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FACILITY EVALUATION REPORT

ARKANSAS CITY, KANSAS

PARIS PARK POOL

Project No. 0321025.01

FACILITY EVALUATION REPORT
OF
PARIS PARK POOL
FOR THE CITY OF
ARKANSAS CITY, KANSAS
JUNE 8, 2021

1 INTRODUCTION

This report presents the findings of a site visit conducted on October 21, 2020. The findings are based on interviews with City staff, visual observations and photographic documentation, and supporting calculations.

The report is organized into three parts. First, the findings are presented with an accompanying appendix of relevant photographs. Secondly, the scope of a restoration project is presented accompanied by budgetary costs. Finally, recommendations are provided considering whether a facility restoration is feasible or advisable, compared to the relative costs and benefits of a facility replacement.

This report is intended to provide a general evaluation of the current conditions of the pool facility and the feasibility to perform repairs or renovations on the facility. The limitations of this report include:

1. No assessment regarding code requirements or safety was conducted for the playground equipment.
2. No detailed measurements of the dive well were taken.
3. No full assessment of VGB compliancy was conducted because sumps were not inspected, and flow rates were not investigated.
4. No detailed structural analysis of the bathhouse was conducted, as discussed later.
5. No testing of piping or extensive mapping of pool basin conditions was conducted.

2 FINDINGS

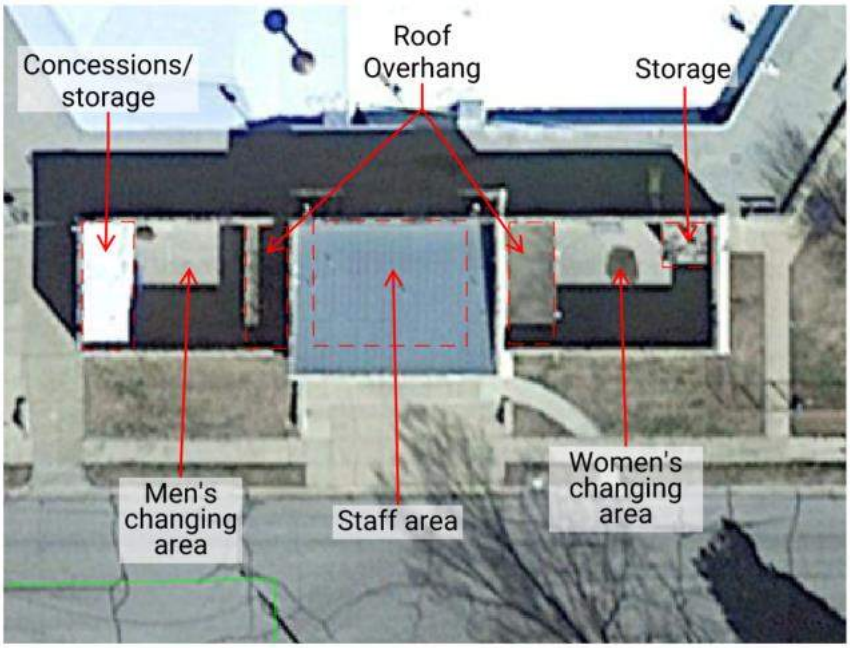
2.1 BATHHOUSE

Overview

The Paris Park bathhouse was constructed in 1923. It is constructed of cut limestone masonry with a reinforced concrete frame. Roofs are reinforced concrete slabs. The building has a footprint of approximately 5,000 sq. ft. The building consists of the following spaces as shown from left to right (west to east) in the photo on the following page:

1. Concessions room and storage room, of about 320 sq ft in total. Concessions in the northwest corner and storage in the southwest corner.
2. Open changing area of about 1,000 sq ft, including restroom facilities and lavatories under a 300 sq ft concrete slab overhang.
3. Center area includes entry and exit corridors, plus staff space, storage space, and toilet facilities, totaling about 1,600 sq ft. The pool side entrance has a concrete roof overhang, with a small storage room on each side.
4. Open women's changing area of about 1,200 sq ft, with restroom and lavatories under a 300 sq ft concrete slab overhang.
5. 100 sq ft storage room on northeast corner.

Based on this February 2017 aerial photograph, the concessions/storage area and central entry/staff areas appear to have a membrane roofing material. The concrete overhangs in the changing areas do not.



The cut stone masonry appears to be original to the building, with a few tuck point repairs to the mortar joints. Portions of the reinforced concrete roof and beam structures appear to have been worked on to some degree since the original construction, based on apparent age and condition of concrete finish.

The scope of this report is to address the feasibility of renovating or replacing the swimming pool facility, including the existing bathhouse. This report addresses whether the bathhouse can be rearranged to provide an accessible, code-compliant bathhouse that meets the patron needs and staff needs. The report also addresses certain structural deficiencies observed during a site visit and documented with photographs. This report is not, however, an exhaustive analysis of the structural condition of the building. Likewise, the structural and architectural comments and recommendations are considered the minimum needs to stabilize and restore the building to extend its useful life.

Two factors should be considered as the City decides whether to pursue restoration of this building. First, the cost of restoration will be significant. If cost is the primary factor, complete replacement with a new (smaller) bathhouse is likely more cost effective. Secondly, the City should retain a structural engineer and restoration architect to conduct a comprehensive evaluation; to verify the preliminary minimum recommendations presented herein; to fully develop scope of structural stabilization and restoration needed; and to provide an informed opinion of restoration and stabilization cost.

Bathhouse accessibility and ADA compliancy

The bathhouse was evaluated for compliancy with the relevant sections of the 2010 Standards for Accessible Design (ADA Standards); the findings are summarized as follows:

1. No designated accessible parking was observed. However, a close review of the parking lot to the west was not performed. The sidewalk from the parking lot to the bathhouse is fairly level so an accessible route is achievable.
2. A sidewalk, without steps, is provided on the east side of the bathhouse entrance. This is signed as an accessible route. It was not verified whether the slope of sidewalk is equal to or less than 5% to the entrance, but the length suggests the slope is acceptable. If it is determined that the slope exceeds 5%, then handrails should be installed to provide an accessible ramp.
3. Provided the bathhouse doors are secured open during operating hours, there appears to be an accessible route through the bathhouse, into the men's and women's side changing rooms and out to the pool. These routes are signed as accessible and the hallway widths and corners appear adequate for wheelchair movements.
4. The hallway width is constricted at the exit to the pool by the curbing from the original footbaths. The footbaths have been filled and leveled with concrete, but the width of level surface should be confirmed to verify ADA compliancy.
5. The counters at the entry window, pool deck window, and concessions window are not accessible.
6. No accessible water fountain was observed. But, no other water fountain was observed either.
7. Restroom fixtures (water closets, urinals, shower, and lavatories) were spot checked for ADA compliancy, the observations made are as follows:
    a. One accessible water closet is provided on each side. Further evaluation is required to confirm it meets ADAAG 2010. At a minimum, a grab rail behind the water closet is required for compliancy.
    b. The lavatory does not appear compliant. The faucet handles are not compliant, and the hand towel dispenser is not reachable from a wheelchair. The height and knee space under the lavatory needs to be verified for compliancy.
    c. The urinal may be accessible, except the flush valve appears higher than the maximum allowable height above floor.
    d. The showers are not accessible.

Other code considerations

Because of the age of the facility, there are certain modern codes that are not met by this building. It is important to note, however, that this building is "grandfathered;" the current codes do not apply to this building unless modifications or remodeling is performed. Repairs do not typically trigger these code requirements. Some of these code items include:

1. The quantity of sanitary facilities (water closets, urinals, showers, and lavatories) does not meet modern building and pool codes. This, however, can be addressed by enforcing a maximum occupancy to match the number of fixtures.

Structural Condition

Observations made during the site visit are documented in Appendix A of this report and the key observations are summarized as follows:

1. The building shows distress from movement due, most likely, to differential settlement and perhaps made worse by seismic activity or excessive wind loads.
2. The cast concrete overhangs in the changing areas and at the pool side entrance need repair due, most likely, to water damage from poor drainage.
3. Moisture damage is present in the interior cut stone walls. The water source appears to be infiltration from the roof system. This is exhibited by discolored mortar, damaged rock, and peeling paint.

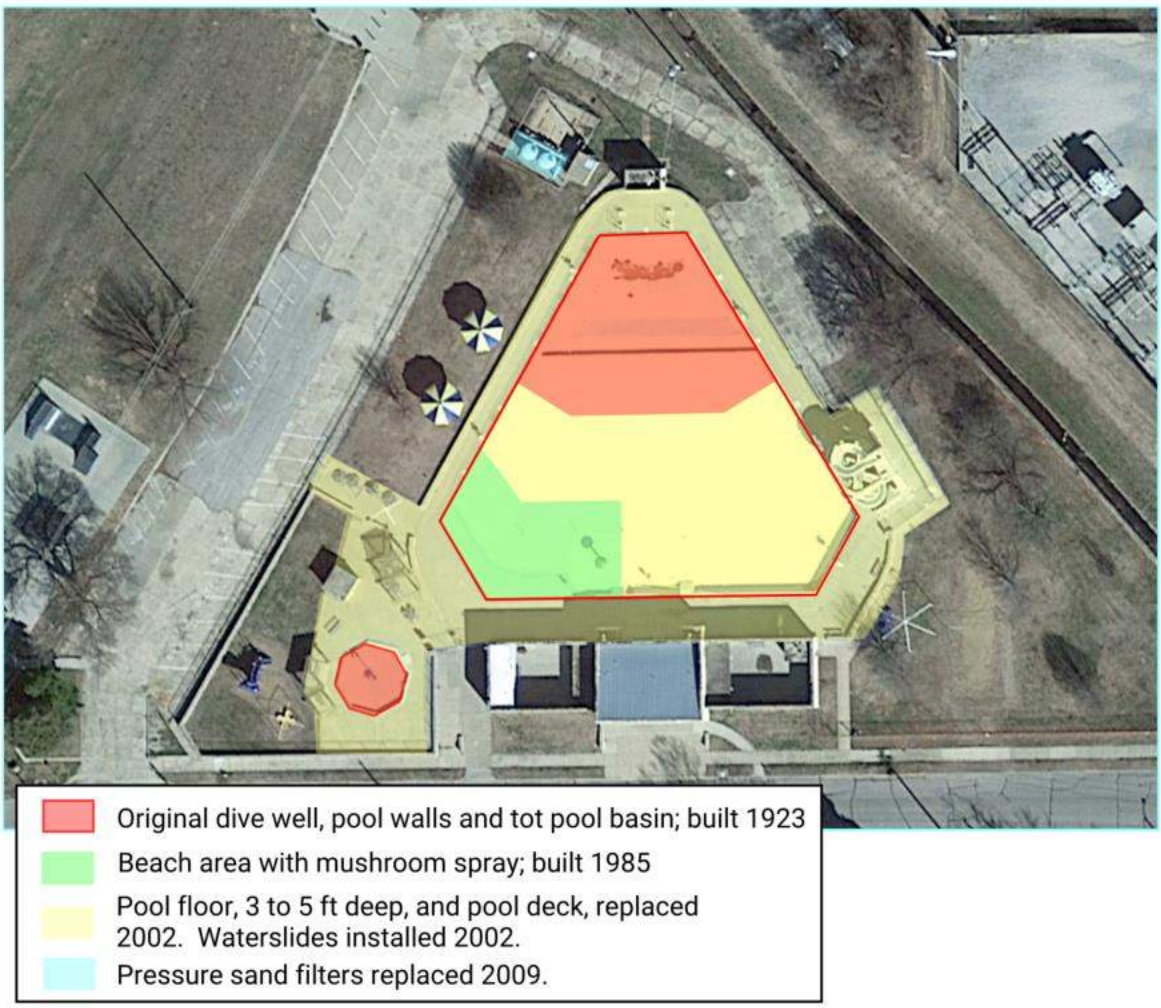
2.2 MAIN POOL

Overview

The Paris Park pool was built in 1923. The pool is approximately 20,000 sq ft and holds approximately 800,000 gallons. Much of the pool structure is original construction including the pool walls, and the dive well floor. The original depth varied from 3'-0" to 10'-0". Improvements or modifications to the pool facility completed over the years include:

1. The pool was retrofitted with wall returns (supply of filtered water) by running a header pipe around the perimeter of the pool at the base of pool wall and providing a diffuser on approximately 20 foot centers. The header pipe is encased concrete forming a step around the entire pool wall. This work is estimated to be at least 50 years old according to City staff.
2. A zero depth beach area was added around 1985. The mushroom spray feature was also added that year in the beach area. The header pipe with pool returns was buried by this work.
3. A portion of the pool floor and the underlying subgrade, between a pool depth of 3 and 5 feet, was replaced in 2002.
4. The deck was also replaced in 2002.
5. The waterslides were added in 2002.
6. The tot pool basin is also original construction, but the piping and the recirculation equipment were replaced in 2002. A palm tree-themed spray element was also added at that time.
7. The current pressure sand filters were installed in 2009.

The improvements are depicted in the following exhibit.



Recirculation System

The pool has a reported turn-over rate of 8 to 10 hours. Water is drawn through main drains in the dive well and filtered through pressure sand filters and dosed with Tri-chlor for disinfection before being distributed in the pool through the wall inlets located at the base of the pool wall perimeter.

The pool is served by a continuous gutter system around the pool perimeter. The skimmed pool water is not recirculated; flow in the gutter passes through a basket strainer set in the pool deck, and then flows to the storm sewer system.

Tri-chlor is used to disinfect and is fed by 3 HC-3340 Pentair erosion feeders with a maximum capacity of 8.54 lbs free active chlorine (FAC)/hr x 3 units = 25.6 lbs /hr. This is equivalent to about 4 ppm of free active chlorine per hour.

The size of sand filters was not field measured, but based on reported turn-over and pool volume (and observed appearance), they are estimated to be dual 9'-0" diameter filters that can provide adequate filtration for up to approximately 1,700 gallons per minute. Filter backwash is pumped to the storm sewer system.

The main drains are served by six 24" x 24" stainless steel main drain covers, which appears to be adequate for the estimated recirculation rate of no more than 1700 gallons per minute. These covers appear to be compliant with the Virginia Graeme Baker (VGB) act. However, the sump geometry is not known because it was not accessible, so it is not known whether the field constructed sump configuration is VGB compliant.

Typically, carbon steel filters last 20 to 25 years before the protective coating on the tank interior decays and interior steel surface begins to corrode. Because the existing filters are 18 years old, they may be approaching the end of their useful life. The interior conditions of the tanks should be examined to assess the current condition of the interior coating.

Prior to the opening of the 2021 swim season, sand began to appear in the return flow to the pool indicating a broken lateral line in the sand filters. This does not necessarily mean that the filter has failed, but servicing to access and replace the broken lateral needs to be done soon for the pool to remain open.

The pump and associated piping and electrical equipment appear to be well maintained. The chemical building appears secure and dry, but the interior surfaces have been affected by years of exposure to corrosive chemical vapors.

Pool Basin Conditions

As noted previously, the pool structure is composed of structural elements of various ages. The pool walls and dive well floor are original and date from 1923. The beach entry was constructed in 1985 and remainder of the pool floor was constructed in 2002. All the floor slabs show some signs of deterioration. Deterioration cracking is forming around some joints in the floor and cracks extending from joint to joint in the 18-year old portion of pool floor. The worst damage is, as expected, in the 98-year-old dive well floor. The damage is extensive and indicates water intrusion and movement of the structure.

The pool is located about 3,000 feet from the Arkansas River and is subject to high groundwater table. This is evidenced by groundwater intrusion into the dive well when the pool is empty. Caulking in some locations of the concrete joints in the dive well has been displaced or removed, presumably from ground water intrusion.

The pool walls and gutter appear in fair condition, given the age. There are numerous patches observed in the walls, presumably from filling in old light niches and wall returns. Two locations were observed in the northeast and northwest corners of the dive well where cracking and water streaking was observed indicating groundwater intrusion through the pool wall. The caulk in the nearby joint also appears to suggest groundwater intrusion.

There is also supply piping loop encased in concrete at the base of wall around most of the pool perimeter. Typically, this is a re-model solution for replacing the return (supply) piping while minimizing impact to the existing pool.

The pool is reported to lose water, as evidenced (at least in part) by flow observed in the open channel adjacent to the pool. The visual inspection of the pool basin supports the theory that water is lost through some of the joints in the concrete. Other likely sources of water loss could

be the main drain sumps, main drain line and buried return (supply) line that feeds the return loop within the pool basin.

Pool Basin Geometry

The pool is not ADA compliant. Because of the size of pool, two forms of accessible entry are required. One of those forms of accessibility must be a ramp or a lift. No lift was observed on the deck. Also, the beach area does not meet the requirements for an ADA ramp; it is too steep, and handrails are not provided. The stairs leading into the pool do not have the appropriate handrail configuration to meet ADA requirements.

The beach area provides a sloped entry from deck level to a depth of 4 feet. The slope appears to be about 12% (1:8) which is steeper than allowed by current codes. Code allows 8% (1:12) in water 5 feet or less deep. There is also a severe drop-off on the side of the beach area. This is dangerous for non-swimmers.

The dive well does not meet modern codes for dive envelope geometry. The depth at plummet (end of board) and the depth at backwall of dive well may not meet current code. This is a liability and life safety issue. Detailed measurements, with the dive board in place, are necessary to precisely assess this condition.

2.3 WADING POOL

Overview

The wading pool basin was constructed as part of the original construction from 1923. This includes the filter building. The recirculation system, including filtration and treatment equipment, and buried piping was replaced in 2002.

Recirculation System

The pool has an area of 720 sq ft and a volume of about 5,400 gallons. The pool is served by a filter rated at 300 gallons per minute, providing a turn-over rate of about 20 minutes. The pump, strainer, erosion feeder, filter and exposed piping appear to be newer and in good repair. The pool is treated with tri-chlor.

The pool basin is served by one skimmer. By modern code, a pool of this size should be served by at least two skimmers. The skimmed water is recirculated. The pool main drain is covered by a 24” x 24” VGB-compliant stainless-steel cover. The underlying sump could not be accessed, so it is not known if the sump is compliant. Lastly, the cover is being used as a single drain. It is not known if this drain meets the criteria for an unblockable drain.

Pool Basin Condition

The pool basin appears in acceptable condition, given its age. The paint conditions are similar to the main pool and needs to be addressed.

Pool Basin Geometry

The pool is not accessible per the ADA requirements. The only acceptable form of access for a wading pool is a sloped (1:12 maximum) entry.

2.4 POOL DECK AND DECK EQUIPMENT

Overview

The facility surrounding the pools is extensive. There is approximately 46,000 sq ft (approximately 1 acre) of deck and turf areas within the pool fence enclosure. This includes approximately 19,000 sq ft of concrete deck, including about 3,500 sq ft of deck around the tot pool.

The deck was replaced, and the waterslide was installed in 2002. The shade structures and picnic tables appear to be newer and in good repair. The short cut stone masonry wall surrounding the main pool and tot pool is original and dates from 1923.

Deck Conditions

The deck is in generally good condition. No significant cracking or heaving was observed. The joints need attention. Joint filler is missing in places and weeds are growing in the joints in places.

The stone wall is damaged in places and needs attention. Water has penetrated the cast wall cap and deteriorated the stone on the face of the wall. In some places, rock pieces are missing.

The deck equipment is generally good condition. The dive stanchions, ladders, and lifeguard chairs appear in good repair. The picnic tables, benches, and shade structures appear to be newer and in good condition. A close inspection of the playground equipment was not conducted.

A close examination of the water slide was not conducted. But given the age (19 years) and overall appearance of the fiberglass and steel tower, some maintenance is warranted. As a minimum, the fiberglass should be polished. Any significant damage that poses a safety hazard, especially in the ride path, should be repaired. A fiberglass specialist should be consulted about whether a new gel coat is needed. Also, a closer examination of the steel structure to assess the presence of rust and sharp edges, especially on handrails and stair treads and platform, should be conducted. These measures are needed to extend the useful life of the water slides.

3 DEVELOPMENT OF FEASIBLE REPAIR AND RENOVATION SOLUTIONS

Code considerations for pool repair versus renovation

There are numerous items in modern pool codes that are not met by this 98-year-old facility. Because the Paris Park pool was constructed before these codes were written, the facility is "grandfathered;" i.e., the requirements do not apply. However, there are certain elements of the modern code that address life safety, public health, and liability, and should be considered.

A repair (fixing or replacing an element to the original condition or design) does not generally trigger new codes. However, when a facility is renovated to modify the pool or add new elements, the new codes generally apply and can expand the scope of the renovation.

It should be noted that there is no State or County agency (except Johnson and Sedgwick) that oversees construction of public swimming pool facilities in Kansas. Therefore, the discretion of applying newer codes to repairs or renovation work is left to the City. Regardless, best practices are to upgrade to modern code requirements where feasible.

Pool Code Concerns

The following are items associated with the existing facility that deviate from modern pool codes. This is not to be considered an exhaustive list but covers the major items. There is no code cited for these items as most items are industry standards across most accepted pool codes. For Communities that adopt the International Building Code, the International Swimming Pool and Spa Code is typically the applicable code (in localities without a State or County code). The Center for Disease Control has also developed a Model Aquatic Health Code that is gaining acceptance across the Country as the best practice for swimming pool construction and operation.

The following is a partial list of the deviations between the existing facility and modern pool codes:

1. The beach area is too steep. Floor slopes should not exceed 8% (12:1) where water depth is less than 5 feet.
2. The water slide plunge area is not cordoned off from the rest of the pool.
3. The dive envelope does not meet modern code for a 1 meter dive stand.
4. Skimmed water does not recirculate. Unless a large amount of water is sent to waste, continuous skimming cannot be provided with pool design.
5. Pool water (from backwash and gutter waste) discharges directly to the storm water system. This should discharge to the sanitary sewer.
6. The main pool has a turn-over of 8 to 10 hours. Code requires 6 hours or less.
7. The bathhouse does not provide adequate sanitary fixtures for the physical capacity of the facility. This can be overcome by limiting occupancy based on the sanitary fixture count.
8. Separate shower facilities are not provided.
9. Standing water may be a problem on the deck.
10. Neither pool is accessible per ADA.
11. The location of return inlets in the main pool (along the pool perimeter) does not meet MAHC for adequate distribution of treated pool water.
12. The facility is not secured with a 6-foot tall perimeter fence (in all locations).

Criteria for developing proposed repair and renovation solutions

The intent of the listed solutions is to meet these priorities, as feasible:

1. Address all identified items perceived to be a concern of life safety.
2. Address issues of ADA and VGB compliance.
3. Address items that will extend the useful life of the facility.
4. Address other code issues that are considered relevant to good public health practices, to the extent practical.

Feasibility for Main Pool Repair

The first priority is addressing issues of life safety and liability. Two issues were noted. First, the dive well geometry does not appear to meet current code. Second, there is a significant drop off at the edge of the beach area. Before any action is taken on the dive well, a board should be installed and accurate measurements of the dive well envelope should be made to verify if this is a problem. Assuming the dive well is too shallow, then the dive boards should be taken out of service.

The steep drop-off can be addressed with a divider wall. (A railing is problematic because of entrapment concerns).

The second priority is ADA and VGB compliancy. ADA can be addressed by installing an accessible pool lift and installing (or converting the existing) stairs into ADA compliant stairs.

The third priority is longevity of the pool basin. The portion of remaining original floor (estimated at about 8,000 sq ft), including the dive well floor, needs to be replaced. It is penetrated by groundwater and, therefore, is a source of water loss when full. Also, the old subdrain system is likely non-functional creating additional stress on the pool floor. If this floor is replaced, then the dive well can be modified to current code requirements.

The main drain piping and main drain sump would be replaced at the same time as the dive well construction. Although this has not be identified as a source of water loss, it is reasonable to assume the main drain does leak based on its age.

The walls surrounding the existing dive well must be replaced, as they will be undercut by construction of a new dive well. The rest of the pool walls appear to have remaining life expectancy that is not as short as the old pool floor. However, there are issues of public health that should be addressed when 40 percent of the pool floor is considered for replacement.

Continuous skimming of the pool surface and adequate distribution of return inlets across the pool floor would improve the performance of the recirculation system to provide adequately treated water to the pool. Therefore, the proposed work for the main pool is to replace the entire basin with a recirculation system that meets current code.

Feasibility for Bathhouse Remodel

The factors considered in evaluating the feasibility to remodel bathhouse include:

1. Is the bathhouse, as configured, ADA accessible? Or can the space be rearranged to be ADA accessible?
2. Does the bathhouse offer the minimum quantity of sanitary fixtures (water closets, urinals, lavatories, and showers) to meet the prevailing code? Or can it be rearranged to provide the appropriate number of fixtures?
3. Does the bathhouse meet staff needs and patron expectations? Or can it be remodeled to meet these needs and expectations?
4. Is the bathhouse structurally stable and in good repair, or can it be made stable? This question is addressed in the next section.

The bathhouse appears to have an accessible pathway through the bathhouse and into the changing areas. Also, the expansive open space in the changing areas should be ample for remodeling the changing areas to provide 1) accessible sanitary facilities; 2) adequate quantity of sanitary facilities per current code, and 3) modern amenities such as partitioned showers and changing areas, and diaper changing stations.

Based on conversations with City staff, the staff space is not ideal but adequate.

Most interior walls appear to be load bearing walls. Therefore, any remodel must be done working with the existing floor plan. Fortunately, the large spaces in the changing areas should be adequate for addressing the needs for patrons in a remodel. The only limitation would be finding space for separate family changing/restrooms within the confines of the existing floor plan.

Lastly, open air changing rooms are not typically used in modern aquatic facilities. Modesty and the proliferation of drones with cameras make open changing areas undesirable.

Preliminary Solutions for Bathhouse Structural Repairs

As stated previously, a comprehensive structural evaluation of this building is beyond the scope of this study. If the City is earnest about pursuing a renovation of this building, a structural engineer and an architect who specializes in building restorations should be retained to conduct a comprehensive study, to develop a complete scope of restoration work and estimate the cost of that work.

Based on the observations made in this report, the preliminary recommendations for structural repairs are, at a minimum:

1. Stabilize the settled foundations to minimize further settlement/movement of the structure. This work would likely involve pushed piers or helical piles to support the existing settled foundations.
2. Make repairs to roofs that are showing signs of water intrusion. At a minimum, this would include:
    a. Epoxy inject existing cracks.
    b. Full or partial patches where corroded reinforcement is exposed.
    c. Partial patches where significant delamination or spalling has occurred.
    d. Lightweight concrete topping slab or built up roof to encourage drainage.
    e. Membrane roofing system.
3. Re-point all the stone masonry wall joints that are found to be failing due to erosion or movement.
4. Replace broken or eroded stone blocks.
5. Remove existing paint coatings and seal stone masonry, where desired, with an appropriate coating that penetrates the pores of the stone while allowing the masonry to “breathe.”

The potential repair or renovation items are organized into four categories; bathhouse, main pool including recirculation system and adjacent deck area, tot pool including recirculation system and adjacent deck area, and other miscellaneous items.

Potential repair and renovation solutions

Description of Work		Budgetary Cost
Bathhouse		
	Conduct structural analysis of bathhouse	$30,000
	Structural restoration	$500,000
	Changing room modifications, partial demolition of floor, construction of four individual shower/dressing areas, new water closets, urinals, lavatories, and roof extension.	$500,000
Main pool		
	Replace main pool, recirculation system, and surrounding deck. Assume 8,500 sq ft in similar shape of old pool.	$4,000,000
	Assess existing water slide structure for salvage/re-use.	$1,500
	Restore water slide tower and flumes OR	$100,000
	Replace water slide structure	$300,000
Tot pool		
	Replace tot pool with a sloped entry (ADA compliant) wading pool and new recirculation system. Assume 1,000 sq ft.	$350,000
Miscellaneous		
	Replace portion of the perimeter fence that is not 6 foot tall	$10,000
	Extend sanitary sewer to pool filter area	$20,000
	Soft Costs (AE fees, testing, furnishings, supplies) @ 8%	$440,000
Total Budgetary Capital Cost		$6.0 to $6.2M

Development of Recommended Alternative

All the information provided above was shared with City staff, specifically; Tony Tapia, Director of Parks and Facilities; Debbie Davidson, Aquatics Director of the Recreation Commission; and Randy Frazier, City Manager. In addition, three concepts for new pool basin layouts were presented to the group to consider and critique.

After discussing, group consensus was achieved on the following items for a new pool facility:

- Replacing the pool basin is preferred to repairing the existing pool.
- About 9,000 square feet of water is an appropriate size of pool facility for the community.
- One pool of water is preferred compared to two or more pools within the same facility.
- A plunge pool for waterslides is preferred over fiberglass run-outs.
- A lazy river is desired.

The alternatives for the bathhouse were also discussed and it was decided that constructing a new bathhouse is preferred compared to renovating the existing.

A final concept was developed from this effort and is presented in the following section.

4 RECOMMENDED SOLUTION

A new pool facility is recommended, and this concept (see next page) is offered for the community and community leaders to consider.

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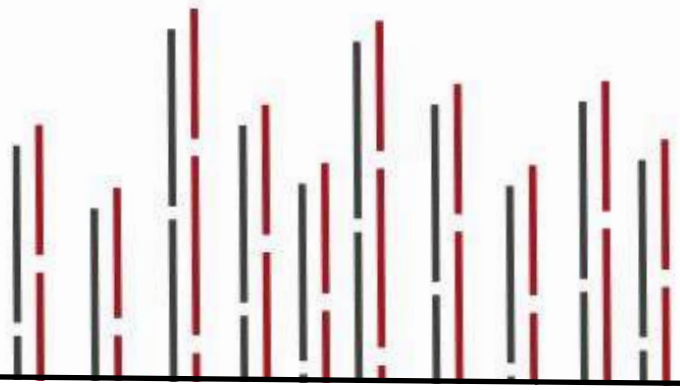
The proposed pool concept features:

- One multi-use swimming pool, about 9,200 sq ft of surface area, including:
    - A 3,300 square foot shallow play area small children and families with:
        - Beach entry
        - Deck sprays at beach entry
        - Tot slide
        - Shaded Mother's Bench
        - Underwater bench
    - 180-foot long by 8-foot-wide lazy river, with sprays.
    - Plunge pool for two waterslides; 20 to 25-foot slide tower.
    - 6 lane by 25 yard lap swim area.
    - Dive well with two 1-meter dive stands and climbing wall.
- 1,400 sq ft splash pad.
- About 18,000 sq ft of pool deck with lots of shade.
- New bathhouse and concessions building.
- Space for food truck concessions.
- Green areas for events pavilion, a variety of non-aquatics activities and family gathering areas.

The budgetary cost for this concept in today's dollars is:

Budgetary Cost Estimate	
Pool & Mechanical System, Deck & Deck Equipment, & Fence	$4,600,000
Waterslide tower	$300,000
Tot slide	$15,000
Dumping bucket	$15,000
Climbing wall	$25,000
Deck and river sprays	$20,000
Shade structures	$160,000
Splash pad & mechanical	$300,000
Bathhouse	$700,000
Total Est. Construction	**$6,135,000**
8% AE Fees	$540,000
2% FFE	$123,000
Total Est. Capital Cost	**$6,798,000**

Appendix A



The bathhouse exhibits cracking in the masonry joints in numerous locations. The example to the left shows damage projecting from from the lintel at the doorway and damage around the connection points with the cast concrete roof structure. Note the displacement in the wall plane at the cracks. This damage reflects movement due to settlement. The damage may also have been exacerbated by past seismic activity or excessive wind damage. Water intrusion is also a factor as illustrated in photographs presented below.

This is a close-up of the lintel from the previous photo.

Another example of differential movement and rotation of the exterior wall, relative to the adjoining wall. This is in the southwest corner of men's changing area; wall on right is part of storage room on southwest corner.

Damage due to settlement in the opposite (northeast) corner of the building from the previous photograph.

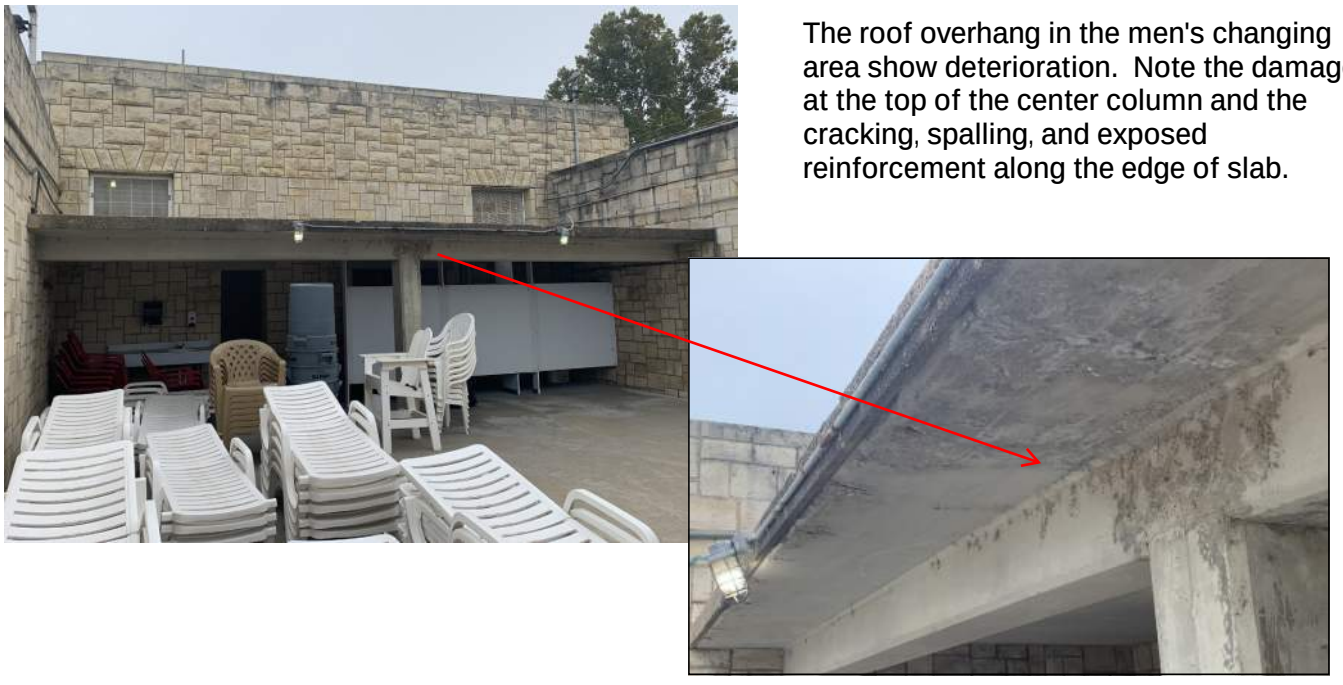
The next two photos show earlier tuck point repairs in the masonry joints to address cracking due to settlement.

Note a gap has opened up since the tuck point repair indicating continued movement in the structure. This is in the storage room on southwest corner of building.

Streaking from water leakage is also evident on this wall.

The concrete slab overhang shows cracking and distress most likely from water intrusion due to poor drainage. The dark patches along the the bottom side where the slab meets the wall may indicate mildew and potentially spalling of concrete. The slab exhibits lateral cracks extending through the width of the overhang.

The most severe damage observed in this overhang is shown in the photo inset. Water intrusion has corroded the reinforcement causing the concrete to spall on the bottom of the member.

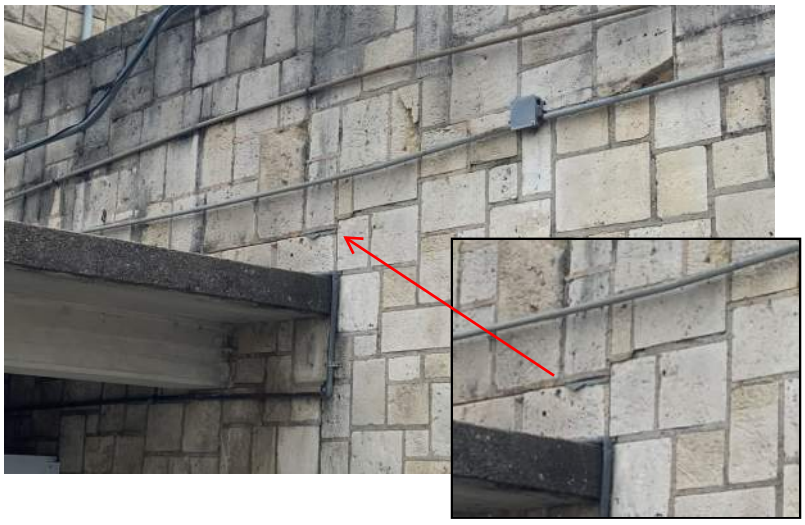


The roof overhang in the men's changing area show deterioration. Note the damage at the top of the center column and the cracking, spalling, and exposed reinforcement along the edge of slab.

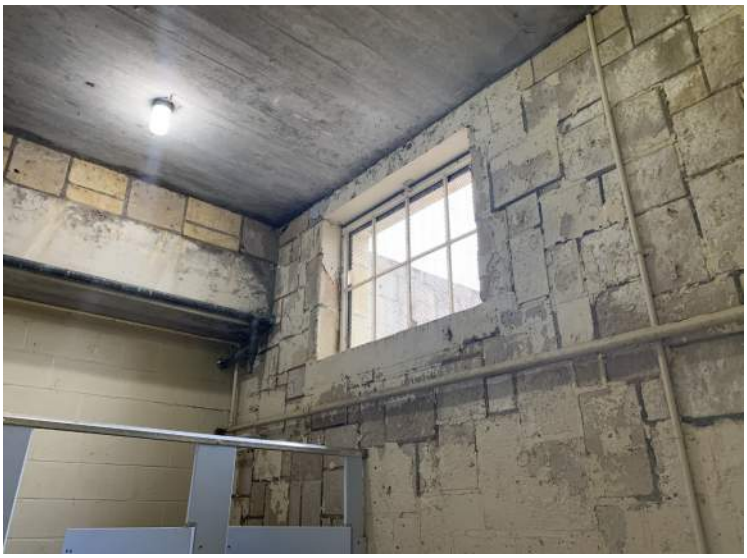
These photos were taken underneath the men's overhang where the roof meets wall. Note that water intrusion has caused delamination in the corner of the ceiling and in the lintel above the door. Cracking and efforvescence is also apparent in the bottom of slab. All of this damage is most likely contributable to poor drainage on the slab and lack of a sealing membrane layer on the top of concrete.

Also note the signs of water intrusion in the men's overhang. Note the efflorescence and mold around the electrical conduit penetration and the distress/ discoloration in where the slab meets the beam.

The women's side overhang does not exhibit the same water damage as the men's side. However, This photo reveals what appears to be remains of flashing in the mortar joint immediately above the overhang. It also appears there may be lateral displacement in the wall face at that joint. The flashing could have created a weak plane at the joint and make the course just below it susceptible to movement at the concrete slab joint. That movement could have resulted from wind against the wall, thermal expansion/contraction of the roof slab, and/or seismic movement.



A remnant of what appears to be old flashing is also seen on the men's side. A crack extends in the mortar joint away from this line, indicating a point of weakness in the wall. It also suggests the original roof system was replaced by the current roof.



Deterioration from moisture intrusion is also evident in a number of locations. This is exhibited by the dark color of the mortar and the peeling paint.

The type of paint applied has likely exacerbated the problem by trapping moisture in the block behind the paint. Again, the results of such intrusion are evident in peeling paint and discolored mortar.q

These conditions can also cause deterioration and delamination of the rock itself.wt

A couple more examples.

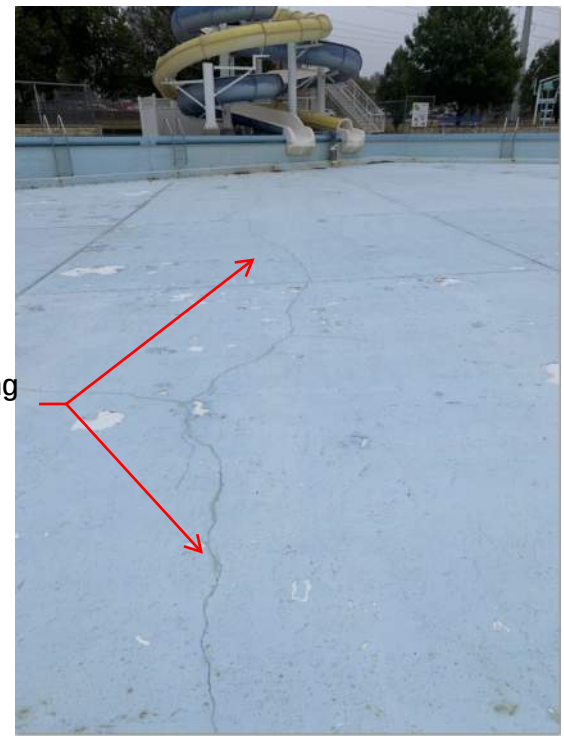
The casework around window openings and door frames needs attention. The age and environmental conditions have resulted in what appears to be some degree of wood rot.

The bottom photos show deterioration in the bottom course of stone on the west end of the building. This condition is not observed elsewhere. This is attributed to poor drainage on the deck adjacent to the wall. The theory is water drains toward the wall, seeps into the stone, and--most likely due to freeze/thaw--has caused the rock to slowly disintegrate.

The floor built in 2002 is acceptable condition. No significant damage was observed around joints. A few cracks were observed in some of the slabs. The painted surface is in poor condition, exhibiting significant peeling.

Note a patch made in the wall, presumably to replace piping.

Note cracking in slab



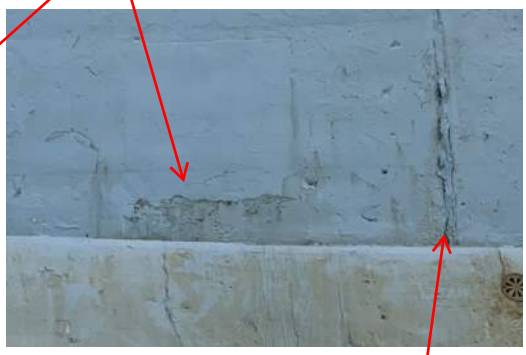
The dive well is in poor condition. The painted surface is deteriorated like the rest of the pool, but the paint may also be revealing deterioration cracking from the underneath concrete, as shown in the close-up below.

Damaged joint in dive well floor, representative of several locations. Note that the caulking has been removed. Reportedly, ground water intrudes at these joints during time of high groundwater when the pool is empty. This is a source of leakage when the pool is full.

Pool walls and gutter appear in fair condition, given the age. There are numerous patches observed in the walls, presumably from filling in old light niches and wall returns. Note the supply piping encased in concrete at the base of wall. Typically, this is a re-model solution for replacing the return (supply) piping while minimizing impact to the existing pool

Missing diffuser will cause imbalance in return line and impact distribution of treated water in the pool.

Cracking in dive well wall suggests water penetration.



Appearance of joint suggests movement in the wall system.

Severe drop-off is dangerous for non-swimmers. Modern code does not allow slopes greater than 8% (1:12) slopes in shallow (<5 feet) depth.

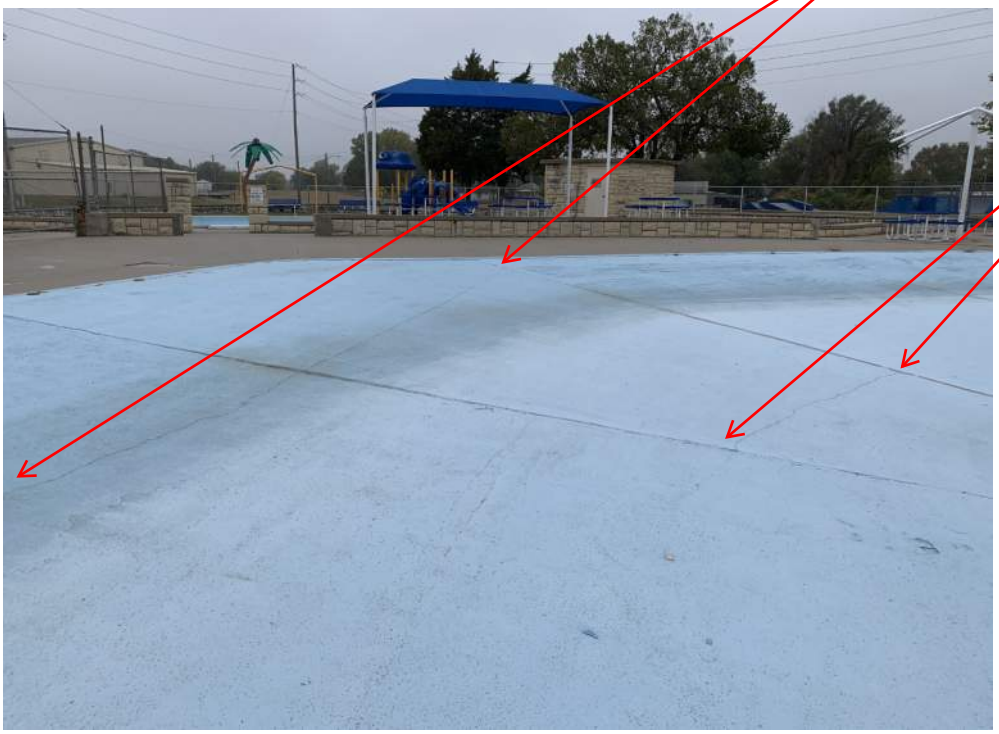
Slope appears to be about 12% (1:8) which is steeper than allowed by current codes. Code allows 8% (1:12) in water 5 feet or less deep.

Note cracking in 18-year old deck

Deterioration cracking forming around joints. This indicates damage from freeze-thaw. Water penetrates joint and adjacent concrete in winter and cracking occurs when water freezes. This was observed in 18-year old floor slab.

Note cracking and delamination in 36-year old beach slab.

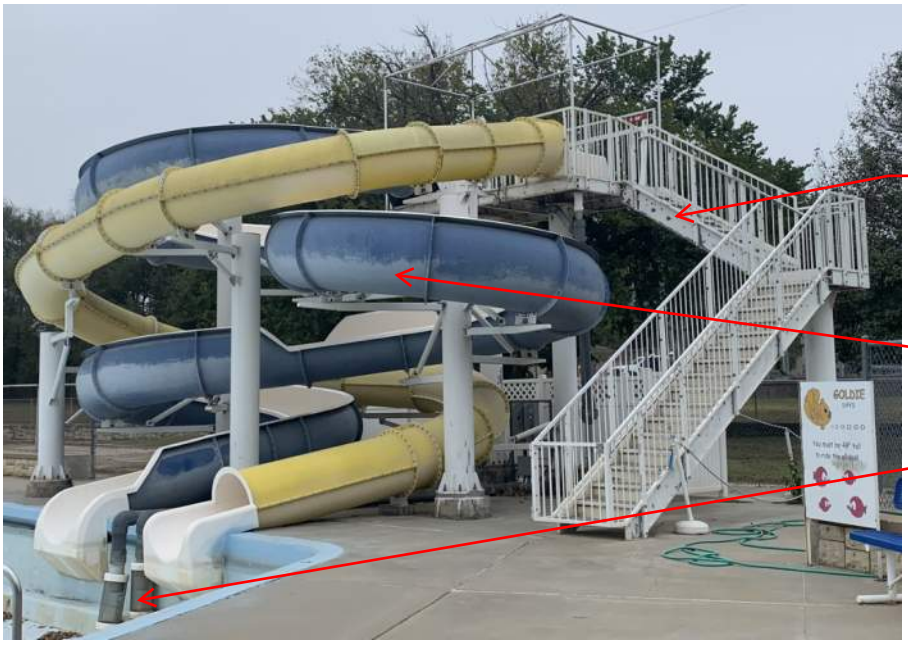
Note cracking and delamination in 36-year old beach slab. Cracks likely formed at time of construction, but appear have gotten progressively wider with time.



Depth at plummet (end of board) and depth at backwall of dive well may not meet current code. This is a liability and life safety issue.

Ponding water is a concern when the facility is in operation.

Pool deck is in generally good condition.



Water slide tower and stairs appear in acceptable condition. Some peeling paint is apparent. No significant rust was observed.

19-year old water slide is need of polishing, if not a new gel coat.

Intakes appear to be unblockable by VGB criteria

Some cracking was observed in parts of the deck, but there does not appear to be any significant vertical displacement

Perimeter fence is less than 6' tall.

Playground equipment appears to be newer and in good repair

spray element installed in 2002

Single domed stainless steel grate.

One skimmer on wading pool.

appears to be poor drainage adjacent to wall.

joints need cleaning to remove weeds

Fence enclosure is less than 6' near the concessions window and tot pool

Standing water is a concern when the facility is in operation.

Deteriorated rock masonry due to water intrusion and subsequent freeze/thaw damage.

Dive stands appear in good condition

Life guard chairs and ladders appear in good condition