# REPORT OF FACILITY CONDITION ASSESSMENT



## **Brevard Middle School**

Property Address: 400 Fisher Road Brevard, NC 28712

### Prepared For:

Transylvania County Board of Commissioners 101 South Broad Street Brevard, NC 28712

Prepared By:

Axias

Project No. GA23-017 February 26, 2024













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Item No.	Condition	Recommendation	Priority Category	Deficiency Category	Impact of Failure	Condition Probability of	Failure Frequency of	Failure Risk Score	Risk Category	Estimated Useful Life	Remaining Useful Life	Quantity	Unit of Measure	Unit Cost	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Required
Accesibilit														Year	1	2	3	4	5	6	7	8	9	10	
Accessibilit Required																									
1	The building was constructed around 1974 and extended in 1989, before the Americans with Disabilities Act of 1991 (ADA). Designated ADA parking spaces have been subsequently provided adjacent to the main entrance. However, a suitable level, designated route from the parking spaces to the main entrance has not been provided.	Break out raised concrete at canopy, separating direct route from parking spaces to entrance, to provide level access route to main entrance.	VI	CI	3	3	3 5	14	Medium	30	1	1	ALLOW	\$7,500	\$7,500										\$7,500
2	The property is built on a sloping site. Parking and playgrounds are provided at two different levels, according to the grading of the property. The gymnasium is set at the lower grade level, while the remainder of the school is set at the upper level. Between the two levels is a long sloping sidewalk. The continuous slope is steeper and longer than the ADA recommends.	Create an ADA-compliant ramp from the lower parking lot/playground level up to the main school level.		CI	3	3	3 5	14	Medium	30	1	1	ALLOW	\$50,000	\$50,000										\$50,000
3	No elevator is provided from the main school level down to the gymnasium, which is set at the lower grade level. The building is grandfathered based on the age of construction; however, future renovations would require	-																							<b>\$</b> 0
Site System	\$ 																								4
Required 1	Around the campus the property is provided with concrete sidewalks, concrete and lumber retaining structures, and brick and lumber planters. These are in fair to poor condition.	Repair concrete sidewalks, retaining walls, and planters.	III	CR	4	3	4 5	16	Medium	20	1	1	ALLOW	\$7,000	\$7,000										\$7,000
2	Asphalt paved roadways and parking lots are provided around the school. The parking lot on the west side was reportedly milled and overlayed in circa 2021 and appeared to be in good condition. The drive lane on the east side of the school appears to have been completed in 2023. The remaining asphalt pavement appeared to be in fair condition with areas of cracking noted. It is recommended to crack fill, seal coat, and restripe the north parking area to extend the service life of the pavement.	Crack fill, seal coat and re-stripe asphalt pavement at the north lot.	Ш	DM	4	2	3 5	14	Medium	7	1	3,400	SY	\$2.00	\$6,800										\$6,800
3	The asphalt pavement at the north lot will require repaving in the mid- to late-term due to the age and condition. It is recommended to mil and overlay the asphalt pavement at the north lot.	Mill and overlay the north parking lot.	IV	CR	4	3	4 4	15	Medium	25	8	3,400	SY	\$22.00								\$74,800			\$74,800
4	To prolong the life of the site asphalt that has been repaved between 2021 and 2023, it is recommend to complete crack filling, seal coating, and re-striping.	Crack fill, seal coat and re-stripe asphalt, including ADA parking spaces and playground markings.	IV	SM	4	4	4 5	17	Low	7	6	12,110	SY	\$2.00						\$24,220					\$24,220
5	We were informed during periods of rain, the picnic table area holds water.	Re-grade elevations to slope away from building and to drain down the hillside, from maintenance budgets.																							\$0











Building: GSF: Age: Address:

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Item No.	Condition Recommendation	Priority Category	Deficiency Category	Impact of Failure	Condition	Probability of Failure	Frequency of Failure Risk Score		Risk Category	Estimated Useful Life	Remaining Useful Life	Quantity	Unit of Measure	Unit Cost	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Required
6	Various brick planter and railroad tie retaining walls are provided around the site. Sections of damaged brick and deteriorated wood railroad ties. It is recommended to budget an allowance for repairs to the various site retaining and planter walls.	III	DM	5	3	4	5 17	7 L	Low	15	1	1	ALLOW	Year \$6,000	\$6,000	2	3	4	5	6	7	8	9	10	\$6,000
7	A physical security assessment was provided by Safe Havens International. As part of their assessment, they identified areas around the site where additional fencing should be provided. It is recommended to budget an allowance for the installation of additional perimeter fencing per the Physical Security Assessment. Cost is a placeholder and could fluctuate.	Ш	CI	3	3	4	4 14	4 Me	edium	15	2	400	LF	\$90		\$36,000									\$36,000
Structural S Required	ystems																								
1	During our site assessment, we noted various locations where there was cracking in the terrazzo, brick veneer, and interior CMU walls. It is recommended to monitor these locations for further movement and if continue consult with a structural engineer.																								\$0
Roofing Sys <sup>*</sup> Required	tems																								
1	The majority of the building is provided with a built up asphalt low slope roof covering. Approximately 50% of this covering has been coated with a product to extend the life of the roof covering. Roof drains are provided across the roof, connected to an internal rainwater management system. The 3 flat roofs are in poor condition. Remove all flat roof coverings and replace with new TPO or EPDM roofing system.	II	DM	3	2	3	5 13	3 H	High	25	1	82,735	SF	\$22.00	\$1,820,170										\$1,820,170
	Office roofs are sloped and covered with asphalt shingles. The roof slopes to and connects with the flat roofs internally. The sloped roof is provided with box gutters forming the fascia at the exposed perimeter. The pitched roofs are in good condition. The date of installation is unknown. It is recommended to budget for the replacement of the shingled roofs in the late-term. Replacement of the gutters and downspouts has also been included.	IV	CR	3	3	3	5 14	4 Me	edium	20	8	11,597	SF	\$6.00								\$69,582			\$69,582
3	The perimeter gutters and downspouts were noted to have leaking sections primarily at the gutter seams. It is recommended to repair the leaking gutters as part of routine maintenance.																								\$0











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Exterior Ele	mants													Year	1	2	3	4	5	6	7	8	9	10	
Required																									
1	Exterior walls primarily consists of brick veneer with steel lintels supporting masonry openings. Around remainder of building brickwork tops with profiled metal panels finishing at roof cap. The exteriors appeared to be in fair to good condition. The metal panels will require repainting during the term to maintain aesthetics.	Repaint all exterior painted elements	III	SM	4	4	3	4 15	Medium	7	5	14,796	SF	\$3.00					\$44,388						\$44,388
2	Exterior windows are formed with aluminum frames fitted with double pane insulated glazing units (IGU's). The main entrance doors are formed with vinyl panels and fitted with double pane IGU's. Other doors are hollow steel panel, many are fully glazed with IGU's. The window frames are in fair condition. However, up to 75% of the IGU's have failed.	Replace fogged IGU's where necessary.	Ш	DM	4	3	4 !	5 16	Medium	30	1	20	EA	\$4,000	\$80,000										\$80,000
3	Junctions between materials, such as at the permitter of windows and doors, are weather sealed with flexible sealant. The sealant has become dried and brittle. It is recommended to replace the exterior sealants.	Remove aged and defective sealant joints and replace. Coordinate works with painting project.	==	DM	4	4	3 4	4 15	Medium	10	1	2,466	LF	\$10.00	\$24,660										\$24,660
Interiors																									
Required 1		Replace stained and/or damaged ceiling tiles.	Ш	DM	5	3	4	5 17	Low		1	2,000	SF	\$8.00	\$16,000										\$16,000
2	Interiors appeared to be typical finishes and fair condition for an educational establishment. Allowance for interior finishes renewal. Timing and scope will vary based on future program needs. Allowance only includes renewal of interior finishes and minor renovations of restrooms. Does not include reconfiguration of space or address items related to educational adequacy.		V	CR	5	3	5	5 18	Low	15	5	93,860	SF	\$75.00					\$7,039,500						\$7,039,500
2		Complete indoor air quality testing in the band and choir room.	П	DM	4	2	2	5 13	High	50	1	1	ALLOW	\$5,000	\$5,000										\$5,000
3	The band room and choir room had a strong musty smell, which could be as a result of an indoor air quality issue. Allowance to correct any issues identified during the investigation. Costs may fluctuate based on findings and recommended corrective work.	Allowance for correcting potential air quality issues in the band and choir room.	П	DM	4	2	2	5 13	High	50	1	1	ALLOW	\$50,000	\$50,000										\$50,000











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Mechanical														Year 1	2	3	4	5	6	7	8	9	10	
Required																								
1	Heating to the building is provided via a Weil-McLain 3,820,000 BTU gas fired boiler, providing hot water to the air handling units through out the building. The boiler appears to date to circa 2000 based on the serial number of the burner. Based on the age of the boiler and improvements in boiler efficiency, it is recommended to budget for the replacement of the boiler during the study period.	III	CR	3	3	4	4 14	4 M	1edium	25	2	3,820	МВН	\$110	\$420,20	0								\$420,200
2	Chilled water is provided by six air cooled chillers ranging from 30 to 52-tons manufactured Trane between 2013 and 2019. Air cooled chillers typically have a service life of 20 years if properly maintained. It is recommended to begin budgeting for the phased replacement of the boilers in the late-term.	IV	CR	3	4	3	4 14	4 M	1edium	20	10	100	Ton	\$4,500.00									\$450,000	\$450,000
3	Conditioned air is provided by multiple air handling units equipped with heating and chilled water coils. The majority of the units have been replaced within the last two years; however, we did note that a unit located in the boiler room was manufactured by McQuay in 1995. It is recommended to replace the unit during the study period. Include upgrading to low voltage controls in lieu of the existing pneumatics.	Ш	CR	4	3	4	4 15	5 M	1edium	15	2	5,000	CFM	\$10	\$50,00									\$50,000
Electrical Required																								
1	The building electrical systems appeared to be in fair condition with equipment dating from the original construction with newer panel boards having been installed as necessary. The main switchgear and various panel boards were noted to have obsolete components, including the main high pressure contact switch. Based on the age of the original electrical equipment and obsolete components, it is recommended to replace the original electrical equipment throughout the building. Replacement of the emergency generator should also be completed at this time.	Ш	DM	2	3	3	5 13	3	High	30	1	93,860	SF	\$8.00 \$750,88	0									\$750,880
2	Access control systems appeared to be limited to electronic card access systems. It is recommended to expand access control and security systems throughout the school.	11	CI	2	3	3	4 12	2	High	20	2	93,860	SF	\$3.50	\$328,51	0								\$328,510











Building: GSF: Age: Address:

item No.	Condition Recommendation	Priority Category	Deficiency Category	Impact of Failure	Condition	Probability of Failure	Frequency of Failure Rick Score	KISK SCOre	Risk Category	Estimated Useful Life	Remaining Useful Life	Quantity	Unit of Measure	Onit Cost		2025	2027	5 2028	ه 2029	7	α 2031	o 2032	5033	Required
Plumbing																								
Required 1	The building plumbing systems appeared to be in fair condition and should remain operational through the term with ongoing preventative maintenance performed by inhouse personnel. Domestic hot water is provided by two natural gas water heaters. One water heater was manufactured by PVI in 2009 while the other was manufactured by State in 2019. Based on the age of the PVI water heater, it is recommended to budget for the replacement of the water heater.	III	CR	3	3	4	5 19	.5	Medium	15	4	1	EA	\$45,000			\$45,000							\$45,000
2	The school has one 20,000-gallon underground storage tank which stores No. 2 fuel oil. The tanks were reportedly installed in 1974 and reported to be a single wall type tank. Based on the age of the tank it is recommended to continue to monitor the condition of the tank through annual testing and active monitoring. An allowance for removal of the tanks has been provided; however, the timing will be driven by monitoring and testing results.	Ш	CR	3	4	4	4 1:	.5 1	Medium	30	4	1	ALLOW	\$175,000			\$175,000							\$175,000
Fire & Life S	Safety																							
Required 1	An addressable fire detection and alarm system is provided within the building. Several trouble alarms were noted on the panel at the time of our site visit. These should be rectified as soon as possible. The system was manufactured by Notifier, but is now obsolete. It is recommended to replace the main fire alarm control panel, dialer, annunciator, and as needed devices.	III	CR	2	3	3	5 1	.3	High	25	2	1	EA	\$50,000		\$50,000								\$50,000
2	Existing drawings detailing to which codes the school was designed in accordance were not available for review. The school is not provided with a fire-sprinkler system.  Buildings of this size typically are required to either have a sprinkler system or an approved rated assembly to protect structural elements. It is recommended to complete a more detailed fire and life safety assessment to review the code enforced at construction and the last renovation along with any details on how these ratings were achieved.	III	CI	3	3	4	4 1.	.4	Medium		1	1	EA	\$10,000 \$10,000	0									\$10,000











Building: GSF: Age:

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										Year	1	2	3	4	5	6	7	8	9	10	
Conveyance Sys	stems																				4
Required																				<u> </u>	
1 The	e building has no conveyance systems.	N/A																			\$0
																				4	
Deficiency	Definition	Priority Definition	Risk D	efinition						red Cost S-Dollars)	\$2,834,010	\$884,710	\$0	\$220,000	\$7,083,888	\$24,220	\$0	\$144,382	\$0	\$450,000	\$11,641,210
SM	Scheduled Maintenance	I Currently Critical	Critical Cr	ritical (4-8)					(2023 0	3-Dollars)									1	' ' '	
DM	Deferred Maintenance	II Potentially Critical	High Hi	igh (9-13)					Parenti.	red Cost										1	
CR	Capital Renewal	III Necessary / Not yet Critical		1edium (14-16)						or 1st 3 years then	\$3,060,731	\$1,031,926	\$0	\$247,612	\$8,212,168	\$28,920	\$0	\$182,899	\$0	\$604,762	\$13,369,017
	<u> </u>	IV Recommended				-			3% F	er Yr.)	, , , , , ,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	• -	' '	, ,	' -,-		, , , , , , , , , , , ,	1	/	,,.
EN	Energy & Sustainability	V Appearance	Low Lo	ow (17-20)																+	
CI	Capital Improvement	VI Does Not Meet Codes / Standards	1						Tota	al Cost	\$30.19	\$9.43	\$0.00	\$2.34	\$75.47	\$0.26	\$0.00	\$1.54	\$0.00	\$4.79	\$124.03









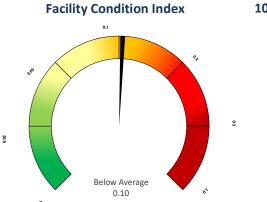


Building: GSF: Age:

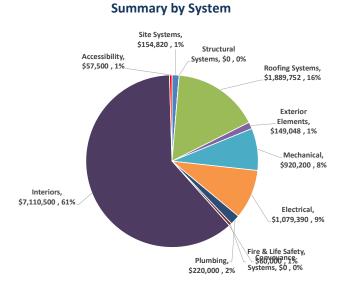
**Brevard Middle School** 93860

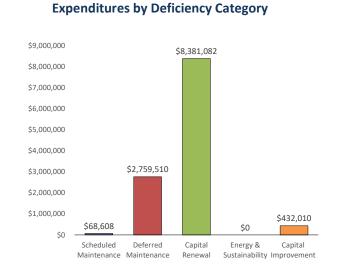
93860 1974 (49 years) 400 Fisher Rd Brevard, NC 28712

## **Financial Summary**







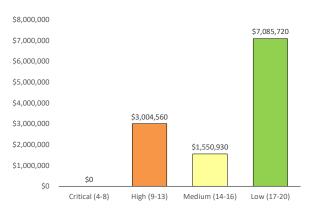


FCI Range	Condition Description
0.00 - 0.02	Excellent condition, typically new construction
0.02 - 0.05	Good Condition, renovations occur on schedule
0.05 - 0.1	Fair Condition, in need of normal renovation
0.1-0.2	Below average condition, major renovation required
0.2 - 0.5	Poor condition, total renovation needed
0.5 – 1	Complete facility replacement indicated

Risk	Definition
Critical	Critical (4-8)
High	High (9-13)
Medium	Medium (14-16)
Low	Low (17-20)

Priority	Definition
1	Currently Critical
Ш	Potentially Critical
111	Necessary / Not yet Critical
IV	Recommended
V	Appearance
VI	Does Not Meet Codes / Standards

## **Expenditures by Risk**



#### **Expenditures by Priority Category**





uilding: Brevard Middle School

GSF: 93860

Age: 1974 (49 years)

Address: 400 Fisher Rd

Brevard, NC 28712

## **Representative Photos**



Vintage McQuay air handling unit in the boiler room.



Deterioration of the built-up roof cap sheet.



Exterior brick walls and vertical cracking



Obsolete fire alarm control panel with noted trouble alarms.



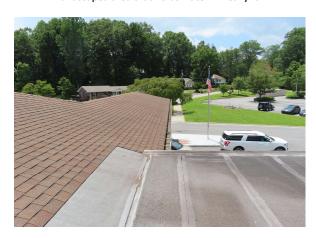
Painted CMU walls with stairstep cracking which should be monitored.



Obsolete electrical components, including main switch.



Landscaped area that holds water in heavy rain



Low slope built up asphalt shingle roof



Typical air-cooled chiller.



Asphalt parking lot with minor cracking.



Failed seems noted at the built-up roof over the  $\ensuremath{\mathsf{gym}}.$ 



Original emergency power generator.