REPORT OF FACILITY CONDITION ASSESSMENT



Rosman Middle and High School

Property Address: 749 Pickens Hwy Rosman, NC 28772

Prepared For:

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

Prepared By:

Axias

Project No. GA23-017

February 26, 2024













Item No.	Condition	Recommendation	Priority Category	Deficiency	Failure Condition	Probability of Failure	Frequency of Failure	Risk Score	Risk Category	Estimated Useful Life	Remaining Useful Life	Quantity	Unit of Measure	Cost Cost	2024	5002	2026	2027	5 2028	م 2029	7	ω 2031	o 2032	703	Required
Accessibility Required	The building was constructed before the implementation of the Americans with	ipated capital expenditures.												Teur	-	-					,			10	\$0
Site System Required	to comply with applicable guidelines. S Asphalt to the parking access road, and parking lot at the east, behind the gym, is in																								
	a noor condition. The asphalt is excessively	nalt should be removed and full- sphalt repairs completed.	III	DM	4 3	3	4	14	Medium	30	1	1,700	SY	\$35.00	\$59,500										\$59,500
2	Asphalt paving to the parking lot to the east of the site behind the High School and below the Old Gym was in a poor condition and cracked at many locations.	l and overlay the asphalt behind School and below the Old Gym	Ш	DM	4 3	3	4	14	Medium	15	1	1,420	SY	\$15.00	\$21,300										\$21,300
3		l and overlay the asphalt behind Gym and upper parking lot.	Ш	DM	4 3	3	4	14	Medium	15	1	3,300	SY	\$15.00	\$49,500										\$49,500
4		l, seal coat, and restripe asphalt cycle on asphalt which has been l).	IV	SM	5 5	5	5	20	Low	7	5	6,420	SY	\$2.00					\$12,840						\$12,840
5	anticipated to include installation of passive	e study, design, and ction of a stormwater ment system at the football	Ш	CI	4 3	4	4	15	Medium	20	2	77,000	SF	\$25.00		\$1,925,000									\$1,925,000
6	constructed in accordance with industry	ce for the evaluation and follow rs of the segmental retaining		DM	2 3	4	4	13	High	30	1	6,500	SF	\$110.00	\$715,000										\$715,000











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	Onit Cost	2024	2025	5026	2027	5028	٥ 2029	7	ω 2031	ه 2032	503 33	Required
7	Chain link fencing is provided around the foot ball field along with the baseball field. At the time of our site visit sections of the fencing were noted to be damaged. It is recommended to budget for repairs to the chain link fencing during the study period.	Replace damaged sections of chain link fencing.	III	DM	4 3	4	5	16	Medium	25	1	300	LF	\$30.00	\$9,000	-		7	3		,	Ü	,	10	\$9,000
8	A concreate amphitheater is provided at the east side of the school. Areas of distressed concrete were noted. It is recommended to budget for the replacement of distressed concreate at the amphitheater.	Replace damaged concrete at the amphitheater.	III	CR	5 4	4	4	17	Low	25	2	200	sf	\$35.00		\$7,000									\$7,000
Structural S Required	ystems																								
1	Structural cracking issues were identified at the Old Gym and High School building. At the Old Gym significant cracking to the exterior wall near the entrance, was noted. Inside the building, the gym floor had dropped 3". Within the old coal store room, cracking was observed in the wall and the room reportedly floods often with ground water entering under pressure through the cracks. At select classrooms in the High School on the west-facing elevation, some movement was apparent where the floor and exterior walls meet. Cracking and deterioration to brickwork externally was also noted within the restrooms at the Art Gallery/Common Area in front of the Auditorium.	Further investigation by a Structural Engineer and provisional placeholder cost for repair works recommended.	п	DM	2 2	1	4	9	High	50	1	1	ALLOW	\$165,000	\$165,000										\$165,000
1			11	DM	3 2	3	4	12	High	15	1	35,500	SF	\$20.00	\$710,000										\$710,000
2	The modified bitumen roof installed at the low slope roof areas over the Middle School was in a poor condition. The covering is at the end of its life and has been patched in many areas. Fully strip off and replace the modified bitumen roof system and replace with a TPO covering.	Replace modified bitumen with new TPO roof at the Middle School.	П	DM	3 2	3	4	12	High	15	1	13,200	SF	\$20.00	\$264,000										\$264,000
3	arowth Fully strip att and replace the	Replace modified bitumen with new TPO roof at the Old Gym.	11	DM	3 2	3	4	12	High	15	1	11,400	SF	\$20.00	\$228,000										\$228,000











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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
													Year	1	2	3	4	5	6	7	8	9	10	
Exterior Ele Required																								
1	Insulated glazed units (IGUs) at the "bell tower" (stairwell) area of the building had fogged. The sealants had failed and moisture has entered between the glazing panes. Remove and replace the glazing with new IGU panes.	III	DM	5 2	4	5	16	Medium	25	1	1,000	SF	\$110.00	\$110,000										\$110,000
2	Sealant joints at the perimeters of the exterior windows and at building movement joints were in poor condition. Sealants had perished and failed at many locations.	oss III	DM	3 2	3	4	12	High	10	1	6,300	LF	\$10.00	\$63,000										\$63,000
3	The exterior insulation finishing system (EIFS) on the rear west-facing elevation at the courtyard and front east-facing elevation is in fair condition evidenced by staining and organic growth. It is recommended to complete a thermography scan of the EIFS elements before completing any repairs or recoating.	o III	DM	5 3	4	4	16	Medium	10	1	6,275	SF	\$14.00	\$87,850										\$87,850
4	Exteriors were generally in fair condition. It is recommended to carry an allowance to complete generic building-wide exterior repairs including replacement of pointing, isolated painting, replacement of failed windowpanes, and other general exterior maintenance.	Ш	SM	4 3	4	5	16	Medium	5	2	1	ALLOW	\$75,000		\$75,000									\$75,000
5	Exteriors were generally in fair condition. It is recommended to carry an allowance to complete generic building-wide exterior repairs including replacement of pointing, isolated painting, replacement of failed windowpanes, and other general exterior maintenance.	IV	SM	4 3	4	5	16	Medium	5	7	1	ALLOW	\$50,000							\$50,000				\$50,000
Interiors 1	Ceiling tiles were noted to be in general good condition. We did note numerous stained ceiling tiles throughout. It is recommended to budget for the replacement of the stained ceiling tiles in the near-term. Some ceiling tiles could protentially be fire rated and would need to be replaced with the same type of rated material.	ng III	DM	5 3	4	5	17	Low		1	2,500	SF	\$8.00	\$20,000										\$20,000
2	Interiors appeared to be typical finishes and fair condition for an educational establishment. 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	10	3	35,220	SF	\$60.00			\$2,113,200								\$2,113,200











Item No.	Condition	Recommendation	Priority Category	Deficiency Category	Impact of Failure Condition	Probability of	Frequency of	Risk Score	Risk Category	Estimated Useful Life	Remaining Useful Life	Quantity	Unit of Measure	Unit Cost	2024	5025	2002 2002	5028	٥ 2029	7	8 2031 6 2032	70 33	Required
3	Interiors appeared to be typical finishes and fair condition for an educational establishment. 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.	Allowance for renewal of interior finishes. Timing and scope will vary based on future program needs. Cycle two.	V	CR	5 3	5	5	18	Low	10	4	35,220	SF	\$60.00	1	2	\$2,113,200		6	,	8 9	10	\$2,113,200
	Interiors appeared to be typical finishes and fair condition for an educational establishment. 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.	Allowance for renewal of interior finishes. Timing and scope will vary based on future program needs. Cycle three.	V	CR	5 3	5	5	18	Low	10	5	35,220	SF	\$60.00				\$2,113,200					\$2,113,200
5	Interiors appeared to be typical finishes and fair condition for an educational establishment. 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.	Allowance for renewal of interior finishes. Timing and scope will vary based on future program needs. Cycle four.	V	CR	5 3	5	5	18	Low	10	6	35,220	SF	\$60.00					\$2,113,200				\$2,113,200
6	A physical security assessment was provided by Safe Havens International. As part of their assessment, they identified areas within the school which should be provided with a vestibule to limit continued access throughout the school. Based on this recommendation, it is recommended to budget for the installation of vestibules to limit access throughout the school.	Construct vestibules per Physical Security Assessment.	II	CI	3 3	3	3	12	High		2	140,870	SF	\$2.00		\$281,740							\$281,740
		Replace air-cooled chiller outside the Cafeteria.	111	CR	2 3	3	3	11	High	25	1	110	TON	\$4,200	\$462,000								\$462,000
2	The chiller mounted on the roof serving the northern portion of the building was in fair to good condition. The chiller was manufactured by Trane in 2013. Based on a typical service life of 20 to 25 years, it is recommended to budget for the replacement of the chiller during the study period.	Replace rooftop chiller serving the north end of the building.	IV	CR	3 4	4	5	16	Mediur	n 20	9	60	TON	\$4,200							\$252,000		\$252,000











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
3	Boilers #1 and #2 located in the outdoor amphitheater mechanical room are oil-fired and were in fair to good condition and may remain serviceable with an effective overhaul. Replacement of both boilers is recommended near the middle or end of the study period at the same time.	Replace Boiler #1 and #2 along with associated pumps, valves, and accessories.	III	CR	3 4	3	4	14	Medium	30	5	4,100	МВН	\$110	1	2	3	4	\$451,000	6	7	8	9	10	\$451,000
4	Boiler #3 is located in the basement of the Old Gym and is in good condition. The boiler is oil-fired and was installed in 2014 serving the Old Gym and parts of the Vocational Wing of the High School and reportedly meets the heating needs of these areas. To keep the boiler operating near design specifications, we recommend an overhaul early in the study period.	Refurbish Boiler #3 along with associated pumps, valves, and	111	SM	3 4	3	4	14	Medium	10	3	1,680	МВН	\$110			\$184,800								\$184,800
5	Boiler #4 in the New Gym is oil-fired and serves the south portion of the building and is fair to good condition. Heating was reported to be adequate when in use. The boiler has reached the end of its recommended useful life and should be replaced early in the term.	Replace Boiler #4 along with associated pumps, valves, and accessories.	III	CR	3 4	3	4	14	Medium	30	3	1,084	МВН	\$110			\$119,240								\$119,240
6	Unit ventilators in the Middle School are becoming problematic and difficult to repair. The unit ventilators have reached the end of their recommended useful life and should be replaced.	Phased replacement of unit ventilators.	III	CR	4 3	4	4	15	Medium	20	1	40	EA	\$15,000	\$600,000										\$600,000
7	AHUs in the High School are either served by the chilled water supply loop or individual pad-mounted condenser units. The AHUs are reportedly becoming problematic and are difficult to access for the proper repairs. Based on the location of the units in the central hallway ceilings and age of the equipment, we recommend replacement of the AHUs during the study period.	Phased replacement of air handling units.	Ш	CR	4 3	4	4	15	Medium	20	1	28	EA	\$40,000	\$1,120,000										\$1,120,000
8	The Fieldhouse package units operate adequately with minimal downtime and typical needs for repair. The Fieldhouse package units will reach the end of their useful life late in the study period and should be replaced at the same time.	Replace the Fieldhouse package units.	III	CR	4 4	3	3	14	Medium	25	8	2	EA	\$40,000								\$80,000			\$80,000











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9	Humidity levels in select rooms of the Middle School were noted as moderate and reported to be a recuring issue during periods of warmer outside air temperatures. Replacement of the unit ventilators may resolve the issue but are proposed for phased replacement over the study period. Auxiliary systems such as dedicated outdoor air systems can be added to central hallways, where return air is circulated through plenum space, to achieve optimal humidity control. Application of auxiliary systems (3 areas) to control humidity should be engineered by a qualified mechanical engineer.	or III	CI	4 3	4	3	14	Medium	15	2	3	AREAS	\$250,000	1	\$750,000	3	4	5	6	7	8	9	10	\$750,000
	The building management system (BMS) is built on the Niagara framework with Johnson Controls Metasys control hardware installed in 1999. The BMS gives a broad overview of the Property with select items controlled via the web-based interface. The system is limited but remains operational. Resources and supplies for older BMS versions are difficult to obtain, so we recommend that the BMS system is upgraded. Upgrades include hardware replacements and software advancements, and as needed component replacements.	Ш	CR	4 3	4	4	15	Medium	15	2	140,870	SF	\$2.75		\$387,393									\$387,393
Electrical Required	The majority of electrical service equipment, distribution panels and subsequent electrical components, dated to the 1999 renovation or newer and were in fair to good condition. However, there are still some panels which date to 1975 remaining. These panels have exceeded their useful life and with antiquated electrical components. The components can become unreliable and hard to maintain. It is recommended to replace the remaining 1975 electrical panels.	III	CR	3 4	4	5	16	Medium	30	3	1,800	АМР	\$120.00			\$216,000								\$216,000
2	Security and access control systems include mounted security cameras at various locations and electronic card reader access control systems. These types of systems typically have a service life of 10 years before components become obsolete. It is recommended to upgrade the security and access control systems.	11	CI	2 3	3	4	12	High	10	2	140,870	SF	\$3.25		\$457,828									\$457,828











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	Onit Cost	2024	5707	2026	2027	م 2028	9 2029	5030	α 2031	6 2032	5033	Required
Plumbing Required														Year	1	2	3	4	5	6	/	8	9	10	
1	The 250-gallon electric water heater located at the east elevation of the building exterior was observed with minor rust at the base of the outer jacket and mineral deposits at hot water supply piping. The water heater was installed in 2007 and will reach the end of its recommended useful life in the study period and should be replaced at that time.		Ш	CR	3 3	4	4	14	Medium	20	3	1	EA	\$45,000			\$45,000								\$45,000
2	Additional fired domestic water heaters are provided for various use. The water heaters were manufactured in circa 2008 by PVI. Based on a typical service life of 15 to 20 years, it is recommended to budget for the replacement of the two PVI water heaters.	Replace PVI water heater #1 and #2	III	CR	3 4	4	4	15	Medium	20	3	2	EA	\$55,000			\$110,000								\$110,000
3	The heating hot water boilers utilize No. 2 fuel oil which is repotedly stored in one 10,000 and one 20,000-gal underground storage tank. It was reported that the tanks are single walled and installed in circa 1956 and 1991. Based on the age of the tanks it is recommended to continue to monitor the condition of the tanks through annual testing and active monitoring. An allowance for remobal of the tanks has been provided; however, the timing will be driven by monitoring and testing results.	Remove underground storage tank and install new above ground code/regulation compliant storage tank.	111	CR	3 3	4	4	14	Medium	30	4	1	ALLOW	\$265,000				\$265,000							\$265,000
Fire & Life																									
Required 1	The building is monitored by a Notifier NFS2-	No anticipated capital expenditures.																							\$0
2	The Fieldhouse has a Simplex 4010 fire alarm control panel. The fire alarm panel is obsolete and should be scheduled for replacement.	Replace Fieldhouse fire alarm control panel.	111	CR	3 3	4	4	14	Medium	25	2	1	EA	\$20,000		\$20,000									\$20,000
3	lannroyed rated accembly to protect	Complete life safety and code evaluation.	Ш	CI	3 3	4	4	14	Medium		1	1	EA	\$15,000	\$15,000										\$15,000











Building: Rosman Middle & High
GSF: 140870
Age: 1949, extended 1956 (74 and 67 years old)
Address: 749 Pickens Hwy
Brevard, NC 28772

					Section 1					100				1900.200											
Item No.	Condition	Recommendation	Priority	icier		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
														Year	1	2	3	4	5	6	7	8	9	10	
Conveyance	e Systems																								
Required																									1
1	The age of the hydraulic elevator is unknown, but assumed to have been installed circa 2000. The elevator was in fair condition, but would benefit from modernization. Fully modernize the elevator, including replacement of the hydraulic pump unit, controller, car top equipment, and interior cab finishes.	Modernize hydraulic elevator.	111	CR	4	3	4	5 16	Mediun	25	2	1	EA	\$200,000		\$200,000									\$200,000
Deficier	ncy Definition Pric	ority Definition	Risk	De	efinitio	on								quired Cost	\$4 600 150	\$4,103,960	\$2 788 240	\$2 278 200	\$2 577 040	\$2 113 200	\$50,000	\$80,000	\$252,000	\$0	\$19,041,790
SM	Scheduled Maintenance	I Currently Critical	Critica	al Cr	itical (4	1-8)							(2023	3 US-Dollars)	34,033,130	34,103,500	32,788,240	\$2,378,200	32,377,040	32,113,200	330,000	380,000	\$232,000	, JU	313,041,730
DM		II Potentially Critical	High	Hi	gh (9-1	L3)																			
CR	Capital Renewal	III Necessary / Not yet Critical Recommended	Mediu			(14-16)							(Inflated @ 8%	quired Cost for 1st 3 years then 3% Per Yr.)	\$5,075,082	\$4,786,859	\$3,512,379	\$2,676,685	\$2,987,496	\$2,523,271	\$61,494	\$101,342	\$328,803	\$0	\$22,053,410
EN	Energy & Sustainability	V Appearance	Low	Lo	w (17-	20)								•											
CI	Capital Improvement	VI Does Not Meet Codes / Standards												otal Cost 3 \$/ SF/ Yr.)	\$33.36	\$29.13	\$19.79	\$16.88	\$18.29	\$15.00	\$0.35	\$0.57	\$1.79	\$0.00	\$135.17











GSF:

Expenditures by Deficiency Category

Rosman Middle & High

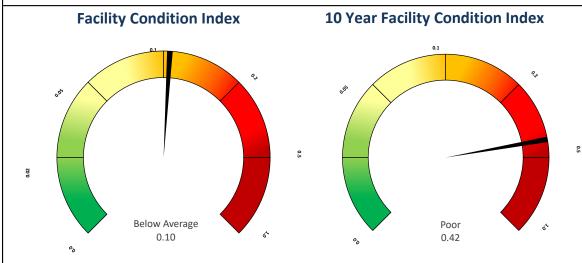
\$3,429,568

Capital

1949, extended 1956 (74 and 67 years old) 749 Pickens Hwy Age: Address:

Brevard, NC 28772

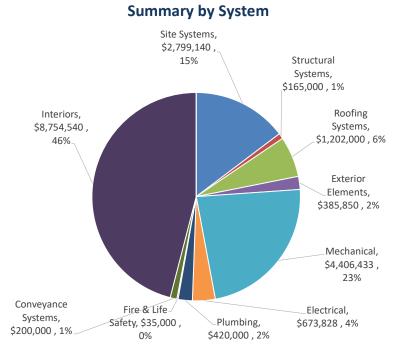
Financial Summary

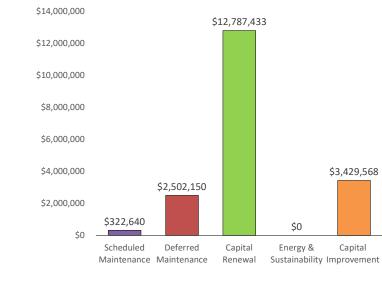


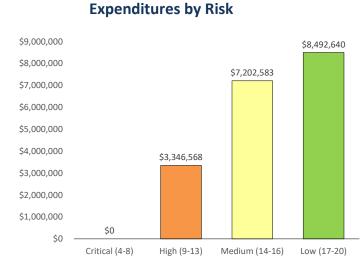
FCI Range	Condition Description
0.00 - 0.02	Excellent condition, typically new construction
0.02 - 0.05	Good Condition, renovations occur on schedule
0.05 - 0.1	Fair Condition, in need of normal renovation
0.1-0.2	Below average condition, major renovation required
0.2 – 0.5	Poor condition, total renovation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

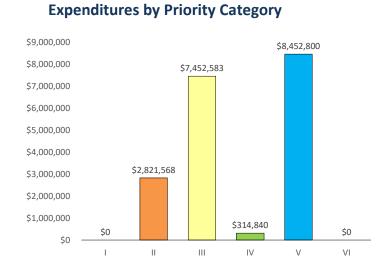
Risk	Definition
Critical	Critical (4-8)
High	High (9-13)
Medium	Medium (14-16)
Low	Low (17-20)

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











uilding: Rosman Middle & High

140870

Age: 1949, extended 1956 (74 and 67 years old)

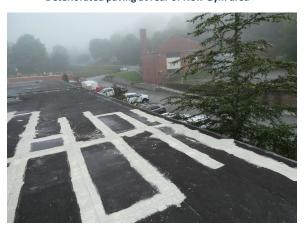
Address: 749 Pickens Hwy

Brevard, NC 28772

Representative Photos



Deteriorated paving at rear of New Gym area



Deteriorated roof covering and former repairs



Rooftop chiller



Cracked asphalt paving



Standing water on roof



Sump pump in bandroom closet



Structural cracking at Old Gym building



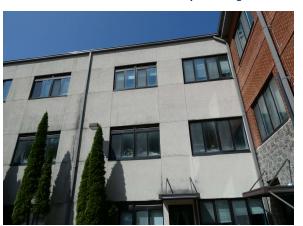
Fogged IGUs at bell tower



Fire alarm panel



Structural movement at Old Gym building



Stained/discolored EIFS



Elevator controller