MANCHESTER
SCHOOL DISTRICT

West High School

Educational and Facilities Master Plan

smma

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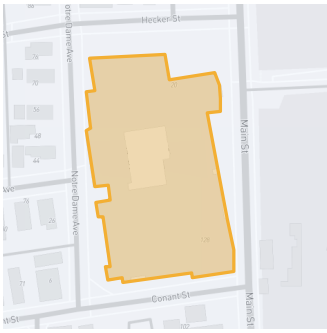
Summary

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.

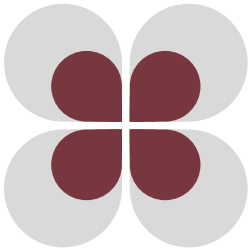
SCHOOL NAME
West High School

SITE VISIT
August 2023

At-a-Glance



FA: Building FA: Site



EFE: Learning EFE: Spaces

Excellent Deficient

Address
9 Notre Dame Avenue, Manchester, NH 03102

Gross Square Footage (GSF)
165,346 sf

Grades
9th Grade–12th Grade

Site Acreage
9.8

Hours of Operation
7:30am–2:55pm

Date of Construction
1923

2022–2023 Enrollment
735

Date of Addition Construction
1958, 1965, 2004

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Site Plans

SCHOOL NAME

West High School

SITE VISIT

August 2023

SCHOOL NAME
West High School (and Central Offices)

SITE VISIT
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Facility Evaluation Criteria

Physical Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Roof Membrane (Architectural)				●	
	"All roofs are EPDM roof membranes, but it is unclear as to when they were replaced in the original portions of the building from their built-up gravel roofs. It appears the EPDM membrane is wearing and a significant amount of ponding on all roofs was observed. All roofs are beyond their useful lifespan and typical warranty period, so replacement is recommended."				
Existing Photovoltaics					○
	"N/A"				
Space for Solar on Roof					○
	"Space on roof is available, exact locations and SF size can be evaluated."				
Façade		●			
	"The original 1923 masonry (Makin Building) 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"				
Windows				●	
	"The majority of the 1958 and 1965 buildings' windows are single pane aluminum windows which are past their useful life expectancy. Windows in the original 1923 portions of the building appear to have been replaced within the last 20-30 years with double pane aluminum window systems. The 2004 additions are double pane aluminum windows. Although there is some useful life remaining, the thermal performance is not as efficient as current window systems."				
Boilers (Mechanical)			●		
	"Although boilers have been replaced there appears to have been a major flood in the boiler room that submerged parts of the boilers. One boiler was open for maintenance. Pumps appeared to be in good condition as were expansion tanks and air separator. Insulation shows some discoloration. Boiler venting and neutralization tanks in good condition."				

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REPORT TYPE

Facility Evaluation

Physical Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Boilers (Plumbing)	●				
"Refer to mechanical report for HVAC boilers. The domestic hot water is produced by a Lochinvar Armor Condensing water heater. The system includes three 119 gallon storage tanks. The tanks were replaced within the last year. (2023 manufactured date)."					
Heating Distribution Systems		●			
"Building has unit heaters at entrances. Classrooms and other spaces have fin tube radiation along perimeter. Theater had additional in duct heating coil with recirculation pump. Gym has high fin tube adjacent to Kalwall windows."					
Building Envelope Thermal Performance			●		
"It is unlikely that there was any insulation in the walls or under slabs installed in the original (1923) or 1958 and 1965 additions. The 2004 addition included 2" of spray insulation in the wall cavities, and 3" of rigid insulation at the roof level. Roofs appear to have been replaced with EPDM roof membrane of the original portions of the building at some point, but it is unclear how much insulation was installed."					
Interior Finishes			●		
"1923/1958 Original Building: There is significant cracking and settling of the corridor terrazzo floors. Ramps and sloped thresholds have been added at classroom doors to compensate for this settling. VCT has been installed in the classrooms, but cupping and cracking of the VCT was observed in many areas. Wall and ceiling paint and plaster is peeling. Lockers and interior doors are mostly original and in poor condition. Auditorium seating was replaced in 2004. 2x4 ACT ceiling tiles are in need of replacement throughout. Wood flooring and bleachers in the Gymnasium are in good condition. 1965 Bean Building: VCT flooring throughout is generally in good condition. Cracking was observed at building expansion joints and in the Cafeteria in particular where the space was added on to in 2004. The library was renovated in 2004 and finishes and millwork are generally in good condition. The third floor was renovated in 2018 to create the District offices. Finishes are in good condition throughout this suite. 2004 Addition: Finishes are generally in good condition in these areas."					
Rooftop HVAC Equipment				●	
"The VRF for the central offices is new in the last 5 years. Other units on the roof are older, some are reaching the end of useful life. Units are spread across roof with many exhaust fans without energy recovery."					
HVAC Controls			●		
"Building controls are JCI Metasys (district standard). Thermostats are various ages some need to be replaced."					

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REPORT TYPE

Facility Evaluation

Physical Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Technology Infrastructure				●	
"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."					
Technology Systems				●	
"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."					
Security Systems		●			
"The City is working with a Security Systems Vendor to deploy 500 CCTV cameras throughout the District's Schools. Adequate bandwidth is a concernfor transmitting video. Notification and Lock Down systems are not present. Indoor cellular signal booster system is desired."					
Kitchen Equipment and Systems (Electrical)		●			
"A few kitchen receptacles were observed to be non-GFCI type. All kitchen receptacles shall have GFCI protection to comply with the Code. Three disconnect switches were observed "blocked" by counters/kitchen equipment and therefore not provided with sufficient clearance in front for maintenance purposes per Code requirements - installation shall be revised."					
Kitchen Equipment and Systems (Plumbing)			●		
"The kitchen equipment /fixtures include a double convection oven, triple pot sink (to floor mounted grease trap), Hobart dishwasher (with electric booster water heater), and two single pot sinks. One pot sink has the hot/cold water capped and is currently on the floor. Overall, the equipment/fixtures are in fair to good condition. The piping is primarily a mix of exposed copper and PVC. Chrome plating of the copper lines is recommended. 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. The kitchen hood is protected by a wet chemical suppression system. The agent bottle is mounted on the wall."					
Natural Gas Distribution System	●				
"Natural gas distribution observations were limited to exterior (at the service), mechanical rooms without ceilings, and behind kitchen equipment. Overall the piping appears in good working order."					

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Facility Evaluation

Physical Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Current Fuel Source					○
"The building has a natural gas service. Based on the arrangement and pipe sizing, high pressure gas is assumed. The lines go back underground. Visual inspection of the piping into the building was not observed. The meter and piping appears in good working order."					
Generator					○
"N/A"					
Elevator		●			
"Both elevators were installed in 2004. Due to the age, new controls and cab finishes should be upgraded."					
Ventilation Distribution Systems			●		
"Classrooms have high supply and low wall return. Gym has high supply and return. A few rooms have window ACs for cooling. Some spaces have addition unit heaters or cabinet unit heaters. Bathrooms are exhausted. Auditorium has grilles in various high and low locations for supply/return from the front and back. Some classrooms have unit ventilators that appear to provide both heating and ventilation in addition to fin tube radiation for heating. Roof ductwork is not insulating and showing signs of rust, connections have been repaired in some locations. Kiln has vent but no hood. Shop classes have additional ventilation units and unit heaters. Art room has spray booth with exhaust. Kitchen has exhaust hood and dryer with exhaust connection. District offices have full air conditioning from VRF system installed in the last 5 years."					
Electrical Services	●				
"Exterior pad-mounted utility transformer by PSNH is located adjacent to the school building. This service supports loads in the year 1965 "building addition". The transformer appears in good condition. The utility transformer's secondary feeder extends underground and terminates in the Main Switchboard MSB located in the Main Electric room B02. The MSB is rated 3,000 Amp 120/208v 3ph 4w, manufactured by GE, assumed to be replaced during the renovation project in 2004. It appears in good operational condition. The Main Switchboard feeds distribution panels DP1, DP2, EDP, installed in the same room, and other downstream panels located throughout the building. The secondary switchboard MDP is fed by a separate utility service and utility vault transformer. This service supports loads in "original building" areas. The secondary switchboard is rated 1,600 Amp 120/208v 3ph 4w, located in room M-18. It feeds the downstream distribution panels (DP, etc.) and other panels throughout the building. All downstream panels were observed to be recessed- and surface-mounted models, manufactured by GE and Square D. It's assumed that the majority of panels were replaced and/or added during the renovation project in 2004. Overall, the main electrical equipment appears in good operational condition."					

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Facility Evaluation

Physical Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Life Safety: Means of Egress (Architectural)		●			
	"Location, size and quantity of egress components appears to be adequate. Stair railings in the original portions of the building were replaced in 2004 to meet current codes. Railings and guardrails at the Gymnasium upper mezzanines do not meet code."				
Life Safety: Means of Egress (Electrical)	●				
	"Self-contained internally lighted LED exit signs and battery units with remote lights heads are provided along egress pathways. Emergency lighting throughout is observed in adequate operational condition."				
Life Safety: Fire Protection (sprinklers)		●			
	"The building is currently provided with an automatic sprinkler system. An eight inch fire service enters the fire pump room and is equipped with an 8-inch double check valve assembly. The discharge reduces to a 6-inch suction connection to an electric driven fire pump. The fire pump is rated for 85 psi at 1000 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 pump room. The diesel fuel tank is also located in the pump room. The system and fire pump was installed in 2004. The fire pump is approximately 19 years old and is approaching the end of it life expectancy of 15-20 years. The pump should be evaluated during the yearly fire pump flow test to see if replacement is required. The system has an exterior post indicator valve, 4-way fire pump test headed, 4-inch storz fire department connection. Standpipes with 2 1/2-inch fire department valves are located within the exit stairs. The standpipes also feed floor control valve assemblies that break the system up into zones. Fire department valves are located on both sides of the stage in accordance with current requirements."				
Life Safety: Fire Alarms	●				
	"The Fire Alarm (FA) system is manufactured by Notifier. It consists of addressable smoke and heat detectors, double action pull stations, speaker/ strobes and strobe only units, and connections to fire protection equipment. The Fire Alarm Control Panel (FACP) and radio master box are located at the 1st floor Stair 2 entrance doors. All classrooms and similar educational spaces, corridors, teacher areas, bathrooms, Gym, Cafeteria, Auditorium, etc. are equipped with signaling devices. Smoke detectors are provided in corridors and utility spaces. Overall, the FA system equipment was observed to be in good operational condition."				

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Facility Evaluation

Physical Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Security: Entry Sequence		●			
	"The main entrance has controlled card access and an intercom system. There is good direct visual access to the exterior from the main office, and there is a transaction window between the main office and the secured vestibule. The entrance to the main office is beyond the main entry vestibule. The secondary entrance through the Burns building leading to the courtyard does not have a secured vestibule."				
Lighting Quantity / Control		●			
	"The lighting in "original" building areas was observed in "dated" condition, except for a few recent upgrades with LED lights. The "original" building typical lighting concepts were observed as summarized below: Classrooms - mostly surface-mounted linear wraparounds with fluorescent lamps, in poor-to-fair operational condition. Some lights need repairs/replacements. Corridors - mostly surface-mounted linear wraparounds with fluorescent lamps, in poor-to-fair operational condition. Some lights need repairs/replacements and new lamps. Administration offices - 2'x4' recessed parabolic and lensed troffers with fluorescent lamps, in fair-to-good operational condition. Some lamps need replacements. Bathrooms - 2'x4' lensed troffers and linear wraparounds with fluorescent lamps, in good operational condition. Gym has new LED lights with occupancy sensors in good operational condition. Locker rooms have surface lights with fluorescent lamps in poor-to fair condition. Auditorium has non-energy efficient lights. No occupancy sensors (except for Gym) were observed in the "original" building areas. Recommended measures in "original" building areas: replacement of the existing lights with the new LED energy-efficient dimmable recessed- and surface-mounted models, and adding occupancy and daylight sensors as appropriate for individual spaces. The lighting in the "1965 addition" building areas had some upgrades during the renovation project around the year 2004 and later in 2018 (office conversions on the 3rd floor). There are still multiple locations with "older" non-energy efficient lights and no occupancy sensors. Recommended measures in the "1965 addition" building areas: replacement of the "older" lights with the new LED energy-efficient dimmable recessed- and surface-mounted models, and adding occupancy and daylight sensors as appropriate for individual spaces."				
Toilets and Fixtures		●			
	"With the exception of the 2018 district office renovations, fixtures are old and assumed to have standard flow rates. The renovation includes ADA fixtures and seem to be in good working order. For major renovations, replacement of fixtures with new low flow fixtures and ADA compliant fixtures (as required) is recommended. Drinking fountains have been replaced with the bottle filling type in many locations."				

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Facility Evaluation

Physical Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Plumbing Distribution Systems		●			
	"A 4-inch domestic cold water service enters the building and reduces to 3-inch. The 3-inch splits off into two 2-inch lines. One has a meter and reduced pressure backflow preventer. The second is a bypass, which also has a backflow preventer. The two 2-inch lines tie together and a 3-inch main feeds the domestic water system. The hot water system is a two temperature system. 140 degree water is fed to the kitchen, while a master mixing valve reduces the distribution to 120 degrees. The age of the domestic water 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. Original valves and pipe solder pre-date current lead free regulations and requirements. Observation of sanitary and vent, storm water piping was limited to exposed areas. Above ceiling observations were not performed. The expected lifespan of cast iron piping is 50 years. Future renovations should consider scoping/testing to confirm the expectancy left in the piping. Vents through roof and roof drains appear adequate with no immediate concerns. (No ponding observed). Vents through roof and roof drains are in good shape. However, there are areas of the roof that do not slope to the drains. There is ponding in a few locations. Some of the older toilet rooms have fixtures that do not meet ADA requirements."				
Accessibility (Architectural)		●			
	"Several egress points are not accessible as they do not exit at grade and exit and stair landing levels. Most toilet rooms have been upgraded to meet accessibility codes; however, there are still several toilet rooms that are not compliant. Many existing interior doors in the original 1923 building do not meet accessibility codes related to door clearances. Original sink casework is not accessible. Stage is not accessible from the Auditorium. The locker rooms are not accessible within the Gymnasium."				
Accessibility (Plumbing)		●			
	"A few toilet rooms have fixtures that do not meet ADA requirements."				

Structural Systems: Signs of Deterioration Observed?

	YES	NO
Roof		✕
	"There are many ponding water areas on roof due to improper slope to drains. GYM framed with steel bent frames with wood decking. Frame and decking are in very good condition. Roof framing in academic wings and cafeteria comprised of steel bar joists with metal decking."	
Floor		✕
	"Concrete framed floors. In Mackinac bldg."	

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Facility Evaluation

Structural Systems: Signs of Deterioration Observed?

	YES	NO
Walls / Columns		✕
	"Concrete columns supporting concrete slab and beam framing. Partitions are masonry block or brick plastered over."	
Foundations		✕
	"Foundations appear to be in good condition. There is some spalling at the parging in the walls."	
Façade		✕
	"The facade for all wings appear to be in good condition. The is some washout of the masonry joints below the greenhouse."	
Is Lateral System Identifiable?	✓	
	"Concrete moment frames and masonry shear walls, brick and or block."	

Community

	YES	NO
Emergency Shelter	✓	
	"Short Term Shelter only."	
Are there Separate Community / Non-School Spaces on Site?	✓	
	The school building contains the Manchester School District offices. The site contains the Manchester West Athletic Facilities, which are operated by the School District, but can be reserved upon special request.	

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Site Evaluation Criteria

Physical Analysis	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Parking Capacity	●				
	"30 parking spaces in small lot by district offices entrance. 140 parking spaces in lower lot across Main St, by the athletic facilities. 114 staff, per district website."				
Parking Quality	●				
	"Small staff lot by district offices entrance. Larger lot across Main St. Pavement in decent condition. Lot has significant cross slopes due to challenging site topography."				
Ground Cover	●				
	"Landscaping at main entrances and in enclosed courtyard. Some trees spaced along sidewalks around the site, providing some shading. Natural vegetation providing slope stabilization along track and field. Minimal site area available for landscaping."				
Fields	●				
	"Multi-purpose track and field facility across Main St from the school. Athletic facilities in good condition. Tennis courts in process of resurfacing (final condition unknown)."				
Neighborhood Streets	●				
	"School parcel bound by Main St to the east, smaller residential streets in other directions. Crosswalks at corners and multiple points along Main St to provide neighborhood connectivity."				
Drop-off / Pick-up Routes			●		
	"No designated drop off areas. No parking/no standing signs around building. Buses seem to load/unload from Notre Dame Ave outside main entrance."				
Walkways / Curbs / Sidewalks	●				
	"Mix of concrete and bituminous walkways, in relatively good condition."				

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Site Evaluation

Physical Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
ADA Accessibility	●				
	"Most building entrances are accessible (with a couple exceptions). ADA parking spaces in visitor lot near district office entrance, on mountable concrete apron near courtyard entrance, in auxiliary lot across main street, and down by track and field entrance. Crosswalks and curb cuts throughout site in decent condition. Site topography presents ADA challenges, particularly in and around auxiliary parking lot and tennis courts."				
Site Lighting (Civil)	●				
	"Light fixtures mounted to utility poles around school. Dedicated light poles around athletic facilities, in good condition."				
Site Lighting (Electrical)		●			
	"Exterior building-mounted lights are a mix of the "newer" LED wall packs and various types of the "older" lights. The "older lights are non-energy efficient lights showing signs of wear. Some of those lights are missing reflectors/ enclosures. The "older" lights are recommended for repairs and/or replacements with energy efficient LED lights. The "newer" LED wall packs appear in good operational condition."				
Fencing	●				
	"White security/privacy fence around small yard for young children. Black chain link fencing around athletic facilities and along the tops of steep slopes/walls. Fencing in good condition."				
Drainage	●				
	"Mix of catch basins and trench drain inlets around the school (relatively flat). Catch basins evening spaced along gutter line in sloped auxiliary lot. Excess stormwater overflows into catch basin networks in the street or offsite to the east (based on topography)."				
Play Areas	●				
	"Small fenced in yard, providing secure play area for young children next to daycare/early ed classroom. Athletic facilities across Main St from school. Enclosed courtyard for outdoor gathering."				
Monuments and Memorials	●				
	"Memorial Walk with benches, commemorative plaques, landscaping."				

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Site Evaluation

Physical Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Walls / Slopes	●				
	"High School parcel relatively flat, with some small cheek walls. Site slopes down significantly east of Main St. Steep vegetated slopes with exposed rock and/ or concrete and block retaining walls around tennis courts, parking lot, and track and field. Fences or guardrails where slopes and retaining walls pose safety concerns."				

Physical Analysis

	YES	NO
Are there any Wetlands on Site?		✕
	"No wetlands per GIS, or evidence of potential wetlands per site visit."	
Are there any Easements on Site?		✕
	"No easements per GIS."	
Are Play Structures Age-Appropriate?	✓	
	"Athletic facilities appropriate for high school age. Fenced in grass area for daycare/early education classroom. No play structures on site."	
Is there an Outdoor-Learning Area?	✓	
	"Enclosed courtyard with benches and picnic tables for gathering and outdoor learning space. Courtyard accessible from multiple points within the building and gated entrance from outside."	
Should there be a Question on Environmental Justice Populations / Vulnerable Populations?	✓	
	"NH GIS designates site as "Medium High" to "High" Social Vulnerability Index, based on census analysis."	
Is the Building Expandable on the Current Site?		✕
	"Building fills entire parcel west of Main St. Expansion into athletic facilities east of Main St would present grading and accessibility challenges, minimal connectivity due to high traffic street bisecting the site."	
Is the Site Expandable?		✕
	"School, athletic facilities, and parking lot fill entire parcel(s). Site bound by dense residential parcels, Main St, and highway."	

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REPORT TYPE

Site Evaluation

Community Analysis

	YES	NO
Historical Commission Status: Inventory of Archaeological Assets (Site Review)		✕
	"The site is not listed on the National Register of Historic Places (per the National Park Service website)ÿor 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."	
Are there School Buses?	✓	
	"2 MTA and 17 SPED buses, per bus counts provided by the district. No designated bus drop off. Buses may unload along Notre Dame Ave."	
Bikeable?		✕
	"Bike racks and bike repair station. No bike lanes on adjacent streets, but more evidence that students bike to school than any other school in the district."	
Walkable?	✓	
	"Wide sidewalks, crosswalks to neighborhood streets and to athletic facilities. Primarily residential with some mixed uses on surrounding streets."	

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REPORT TYPE
Site Evaluation

Traffic Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Bike Facilities **Main St**	●				
	"Consideration may be given to striping a bike lane along Main Street which has a 30-mph posted speed limit."				
Bike Facilities **Notre Dame Ave near Walsh Ave intersection**	●				
	"Bike racks on grass not secured to ground or building. May be better to place bike racks on Conant St, near bike maintenance station and away from school bus pick-up/drop-off area."				
Parking **Accessible parking (Jack Amero Way)**	●				
	"Four accessible parking spaces but only one access aisle. No sidewalk on parking side, so must use curb ramps at intersection of Main Street at Jack Amero Way."				
Parking **Accessible parking (Main St)**			●		
	"Two accessible parking spaces right in front of entrance without striping. Parking area is same material as sidewalk, so drivers may confuse as a pedestrian-only area."				
Parking **East parking lot (Jack Amero Way)**	●				
	"Two accessible parking spaces with access aisle in between leading to curb-free path to football field. Guardrail near NW corner in poor condition but may not be necessary. Striping starting to fade."				
Parking **North parking lot (Hecker St)**	●				
	"Three accessible parking spaces. One of the two access aisles has a curb ramp leading to entrance. No detectable warning panel. Parking lot spaces are tight and corner spaces appear difficult to get into and out of."				
Pedestrian Connections **Between Jack Amero Way and Tennis courts**	●				
	"Staircase in very poor condition, but there is an alternate accessible path in fair condition."				
Pedestrian Connections **Between Parking lot and Tennis courts**		●			
	"Staircase starting to erode. No curb ramp at staircase."				

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Site Evaluation

Traffic Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Sidewalks **Conant St**	●				
	"Major cracks near tree on south side (opposite school)."				
Sidewalks **Main St**	●				
	"Sidewalks on both sides. West (school) side in poor condition near Conant St intersection."				
Signalized Intersections **Main St at Conant St**	●				
	"Crosswalk striping on all three sides but starting to fade. All curb ramps in poor condition. Curb ramps on NE and SE corners have detectable warning panels. Curb ramps on NW and SW corners have no detectable warning panels on the curb ramps. Pedestrian crossings should be evaluated for ADA compliancy. NE and SW corner signs say "push button to turn on warning lights" typically used for RRFB, not traffic signals. Exclusive pedestrian phase sometimes but not always activated when pedestrian push button pressed. Observed low pedestrian compliance."				
Unsignalized Intersections **Conant St at Notre Dame Ave**		●			
	"Crosswalks on north and east sides. Majority of detectable warning panel on NE corner missing. Curb ramp on SE corner has no detectable warning panel and is not flush with pavement. Pedestrian crossings should be evaluated for ADA compliancy."				
Unsignalized Intersections **Hecker St at Flaherty Ln**	●				
	"No crosswalk or detectable warning panels across Flaherty Ln. Pedestrian crossing should be evaluated for ADA compliancy. No STOP sign or directional separation on narrow Flaherty Ln approach."				
Unsignalized Intersections **Hecker St at Parking lot east driveway**	●				
	"No crosswalk or curb ramps across driveway. Pedestrian crossing should be evaluated for ADA compliancy. No STOP sign on driveway approach."				
Unsignalized Intersections **Hecker St at Parking lot middle driveway**	●				
	"No crosswalk or curb ramps across driveway. Pedestrian crossing should be evaluated for ADA compliancy. No STOP sign on driveway approach."				

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Site Evaluation

Traffic Analysis

	NONE / MINOR	MODERATE	MAJOR	REPLACE	N/A
Unsignalized Intersections **Hecker St at Parking lot west driveway**	●				
	"No crosswalk or curb ramps across driveway. Pedestrian crossing should be evaluated for ADA compliancy. No STOP sign on driveway approach."				
Unsignalized Intersections **Main St at Hecker St**	●				
	"Crosswalks on south and west sides. Curb ramp on SE corner has detectable warning panel. SW and NW curb ramps have no detectable warning panels and are prone to puddling. Pedestrian crossings should be evaluated for ADA compliancy."				
Unsignalized Intersections **Notre Dame Ave at Conant St N Back**	●				
	"No crosswalk or detectable warning panels across Conan St East Back. Curb ramp on SW corner not flush with pavement. No curb ramp on east side despite being in front of main entrance - may consider crosswalk across Notre Dame Ave. Pedestrian crossings should be evaluated for ADA compliancy. No STOP sign on Conan St East Back approach."				
Unsignalized Intersections **Notre Dame Ave at Hecker St**	●				
	"No crosswalks despite curb ramps on all corners. Detectable warning panels on SE and SW corners in poor condition, especially on SE corner where majority of panel is missing. NE and NW corners have no detectable warning panels. Pedestrian crossings should be evaluated for ADA compliancy."				
Unsignalized Intersections **Notre Dame Ave at Walsh Ave**	●				
	"Crosswalk striping on north and west sides. Curb ramps on NW and SW corners have detectable warning panels. No detectable warning panel on NE corner. Pedestrian crossings should be evaluated for ADA compliancy. Fire hydrant obstructing parking lot and sidewalk on Walsh Ave in northwest corner of intersection."				

SCHOOL NAME
West High School (and Central Offices)

SITE VISIT
August 2023

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
Acoustical		●			
Adjacencies of Learning Environments		●			
Environment (Inviting / Stimulating / Comfortable)		●			
	"Corridors are double loaded, some without daylight."				
Finishes			●		
Furniture			●		
	"Most furniture does not support flexible and collaborative learning, chairs are not ergonomic."				
Lighting Quality			●		
	"Fluorescent lights. Some classrooms had LED lighting."				
Natural Daylighting		●			
	"Corridors have no daylight. Windows are small in original building s classrooms and some of the addition's spaces."				

SCHOOL NAME

West High School (and Central Offices)

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Educational Building Analysis

	GOOD	FAIR	POOR	DEFICIENT	FAILING
Outdoor Classrooms			●		
"Courtyard, but no teaching wall/area. Not a teaching space."					
Technology: Power		●			
"Many extension cords and power strips observed."					
Technology: Wireless	●				
"No reported issues."					
Ventilation		●			
"Rooms are hot and stuffy on warm days."					

This Site Includes:

	YES	NO
Accessible		✕
"Lack of ADA compliant parking onsite. People with disabilities need to cross Main Street and go around the building to the main entrance."		
Play Fields	✓	
"Across Main Street."		
Playgrounds / Areas	✓	
"For Head Start."		

SCHOOL NAME

West High School (and Central Offices)

SITE VISIT

August 2023

REPORT TYPE

Educational Adequacy Evaluation

Building Assessment	YES	NO	
Can the Building Change Typology Easily?	✓		
Can the Building be Transformed Educationally to Serve 21st Century Needs?		✕	
	"Newer portions of building can be comprehensively renovated but the siting and existing layout make it difficult to fully serve the educational needs of a next-generation high school."		
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	5325	
Art Classroom (Min Area 900 sf or 36 sf / Student)	4	700, 785, 1365, 1524	
	"2D and 3D."		
Auditorium	1	2970	
	"693 seats."		
Band (Area 1200 sf)	1	1535	
Cafeteria (Min Area 12-15 sf / Student for Max Number of Diners per Lunch Period)	1	11930	LUNCH PERIODS: 3
Chorus (Area 1200 sf)	1	1940	
Classroom: General Education (Min Area 900 sf or 36 sf / Student)	62	600, 650, 700, 730, 870, 880, 890, 920, 1000, 1010	
FACS	1	1255	
Faculty Lounge	1	1235	
Gymnasium (Min Area 6000 sf)	1	7930	STAGE: No
	"Locker rooms occasionally used."		

SCHOOL NAME
West High School (and Central Offices)

SITE VISIT
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REPORT TYPE
Educational Adequacy Evaluation

Space Assessment	QUANTITY	ACTUAL AREA (SF)	MORE INFO
Media Center (Min Area 1800 sf or 4 sf / Student x Design Capacity)	1	7310	
Music Classroom (Area 1200 sf)	1	1940	
NJROTC	1	3225	
Orchestra	0	0	
	"None observed."		
Photography	1	1445	
	"Darkroom: 240 sf"		
Science Classroom / Lab (Area 1200 sf or 60 sf / Student)	11	870, 900, 910, 1020, 1050, 1110, 1190, 1215	
Special Education: Resource of Small Group (Area 500 sf)	1	370	
Special Education: Self Contained (Area 950 sf)	5	Varies: 400-1110	TOILET ROOM: No
Stage (Area 1000 sf)	1	1265	
	"Not accessible from audience."		
Teacher Planning	8	2210	
Technology Lab	2	1000, 1645	
	"Computer Labs"		
Woodshop	1	1930	

SCHOOL NAME
West High School (and Central Offices)

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REPORT TYPE
Educational Adequacy Evaluation

Adequacy of Rooms	GOOD	FAIR	POOR	DEFICIENT	FAILING
Administration and Guidance		●			
Art Classroom		●			
Auditorium		●			
	"Stage is not accessible from audience seats."				
Band		●			
Cafeteria		●			
Chorus		●			
Classroom: General Education		●			
FACS		●			
Faculty Lounge			●		
Gymnasium		●			
Media Center		●			
Medical			●		
Music Classroom		●			
NJROTC		●			
Orchestra					●
	"No Orchestra Room."				
Photography		●			
Science			●		
	"Science Rooms do not have mobile lab benches."				
Special Education: Resource of Small Group			●		
Special Education: Self Contained			●		
Stage			●		
	"Not accessible from audience seats."				
Teacher Planning			●		
Technology Lab		●			
Woodshop		●			

SCHOOL NAME
West High School (and Central Offices)

SITE VISIT
August 2023

REPORT TYPE
Educational Adequacy Evaluation

Special Education Assessment	YES	NO			
18+	✓				
Autism Spectrum	✓				
Cognitively Impaired		✕			
Deaf and Hard of Hearing		✕			
Emotional Disturbance	✓				
English Learners	✓				
	"Co-teaching"				
Intellectual Disability	✓				
Life Skills	✓				
Medically Fragile		✕			
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 Evalutation: 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 utilizations 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.