Countryside Elementary School Existing Conditions Report

The Countryside Elementary School is located at 191 Dedham Street in Newton. The 35,910 gross square foot school was constructed in 1953 as a small neighborhood school consisting of 13 classrooms, a gym, library, auditorium, main office, two sets of girls and boys restrooms, and a pair of staff bathrooms. A 6 classroom annex addition was constructed in 1958 to address the rising school enrollment. A single bathroom with one fixture was added as part of this project. In 1986, two additional annex classrooms were constructed on the north end of the annex. In 1991, 1999, and 2000 a total of four modular classrooms and two offices were constructed. With the five additions adding a total of 13,702 gross square feet, the number of classrooms, staff, and students were doubled with no increase in support spaces like bathrooms, offices, storage, small group instruction, or special education.

Previous estimates showed the Countryside School being 65,000 gross square feet. The actual size of the school is 49,612 gross square feet.

Existing Site Conditions

The school had as many as 25 classrooms at one time, but currently 22 classrooms are being used for individual grades. Two classrooms were reconstructed to allow for ELL, Inclusion, and Special Education spaces. The 1999 modular classroom is currently being repurposed for use as an Art Room, as the art program has been offered “on a cart” for a number of years due to lack of space for the program. The music program does not have its own space, and currently occupies the stage in the cafetorium. Currently there are 11 individual grade classrooms in the 1953 building, and 11 individual grade classrooms in the annexes and modulars. The library, gym, and auditorium are all sized for a school population approximately half the size of the current enrollment. Overall, the entire school is about half the size it should be based on the enrollment. The quantity of classrooms is adequate, but conditions are severely lacking. Support spaces are either non-existent, or woefully undersized, throughout the school. Breakout and small group instruction space does not exist. Many of the Special Education spaces either don’t exist or are inadequate. OT/PT does not have a space. Offices for support staff either don’t exist, or have been placed in areas that should not be occupied, like outside the old generator room in the basement, or in egress pathways.

The school sits on 322,065 square foot parcel, which is comprised of approximately 65,000 of wetlands, 120,000 square feet of school and parking, and 137,065 square feet of open space currently used as a baseball field and playground. The entire site sits within a FEMA FIRM Flood Zone. Approximately 2/3 of the site sits within the 200 foot Riverfront Protection Act area, including half of the existing building. The water table sits barely below grade throughout most of the eastern portion of the site, including the areas where the annexes and modular classrooms are sited. The Department of Public Works completed a stormwater project in 2012 that addressed chronic flooding in the courtyard of the school, which often resulted in flooding of the school itself.

The school itself has seen minimal non-reactive capital investment over the past 65 years.

Building System Existing Conditions

Roof:

The roof on the 1953 portion of the building was replaced in 2012. The roofs on all of the annexes and modular classrooms are beyond their useful life and need to be replaced.

Notice the standing water and poor overall roof condition.

Windows/Envelope:

The windows and the brick facade in the 1953 portion of the building were replaced in 1991, while the windows in the annexes and modular classrooms are original. The connection from the main building to the additions is comprised of single pane hollow metal steel framed curtain wall, which is the same system for the windows in the annex classrooms. The modular classrooms are a combination of single and double pane vinyl replacement windows, single pane metal windows, and storm windows. Needless to say, the thermal efficiency of these systems is extremely low. Corridors are very cold in the winter. All of the window systems in the entire school are beyond their useful life, and most are in very poor condition.

The above picture shows the 1958 single pane hollow metal framed storefront window systems that face the wetlands in the rear of the annexes.

The above shows the double pane metal windows from 1991.

HVAC:

The steam boilers were replaced in 2007 and 2012. The 2007 boiler has been completely submerged at least twice due to flooding in the school. The boiler room itself has seen flood levels as high as 12 feet which has taken its toll on all of the mechanical, electrical, and plumbing equipment. The heating system was converted to natural gas in 2011, and the underground oil storage tanks were removed the same year. Some of the classroom unit ventilators and rooftop hvac equipment has been replaced over the years, but most of the distribution system is original, beyond its useful life, and in poor condition. There is very limited control over the heating systems, and with the exception of some of the modular classrooms, it is not air conditioned. The hvac systems in the annexes and modulars are beyond useful life, failing, failed, and/or in poor condition. With exposed ductwork and mechanical systems, the acoustical performance negatively impacts the learning environment. Steam unit ventilators service the classrooms, Auditorium, and Gym. A single steam H&V serves the Cafetorium. The building systems are controlled by an aging electro-pneumatic control system with 4 zones (Old Classrooms A, Old Classrooms B, Auditorium, Gym). Much of its functionality, however, is inoperable. The terminal equipment is controlled by an aging, obsolete, and maintenance intensive pneumatic air system.

The above picture shows the exposed hvac equipment and ductwork in the annex classrooms. The noise from this does not come close to meeting the acoustical standards for classrooms, and is a distraction to learning.

These are the steam boilers that have been replaced countless times over the years. Notice that they are on elevated concrete pads to try and help prevent failure due to chronic flooding.

Plumbing:

Some of the bathroom fixtures have been replaced, but most of the plumbing in the building is original. Due to elevation challenges throughout the site, the sewage lines cannot pitch adequately to allow for gravity drainage. This means that there are sewage ejector pumps in the small crawl spaces throughout the building. These are not allowed by the plumbing code. These pumps have failed countless times, resulting in sewage flooding throughout the school. One example of this is the sewage ejector pump directly below the nurse's office. The smell of sewer gases always exists, but this ebbs and flows based on the operation of these pumps. There are two very large sump pumps in the boiler room that never stop running. The basement sits 6 feet below the water table, and the boiler room sits 12 feet below the water table. When the pumps fail the basement floods within a few hours, which is catastrophic as the

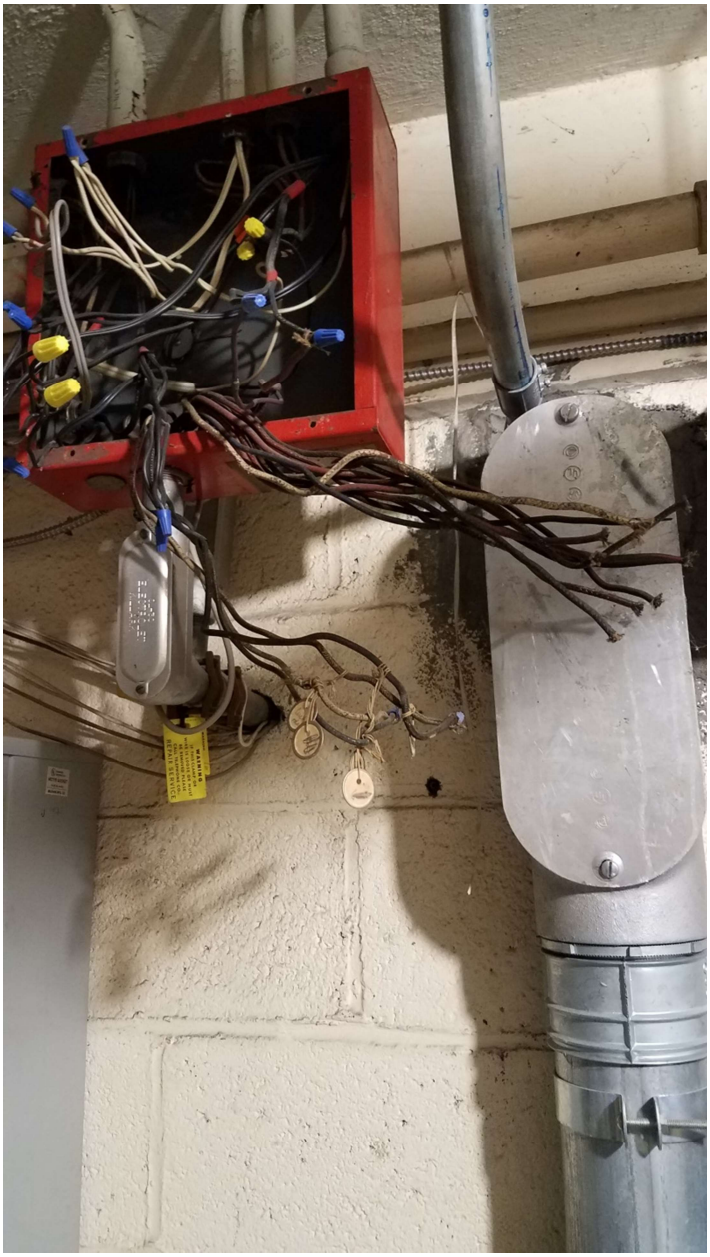
only storage for curriculum materials, gym equipment, and custodial supplies and equipment is in the basement. The basement area is chronically wet, and by all records has never been dry.

This is the access panel to the crawl space beneath the nurse's office. This is how the sewage ejector pump is accessed. Please note that at the time of this picture, the smell of sewer gas was prevalent.

Repairs to any of the failed sewer ejector pumps require crawling 50-100 feet through the sewage. This also means that when these pumps fail, sewage sits beneath the first floor classrooms.

Fire Protection and Detection:

The fire alarm panel was replaced in 2016, but only a small portion of the devices are addressable. Therefore, responses are likely only to the building, and not to a specific area within the building. The fire alarm distribution system is in poor condition and needs to be replaced. The school has no fire suppression systems.

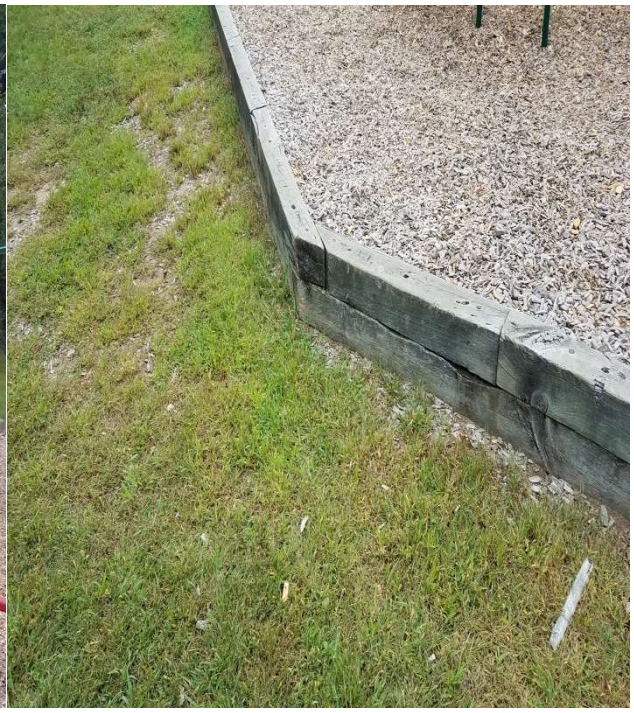


Although some Fire Alarm upgrades have occurred, we have way more work to do.

Accessibility:

A vertical lift was installed in 2010, which provides programmatic access to the 2nd floor of the building. This lift was allowed at the time, but is no longer allowed to be constructed as a permanent means of vertical accessible travel. The “cab” of the lift is approximately 3’ by 4’, which means that it can only accommodate one child and an adult, and in some cases an adult cannot fit. A few restrooms have had minor investments made to improve accessibility, but currently there are no girls restrooms that have the clearances needed to allow for wheelchair access, and once in there are no accessible restroom stalls exist. The boys restrooms have accessible stalls, but clearances are not sufficient for wheelchair access. The ramp leading from the 1953 building, to the annexes is not ADA or MAAB compliant. The playground is not programmatically accessible. The door hardware is not accessible, and the signage throughout the building is not ADA compliant.

None of the bathrooms in the building are accessible. Some have had minor improvements made to increase accessibility, but some like the one above are not accessible, and create fire egress issues due to layout and door placement.

The playground is not accessible.

None of the doors are accessible. The main entrance has minimal accessibility.

Some doors are not only inaccessible, but original to the building and in very poor condition.

Electrical:

Lighting and lighting controls were replaced in 2017, but the vast majority of the electrical distribution is original. The main electrical switch gear is in poor condition and resides in an area prone to flooding.

On the left, the chronic flooding has taken its toll. On the right, the main electrical panel for the school. As you can see it is not only original to the building, it is missing components which leaves the copper bus bar on the left exposed creating electrical safety hazards.

This is a good picture to illustrate that attempts have been made to improve some of the building support systems, but it also shows that there is far more work left to do.

This generator is beyond it's useful life, and no longer code compliant. The exhaust stack needs to be well above the building, or the generator needs to be much further away. This is now required to prevent exhaust fumes from entering the building.

Flooding:

The oil tanks had to be strapped to the boiler room floor to prevent them from breaking free and floating when the area floods.

This picture illustrates the chronic flooding. This wall was actually painted fairly recently, but one of the flooding events is memorialized with the flood line about 9 feet up on the wall just below the red box on the wall at the top of the picture.

These sump pumps have been replaced countless times. Although the pumps look old in this picture, they were replaced a few years ago. They are constantly wetted, so they rust out pretty quickly.

The basement is the only storage area for the entire school. It is chronically wet, and very damp. At the time of this picture, Newton had received little to no rain in the previous few weeks, and it was taken in the driest month of the year.

By all records, the basement has never been dry.

Spatial Programmatic Challenges

The library is about 30% the size it should be for a school of this size.

Music is taught on the stage in the cafetorium. This really is not allowed as it blocks egress ways in an area of assembly.

The gym is very small. It should be more than twice this size based on enrollment.

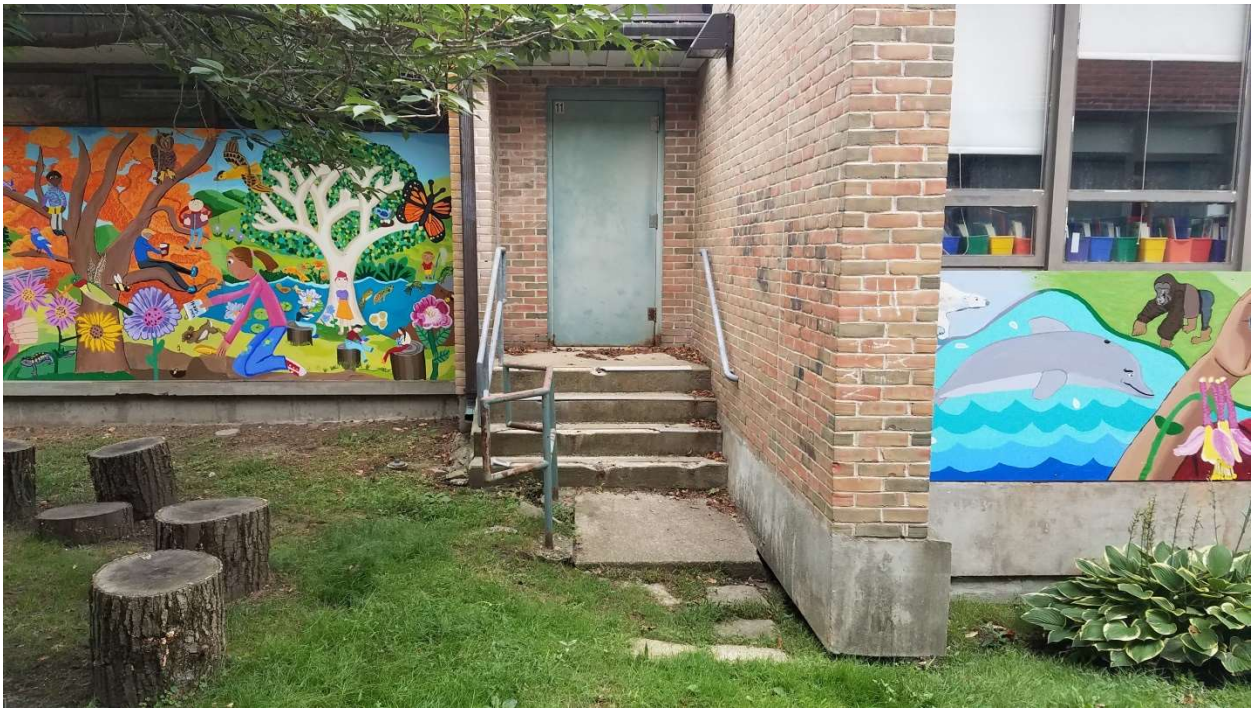
Small group instruction has no space in the school, but it still needs to happen. This is a small instructional space in the basement, next to the old generator vault, with an open crawl space to the sewage ejector pumps on the right.

Annexes and Modular Classrooms:

The south side modular classrooms were painted a couple years ago to try and make them a little less unpleasant. The siding is chronically wet and rotting. Notice the HVAC on the left. The air intake for this classroom is right at the rotting wood.

This picture illustrates a number of issues. Vines are growing through the roof and ceilings in the annexes. The interior of the annex at this location was retrofitted with steel studs and fiberglass insulation to try and keep the space from getting too cold in the winter.

The underside of the modulars has failed, is wet, and constantly houses small animals. A better picture would have been obtained, but a family of skunks was under the modulars at the time this picture was taken. The underside of the modular has been replaced multiple times over the years, but the extreme moisture condition makes this a never-ending battle.



Egresses from the annexes and modulars are failing.

Most of the modulars sit on jacks or cinder blocks. The foundations are then covered with lattice. This means that the floors are exposed to the elements.

These six classrooms have very limited sunlight. The only windows in them face west, but the proximity to the wetlands, the shade from the trees, and the roof design, means very little sunlight makes its way into the rooms. One of the modular classrooms has one small window in the corner of the classroom which is the only source of daylight for the space.

This is the inaccessible connector to the annexes. This picture also shows that the school has no copy room, so one has been created in the hallway. This is not allowed. Furthermore, a pallet of paper has been stored there, as there was nowhere else to put it. This not only blocks the fire egress, it puts a large amount of combustibles in the agree path of 200 plus students.

There are single pane windows on the left, cubbies on the right, and only one bathroom with one toilet, for 12 classrooms, 250+ students, and 26 staff. The Annexes and Modular Classrooms make up half of the Countryside School, yet they have essentially no support spaces like bathrooms, offices, small group instruction areas, special education rooms, storage areas, or staff rooms.

Existing Countryside Program Areas

The following is a breakdown of the net usable areas for each of the major programmatic spaces. Classroom #6 has been split into ELL and Inclusion which are each 374 square feet. Room #10 was reduced in size at some point, but could easily be restored to 770 square feet if so desired.

Classroom Room #	Classroom Size in sqft	
1	770	Specialists Offices
2	770	
3	770	
4	770	
5	770	
10	667	
11	770	
12	770	
13	770	
14	770	
15	770	
16	770	
1a	783	1986 Annex
2a	783	1986 Annex
3a	810	1958 Annex
4a	810	1958 Annex
5a	810	1958 Annex
6a	810	1958 Annex
7a	810	1958 Annex
8a	810	1958 Annex
9a	728	1991 Modular
11a	812	2000 Modular
12a	812	2000 Modular
Art	1102	1999 Modular
Music	Stage	Area included in Café
Library	1032	
Cafetorium	4080	
Gym	2400	
CASP	1590	