel



AE-25: Typical metal spandrel panel below typical aluminum window assembly. Not corrosion of panel, typical in many locations.



AE-26: Typical metal spandrel panel below typical aluminum window assembly. Not corrosion of panel, typical in many locations.



AE-29: Exterior of atypical steel framed window assemblies at front office



AE-30: Exterior of typical steel framed window assembly with fixed glass lites and metal spandrel panels.



AE-27: Representative steel framed windows located above the roof.



AE-28: Exterior of typical steel framed window assembly located above roof. Note rusting of window frame and various layers of failed sealant.



AE-31: Exterior of typical steel framed window with glass lites and metal spandrel panels. Note rusting of framing throughout.



AE-32: Interior of typical steel window frame where rusting is occurring



AE-33: Interior of typical aluminum window assembly within classroom



AE-34: Interior of typical classroom windows



AE-37: Typical metal door with full glass lite in classroom condition



AE-38: Typical metal door assembly at exterior



AE-35: Interior of typical newer operable casement window installed as part of COVID-19 pandemic.



AE-36: Representative mechanical louver on exterior of building, note failed perimeter sealant



AE-39: Typical failed perimeter sealant at typical exterior door



AE-40: Typical failed perimeter sealant at typical exterior door



AE-41: Interior condition at base of door where daylight is visible due to failed weatherstripping



AE-42: Interior at base of typical metal door frame. Note rusting of frame has created a gap at base of door.



AE-45: Partial view of typical roof area, covered with PV panels



AE-46: Partial view of roof area over main lobby



AE-43: General view of various roof areas comprising the school



AE-44: Representative roof area



AE-47: Representative PV panels and skylight over main lobby



AE-48: Exterior of long unit skylight



AE-49: Representative roof and façade area



AE-50: Typical low roof, note some gathered sediment along cricket



AE-53: Typical roof drain sump with some sediment build up



AE-54: Typical roof drain assembly



AE-51: Typical standing water and gathered sediment at low roof



AE-52: Typical standing water and sediment build up at drain sump



AE-55: Representative MEP unit on dunnage



AE-56: Typical vent curb with walkway pads



AE-57: Representative TPO patch at seam in roofing membrane



AE-58: Typical roof access ladder



AE-59: Chimney with metal standing seam cap



AE-60: Failing sealant at flue penetration in chimney cap



AE-61: View of ceiling above active leakage location at hallway adjacent to Auditorium.



AE-62: Interior of hallway adjacent to Auditorium where efflorescence is present due to active water leakage.



AE-63: Interior of hallway adjacent to Auditorium where ponded water and efflorescence are present due to active water leakage.



AE-64: Interior of skylight at main lobby where there is ceiling damage from water leakage

OPINION OF PROBABLE REPAIR COST

Rough Order of Magnitude Estimates

The rough order of magnitude cost estimation included in this phase is based on aspects of the building in need of repair or at the end of useful life to meet code, it does not necessarily include any intervention with the purpose of improving education or carbon/sustainability goals. This is used to identify from a cost perspective which location has the highest facility improvement need and then be used to compare to a replacement/new build cost.

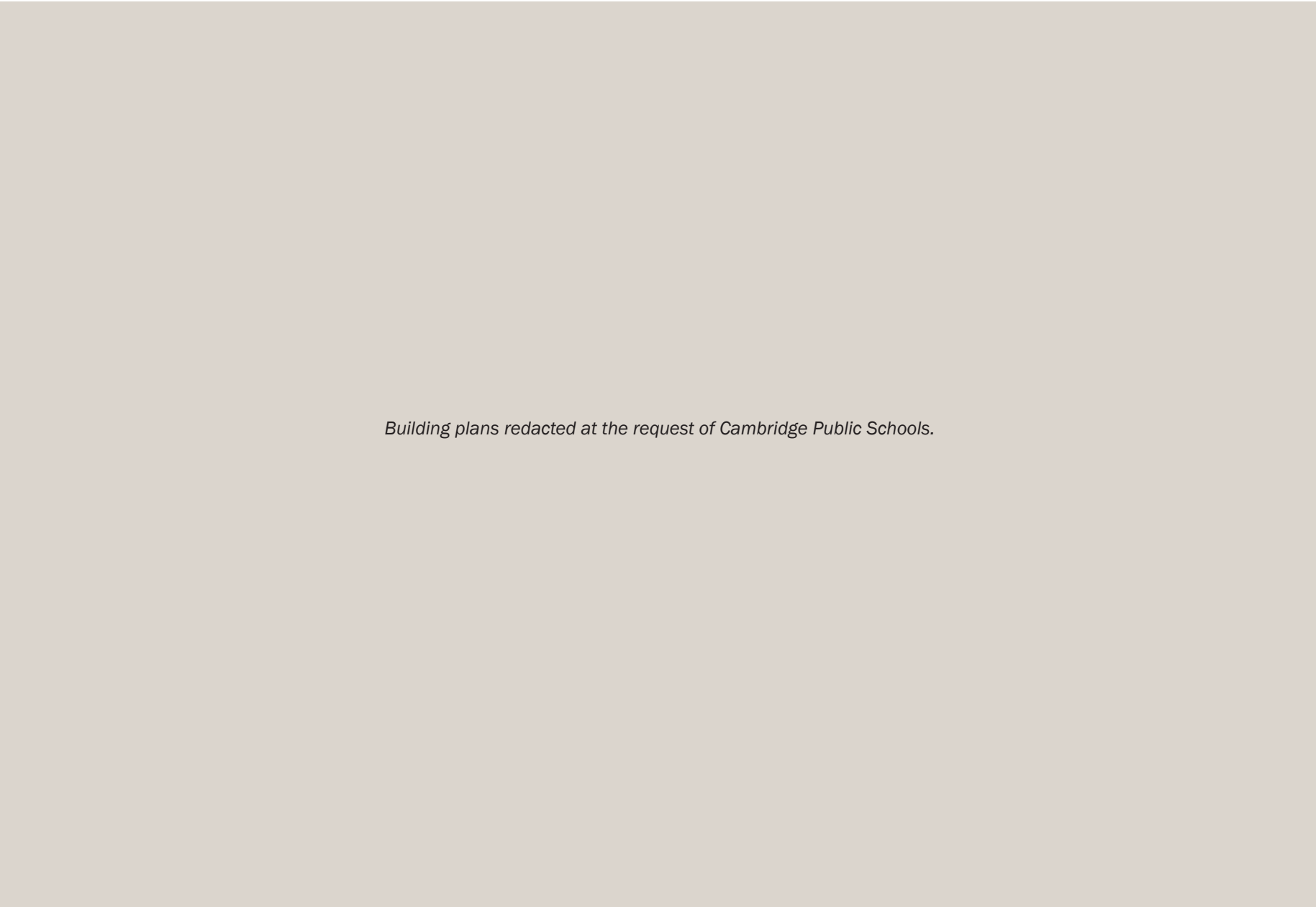
	Kennedy-Longfellow			
Gross Floor Area:	121,080			
No. of Students:	203			
Assessed Value:	\$32,493,100			
	Total Project Cost (\$)	Total Construction Cost (\$)	Total Project Cost (\$/GSF)	Total Project Cost (\$/Student)
ARCHITECTURAL - EXTERIOR (EXTERIOR WALLS)	\$ 8,213,092	\$ 6,222,040	\$ 68	\$ 40,459
ARCHITECTURAL - EXTERIOR (ROOFING)	\$ 1,775,268	\$ 1,344,900	\$ 15	\$ 8,745
ARCHITECTURAL - INTERIOR	\$ 1,631,180	\$ 1,235,742	\$ 13	\$ 8,035
ARCHITECTURAL - DOOR HARDWARE	\$ 108,947	\$ 82,535	\$ 1	\$ 537
ARCHITECTURAL - EQUIPMENT & FURNISHINGS	\$ 402,761	\$ 305,122	\$ 3	\$ 1,984
STRUCTURAL SYSTEM	\$ 5,427,198	\$ 4,111,514	\$ 45	\$ 26,735
FOOD SERVICE	\$ 1,122,494	\$ 850,374	\$ 9	\$ 5,530
CONVEYING SYSTEM	\$ 241,656	\$ 183,073	\$ 2	\$ 1,190
BUILDING SYSTEMS - PLUMBING	\$ 2,718,633	\$ 2,059,571	\$ 22	\$ 13,392
BUILDING SYSTEMS - HVAC	\$ 2,718,633	\$ 2,059,571	\$ 22	\$ 13,392
BUILDING SYSTEMS - FIRE PROTECTION	\$ -	\$ -	\$ -	\$ -
BUILDING SYSTEMS - ELECTRICAL	\$ 6,796,584	\$ 5,148,927	\$ 56	\$ 33,481
DEMOLITION & SPECIAL CONSTRUCTION	\$ 5,939,751	\$ 4,499,811	\$ 49	\$ 29,260
SITework	\$ 13,576,574	\$ 10,285,283	\$ 112	\$ 66,880
TOTAL	\$ 50,672,770	\$ 38,388,462	\$ 419	\$ 249,620

SITE/BUILDING INTERVENTION EXPLORATIONS

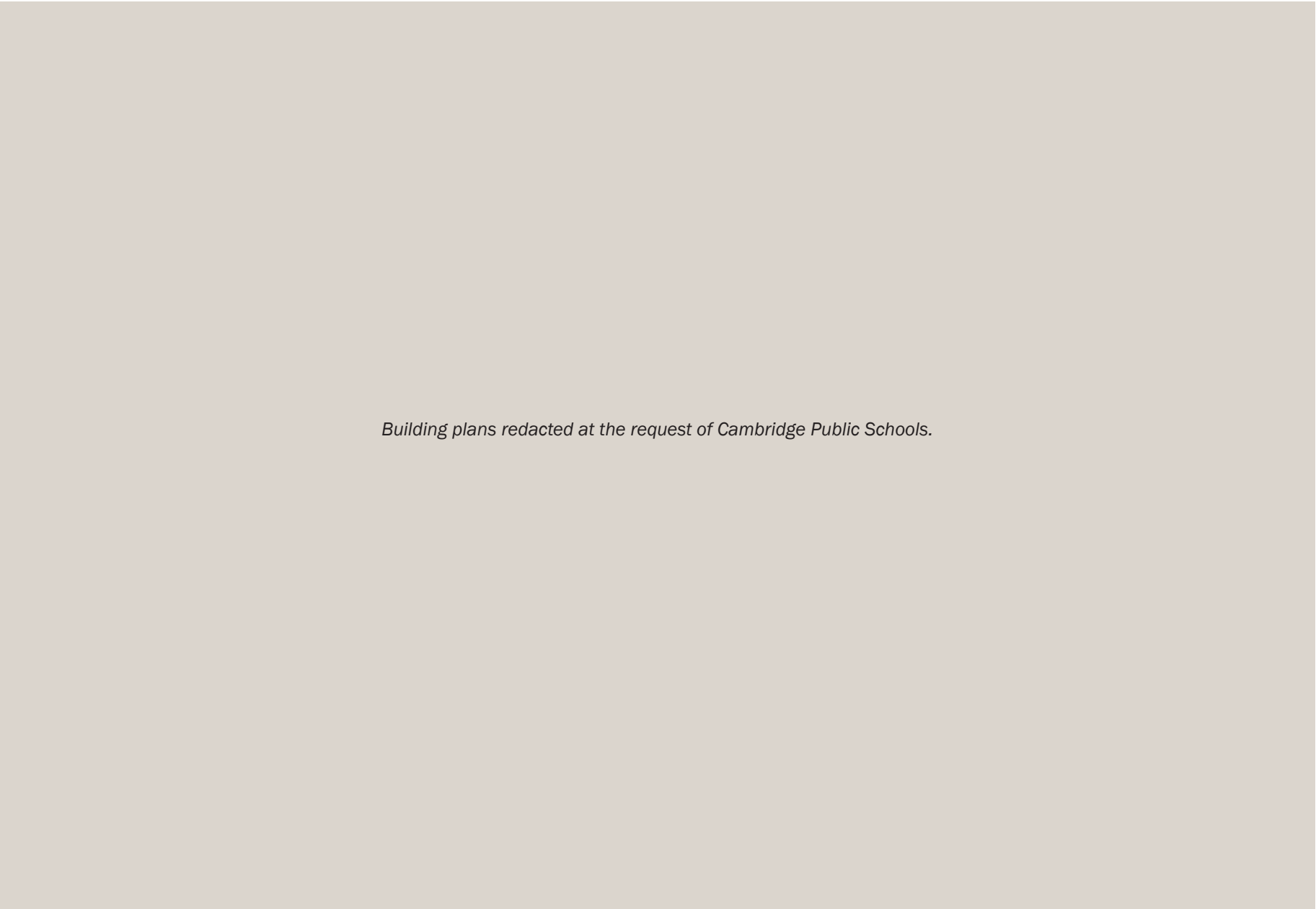
KLO SCHOOL - MAXIMUM INTERVENTION (RECOMMENDED SIM.)



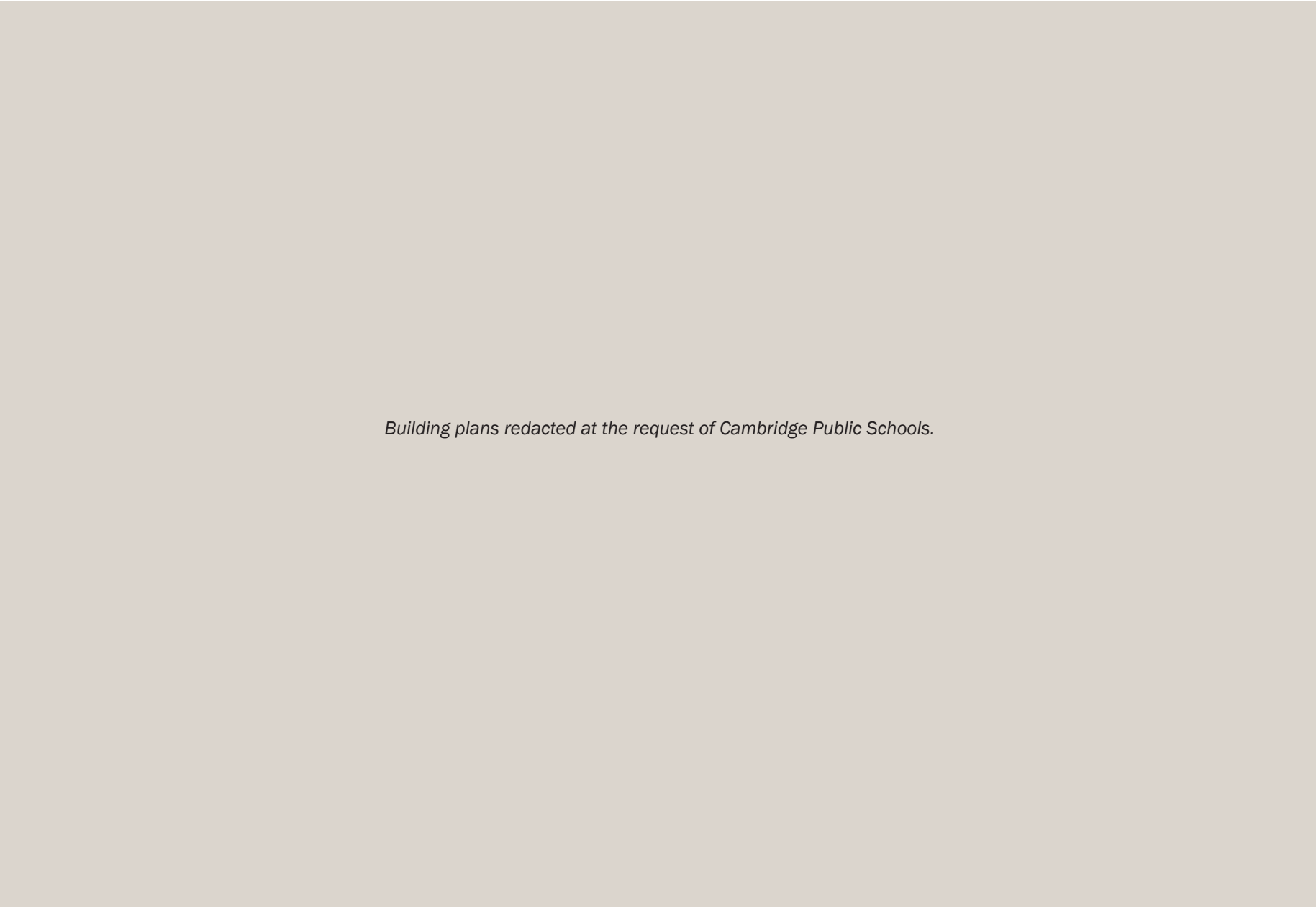
KLO SCHOOL - MAXIMUM INTERVENTION (RECOMMENDED SIM.)



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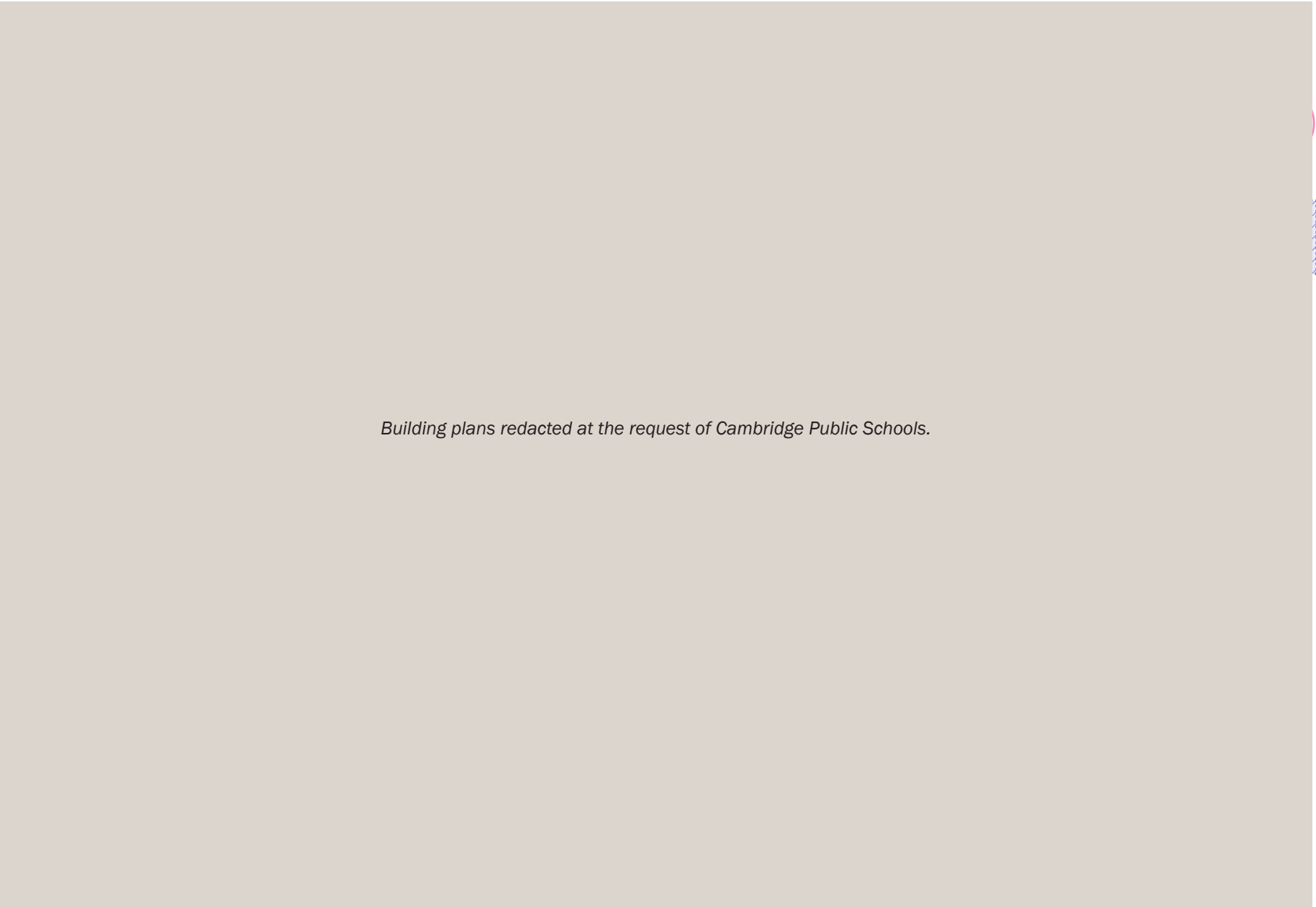


KLO SCHOOL - MAXIMUM INTERVENTION (RECOMMENDED SIM.)



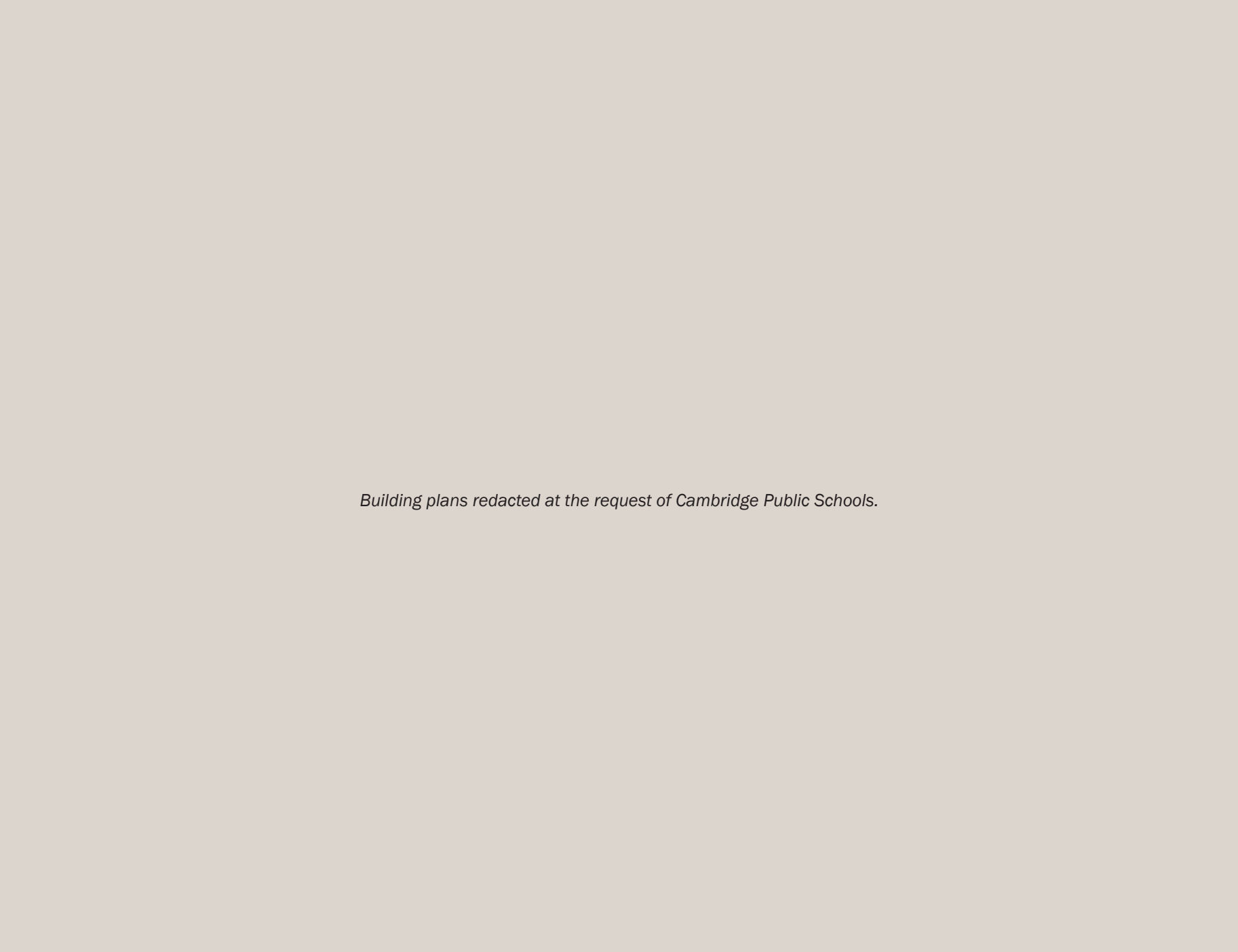
Building plans redacted at the request of Cambridge Public Schools.

KLO SCHOOL - MAXIMUM INTERVENTION (RECOMMENDED SIM.)



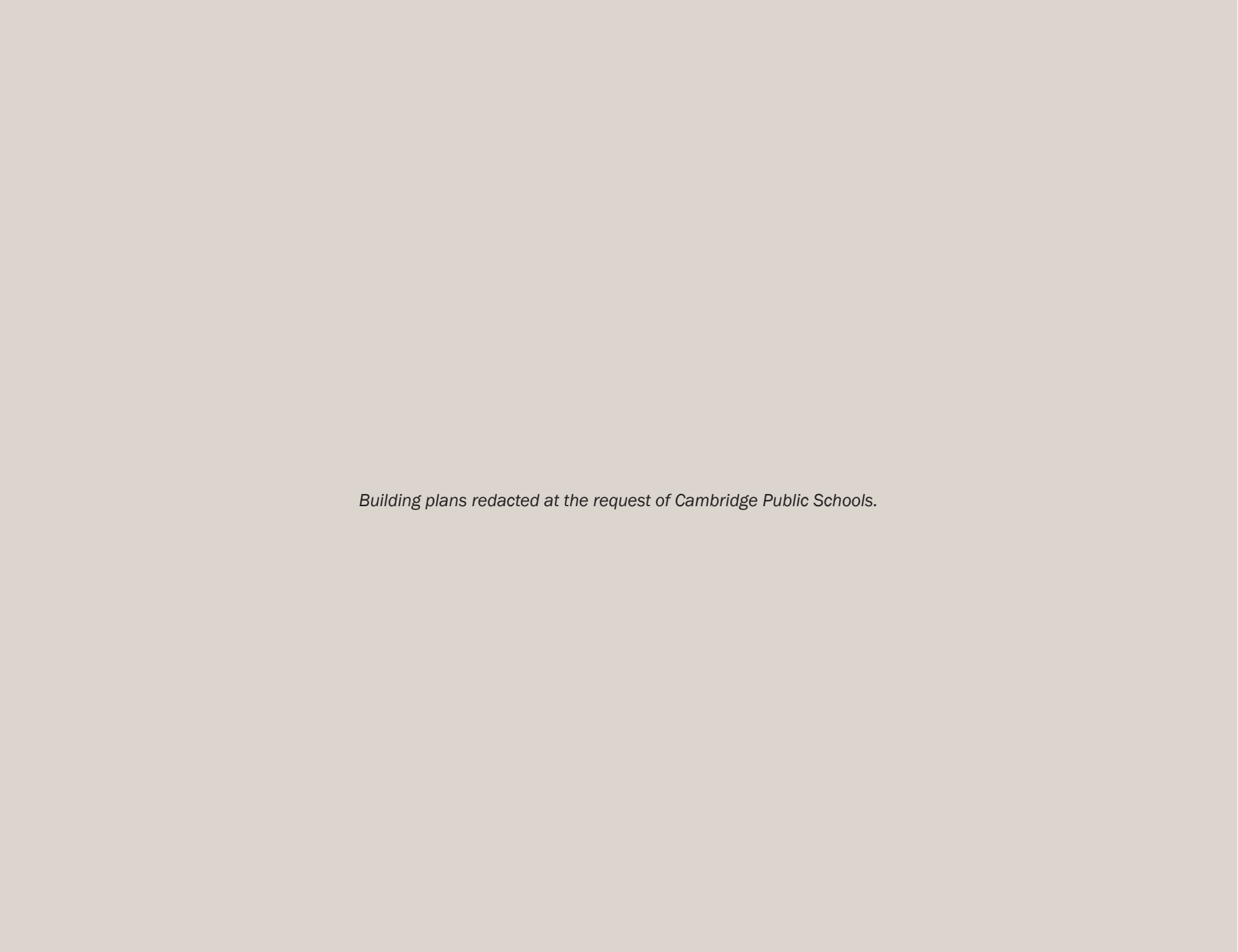
Building plans redacted at the request of Cambridge Public Schools.

KENNEDY-LONGFELLOW SCHOOL - DISCARDED OPTIONS



Building plans redacted at the request of Cambridge Public Schools.

KENNEDY-LONGFELLOW SCHOOL - DISCARDED OPTIONS



Building plans redacted at the request of Cambridge Public Schools.