

**TABLE 1: COST TO ADDRESS THE DEFICIENCIES
NOTED IN ITC AAM ACCREDITATION REPORT. PLEASE REFER TO RKI REPORT ATTACHMENT D – CAPITAL RESERVE ANALYSIS**

Item No.	AAM Accreditation Report Issue and Reference Number		Remediation Recommendation	Line Item and Estimated Cost per the Capital Reserve Analysis Table
1	Page 13, Item 1	Lacking a vapor barrier	Apply coating to exterior walls, interior floor slab, and roof. NOTE: THIS SHOULD NOT BE PERFORMED WITHOUT ENSURING THE HVAC SYSTEM CAN HANDLE THE NEW LOADING.	2.06.05 - \$1,200,000 2.06.06 - \$500,000
2	Page 13, Item 2	Low ceiling	Prior to making alterations to the structure, a full structural analysis should be performed including destructive testing. Once the structural analysis is completed, an architect should be consulted to design changes to the museum structure.	2.05.03 - \$100,000
3	Page 14, Item 3	Low allowable live load	Prior to making alterations to the structure, a full structural analysis should be performed including destructive testing. Once the structural analysis is completed, an architect should be consulted to design changes to the museum structure.	Included in response to No.2
4	Page 14, Item 4	Existing roof nearing the end of its useful life	Replace existing roof coverings. Apply vapor barrier at time of replacement.	2.06.01 - \$2,475,000
5	Page 15	No existing loading dock	Prior to making alterations to the structure, a full structural analysis should be performed including destructive testing. Once the structural analysis is completed, an architect should be consulted to design changes to the museum structure.	Included in response to No.2
6	Page 16	Flooding of first floor	We observed a trench drain around the building perimeter that is likely designed to collect groundwater. The condition of the trench drain should be assessed and replaced as necessary.	2.10.01 - \$2,000,000
7	Page 17	Fire protection and life safety systems are not sufficient	Retrofit existing fire protection system to meet museum accreditation standards	2.13.02 - \$1,260,000

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8	Page 19	Asbestos	This was not included in our scope of work	
9	Page 20	Elevators are approaching the end of their useful life	Replace the existing elevators with new	2.07.08 - \$60,000
8	Page 21	The electrical system does not meet accreditation standards	Remove and replace the existing electrical system	2.09.09 – 2.09.13 \$1,425,000
9	Page 21	Structural columns are large and closely spaced	Prior to making alterations to the structure, a full structural analysis should be performed including destructive testing. Once the structural analysis is completed, an architect should be consulted to design changes to the museum structure.	Included in response to No.2
10	Page 21	Water sources above the galleries	Install new water intrusion alarms	Included in response to No. 7
11	Page 21	Security system does not meet accreditation standards	Upgrade existing security system	2.13.03 - \$5,000,000
12	Page 23	There is minimal climate stability	When a vapor barrier is installed, the HVAC system should be replaced to accommodate changes in interior loading.	Included in response to No.1 and 2.08.12 - \$15,000,000
13	Page 25	Carpentry workshop does not have adequate ventilation	This can be addressed when the HVAC system is replaced	2.08.12 - \$15,000,000
14	Page 25	Collections types, valuation, and insurance	This comment is not included in this scope of work	

CAPITAL RESERVE ANALYSIS (REV.2)

Institute of Texan Cultures

San Antonio, Texas

ITEM NO.	BUILDING COMPONENT	SHORT TERM	LONG TERM CAPITAL REPLACEMENT RESERVE ANALYSIS						
			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	MAINTENANCE REPAIRS (OPTION 1)	REPLACEMENT REPAIRS (OPTION 2)
2.04	SITE DEVELOPMENT								
	OPTION 1: MAINTENANCE OF EXISTING CIVIL STRUCTURES								
2.04.01	REPAIR CRACKING AND POTHOLES IN THE ASPHALT PAVEMENT AND SEAL-COAT PARKING LOTS AND ASPHALT DRIVEWAYS. RE-STRIPE THE PARKING LOT: APPROXIMATELY 78,000 SF @ \$3.00/SQFT	\$234,000						\$234,000	\$468,000
2.04.02	REPAIR CRACKS IN THE CONCRETE PAVEMENT AND SIDEWALKS: APPROXIMATE LUMP SUM	\$5,000							\$5,000
2.04.03	SEAL JOINTS IN THE CONCRETE PAVEMENT, SIDEWALKS AND PATIO: APPROXIMATELY 4,000 LF @ \$2.00/LF	\$8,000							\$8,000
2.04.04	FULL DEPTH SIDEWALK REPAIR AT LOCATIONS WHERE DIFFERENTIAL MOVEMENT HAS CAUSED TRIP HAZARDS. APPROXIMATELY 100 SF @ \$20/SF.	\$2,000							\$2,000
2.04.05	REMOVE AND REPLACE ASPHALT SEATING AREA: APPROXIMATELY 300 SQFT @ 27.00/SQFT	\$8,100							\$8,100
2.04.06	REPLACE DAMAGED GRANITE PAVERS. APPROXIMATELY 200 SQFT @ \$30.00/SQFT		\$6,000						\$6,000
2.04.07	DEMOLITION OF THE RAILROAD-TIE STEPS AT THE NORTH SIDE OF THE BUILDING. APPROXIMATE LUMP SUM	\$3,000							\$3,000
2.04.08	REPLACE DAMAGED SECTIONS OF WROUGHT IRON FENCING. APPROXIMATELY 700 LF @ \$60.00/LF	\$42,000							\$42,000
2.04.09	REMOVE CHIPPED PAINT AND RE-PAINT EXISTING WROUGHT-IRON FENCE. APPROXIMATELY 4,000 LF @ \$4.00/LF		\$16,000						\$16,000
2.04.10	ASSESSMENT OF EXISTING LIGHT POLES. APPROXIMATELY 20 POLES @ \$250 PER POLE	\$5,000							\$5,000
2.04.11	ASSESSMENT OF EXTERIOR CANOPY STRUCTURE. APPROXIMATE LUMP SUM (LS).	\$10,000							\$10,000
	OPTION 2: REMOVAL AND REPLACEMENT OF DAMAGED ITEMS OR ITEMS THAT ARE IN POOR CONDITION								
2.04.12	REMOVE AND REPLACE EXISTING ASPHALT PAVING. APPROXIMATELY 78,000 SQFT @ \$3/SQFT							\$234,000	\$234,000
2.04.13	REMOVE AND REPLACE CONCRETE SIDEWALKS. APPROXIMATELY 9,000 SQFT @ \$9/SQFT							\$81,000	\$81,000
2.04.13	INSTALL CURBS ALONG ASPHALT SIDEWALKS TO MINIMIZE EDGE RAVELING. APPROXIMATELY 3,000 LF @ \$5.00/LF							\$15,000	\$15,000
2.04.14	REPLACE ALL GRANITE PAVERS WITH NEW PAVERS. APPROXIMATELY 5,000 SQFT @ \$37/SQFT							\$185,000	\$185,000
2.04.15	REPLACE EXISTING LIGHT POLES WITH ENERGY EFFICIENT LED POLES. APPROXIMATELY 20 POLES @ \$10,000 PER POLE							\$200,000	\$200,000
2.04.14	REPLACE ALL DECORATIVE FENCING. APPROXIMATELY 3,300 LF @ \$60.00/LF							\$198,000	\$198,000
2.04.15	REPLACE EXTERIOR CANOPY STRUCTURE. APPROXIMATE LUMP SUM							\$100,000	\$100,000

ITEM NO.	BUILDING COMPONENT	SHORT TERM	LONG TERM CAPITAL REPLACEMENT RESERVE ANALYSIS					MAINTENANCE REPAIRS (OPTION 1)	REPLACEMENT REPAIRS (OPTION 2)
			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5		
2.05	BUILDING STRUCTURE								
2.05.01	PATCH AREAS OF SPALLED CONCRETE. APPROXIMATELY 20 LOCATIONS @ \$200/LOCATION	\$4,000					\$4,000		
2.05.02	CLEANING AND ADDITIONAL ASSESSMENT OF THE PEDESTRIAN BRIDGE. APPROXIMATE LUMP SUM	\$5,000							
2.05.03	PERFORM A STRUCTURAL ANALYSIS OF THE BUILDING TO ASSESS THE LOAD CAPACITY. ANALYSIS WILL INCLUDE DESTRUCTIVE TESTING					\$100,000		\$100,000	
2.06	BUILDING EXTERIOR								
2.06.01	ROOFING REPLACEMENT - HYBRID MODIFIED BITUMENT ROOF SYSTEM: APPROXIMATELY 90,000 SQFT @ \$27.50/SQFT	\$2,475,000					\$2,475,000	\$2,475,000	
2.06.02	DESIGN SERVICES FOR ROOF REPLACEMENT. 6% OF CONSTRUCTION COSTS	\$148,500					\$148,500	\$148,500	
2.06.03	REMOVAL AND REPAINTING OF EXISTING METAL WALL PANELS AT ROOF: APPROXIMATE LUMP SUM	\$91,930					\$91,930	\$91,930	
2.06.04	REPLACEMENT OF JOINT SEALANT AT EXTERIOR WALLS: APPROXIMATELY 1,200 LF @ \$24/LF	\$28,800					\$28,800	\$28,800	
2.06.05	APPLY VAPOR BARRIER TO EXTERIOR WALLS, INTERIOR FLOOR, AND ROOF. APPROXIMATE LUMP SUM							\$1,200,000	
2.06.06	REPLACE EXTERIOR WINDOWS AND DOORS WITH THERMALLY-BROKEN WINDOWS AND DOORS. APPROXIMATE LUMP SUM							\$500,000	
2.07	BUILDING INTERIORS								
	OPTION 1: REPAIR DAMAGED OR WORN INTERIOR FINISHES								
2.07.01	REPLACE CERAMIC TILE FLOOR IN RESTROOMS: APPROXIMATELY 1,600 SF @ \$14/SF	\$22,400					\$22,400		
2.07.02	STRUCTURAL ASSESSMENT OF INTERIOR STAIRS WITH DESIGN FOR REPAIR. APPROXIMATE LUMP SUM	\$10,000					\$10,000		
2.07.03	REMOVAL AND REPLACEMENT OF INTERIOR STAIRS.	\$20,000					\$20,000		
	OPTION 2: COMPLETE RENOVATION OF DATED INTERIOR FINISHES								
2.07.04	REPLACE FLOOR COVERINGS. APPROXIMATELY 140,000 SF @ \$5.75/SF INCLUDING DEMO					\$805,000		\$805,000	
2.07.05	REPAINT INTERIOR FINISHES: APPROXIMATE LUMP SUM					\$200,000		\$200,000	
2.07.06	REPLACE INTERIOR DOORS. APPROXIMATELY 200 DOORS AT \$1,000/DOOR					\$200,000		\$200,000	
2.07.07	RENOVATE RESTROOMS. APPROXIMATE LUMP SUM					\$2,000,000		\$2,000,000	
2.07.08	REPLACEMENT OF EXISTING ELEVATORS. 4 ELEVATORS AT APPROXIMATELY \$15,000 PER ELEVATOR							\$60,000	
2.08	MECHANICAL SYSTEMS								
	OPTION 1 - MAINTENANCE TO EXTEND THE USEFUL SERVICE LIFE OF THE EXISTING SYSTEM								
2.08.01	DEMOLISH AIR HANDLERS THAT ARE BEYOND USEFUL SERVICE LIFE. 15 AHU @ \$45,000 EACH	\$675,000					\$675,000		
2.08.02	REPLACE DEMOLISHED AIR HANDLERS. 15 AHU @ \$50,000 EA	\$750,000					\$750,000		
2.08.03	COOLING TOWER MAINTENANCE. APPROXIMATE LUMP SUM	\$15,500					\$15,500		
2.08.04	DEMOLITION AND REPLACEMENT OF EXISTING HVAC CONTROLS: APPROXIMATELY 800 @ \$500/CONTROL	\$400,000					\$400,000		

ITEM NO.	BUILDING COMPONENT	SHORT TERM	LONG TERM CAPITAL REPLACEMENT RESERVE ANALYSIS					MAINTENANCE REPAIRS (OPTION 1)	REPLACEMENT REPAIRS (OPTION 2)
			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5		
2.08	MECHANICAL SYSTEMS (CONTINUED)								
2.08.06	REMOVAL AND REPLACEMENT OF CHILLER: 2 CHILLERS AT \$530,000 EACH						\$1,060,000	\$1,060,000	
2.08.07	REMOVAL AND REPLACEMENT OF CHILLED WATER PUMPS: 6 PUMPS @ \$35,000 EACH				\$210,000		\$210,000		
2.08.08	REMOVAL AND REPLACEMENT OF EXISTING COOLING TOWER. APPROXIMATE LUMP SUM				\$240,000		\$240,000		
2.08.09	REMOVAL AND REPLACEMENT OF EXISTING EXHAUST FANS. 14 FANS @ \$4,000 EACH	\$56,000					\$56,000		
2.08.10	REPLACE DEHUMIDIFIER. APPROXIMATE LUMP SUM	\$14,000					\$14,000		
2.08.11	FUNCTIONAL ANALYSIS AND TESTING OF THE EXISTING HVAC SYSTEM. APPROXIMATE LUMP SUM	\$15,000					\$15,000		
	OPTION 2: COMPLETE REMOVAL OF THE EXISTING HVAC SYSTEM AND REPLACEMENT WITH NEW SYSTEM								
2.08.12	COMPLETE REMOVAL AND REPLACEMENT OF THE EXISTING HVAC SYSTEM. APPROXIMATE LUMP SUM.						\$15,000,000	\$15,000,000	
2.09	ELECTRICAL SYSTEMS								
	OPTION 1 - MAINTENANCE TO EXTEND THE USEFUL SERVICE LIFE OF THE EXISTING SYSTEM								
2.09.01	ELECTRICAL WORK ASSOCIATED WITH AHU REPLACEMENT: 15 AHU @ \$25,000/AHU	\$375,000					\$375,000		
2.09.02	ELECTRICAL WORK ASSOCIATED WITH WATER HEATER REPLACEMENT. 2 WATER HEATERS @ \$1,000 EACH	\$2,000					\$2,000		
2.09.03	RECERTIFICATION OF CODE COMPLIANCE ISSUES. APPROXIMATE LUMP SUM	\$40,000					\$40,000		
2.09.04	MISCELLANEOUS ELECTRICAL REPAIRS. APPROXIMATE LUMP SUM	\$60,000					\$60,000		
2.09.05	ELECTRICAL WORK ASSOCIATED WITH CHILLER REPLACEMENT. APPROXIMATE LUMP SUM				\$28,000		\$28,000		
2.09.06	ELECTRICAL WORK ASSOCIATED WITH PUMP REPLACEMENT. 6 PUMPS @ \$6,500 PER PUMP				\$39,000		\$39,000		
2.09.07	ELECTRICAL WORK ASSOCIATED WITH COOLING TOWER REPLACEMENT. APPROXIMATE LUMP SUM				\$14,000		\$14,000		
2.09.08	ELECTRICAL WORK ASSOCIATED WITH EXHAUST FAN REPLACEMENT. 14 FANS AT \$3,000/FAN	\$42,000					\$42,000		
	OPTION 2: COMPLETE REMOVAL AND REPLACEMENT OF THE EXISTING ELECTRICAL SYSTEM								
2.09.09	REPLACEMENT OF ELECTRICAL SWITCHGEAR. APPROXIMATE LUMP SUM						\$350,000	\$350,000	
2.09.10	REPLACEMENT OF LIGHTING SYSTEMS. APPROXIMATE LUMP SUM						\$400,000	\$400,000	
2.09.11	REPLACEMENT OF LIGHTING CONTROLS: APPROXIMATE LUMP SUM						\$80,000	\$80,000	
2.09.12	REPLACEMENT OF GENERATOR: APPROXIMATE LUMP SUM						\$220,000	\$220,000	
2.09.13	REPLACEMENT OF GENERAL POWER THROUGHOUT BUILDING. APPROXIMATE LUMP SUM						\$375,000	\$375,000	
2.10	PLUMBING SYSTEMS								
	OPTION 1 - MAINTENANCE TO EXTEND THE USEFUL SERVICE LIFE OF THE EXISTING SYSTEM								
2.10.01	REMOVE AND REPLACE EXISTING WATER FOUNTAINS. 7 FOUNTAINS @ \$6,410 EA	\$44,870					\$44,870		
2.10.02	REPAIR/REPLACEMENT OF FLOOR DRAIN/STRAINERS. 5 DRAINS @ \$2,000 EA	\$10,000					\$10,000		

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			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5		
2.10	PLUMBING SYSTEMS (CONTINUED)								
2.10.04	REMOVE AND REPLACE EXISTING WATER HEATERS. 2 WATER HEATERS @ \$1,400 EACH.	\$2,800						\$2,800	
2.10.05	INSTALL NEW VACUUM BREAKERS AND EXPANSION TANK. APPROXIMATE LUMP SUM	\$2,175						\$2,175	
2.10.06	ABOVE FLOOR WASTE VENTS. APPROXIMATE LUMP SUM	\$2,250						\$2,250	
2.10.07	DOMESTIC HOT AND COLD WATER PIPING. APPROXIMATE LUMP SUM	\$5,260						\$5,260	
2.10.08	CAMERA SCOPING OF THE SANITARY SEWER SYSTEM. APPROXIMATE LUMP SUM	\$9,000						\$9,000	
	OPTION 2: COMPLETE REMOVAL AND REPLACEMENT OF THE EXISTING PLUMBING SYSTEM								
2.10.09	COMPLETE REMOVAL AND REPLACEMENT OF THE EXISTING PLUMBING SYSTEM						\$10,000,000	\$10,000,000	
2.10.09	ASSESSMENT AND REPLACEMENT OF THE BELOW GRADE TRENCH DRAIN SYSTEM AT THE PERIMETER OF THE BUILDING. APPROXIMATE LUMP SUM							\$2,000,000	
	DESIGN FEES AND CONTRACTORS FEES								
	ARCHITECTURAL FEE. 20% OF TOTAL COSTS						\$1,497,117	\$7,449,446	
	ENGINEERING FEES. 5% OF TOTOAL COSTS						\$374,279	\$1,862,362	
	GENERAL CONTRACTOR OVERHEAD AND MAINTENANCE						\$1,497,117	\$7,449,446	
2.12	ADA COMPLIANCE								
2.12.01	RESTRIPE PARKING LOT TO INCLUDE AN ADDITIONAL VAN ACCESSIBLE PARKING SPACE	INCLUDED IN 2.04.01							
2.12.02	REMOVE AND REPLACE RESTROOM SIGNAGE FOR RESTROOMS THAT ARE NOT ACCESSIBLE.	>\$1,000							
2.13	FIRE AND LIFE SAFETY PROTECTION								
	OPTION 1: MAINTENANCE OF EXISTING FIRE PROTECTION SYSTEM								
2.13.01	PERFORM AN ASSESSMENT OF THE FIRE PROTECTION SYSTEM TO ASSESS CODE VIOLATIONS AND PREPARE RECOMMENDATIONS FOR UPGRADES.	\$100,000						\$100,000	
2.13.02	RETROFIT EXISTING FIRE PROTECTION SYSTEM. APPROXIMATELY 180,000 SQFT @ \$7/SQFT	\$1,260,000						\$1,260,000	
	OPTION 2: REMOVAL AND REPLACEMENT OF EXISTING FIRE PROTECTION SYSTEM								
2.13.03	UPGRADE EXISTING SECURITY SYSTEM. APPROXIMATE LUMP SUM						\$5,000,000.00	\$5,000,000	
							OPTION 1:	OPTION 2:	
	TOTALS	\$7,003,585	\$22,000			\$531,000	\$37,037,000	\$12,214,098	\$59,008,484
	3 % INFLATION FACTOR IN YEARS 1 THROUGH 5								
	INFLATED TOTALS WITHOUT OPTIONAL ITEMS	\$7,003,585	\$ 22,660.00	\$ -	\$ -	\$ 594,720.00	\$42,592,550	\$12,214,098	\$62,427,613

ITEM NO.	BUILDING COMPONENT	SHORT TERM	LONG TERM CAPITAL REPLACEMENT RESERVE ANALYSIS						
			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	MAINTENANCE REPAIRS (OPTION 1)	REPLACEMENT REPAIRS (OPTION 2)

THE FOLLOWING SERVICES WILL ONLY BE REQUIRED IF THE EXSITNG SOILS ARE DISTURBED. A PHASE II ESA MAY BE REQUIRED IF THE BUILDING OCCUPANCY CHANGES:

PHASE II ENVIRONMENT SITE ASSESSMENT: \$50,000.00
 ACTIVE MONITORING FOR ARCHAEOLOGY: \$35,000.00

THE FOLLOWING DO NOT INCLUDE THE PHASE II ESA OR ARCHAEOLOGICAL MONITORING

TOTAL SQUARE FEET	186,000
NUMBER OF STRUCTURES	1
YEAR BUILT	1968
AGE	49

Ave\$/sf/Yr (uninflated) Years 1 through 5	\$63.45
Ave\$/sf/Yr (inflated) Years 1 through 5	\$67.13