



MANCHESTER
SCHOOL DISTRICT

Central High School

Educational and Facilities
Master Plan

smma



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Summary

Included in this report are assets that were collected during the long term facility planning process. Each school's report package contains an At-A-Glance summary report, Facility Evaluation Criteria sheets, and site plan(s). Site plans are included to illustrate the context of the building in relationship to the city, neighborhood, and other adjacent amenities and parcels. The At-A-Glance summary sheets include general information about each school building including school data, such as population and grade structure, etc., site and building data, tax assessor's information, community uses, State of NH Code of Administrative Rules, Operational Data, and Cost model information for repairs and renovations. The Facility Evaluation Criteria sheets are the facility assessment team's findings at each Tier 1 school building including building physical assets, sites, and educational facility effectiveness. On April 24, 2023, the assessment team visited all the Tier 1 school buildings.

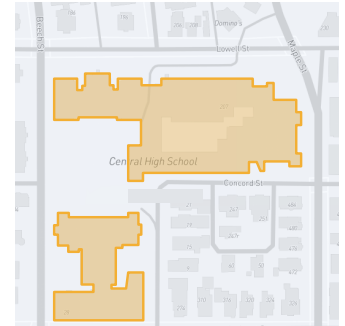
SCHOOL NAME

Central High School

SITE VISIT

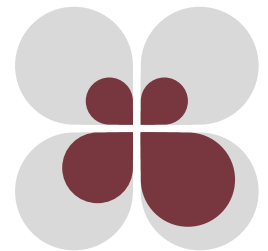
August 2023

At-a-Glance



FA: Building

FA: Site



EFE: Learning

EFE: Spaces



Excellent

Deficient



Address

535 Beech Street, Manchester, NH 03104



Gross Square Footage (GSF)

270,062 sf



Grades

9th Grade–12th Grade



Site Acreage

5.3



Hours of Operation

7:30am–2:55pm



Date of Construction

1895



2022–2023 Enrollment

1130



Date of Addition Construction

1925, 1959, 1967, 2004

Site Plans



SCHOOL NAME

Central High School

SITE VISIT

August 2023





Facility Evaluation Criteria

Physical Analysis	● NONE / MINOR	● MODERATE	● MAJOR	● REPLACE	○ N/A
Roof Membrane (Architectural)				●	
<p><i>"Classical Building: The sloped roofs are original slate tiles which have reported leaks and have gone through some repairs. Gutters and downspouts are reportedly 5-10 years old. Ongoing maintenance will be required at the original slate roofs. Practical Arts and Industrial Building: The roof was replaced in 2001 with black EPDM roof membrane which appears to be in fair condition. All roofs are beyond their useful lifespan and typical warranty period, so replacement is recommended. James Building: The roof on the original 1966 building was replaced in 2009. The roof on the 2004 addition is beyond its useful lifespan and typical warranty period, so replacement is recommended."</i></p>					
Existing Photovoltaics					○
<p><i>"N/A"</i></p>					
Space for Solar on Roof					○
<p><i>"Space on roof is available, exact locations and SF size can be evaluated."</i></p>					
Façade			●		
<p><i>"Classical Building: The original 1895 masonry is generally in good condition and a good representation of the historic detailing and architecture of the turn of the 19th century. There is considerable staining and localized areas of spalling of the brick. General cleaning, repointing and restoration of limestone trim and cornices will be required. Practical Arts and Industrial Building: The original 1921 masonry is generally in good condition. There are areas of staining and localized areas of spalling of the brick. General cleaning, repointing and restoration of limestone trim and cornices will be required. Brick sills at the 2004 addition need repointing. James Building: The original 1966 masonry and 2004 addition masonry and concrete veneers are generally in good condition. A waterproofing treatment was added to the ground floor exterior walls in 1986. Several areas of cracking and deterioration of concrete piers along the facade was noted and will require repair."</i></p>					

Physical Analysis

● NONE / MINOR
 ● MODERATE
 ● MAJOR
 ● REPLACE
 ○ N/A

Windows			●	
<p><i>"Classical Building: Windows are single pane aluminum windows most likely dating from 1968 when they were replaced. Windows and exterior doors are in poor condition and in need of replacement. Practical Arts and Industrial Building: Windows are double paned aluminum window systems. Date of installation is unknown. Several exterior doors require gasketing and weatherstripping. James Building: Windows in the original 1966 building are single pane aluminum windows most likely original. Windows and exterior doors are in poor condition and in need of replacement. Windows in the 2004 addition are double pane aluminum window systems. Although there is some useful life remaining, the thermal performance is not as efficient as current window systems." The main entrance aluminum storefront doors have some staining and rusting along the base of the frames and doors."</i></p>				
Boilers (Mechanical)			●	
<p><i>"There are 3 boilers, one is not working, the other is backup and uses fuel oil. The last is working and was being cleaned. The boilers are 20-40 years old and are all reaching/past useful life. The boilers produce steam that then goes to shell and tube heat exchangers at each building."</i></p>				
Boilers (Plumbing)		●		
<p><i>"Refer to the HVAC report for mechanical boilers. The domestic hot water is generated through a Lochinvar Armor model AWN801PM boiler with an approximate 300 gallon storage tank. The boiler is approximately 8 years old and appears to be in good working order. The classical building is also provided with two remote (one in basement) electric water heaters. One was installed in 2018, while the other was installed in 2012. The 2012 water heater is approaching the beginning of the expected life span of 10-15 years."</i></p>				
Heating Distribution Systems			●	
<p><i>"Courtyard has ventilation for garage. Gym has high supply drum diffusers and high return Unit heaters/cabinet unit heaters at entrances. Most spaces have fin tube radiation although some spaces still have radiations which have exposed heating elements."</i></p>				
Building Envelope Thermal Performance			●	
<p><i>"Classical Building: The building dates from 1895. Insulation and air/vapor barriers in walls, roofs and slabs were not provided. Practical Arts and Industrial Building: The buildings date from 1921 and 1940. Insulation and air/vapor barriers in walls, roofs and slabs were most likely not provided. James Building: The original 1966 building most likely did not include insulation in the walls and under slabs. Minimal insulation was added to the roof when replaced in 2009. The 2004 addition has an air vapor barrier and minimal insulation in walls, under slab and at the roof. Although some insulation is provided, installed thicknesses do not meet current energy codes. Not all building entrances have vestibules."</i></p>				

Physical Analysis

● NONE / MINOR
 ● MODERATE
 ● MAJOR
 ● REPLACE
 ○ N/A

Interior Finishes			●		
	<p><i>"Classical Building: Floors are VCT which were installed over original wood floors. Significant cracking of VCT was observed. Woodworking throughout is original and a good representation of the historic detailing and architecture of the turn of the 19th century. It is also generally in good condition, with only several areas where paneling or trim would require restoration. Peeling of paint/plaster at walls and ceilings was observed. Practical Arts and Industrial Building: Auditorium seating appears to be in good condition. James Building: VCT flooring throughout. Significant cracking of VCT at exterior entrances and building expansion joints were observed. Casework and interior wood doors in the original 1966 building is original and in need of replacement. Interior wall and ceiling finishes, casework and interior doors in the 2004 addition are generally in good condition. Gymnasium athletic wood flooring appears to be in good condition."</i></p>				
Rooftop HVAC Equipment				●	
	<p><i>"Unit are located on roofs or in attic. Units are generally older and reaching or past useful life. Units have been well maintained extending useful life, but units in attic are difficult to access/service."</i></p>				
HVAC Controls		●			
	<p><i>"Building has a mix of JCI Metasys (District standard) and some of the historic building still uses pneumatic controls with a compressor in the mechanical room. Thermostats are a mix of newer and in need of replacement."</i></p>				
Technology Infrastructure				●	
	<p><i>"Bandwidth of fiber optic and copper network cabling is inadequate for School Communications. Telecom Rooms are not adequately secured allowing staff to use them for storage."</i></p>				
Technology Systems				●	
	<p><i>"Telephone and WiFi systems are at the end of useful life. Network switches have been recently replaced. Not all Telecom Rooms are air conditioned, leaving equipment vulnerable to overheating."</i></p>				
Security Systems		●			
	<p><i>"The City is working with a Security Systems Vendor to deploy 500 CCTV cameras throughout the District's Schools. Adequate bandwidth is a concern for transmitting video. Notification and Lock Down systems are not present. Indoor cellular signal booster system is desired."</i></p>				
Kitchen Equipment and Systems (Electrical)	●				
	<p><i>"Kitchen electrical equipment appears in good condition; however, lighting was observed dated in fair-to-poor condition and is recommended for upgrading."</i></p>				

Physical Analysis

● NONE / MINOR
 ● MODERATE
 ● MAJOR
 ● REPLACE
 ○ N/A

Kitchen Equipment and Systems (Plumbing)		●			
<p><i>"The kitchen plumbing fixtures and equipment appeared in fair condition. Piping in the space between equipment is not in good shape and replacement should be considered. The waste piping below the double and triple pot sinks is PVC. Although PVC is an acceptable material for waste piping per the NH plumbing code, it is not typically installed in commercial kitchens as there are durability and cleanliness concerns. Water lines are exposed copper and chrome plating is recommended. Both pot sinks are covered in plastic (assuming its for protection during the summer). There are two buried grease traps with floor access plates. One serves the waste from the 3-pot sink, and one serves the 2-pot sink. Natural gas is piped to the steam cooker, range, and convection oven. No noticeable concerns with exposed plumbing piping. The kitchen is also provided with a booster water heater.~ The hood is protected by a wet chemical suppression system."</i></p>					
Natural Gas Distribution System		●			
<p><i>"Natural gas distribution observations were limited to exposed piping within mechanical rooms, and behind kitchen equipment. Overall the piping seems to be in good working order. Gas feeds boilers, mechanical equipment, kitchen equipment, domestic hot water heater, and gas turrets in science class rooms. while the other feeds the kitchen, labs, domestic water heater, and other mechanical equipment (AHU/MAU)."</i></p>					
Current Fuel Source	●				
<p><i>"The building is fed with natural gas. The system appears to be intermediate pressure. Two elbow fittings have been replaced (most likely rusted)."</i></p>					
Generator					○
<p><i>"N/A"</i></p>					
Elevator			●		
<p><i>"Due to age of elevators, controls replacement may be required and cab finishes need to be updated. The chair lift installed at Stair 7 in the 1966 James building was not operational at the time of assessment."</i></p>					
Ventilation Distribution Systems		●			
<p><i>"Ring duct in cafeteria with grills, low wall return. Kitchen hoods for exhaust, dishwasher exhaust capped. Grease duct is not insulated, supply to space (not compensating) Guidance and administration and library only spaces with full cooling Weight Room sidewall prop fan and unit heater Exhaust in locker room Library ceiling supply and return, linear diffusers along perimeter , ftr on perimeter, Fume hoods in chemistry"</i></p>					



Physical Analysis

● NONE / MINOR
 ● MODERATE
 ● MAJOR
 ● REPLACE
 ○ N/A

Physical Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
<p>Electrical Services</p>	●	●			
<p><i>"The Main Power Distribution System equipment consists of a few switchboards installed in various school buildings - "MSB" 2,000 Amp 120/208v 3ph manufactured by GE, "MDP" 1,600 Amp 120/208v 3ph manufactured by Federal Pacific (FPE), "DP421" 1,200 Amp 277/480v 3ph manufactured by GE, and and 2-section "DP" 1,600 Amp 120/208v 3ph manufactured by Square D. The "MSB", "DP421" "DP" appear newer, in good operational condition. The "MDP" appears old and considered unreliable by experts these days since the FPE equipment was discontinued around 1980. A separate power service is provided to garage at 277/480v 3ph. Panels fed downstream from all switchboards are installed throughout all school buildings, both surface- and recessed-mounted. Some panels appear newer, in good operational conditions, while some others panels appear old, most likely reached the end of their useful life expectancy (about +/- 40 years). The older panels and power equipment manufactured by Federal Pacific with associated power feeders shall be replaced."</i></p>					
<p>Life Safety: Means of Egress (Architectural)</p>		●			
<p><i>"Size and quantity of egress components appear to be adequate. Not all egress doors are handicapped accessible as they exit at landings. Stairs in the Classical, 1966 James building and Practical Arts/Industrial buildings do not have code compliant handrails and guardrails."</i></p>					
<p>Life Safety: Means of Egress (Electrical)</p>	●				
<p><i>"Emergency lighting is provided along the egress pathways in all school buildings. It consists of self-contained internally lighted LED exit signs and battery units. Emergency lighting throughout is observed in adequate operational condition."</i></p>					
<p>Life Safety: Fire Protection (sprinklers)</p>	●				
<p><i>"The building is currently provided with an automatic sprinkler system. An 8- inch fire service enters the fire pump room and is equipped with an 8-inch double check valve assembly. The discharge goes to an electric driven fire pump. The fire pump is rated for 55 psi at 1250 gpm. The discharge of the fire pump serves the automatic sprinkler system and standpipe system. The fire pump, jockey pump, controllers and related components are all installed within the main mechanical room. The system and fire pump was installed in 2006. Standpipes with 2 1/2- inch fire department valves are located within the James building exit stairs."</i></p>					

Physical Analysis

 NONE / MINOR
 MODERATE
 MAJOR
 REPLACE
 N/A

Life Safety: Fire Alarms				
<i>"The Fire Alarm (FA) system was designed and installed in 2004, and shows some more recent upgrades. The FA system consists of the FACP, backlit graphic remote annunciator, graphic map, radio master box, smoke and heat detectors, double action pull stations, speaker/strobes and strobe only unit. The Fire Alarm Control Panel (FACP) manufactured by EST and radio master box are located in the Main Lobby. The remote annunciator is located in the main entrance vestibule. The knox box is provided at the main entrance door. All classrooms and similar educational spaces, corridors, teacher areas, etc. are equipped with signaling devices. All FA equipment was observed in good operational condition."</i>				
Security: Entry Sequence				
<i>"The main entrance has controlled card access and an intercom system. There is limited direct visual access to the exterior from the main office. The entrance to the main office is beyond the main entry vestibule."</i>				
Lighting Quantity / Control				
<i>"In all school buildings many recent lighting system upgrades were observed, however, many spaces were noticed still to have outdated lights in fair-to-poor condition. 2'x4' recessed LED "basket reflector" lights with integral occupancy sensors were observed in many classrooms and corridors, in some bathrooms, library, etc., while other similar spaces had older wraparound surface- and pendant-mounted lights and older lensed troffers with fluorescent lamps. Lighting controls were observed as a mix of some recent upgrades and old switching arrangements. Occupancy sensors were noticed in many school areas, however, there are still many other areas that don't have occupancy controls. Older non-energy-efficient lights are advised to be replaced. Additional occupancy and daylight controls should be added in compliance with the Energy Code."</i>				
Toilets and Fixtures				
<i>"Plumbing fixtures are old and dated. They are most likely standard flow. Major renovations should include replacement of all fixtures with low flow fixtures to meet current sustainability requirements."</i>				

Physical Analysis

● NONE / MINOR
 ● MODERATE
 ● MAJOR
 ● REPLACE
 ○ N/A

Plumbing Distribution Systems	●			
<p><i>"Observations of the plumbing distribution was limited to exposed piping within mechanical rooms, unfinished basements, and water service room. Areas of the building also have exposed painted piping. A 4-inch domestic water service enters the building and reduces to a 2-inch meter and 2-inch bypass. The age of the copper piping throughout the building varies. Piping greater than 40 years old should be evaluated (sample destructive testing, water quality testing) to determine the condition and help estimate the longevity left in the piping. The basement piping in the classical building is in poor shape. It is not clear if the original piping is operational. Original valves and pipe solder pre-date current lead free regulations and requirements. Exposed sanitary and storm piping on the upper levels looks ok. (excludes basement). There are signs of exterior pipe corrosion at the elbows/fittings. The condition of the interior of the piping is not known. The expected lifespan of cast iron piping is 50 years. Therefore, cast iron piping should be scoped/tested to confirm the expectancy left in the piping."</i></p>				
Accessibility (Architectural)			●	
<p><i>"Classical Building: Several egress points are not accessible as they do not exit at grade without ramps. Most toilet rooms are original and do not meet accessibility codes related to fixtures and space requirements. Many existing interior doors do not meet accessibility codes related to door clearances. Original sink casework is not accessible. Stage at the Lecture Hall is not accessible. Practical Arts and Industrial Building: Several egress points are not accessible as they do not exit at grade without ramps. Most toilet rooms have been upgraded to meet accessibility codes. Many existing interior doors do not meet accessibility codes related to door clearances. Original sink casework is not accessible. Auditorium stage is not fully accessible- at the time of assessment, a portable lift was installed at the front of the stage. James Building: Most egress points are not accessible as they exit at landings. Some of the toilet rooms in the original 1966 building do not meet accessibility codes related to fixtures and space requirements. The chairlift at the Cafeteria (Stair 7) was not operational at the time of the assessment."</i></p>				
Accessibility (Plumbing)			●	
<p><i>"Many fixtures do not meet ADA requirements."</i></p>				

**Structural Systems:
Signs of Deterioration Observed?**

YES NO

Roof		X		
<p><i>"James bldg. gym roof ok. Longspan bar joists. Burns building roof in good condition. It was noted that the Classical roof constantly and has for years. Gym roof has Tectum roof panels supported on long span steel joists. Roof of Burns framed with steel beams and girders with wide rib metal decking. Roof of wood shop is bar-joists. with Tectum panels Roof ducts have inadequate support."</i></p>				

Structural Systems: Signs of Deterioration Observed?

	YES	NO	
Floor		X	
			"Slab on grade in good shape."
Walls / Columns		X	
			"James bldg. concrete frame. Burns structural steel frame."
Foundations		X	
			"Foundation appear to be in good condition."
Façade		X	
			"Corrosion noted at base of concrete column at rear on James bldg. by dumpster."
Is Lateral System Identifiable?	✓		
			"Braced frame lateral system at Burns; concrete frame and masonry shear walls, unreinforced at James bldg."

Community

	YES	NO	
Emergency Shelter	✓		
			"Main Shelter for Central Campus."
Are there Separate Community / Non-School Spaces on Site?	✓		
			"The school utilizes Bronstein Park for outdoor space. The park is open to the community when not in use by the school."



Site Evaluation Criteria

Physical Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Parking Capacity					
	<i>"Small staff and visitor parking area along Lowell Street with approx. 30 spaces. Underground parking garage, only for staff parking. Due to urban location, it is unknown what/if any demand there would be for student parking. Staff only parking may be adequate."</i>				
Parking Quality					
	<i>"Most of the parking is provided via the underground garage. Lowell lot is small, but in OK condition."</i>				
Ground Cover					
	<i>"Some grass/plantings in quad and courtyard and around perimeter. Overgrown/not well maintained. Very minimal shading."</i>				
Fields					
	<i>"Technically no on-site fields. Bronstein park across from school, is designated for school use during typical school day hours. Not equipped for specific athletic uses, but may be used for outdoor gathering and recreational space."</i>				
Neighborhood Streets					
	<i>"Site surrounded by residential and mixed use zones. Most adjacent streets have sidewalks. High density, walkable area. Some safety concerns associated with urban location."</i>				
Drop-off / Pick-up Routes					
	<i>"On street drop off/pick up. Narrow, high-density residential streets along rear of site. Higher traffic and minimal shoulders along Beech or Lowell St limits feasibility of drop off."</i>				
Walkways / Curbs / Sidewalks					
	<i>"Mix of concrete and bituminous sidewalks around site perimeter, with vertical granite curbs and cheek walls. Concrete plaza and concrete quad."</i>				

SCHOOL NAME

Central High School

SITE VISIT

August 2023

REPORT TYPE

Site Evaluation

Physical Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
ADA Accessibility		●			
	"ADA ramps up to the main plaza, with half the building entrances accessible. Many of the perimeter entrances/exits are not accessible. ADA parking spaces in Lowell lot."				
Site Lighting (Civil)	●				
	"Light poles in plaza. Street lighting on utility poles around perimeter. Some building mounted lights."				
Site Lighting (Electrical)	●				
	"Exterior pole-mounted and building-mounted lighting is a mix of "older" and "newer" (LED) lights. All appear in operational condition."				
Fencing	●				
	"Gated entrance from exterior to quad, only opened in emergencies or for public events entering directly to gymnasium. Security fencing around building and at top of retaining walls for garage ramp."				
Drainage	●				
	"Trench drain at bottom of ramp to parking garage. Small area drains in plaza. Most of site perimeter drains into the street."				
Play Areas	●				
	"No play areas on site. Concrete front plaza for gathering. Bronstein park one block away for green space access."				
Monuments and Memorials	●				
	"Two monuments in front plaza."				
Walls / Slopes	●				
	"Retaining walls for ramps down to parking garage."				

Physical Analysis	YES	NO
Are there any Wetlands on Site?		✗
	"No wetlands per GIS, no evidence of potential wetland concerns per site assessment."	
Are there any Easements on Site?		✗
	"No easements per GIS. School uses adjacent Bronstein Park during the day, may have access easement/ agreement with Parks and Rec."	

Physical Analysis

	YES	NO
Are Play Structures Age-Appropriate?	✓	
	<i>"No play structures on site. Concrete plazas/ gathering areas consistent with high school age outdoor use."</i>	
Is there an Outdoor-Learning Area?		✗
	<i>"Quad is not used for outdoor learning, due to noise and distraction concerns for classrooms with windows out to the quad. Adjacent park is used for band practice and outdoor gathering, but is exposed to the public and not designated as outdoor classroom space."</i>	
Should there be a Question on Environmental Justice Populations / Vulnerable Populations?	✓	
	<i>"NH GIS designates site as "Medium High" Social Vulnerability Index, based on census analysis."</i>	
Is the Building Expandable on the Current Site?		✗
	<i>"Building fills entire parcel. Any expansion would require acquisition of adjacent parcels."</i>	
Is the Site Expandable?		✗
	<i>"Expansion would require taking Bronstein park, which provides needed green space in the city center, or taking privately owned parcels, many of which are affordable housing."</i>	

Community Analysis

	YES	NO
Historical Commission Status: Inventory of Archaeological Assets (Site Review)		✗
	<i>"The site is not listed on the National Register of Historic Places (per the National Park Service website) or the New Hampshire State Register of Historic Places (per the New Hampshire Division of Historical Resources website). The site is also not within the Manchester Historic District or listed as a locally-designated historic site, per Manchester GIS."</i>	
Are there School Buses?	✓	
	<i>"2 MTA and 15 SPED buses, per bus counts provided by the city."</i>	

SCHOOL NAME

Central High School

SITE VISIT

August 2023

REPORT TYPE

Site Evaluation












Community Analysis

	YES	NO	
Bikeable?		X	
			<i>"Bike repair station in adjacent park. No bike racks on site, no bike lanes on adjacent roads."</i>
Walkable?	✓		
			<i>"Sidewalks around site perimeter and along most adjacent streets."</i>









Traffic Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Bike Facilities Beech St	●				
<i>"No bike lane provided. Consideration may be given to striping a bike lane as Beech Street is a two-lane roadway for southbound travel with 30+ mph observed speeds in study area."</i>					
Bike Facilities Lowell St	●				
<i>"No bike lanes provided."</i>					
Bike Facilities Maple St	●				
<i>"No bike lane provided. Consideration may be given to striping a bike lane as Maple Street is a two-lane roadway for northbound travel with 30+ mph observed speeds in study area."</i>					
Bike Facilities School Courtyard		●			
<i>"Informal bike parking along fences in southwest and southeast corners of pedestrian courtyard. No bike racks are provided."</i>					
Parking Ash St	●				
<i>"Parking signs for no parking during school hours on west side and resident permit parking only during school hours on east side do not define school hours. At time of field visit, a landscape company was parked on west side despite no parking during school hours restriction, and partially obstructing parking garage exit."</i>					
Parking Beech St	●				
<i>"Parking signs north of Concord Street in front of school for pick-up/drop-off during school hours do not define school hours."</i>					
Parking Concord St		●			
<i>"Bus pick-up and drop-off area has a narrow sidewalk on north side. At time of field visit, small driveway with dumpsters and parked cars to north next to school had cars that extended into sidewalk and pedestrian crossing area."</i>					

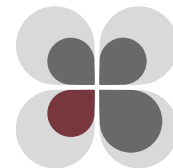
Traffic Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Parking Lowell St	●				
<i>"Parking signs on north side for no parking during school hours between Beech Street and Beech Street East Back do not define school hours. At time of field visit, a couple of cars were parked between Beech Street and Beech Street East Back despite no parking during school hours restriction."</i>					
Parking Northeast Parking Lot	●				
<i>"Two accessible parking spaces with access aisles, although it is unclear how these spaces were chosen as they are not next to a door. Parking lot is signed "reserved," but a couple spaces are also signed "visitor." All signage should be evaluated."</i>					
Parking Northwest Parking Lot	●				
<i>"Parking lot is signed as "reserved" with a lot of signage, which may be confusing. All signage should be evaluated."</i>					
Parking Underground Parking Garage	●				
<i>"No signage or pavement markings directing accessible spaces to elevator. Pedestrian ramps are lacking detectable warning panels and should be evaluated for ADA compliancy."</i>					
Roadway Characteristics Lowell St	●				
<i>"Centerline is only painted near intersections with Beech Street and Maple Street."</i>					
Sidewalks Amherst St		●			
<i>"North sidewalk is not very level, has an overgrown hedge encroaching to east of Ash Street, and has an area where half sidewalk is filled by sand to west of Ash Street."</i>					
Sidewalks Ash St		●			
<i>"West sidewalk is in poor condition south of school, especially near school loading driveway."</i>					

Traffic Analysis	 NONE / MINOR	 MODERATE	 MAJOR	 REPLACE	 N/A
Sidewalks Beech St					
<i>"West sidewalk is mostly uneven and in poor condition, especially south of Concord Street under trees."</i>					
Sidewalks Concord St					
<i>"North sidewalk is narrow but in good condition. It may need to be wider to better accommodate bus pick-up/drop-off. At time of field visit, a dumpster and a car were blocking north sidewalk opposite Corey Place east."</i>					
Sidewalks Lowell St					
<i>"North sidewalk is not level due to constant curb cuts and tree root damage east of Beech Street East Back."</i>					
Sidewalks Maple St					
<i>"West sidewalk has one big hump north of first driveway north of Amherst Street. East sidewalk is in poor condition between Concord Street and Amherst Street."</i>					
Signalized Intersections Lowell St at Beech St					
<i>"Crosswalks are striped across all legs of intersection, but no detectable warning panels provided. Pedestrian crossings should be evaluated for ADA compliancy. Pedestrian push buttons and indications are consistent and working but should be evaluated for ADA compliancy. A lot of sand was observed in northwest corner. Signs of pooled water in corners of intersection, which may indicate drainage issues."</i>					
Unsignalized Intersections Amherst St at Ash St					
<i>"No crosswalk striping or detectable warning panels provided at Ash Street crossing. Curb ramps are not flush with roadway. Pedestrian crossing should be evaluated for ADA compliancy. STOP sign is provided on Ash Street approach, but no STOP line."</i>					
Unsignalized Intersections Amherst St at Beech St					
<i>"Crosswalks are striped across all legs of intersection, but no detectable warning panels are provided at curb ramps. No crosswalk signage is provided for Beech Street southbound approach which does not stop. Pavement across west crosswalk is in poor condition. Pedestrian crossings should be evaluated for ADA compliancy."</i>					

Traffic Analysis	 NONE / MINOR	 MODERATE	 MAJOR	 REPLACE	 N/A
Unsignalized Intersections Ash St at Parking Garage Exit					
<p><i>“No crosswalk striping or detectable warning panels provided at driveway crossing. Pedestrian crossing should be evaluated for ADA compliancy. Pedestrians traveling southbound on Ash Street west sidewalk may have difficulty seeing vehicles exit garage due to school wall in northwest corner of intersection.”</i></p>					
Unsignalized Intersections Ash St at School Service Driveway					
<p><i>“No crosswalk striping or detectable warning panels provided at driveway crossing. Very poor pavement where pedestrians would cross driveway. Pedestrian crossing should be evaluated for ADA compliancy. No STOP sign or STOP line provided on driveway approach.”</i></p>					
Unsignalized Intersections Beech St at Concord St					
<p><i>“Crosswalks are striped across Beech Street, but no crosswalk striped across Concord Street. No detectable warning panels provided at curb ramps. Pedestrian crossings should be evaluated for ADA compliancy. Pavement across Concord Street is in poor condition where pedestrians would cross. No one-way sign facing Concord Street to indicate that Beech Street is one-way southbound.”</i></p>					
Unsignalized Intersections Concord St at Corey Place (east)					
<p><i>“No crosswalk or detectable warning panels provided at Corey Place crossing. Pedestrian crossing should be evaluated for ADA compliancy. No STOP signs, STOP lines, or centerline markings provided on Corey Place approach.”</i></p>					
Unsignalized Intersections Concord St at Corey Place (west)					
<p><i>“No crosswalk or detectable warning panels provided at Corey Place crossing. Southeast curb ramp has a lot of sand on it, which may indicate poor geometry. Pedestrian crossing should be evaluated for ADA compliancy. No STOP signs, STOP lines, or centerline markings provided on Corey Place approach.”</i></p>					
Unsignalized Intersections Lowell St at Ash St					
<p><i>“No crosswalk or detectable warning panels provided at Ash Street crossing. Pedestrian crossing should be evaluated for ADA compliancy. STOP signs on both sides of Ash Street approach, but no STOP line.”</i></p>					

Traffic Analysis	 NONE / MINOR	 MODERATE	 MAJOR	 REPLACE	 N/A
Unsignalized Intersections Lowell St at Ash St East Back					
<p><i>“Sidewalk material is continuous. No crosswalk or detectable warning panels provided at Ash Street East Back crossing. Pedestrian crossing should be evaluated for ADA compliancy. No STOP signs, STOP lines, or centerline markings provided on Ash Street East Back approach.”</i></p>					
Unsignalized Intersections Lowell St at Beech St East Back					
<p><i>“Sidewalk material is continuous. No crosswalk or detectable warning panels provided at Beech Street East Back crossing. Pedestrian crossing should be evaluated for ADA compliancy. No STOP signs, STOP lines, or centerline markings provided on Beech Street East Back approach.”</i></p>					
Unsignalized Intersections Lowell St at Maple St					
<p><i>“Crosswalks are striped across all four legs of intersection and channelized northbound right-turn, but no detectable warning panels are provided at curb ramps except at southeast corner ramp. Pedestrian crossings should be evaluated for ADA compliancy. South crosswalk does not connect to curb ramp in southwest corner. A flashing red light is located very high on a utility pole in northeast corner for Lowell Street approaches, but is likely unnoticed by most drivers due to its location. At channelized northbound right-turn approach, STOP sign on east side is almost hidden by tree and “do not enter” and “one-way” sign post on west side is not vertical. Lowell Street westbound approach may be confusing for drivers, as STOP line and STOP sign are located after flashing red light and on far side of store driveway, meaning they must stop in front of store driveway.”</i></p>					
Unsignalized Intersections Lowell St at Nashua St/East School Parking Lot					
<p><i>“Sidewalk material is continuous. Nashua Street looks like driveway for Domino’s and sidewalk slopes toward street, making it unclear that Nashua Street is a public roadway. In addition, no one-way signage or pavement markings indicating that Nashua Street is one-way northbound. No crosswalks or detectable warning panels provided at Nashua Street and school parking lot crossings. Pedestrian crossings should be evaluated for ADA compliancy. No STOP sign or STOP line provided on school parking lot approach.”</i></p>					
Unsignalized Intersections Lowell Street at West School Parking Lot east driveway					
<p><i>“No crosswalk or detectable warning panels provided at driveway crossing. Pedestrian crossing should be evaluated for ADA compliancy. No STOP sign or STOP line provided on driveway approach.”</i></p>					

Traffic Analysis	 NONE / MINOR	 MODERATE	 MAJOR	 REPLACE	 N/A
Unsignalized Intersections Lowell Street at West School Parking Lot west driveway					
<p><i>“No crosswalk or detectable warning panels provided at driveway crossing. Pedestrian crossing should be evaluated for ADA compliancy. No STOP sign or STOP line provided on driveway approach.”</i></p>					
Unsignalized Intersections Maple St at Amherst St					
<p><i>“No crosswalks striped or signed, despite curb ramps in every corner of intersection. No detectable warning panels on west side curb ramps, and curbs are not flush with street level on east side curb ramps. Pothole in southeast curb ramp. Pedestrian crossings should be evaluated for ADA compliancy. No signage that Amherst Street is one-way westbound west of intersection. Big crack in roadway along east leg of intersection.”</i></p>					
Unsignalized Intersections Maple St at Concord St					
<p><i>“No crosswalks striped on south and east legs of intersection despite having curb ramps in all corners. No detectable warning panels except in northeast corner. No signage for crossing across Maple Street. Pedestrian crossings should be evaluated for ADA compliancy.”</i></p>					



Educational Facility Effectiveness: Learning Environments (EFE: LE)

Grade Levels

Building Originally Designed as:	9th Grade–12th Grade
Which Educational Program are you Assessing?	9th Grade–12th Grade
The Grade Configuration this School is Best Suited to:	9th Grade–12th Grade

Educational Building Analysis

● GOOD
 ● FAIR
 ● POOR
 ● DEFICIENT
 ● FAILING

	GOOD	FAIR	POOR	DEFICIENT	FAILING
Acoustical		●			
<i>"Varies by building."</i>					
Adjacencies of Learning Environments			●		
Environment (Inviting / Stimulating / Comfortable)		●			
<i>"Varies by building."</i>					
Finishes			●		
<i>"Except for Burns Building."</i>					
Furniture			●		
Lighting Quality		●			
<i>"Varies by building."</i>					

SCHOOL NAME

Central High School

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Educational Building Analysis

GOOD FAIR POOR DEFICIENT FAILING

	GOOD	FAIR	POOR	DEFICIENT	FAILING
Natural Daylighting	●				
Outdoor Classrooms					●
<i>"None observed."</i>					
Technology: Power			●		
<i>"Most buildings lack the quantity and appropriate location of power as needed by teachers and students."</i>					
Technology: Wireless		●			
Ventilation		●			
<i>"Varies by building, from Poor to Good."</i>					

This Site Includes:

YES NO

	YES	NO
Accessible		×
Play Fields	✓	
<i>"Yes, but not on campus."</i>		
Playgrounds / Areas		×

SCHOOL NAME

Central High School

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Building Assessment

	YES	NO	
Can the Building Change Typology Easily?	✓		
<i>"Yes, with appropriate renovations."</i>			
Can the Building be Transformed Educationally to Serve 21st Century Needs?	✓		
<i>"This varies by building. Some buildings can be transformed for next-generation learning, while it would be difficult to adapt, other buildings, even with significant renovations."</i>			
Can the Building Serve as Swing Space?	✓		
Is the Building between 85%–115% Utilization Rate?		✗	



Educational Facility Effectiveness: Spaces (EFE)

Space Assessment	QUANTITY	ACTUAL AREA (SF)	MORE INFO
Administration and Guidance (Quantity Varies)	Varies	9300	
Art Classroom (Min Area 900 sf or 36 sf / Student)	4	800, 1240, 1260	
Auditorium	1	7100	
Band (Area 1200 sf)	1		
Cafeteria (Min Area 12-15 sf / Student for Max Number of Diners per Lunch Period)	1	9200	LUNCH PERIODS: 3
Chorus (Area 1200 sf)	1	755	
Classroom: General Education (Min Area 900 sf or 36 sf / Student)	80	485, 590, 595, 600, 610, 625, 670, 700, 720, 735, 755, 760, 780, 830, 840, 850, 860, 870, 880, 900, 950, 960, 1010, 1100, 1200	
FACS	0	0	
Faculty Lounge	1	1150	
Gymnasium (Min Area 6000 sf)	1	11780	STAGE: No
Media Center (Min Area 1800 sf or 4 sf / Student x Design Capacity)	1	8260	
Music Classroom (Area 1200 sf)	2	1455, 2210	
Orchestra	1	1138	

SCHOOL NAME

Central High School

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Space Assessment

	QUANTITY	ACTUAL AREA (SF)	MORE INFO
Photography	1	1205	
<i>"Darkroom"</i>			
Piano	1	960	
Science Classroom / Lab (Area 1200 sf or 60 sf / Student)	15	1130, 1145, 1210, 1220, 1230, 1385, 1625, 1700	
Special Education: Resource of Small Group (Area 500 sf)	4	465, 1140	
Special Education: Self Contained (Area 950 sf)	4	760	TOILET ROOM: No
Stage (Area 1000 sf)	1	2420	
Teacher Planning	4	2208	
Technology Lab	2	840	
<i>"Computer Labs"</i>			
Woodshop	2	2100, 2490	

Adequacy of Rooms

	 GOOD	 FAIR	 POOR	 DEFICIENT	 FAILING
Administration and Guidance					
Art Classroom					
Auditorium					
Band					
Cafeteria					
Chorus					
Classroom: General Education					
FACS					
<i>"none observed."</i>					

SCHOOL NAME

Central High School

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Adequacy of Rooms	GOOD 	FAIR 	POOR 	DEFICIENT 	FAILING 
Faculty Lounge					
Gymnasium					
Media Center					
Medical					
Music Classroom					
Orchestra					
Photography					
Piano					
Science					
<i>"Science classrooms do not have mobile lab benches and 6th grade science rooms are undersized without benches."</i>					
Special Education: Resource of Small Group					
Special Education: Self Contained					
Stage					
Teacher Planning					
Technology Lab					
Woodshop					

Special Education Assessment	YES	NO
18+		✗
Autism Spectrum		✗
Cognitively Impaired		✗
Deaf and Hard of Hearing		✗
Emotional Disturbance		✗
English Learners	✓	
<i>"Push-In"</i>		

SCHOOL NAME

Central High School

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Special Education Assessment

	YES	NO	
Intellectual Disability	✓		
	<i>"Self-Contained"</i>		
Life Skills		✗	
Medically Fragile	✓		
	<i>"Self-Contained"</i>		
PT/OT/Speech	✓		
Reset Program		✗	
Social Emotional		✗	
Title 1		✗	

Assessment Team Scoring Rubric

Educational and Facilities Assessment Approach

Assessment Criteria

Educational and Facilities Assessment (E+FA) Approach - Led by architects, engineers, and educational planners from SMMA and its consultants, and in partnership with each school principal, the team conducted both a facility assessment (to take inventory of the building layout and condition) and an educational assessment (to determine the adequacy of spaces for the educational programs offered) in each building. The following report outlines the team organization, methodology and approach taken to assess the Manchester Public School portfolio over the Spring and Summer of 2023.

Overall Assessment

Categories and criteria were strategically selected for assessment based on stated objectives, past experience, and nature of the Manchester School District portfolio of buildings. Ultimately, the E+FA team created a customized “Manchester School District methodology” which encompassed approximately 75 areas of criteria, organized either facility or site categories that examined physical components, as well as community components.

Facility Assessment Criteria

Facility Assessment: Building Evaluation

Facilities varying in terms of age, design, construction methods, and materials were reviewed to determine the condition of the district's portfolio. Building assessments were performed to determine existing components and/or systems' conditions at a specific point in time. The resulting information was then used to guide recommendations regarding maintenance, renovation, and/or replacement. The assessment team conducted visual inspections to observe signs of deterioration. No exploratory demolition, removing finishes, or viewing above ceilings was conducted. Areas that were hard to reach, off limits, or obscured by other systems that prohibited view of the some building components were not assessed. Systems and categories that were assessed included:

- » Building Envelope
 - › Roof Membrane
 - › Facade
 - › Windows
 - › Thermal Performance
- » Boilers
- » Heating Distribution
- » Interior Finishes
- » Rooftop HVAC Equipment
- » HVAC Controls
- » Kitchen Equipment and Systems
- » Natural Gas Distribution
- » Generator
- » Elevator
- » Ventilation Distribution Systems
- » Electrical Service
- » Life Safety:
 - › Means of Egress
 - › Fire Alarm
 - › Fire Protection: Sprinklers
- » Security: Entry Sequence
- » Lighting Quantity/ Control
- » Toilets and Fixtures
- » Plumbing Distribution Systems
- » ADA/Accessibility
- » Structural Systems (consisting of the following components):
 - › Roof framing: This is the horizontal framing consisting of decking, slabs, joists, beams, trusses, etc.
 - › Floor framing: This is the horizontal framing consisting of decking, slabs, joists, beams, trusses, etc.
 - › Walls and columns: These are the vertical elements that hold up the floors and roof structures.
 - › Foundations: Foundations occur at the base of the building and transfer the weight of the building onto the underlying soils.
 - › Facades: These are the outside walls of the building including many non-structural elements (doors, windows, insulation, vapor barriers, etc.) that are part of the weather enclosure for the building.
- » Lateral System: The lateral system in a building is the structural system that keeps the building from falling over when it is subjected to horizontal loads such as wind and earthquake forces.

Building Evaluation: Criteria Rating Hierarchy

The facility assessment building evaluations used a quintile classification hierarchy as defined below:

- None / Minor: System or element functioning reliably; routine maintenance and repair is needed.
- Moderate: System or element functioning minimally. Repair or replacement of some components is needed.
- Major: System or element is barely functioning. Repair or replacement of most components is needed.
- Replace: System or element is non-functioning, not functioning as designed, or is unreliable. Total replacement all components is needed.
- Not Present: System or element is non-existent, non-functioning, not functioning as designed, or is unreliable. Replacement is needed.

Building Evaluation: Physical Analysis Definitions

Roof

Roof Membrane: Apparent condition status noted for the roofing material and flashings. Note any obvious deterioration.

Existing Photovoltaics

Yes / No: Criteria noted. However, presence or absence of photovoltaic did not impact overall building condition.

Space for Solar

Yes / No: Comments, if applicable. Evaluation of whether roof space exists for solar (if there are relatively flat areas for possible future solar panels). Note that the roof structure was not evaluated for structural capacity of future PV panels. Criteria noted; however, presence or absence of photovoltaic panels did not impact overall building condition.

Façade

Description of apparent condition and materials of the exterior walls. Observations of any spalling or disintegration of brick or concrete masonry unit (CMU) walls and the condition of the mortar. Notes if there is any obvious movement or structural cracking, and if there is failure, the percentage of failure. With prefabricated panel system facades, notes the types and apparent conditions of attachment systems, panel material, and whether there is deterioration of the surface or caulking or movement in the panels.

Windows

Description of types and apparent conditions of exterior windows. Considers whether most windows appear to be in good working condition, if windows are transparent or translucent, and if they are single or double-paned.

Boilers (Mechanical)

Review of fuel sources and apparent conditions of boilers.

Boilers (Plumbing)

Observation of heating media (e.g. water or steam) of boilers.

Heating Distribution Systems

Evaluation of type and apparent conditions of piping, type, and apparent corrosion.

Building Envelope Thermal Performance

Review of the existing drawings of envelope elements (exterior walls, roof, foundations and slabs). Notes presence of vestibules at building entrances for temperature control.

Interior Finishes

Evaluation of types and conditions of interior wall, flooring, and ceiling finishes.

Rooftop HVAC Equipment

Review of type and apparent condition of roof top units (RTUs), exhaust fans, and air conditioning equipment, if present.

HVAC Controls

Review of types of thermostats and type and apparent condition of Building Management System (BMS) if present.

Kitchen Equipment and Systems (Architectural)

Evaluation of adequacy and apparent condition of kitchen equipment.

Kitchen Equipment and Systems (Electrical)

Observation of electrical kitchen appliances.

Kitchen Equipment and Systems (Plumbing)

Observation of gas kitchen appliances. Observation of apparent condition of kitchen plumbing fixtures, and whether there are separate sinks for handwashing and dishwashing, per health and plumbing codes. Notes if proper fire suppression system exists where required.

Natural Gas Distribution System

Review of apparent condition of the natural gas system, how it enters the building and is distributed, and of shut-off valves.

Generator

Review of type of generator, type of fuel source, and apparent condition if one is present.

Elevator

Evaluation of apparent condition of elevator if present.

Ventilation Distribution Systems

Review of locations and apparent condition of fans, ductwork, duct grilles, and other ventilation components.

Electrical Services

Apparent condition status noted. Review of available capacity, location and appearance of electrical service and meter age.

Life Safety

- » Means of Egress:
 - › (Architectural): Evaluation of apparent existence of proper smoke and/or fire doors, and if mechanical hold-open devices appear in good working condition. Notes if egress paths are direct and unencumbered, and whether there are enough exits relative to the facility population.
 - › (Electrical): Review of illuminated exit signs and whether they are in the proper locations and appear to be in good condition.
- » Fire Protection (Sprinklers): Observation of type and age of system and components. Review of maintenance records and certifications, if available.
- » Fire Alarms: Observation of type, age, and appearance of systems. Review of available testing records.

Security

Entry Sequence: Observes if schools have only a camera/buzzer system at their main entrance or whether the main building entrance is adjacent or near the main office. (Adjacency/proximity of main office to main entrance allows for direct observation of the entire person, as well as control of their movements)

Lighting Quality/Control

Observed (not measured) light levels at the working surface, type of light fixtures and whether they provide an even dispersion and control of light for general academic tasks as well as for use of technology. Apparent condition, locations, and lighting uniformity are noted.

Toilets and Fixtures

Review of locations and apparent conditions of fixtures. Notes the maintenance and cleanliness of fixtures and flow of fixtures.

Plumbing Distribution Systems

Review of piping type, apparent corrosion, and equipment, including presence or absence of water heater & back-flow preventer.

ADA / Accessibility

- » (Architecture): Observes whether the facility is compliant with the Americans with Disabilities Act (ADA) of 1990 standards. Evaluates adequacy and conditions of ramps, lifts, and elevators and whether every occupiable space in the facility can be accessed by anyone with a disability. Other considerations include compliancy of building elements such as clearances and door hardware.
- » (Plumbing): Evaluation of whether toilet facilities and plumbing fixtures are ADA-compliant.

Structural Systems

The assessment team conducted visual inspections to observe signs of deterioration. No exploratory demolition, removing finishes, or viewing above ceilings was conducted. Areas that were hard to reach, off limits, or obscured by other systems that prohibited view of the structure were not assessed. Each of the criteria listed below is considered as it relates to the structural elements of the building.

A “Yes” comment in the assessment indicates that we observed signs of deterioration. A “Not Observed” comment in the assessment indicates that we either did not observe any distress in the structural element or were not able to observe the element due to the aforementioned limitations, and this does preclude an unobserved area from distress.

- » Roof structural framing: As the framing is covered by roofing, observations are usually made from below. Water leaks are a common cause of damage to roof framing and part of the visual assessment is to look for signs of water damage. In wood framed structures, visual signs include mold or rotting wood. In structures with metal deck, visual signs include rusting of the deck and in concrete structures it can be cracks with rust stains or spalled concrete, indicated where a section of concrete has broken off (typically caused by water penetrating concrete through small cracks causing the steel reinforcing to rust and expand putting outward pressure on the concrete and causing it to break off).
- » Floor structural framing: Common signs of deterioration in floors can be cracks in floors finishes (such as terrazzo), cracks in the bottom of concrete slabs or beams, water damage like that in roofs and longitudinal cracks (or checks) in wood framing. Cracks in floor finishes while cosmetically objectionable is not necessarily an indication of a structural failure. There are several causes for cracks in wood framing members (joists or beams) which does not necessarily mean the member is structurally inadequate.
- » Walls/columns: Walls are typically framed with masonry, concrete, or wood or light gage metal studs with varying finishes. Columns typically consist of steel, concrete, or wood posts and can also be masonry piers. Common signs of deterioration in concrete and masonry walls are cracks in the walls. Cracks typically run vertically (bottom to top), although in masonry walls the cracks often follow the mortar joints. Cracks in walls can be caused by many factors: shrinkage in the wall due to changes moisture or temperature, movement of the supporting structure, or stresses in the wall caused by other loads. Concrete columns can have spalled concrete, wood posts can have longitudinal cracks (similar to floor members), and masonry piers can have cracks similar to walls.
- » Foundations: Notes the type of foundation. Some types include shallow spread footings (concrete pads) and deep foundations such as caissons and piles that extend deep into the ground. Foundations generally include concrete components and are located below ground – making the system difficult to observe without performing some excavation. Some common signs of deterioration are cracks in foundation walls and areas where there has been vertical movement, indicating some settlement of the structure over time, which can be common. The causes of the cracks are like those described for walls.
- » Facades: The structural components of the façade are typically the wall structure (see “Walls” above) but can also include the structural framing for overhangs or other horizontal elements that are part of the walls. Like in roof framing, moisture is a common cause for distress in facades. Common signs of distress are spalled concrete, cracks in concrete or masonry walls, and rusting steel members such as angle lintels over window and door openings in masonry walls. Note that some of these signs of deterioration do not necessarily indicate a structural deficiency and may only require maintenance.
- » Identifiable Lateral System: Notes the presence and type of lateral load-resisting system, such as steel braced frames or shear walls consisting of concrete or masonry walls. Often, steel braced frames are imbedded within walls, making them difficult to identify. With masonry walls, it can be difficult to determine if a wall is a shear wall or just a partition wall. It is not possible to determine the structural adequacy of shear walls or braced frames without an in-depth investigation and it should be noted that many masonry walls in older buildings have little or no reinforcing. Common signs of distress in concrete and masonry shear walls are like those described for walls above.

Community Assessment: Building Evaluation

The Community – Building assessment included several categories including historical value, emergency shelter status, and use of community and school within/without the buildings. Historical value reviewed the historic inventory and register status of the building. Because schools are often the largest structure in a neighborhood, the City has designated certain facilities as emergency shelters. Additionally, several schools are directly connected to community centers or utilize adjacent neighborhood facilities for athletics and enrichment. Whether the community utilized the building after hours or on weekends was also considered.

New Hampshire Division of Historical Resources (DHR) Status

Yes/No; Comment, if applicable. Criteria will inform opportunities and constraints for modifying the existing building to meet changing physical demands for a 21st century learning environment.

Inventory of Historic Assets

Yes/No; Comment, if applicable. Notes whether the building is listed on any inventory of historic assets. Criteria will inform opportunities and constraints for modifying the existing building to meet changing physical demands for a 21st century learning environment.

State Register of Historic Places

Yes/No; Comment, if applicable. Notes whether the building is listed on a state Register of Historic Places. Criteria will inform opportunities and constraints for modifying the existing building to meet changing physical demands for a 21st century learning environment.

Locally Designated Historic District

Yes/No; Comment, if applicable. Notes whether the building is within a local historic district. Criteria will inform opportunities and constraints for modifying the existing building to meet changing physical demands for a 21st century learning environment.

Emergency Shelter

Yes/No; Comment, if applicable. Criteria noted and considered as part of the overall community building score. A designation by the city does not certify compliance for all state and federal requirements for the designation.

Community-Use Spaces

Yes/No; Comment, if applicable. These were determined after speaking with school administration during site visits. Community spaces attached to schools were also considered. Criteria noted and considered as part of the overall community building score.

Building Suitability for School Use

Yes/No; Comment, if applicable. Considered any major life-safety concerns for suitability. Criteria will inform opportunities and constraints for modifying the existing building.

Overall Community Building Rating

This is a judgment on the part of the reviewer(s) that considers all aforementioned factors, as well as amenities located in proximity to school sites and access to public transportation.

Facility Assessment: Site Evaluation

The site assessment team performed evaluations at each school facility in the district’s portfolio. These evaluations considered the quality, condition, and capacity of the various exterior spaces of the facility. These spaces included: landscaped, educational, recreational, vehicular and pedestrian areas. This field effort was complimented by a study and research of the sites from web-based resources. The resulting information was then used to guide recommendations regarding maintenance, renovation, and/or replacement.

The diverse scope of site elements for schools varies in their relative impact to education and school operations. Priorities include elements that have large impacts to education and/or incur substantial impact to improve or repair.

- » ADA Accessibility
- » Walkways/Curbs/Sidewalks
- » Play Areas
- » Drainage
- » Parking Quality
- » Drop-Off/Pick-Up Routes
- » Walls & Slopes
- » Site Lighting
- » Fencing
- » Neighborhood Streets
- » Evaluation Criteria

Site Evaluation: Criteria Rating Hierarchy

The site evaluations were judged on a scale as defined below:

- None / Minor: Element is functioning reliably and requires a little repair and routine maintenance.
- Moderate: Element is functioning minimally and requires some repair by a specialist.
- Major: Element is barely functioning and requires substantial repair by a specialist.
- Replace: Element is not functioning correctly and requires total replacement.
- Not Present: Element does not exist or completely failed. This element should be replaced and/or provided. In some instances (parking, walls/slopes and fencing) this element is not required.

Site Evaluation: Physical Analysis Definitions

Parking & Vehicular Circulation

Quality of vehicular area paving and quantity of parking spaces considered. This element may not be required if “Not Present”.

Ground Cover

Presence and condition of landscaping, lawn areas, and any other non-hardscape areas. Ground cover evaluated for aesthetic value, shading, and functionality for outdoor gathering

Fields

Presence and apparent condition of athletic or play fields on the property.

Neighborhood Streets

Connectivity to residential areas surrounding the site. Condition of adjacent/ off-site roadways, sidewalks, and accessible elements considered.

Drop-Off/Pick-Up Routes

Segregation of buses, private vehicles, parking, and neighborhood traffic considered. Both on-site and off-site routes considered. This element may not be required if “Not Present”.

On-Site Walkways/Curbs/Sidewalks

Quality of all pedestrian spaces considered.

ADA Accessibility

Availability, location, and condition of accessible routes considered. The accessible routes connect building entrances, handicap parking, public streets, and site facilities. Accessibility is considered “Not Present” if there is no accessible building entrance.

Site Lighting

Condition, location, and quantity of lighting considered.

Fencing

Condition of fencing and gates of various types considered. This element may not be required if “Not Present”.

Drainage

Surface ponding, water quality structures, and condition of visible infrastructure considered.

Play Structures

Evaluation of apparent condition of play structures and if they are appropriate for range of ages of students at a school, if present.

Walls and slopes

Condition of retaining walls and stabilized slopes considered. This element may not be required if “Not Present”.

Wetlands on site

Yes/no; proximity of wetlands or natural resources to the site, which – if present – may add restrictions or regulatory challenges to site renovations or expansion.

Play Areas

Presence, suitability, and physical condition of casual recreation and play for students. Play structures, surfacing, and courts considered. This element may not be required if “Not Present”.

Outdoor Classrooms

Evaluation of apparent condition of outdoor classrooms or learning areas if present.

Environmental Justice Populations

Review of designation of site and adjacent neighborhoods on the Social Vulnerability Index, per state GIS.

Feasibility of Building Expansion on the Current Site

Evaluation of whether building is capable of appropriately expanding on its current site. Expansion can be horizontal, vertical, or infill, depending on the building's configuration. Feasibility of expansion based on size of property, existing coverage, regulatory restrictions, and physical constraints such as topography and proximity to natural resources.

Feasibility of Site Expansion

Evaluation of whether site expansion is possible, based on adjacent properties, and physical constraints, such as roads, proximity to protected lands, and easements.

Community Assessment: Site Evaluation

The Community – Site assessment included the broad categories of transportation access and neighborhood elements. Transportation access considered the condition of the adjacent streets, the ability of students and adults to bicycle and walk to the school, and the accessibility of public transportation. Neighborhood elements considered the school's proximity to community, civic, educational, commercial, and athletic facilities.

New Hampshire Division of Historical Resources (DHR) Status Inventory of Archeological Assets (Site Review)

Comment, if applicable. Criteria will inform opportunities and constraints for modifying the existing building. In some cases, data may not be available.

School Buses

Review of types and numbers of school buses and bus queuing.

Accessible to Transit

Building is located within 2 blocks (1000 feet) of at least 2 stops on bus lines of regular frequency (at least every 10 minutes, during rush hour and mid-afternoon). Criteria noted and considered as part of the overall community building score.

Bikeable

Facility is considered bikeable if within 2 miles of multiple residential neighborhoods, without riding on busy streets that lack dedicated bike areas. Criteria noted and considered as part of the overall community building score.

- » Wide sidewalks and/or low-traffic streets
- » Adjacent to or within a residential neighborhood, without crossing busy & wide (4+ lanes) streets
- » Not located on a steep street
- » Bike racks are present at the school and are safely accessed from site entry points

Walkable

Facility is considered walkable if within 1.4 miles of residential neighborhoods, with consistent sidewalks, and walking route does not require students to cross busy or dangerous streets (per district eligibility criteria).

- » Consistent, accessible sidewalks with crosswalks
- » Adjacent to or within a residential neighborhood, without crossing wide (4+ lanes) streets

Site suitability for school use?

Yes/No, Comment if applicable. Considers overall site conditions, overall community rating, and size of site.

Overall Building – Community Condition:

This is the professional judgment on the part of the reviewer(s), considering all aforementioned factors and with consideration of nearby neighborhood, community, educational, and athletic facilities. Criteria noted and considered as part of the overall community building score.

Educational Assessment Criteria

Educational Facility Effectiveness Evaluation

Educational Facility Effectiveness of Learning Environments (EFE-LE)

The quality of physical environments has direct impacts on educational outcomes. The EFE analysis considers both inherent building characteristics of physical appearance and condition, and introduced equipment (e.g., furniture and technology). These qualitative factors have a large impact on overall student performance, as they influence students' comfort and ability to concentrate on tasks; teacher and student health and wellness; as well as absenteeism and retention.

Building environments also affect the overall educational effectiveness rating. Fixed elements, such as walls and windows, are components that are not easily remedied and may require extensive or invasive renovation. Other elements, such as furniture or finishes, can be more easily updated, replaced, or supplemented.

Fixed Building Elements include:

- » Ventilation
- » Natural Daylighting
- » Lighting Quality
- » Acoustical
- » Environment (Inviting/Stimulating/Comfortable)
- » Power and Technology Infrastructure
- » Access to water for student projects
- » Access to toilet facilities

Repairing these fixed elements may require buildings to be unencumbered of students (i.e., vacant) for the duration of the work, depending on the upgrades required.

- » Adaptable elements
- » Technology: ubiquitous wireless access for teachers and students and classroom technology
- » Furniture: light weight, ergonomic and supportive of collaboration
- » Finishes
- » Adjacencies of Learning Environments
- » Access to outdoor learning (classrooms or other)

These considerations often consist of singular systems and can be repaired or replaced independent of other systems. They may change frequently with the evolving landscape of educational pedagogy and should support a building that can adapt flexibly at relatively low costs. These upgrades can be executed internally, by facilities personnel or with arranged contracts.

Educational Facility Effectiveness Evaluation: Criteria Rating Hierarchy

The EFE-LE uses the following classification system:

- Excellent: Elements meet needs for 21st century (Next Generation) teaching and learning
- Good: Elements contribute to teaching and learning
- Fair: Elements somewhat interfere with teaching and learning
- Poor: Elements detract from or interfere with teaching and learning
- Deficient: Non-existent or inoperable systems or elements

Educational Facility Effectiveness Evaluation: Analysis Definitions

Evaluation Criteria

Building Originally Designed As: Over time, a school building may have modified the range of grades served. Knowing their original use quickly provides some insight into space types and building appointments.

Best Grade Configuration for this School Building

A school building may be best suited for a different range of grades or use depending on the types, quantities, and sizes of spaces, as well as the existing site attributes, including:

- » Heights of casework, markerboards and other elements the students use
- » Configuration and heights of toilet room fixtures

Ventilation

Fresh air is a critical component for health, wellness, and overall student performance. An even distribution of ventilated air is also important. Different ventilation systems (unit ventilators, central air ventilation, no mechanical ventilation) provide varying levels of outdoor air percentages and filtration. Observe whether mechanical ventilation is provided and what the apparent quality of the ventilation system is. Qualitative measurements are not taken, however visual, olfactory, and thermal observations are made.

Natural Daylighting

Considered to be a better quality of light than artificial lighting. Evaluates the general quantity/quality of the natural light and note if most spaces have access to daylight.

Artificial Lighting Quality

Observed (not measured) light level at the working surface. Type of light fixture and whether it provides an even dispersion of light for general academic tasks, and whether the fixture is dimmable, to accommodate use of technology.

Acoustical

The proper balance between voice reinforcement and sound absorption impacts “speech intelligibility.” This includes both sound performance within the space, as well as sound coming from outside the space. Observe whether the space appears to have appropriate acoustical properties for teaching and learning.

Technology (Power):

There are enough electrical outlets to support a future technology-rich classroom/school and they are properly distributed throughout the space.

Technology (Wireless):

There are sufficient access points throughout the school to support a 1:1 technology environment and fiber optic wiring exists within the building. The main distribution room (server room) is air-conditioned, to ensure system reliability.

Technology (Interactive):

Classrooms and other teaching spaces have working interactive technology, such as interactive marker boards and document cameras.

Furniture

Different educational-delivery models can be reinforced by furniture type and flexibility. Ideal furniture is light and mobile enough to be easily re-arranged in multiple configurations. Furniture is ergonomic, comfortable, in good condition and promotes student collaboration.

Finishes

Materials and conditions of the walls, floors and ceilings. Both physical and aesthetic conditions are considered.

Environment (Inviting/Stimulating/Comfortable)

Evaluates whether building is aesthetically pleasing and if it is a place where students and teachers feel comfortable and want to spend time in each day.

Adjacencies of Learning Environments

Classrooms and other learning environments have a relationship to each other which promotes collaboration, communication, and other aspects of 21st century teaching and learning. Spaces promote interdisciplinary learning.

Outdoor Classrooms

Students have access to outdoor classrooms or other outdoor learning opportunities to learn in different ways, sometimes involving nature and hands-on activities.

Site Components

Playgrounds/Play Areas

Description of play surface materials (hard or soft). Evaluates condition of on-site play structures and whether structures are age-appropriate to the school's student population.

Accessibility

Evaluates conditions of play areas, including the ground surface/material, and whether areas are accessible to children of various disabilities.

Play Fields

Describes conditions of play fields, if present, and whether fields natural grass or synthetic turf.

Flexibility in Building Typology

Evaluates whether the building can serve alternative grade levels or support a special needs-focused curriculum.

Educational Transformation to Support 21st Century Needs

Evaluates if the building's construction easily allows for renovations that may change room sizes, replace or upgrade mechanical and electrical systems, and accommodate alternative educational-delivery methods (e.g., project-based learning [PBL]). This can often be the largest difference between a modern steel-frame building and interior masonry-bearing wall construction.

Building as Swing Space

Assuming the building is otherwise unoccupied, the ability to use the building for educational purposes for the temporary relocation of a school population during a period of renovation or construction.

Utilization Rate

Description of the utilization rate and if it is 85% or higher. For high schools, classroom utilization of 85% are considered at capacity. Rates higher than 85% show levels of overcapacity and overcrowding. Middle schools generally work to a utilization of 90% and elementary schools at near 100%.

Educational Facility Spaces Effectiveness Evaluation

The Educational Facility Effectiveness – Spaces (EFE-S) metric compares the sizes of educational spaces to the New Hampshire Code of Administrative Rules, Section Ed. 321 guidelines for 21st century teaching and learning in new capital projects. This quantitative analysis is important for establishing the level of adequacy of the existing spaces for educational delivery. It also indicates whether a facility is deficient/missing dedicated educational spaces normally found in buildings of its grade level and typology.

Primary considerations often affect core curriculum and include:

- » Classrooms (Depending on typology, these may include Pre-K and Kindergarten)
- » Teacher Planning
- » Small Group
- » Science
- » Art
- » Music
- » Vocations and Technology
- » Media Center
- » Cafeteria

Secondary considerations may allow for district flexibility in programming and community resources outside the traditional building environment, and include:

- » Gymnasium (This program space is sometimes served by local community spaces)
- » Gymnasium Options
- » Auditorium
- » Stage
- » Medical
- » Administration & Guidance
- » Air Conditioned Technology Network Room
- » Other considerations
- » Special Education: Self-Contained
- » Special Education: Resource or Small Group

Note: If a school has a special education program, its quantity of spaces will vary. Also, some substantially separate programs do not require full-size classrooms to be effective. For this reason, special education was considered differently than typical classroom spaces.

Educational Facility Spaces Effectiveness Evaluation: Criteria Rating Hierarchy

The educational facility effectiveness assessment for spaces used a quintile classification hierarchy as defined below:

- Excellent: Exceeds New Hampshire Code of Administrative Rules, Section Ed. 321 guidelines (+10% or greater)
- Good: School facilities are appropriate to house current enrollment and educational program. NSF meets New Hampshire Code of Administrative Rules, Section Ed. 321 guidelines (-10% to +10%)
- Fair: School facilities appear to be adequately sized for current enrollment and educational program. NSF somewhat less than New Hampshire Code of Administrative Rules, Section Ed. 321 (-10% to -20%)
- Poor: School facilities may not be adequately sized for current enrollment and educational program. Net square footage (NSF) at least 20% less than New Hampshire Code of Administrative Rules, Section Ed. 321 guidelines
- Deficient: Dedicated space does not exist.

Educational Facility Spaces Effectiveness Evaluation: Analysis Definitions

Narratives

The team considered the long-term goals relative to each building's capability of supporting Manchester School District's educational vision for 21st century (next generation) learning and teaching.

Engaged Learning

Engaging with the curriculum, applying it to an authentic context. Making connections between content areas and values/curiosity and interest. Finding connections to the community and making a difference. Public and tangible products. There is selective and intentional engagement, and agency in how one keeps focused and takes breaks.

- » The following were criteria used for evaluating the levels of Engaged Learning at each school:
- » The building (is/is not) comfortable to learn in.
- » The building (has/lacks) appropriate temperature control and ventilation.
- » The building (has/lacks) a space that can be used as a flexible learning commons for collaborative learning and presentations.
- » The building (makes use/does not make use) of public space for teaching and learning.
- » The building (provides/lacks) display space for student work to reinforce student accomplishments.
- » The building (provides/lacks) space for teacher collaboration and planning.

Differentiated Learning

Acknowledging different learning styles. Encouraging how to understand one's self (self-knowledge). Flexibility that occurs within instruction, which also promotes flexibility in how students demonstrate learning. The following were criteria used for evaluating the levels of Differentiated Learning at each school:

- » Classrooms (are/are not) large enough to support Universal Design for Learning (UDL), including the ability to create learning zones.
- » The building (has/lacks) breakout spaces for differentiated/personalized learning and special education.
- » The furniture in the building (can be/has difficulty being) flexibly arranged.

Cognitively Demanding Tasks/Programs

- » The classroom environment (is/is not) sufficiently flexible to allow for different teaching and learning styles.
- » Building (supports/lacks) learning environments that support music.
- » Building (supports/lacks) learning environments that support art.
- » Building (supports/lacks) learning environments that support physical activity/education.
- » The building environment (supports/does not support) STEM adequately.
- » The building (provides/lacks) space to experiment, create and collaborate.
- » The building (has/lacks) performance/presentation space.
- » Based on location and proximity to community resources and public transportation, teachers and students (can/have difficulty) access(ing) the City as a learning tool.

Overall EFE Rating

NH Code of Administrative Rules, Section Ed. 321 areas are based on current enrollment within school. Actual areas were determined by measuring CADD plans provided by Manchester School District. SMMA did not field-measure the buildings but verified general conformity with existing conditions by measuring spot values to determine the rough accuracy of CADD drawings. The design team reviewed the 2018 CMK Long-Range Facilities Plan, which informed some of the educational effectiveness ratings.

The following outlines the rating system used for evaluating the Overall Educational Facility Effectiveness:

- Excellent: Elements meet needs for current AND future teaching and learning.
- Good: Elements contribute to teaching and learning.
- Fair: Elements somewhat interfere with teaching and learning.
- Poor: Elements detract from or interfere with teaching and learning.
- Deficient: Non-existent or inoperable systems or elements.

