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I. EXECUTIVE SUMMARY

This study examines the feasibility of various improvements to grounds and facilities in the Barton Springs Pool area of Zilker Park which has been recognized for generations as the soul of Austin. The recommendations in this study incorporate the goals of the 2008 Barton Springs Pool Master Plan (BSPMP) and the challenges of the numerous environmental, historical and local regulations that apply to this area.

This study entails an assessment of existing buildings and amenities located on the north side of Barton Springs Pool between the Violet Crown Trailhead and the Pecan Grove Picnic Area, an area referred to herein as the Bathhouse Zone.

These facility assessments include evaluations of condition, regulatory constraints and suitability for intended function. The study also includes broad investigations of the current code constraints as they may apply to rehabilitation efforts or new projects.

In addition to numerous field investigations of site and facility conditions, interviews were conducted with operating and management staff to assess current practice, operational needs and program challenges in the Bathhouse Zone.

The public was engaged in several meetings and public briefings as well as providing over 1300 responses to two surveys. This input revealed many additional opportunities, directions and priorities for consideration.

The study concludes with detailed recommendations for three broad efforts:

- Move forward with planned and funded projects including; installation of parking meters, daylighting of the Eliza Springs outlet, construction of the Violet Crown Trailhead restrooms, and replacement of the Maintenance Barn with removal of the existing maintenance facilities and surrounding fences.
- Phased rehabilitation of the Bathhouse using available funding to complete full design, access improvements and possible plumbing system replacements. Future efforts, with potential for public private partnership, would restore the bathhouse rotunda and dressing areas. This effort would be contingent on the relocation of the Sheffield Education Center and SPLASH! interactive environmental exhibit to a proposed Interpretive Center within the Bathhouse Zone and would include relocation of the Aquatics spaces (first aid, staff lockers and break/meeting area, storage and management office) into the former women's basket area. The rotunda area and former men's basket space would become an interpretive gallery and multi-purpose space.
- Site design centered on the Playscape area including; reconfiguration of the Bathhouse parking lot, replacement and expansion of the playscape with a more natural design, siting studies for a new Interpretive/Visitor's center, and circulation improvements – especially the widening of the main path and associated relocation of the Zephyr tracks.

II. INTRODUCTION

The Austin community and visitors from around the world come to Zilker Park to enjoy Barton Springs Pool and the surrounding facilities in increasingly larger numbers. The Parks and Recreation Department wants to ensure the facilities and management meet a high standard of excellence to maintain this crown jewel of the City into the foreseeable future.

Any improvements should be in accordance with the Barton Springs Pool Master Plan (BSMP), as approved under Council Resolution 20090115-028, which includes the following goals statement to guide future efforts:

Return the site to its rightful glory where the water was cleaner and the experience of the pool was more enjoyable. Propose appropriate additions and renovations to the swimming pool, its buildings and its grounds that respect the fragility of this unique natural and historical setting, and also accommodate the significant user demands on Austin's most popular park amenity.

While the Barton Springs Master Plan focused on the Pool and adjacent facilities, the goals provide guidance for the whole Bathhouse Zone. The facilities in this Zone are so interconnected that careful consideration of the entire area was necessary before developing any further projects in this area. The recommendations developed in this study are an evolution of the BSMP in accordance with these goals.

The Master Plan also recommends several short-term and long-term projects. Several projects have been completed from that list including critical repairs and improvements to the south side of the Pool. Funding has been provided to initiate several other projects including relocation of the Maintenance Barn, grounds improvements, Bathhouse rehabilitation and the new Trailhead restroom.

A key element of the area is the existence of the Barton Springs Complex and the environment they provide for two species of endangered salamanders. Swimmers share Barton Springs with this critical habitat under a permit issued by the U.S. Fish and Wildlife Service that includes specific commitments to inform the community through education and interpretation. The Sheffield Education Center and the SPLASH! aquifer exhibit were built in 1998 in the areas that formerly housed the Bathhouse basket areas and rotunda to satisfy these requirements. Approximately 80,000 visitors enter the SPLASH! exhibit each year and many thousands of school children participate in various education programs.

The Barton Springs area has a long and rich history from Native American times through pioneer Texas settlement to Depression era improvements into our modern times. This legacy is detailed in the Cultural Resources Report presented to PARD in 2012. The area that comprises the Bathhouse Zone is included in the 1985 Barton Springs Archeological and Historic National Register District and the 1997 Zilker Park National Register Historic District. Furthermore, the

Barton Springs Bathhouse was designated a State Antiquities Landmark in 1994 and designated as a City of Austin Historic Landmark in 1990.

The Bathhouse is the primary architectural feature of the historical designations. When it was constructed in 1947 it included facilities to rent towels, suits and mechanized baskets. After floods in the late 1960s these services were dropped and a primary entrance was developed on the southeast corner of the Bathhouse where it remains today. Along with this effort the Aquatics group that runs the pool was expanded into a portion of the ladies dressing area. The historic Bathhouse facility is 70 years old and many elements, especially the plumbing systems, changing stalls and canopies, show significant deterioration.

Over seven hundred thousand estimated visitors enter Barton Springs Pool each year. On busy summer days over three thousand a day enter through the Bathhouse gate with many standing in long lines. Smooth access and life safety egress through the Bathhouse requires changes to the current entrance patterns.

The combination of protected environment and historical elements presents a unique opportunity to provide a comprehensive interpretive program that enhances the environmental, historical and recreational experience in the Bathhouse Zone.

The playscape in Zilker Park is perhaps the most used in the City but its components are reaching the end of their service life and do not reflect the best practices. The grounds and amenities in the Bathhouse Zone are in need of repair, replacement and improvements with new restrooms, water fountains and benches high on the list of concerns.

The plaza in front of the Bathhouse is the nexus of pedestrian, bike and vehicular circulation for the central section of Zilker Park. However, the current alignment of the Zephyr tracks and the primary trail from Barton Springs Road to the Violet Crown Trailhead is less than serviceable. The existing parking lot covers more impervious area than is required and drains directly to the bypass tunnel.

The Bathhouse Zone is perhaps the most heavily regulated area in the City of Austin. Striking an appropriate balance within the challenging regulatory environment – flood plain, impervious cover limits, building codes, Barton Springs Pool Master Plan, protected cultural resources, heritage trees, endangered species and accessibility – to meet the goals of the BSPMP and the increasing demands of the public will not be easy.

For many years the Parks Department has been challenged to meet the many demands of patrons in the Bathhouse Zone. Many of the recommendations made in this study will have impacts on staffing, operations, and maintenance obligations associated with the Pool and the surrounding areas of Zilker Park. Accordingly it is imperative that the implementation of any of these recommendations be coordinated with changes to operational and staffing requirements.

This study has been prepared in accordance with the 2008 Barton Springs Pool Master Plan and in conjunction with a process of public engagement, meetings with stakeholders, and consultation with jurisdictional officials. Many of the recommendations contained in this study are interrelated, and are intended for implementation as components of a coordinated plan of improvements.

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III. FACILITIES ASSESSMENT

The following is a summary of the condition assessment of existing facilities in the Bathhouse Zone from the Violet Crown Trailhead to Pecan Grove Picnic Area. The assessment includes an evaluation, in general and comparative terms, of physical condition (serviceability), regulatory compliance, and suitability (in terms of access, adjacencies, safety and supervision) for intended function of each of the primary facilities listed below.

In regards to facility compliance, as addressed below, it should be borne in mind that many of the facilities presently existing in Bathhouse Zone maintain the legacies of development originating in the twentieth century and incorporate physical improvements constructed under regulatory policies radically different from those in force at the present time. In addition, facilities in the Bathhouse Zone are subject to State and Federal regulations as well as local Codes and Ordinances which further complicates the regulatory compliance of existing conditions. Consequently, the specific requirements for compliance of any proposed modifications would have to be confirmed through coordination with multiple regulatory authorities (whether State or Federal Agencies or individual City Departments) having jurisdiction. The compliance summaries in the following sections should be considered as an overview of the significant regulatory elements applicable to the Bathhouse Zone facilities or of health and safety discrepancies that would raise concerns regarding the future use of such features.

A. Site Infrastructure, including Parking, Circulation, and Stormwater Management

Site Infrastructure includes those public improvements in the Zilker Bathhouse Zone intended to support the recreational functions of the park. In general, the site infrastructure is consistent with the present utilization of the park. However it must be noted that the present intensity of use in the Bathhouse Zone greatly exceeds the levels existing when much of the present infrastructure was planned.

1. Parking

a) Serviceability

The existing bathhouse parking lot is in serviceable condition and could viably continue in operation with routine maintenance.

b) Compliance

Insofar as the existing parking lot, site circulation and stormwater management plan are included in the most recent Site Development Permit applicable to the park (SPC-2012-0104D), these facilities should be considered to constitute existing, non-compliant conditions under the current Land Development Code. Any addition of parking spaces, even without adding impervious cover, would trigger the requirements of 25-7-95



Site Circulation: The use of landscape areas of the park for parking and pedestrian circulation has resulted in extensive environmental degradation, most specifically within the critical root zones of trees in the park.



Site Circulation: Pathways such as this bare-earth trail to the north of the Violet Crown Trailhead do not well serve existing demand.



Site Circulation: The lack of coordination between pedestrian and vehicular amenities within the park has resulted in the development of ad-hoc trails across vegetated areas. Rationalization of trails and other pedestrian amenities will concentrate pedestrian traffic in designated corridors, mitigating damage to lawns and trees within the park and allowing for effective provision of amenities such as trash receptacles and drinking fountains.

c) Suitability

At present the existing parking lot preserves the approximate footprint of the parking lot constructed in the early 1930s. This parking lot appears to have been designed in order to allow vehicles to execute a 180 degree turn within the access aisle, a design criterion no longer in common practice. By contemporary standards the existing parking lot is extremely inefficient, dedicating more than 500 square feet of pavement to each parking space, as opposed to an allocation closer to 300 square feet for a well-designed modern facility.

Currently runoff from this parking lot drains, untreated, into Barton Creek downstream of the lower dam; the excessive size of the lot provides an obvious opportunity to address both impervious coverage and water quality within the Barton Springs Zone.

2. Pedestrian Circulation

a) Serviceability

Existing pedestrian circulation throughout the Bathhouse Zone is not universally serviceable. Most significantly the lack in various locations of clearly designated and appropriately stabilized pedestrian paths has led to the establishment of ad-hoc pedestrian trails through vegetated areas and through the critical root zones of several trees. Such ad-hoc trails have resulted in significant detrimental impacts. These impacts are documented in part by the Initial Tree Assessment prepared by Carolyn Kelly Landscape Architect in support of the 2008 BSPMP, which identified the majority of trees in the Bathhouse Zone as Condition 4, one step above the condition warranting consideration for removal.

b) Compliance

As noted above, these facilities should be considered in their present conditions compliant with the current Land Development Code.

c) Suitability

Existing pedestrian circulation within the Bathhouse Zone is insufficient to accommodate the present density of users safely. It is deficient with respect to the evacuation of the Bathhouse and the pool enclosure, as noted below. Significant conflicts arise where the primary pathways and the Zilker Zephyr are squeezed together such as the area adjacent to the existing maintenance yard and through the playscape area to the Zephyr station. In addition, the absence of any defined pedestrian path from the majority of overflow parking spaces within the park to the Bathhouse has resulted in pervasive environmental degradation.

3. Stormwater Management

a) Serviceability

There are at present no water quality or stormwater controls existing in the Bathhouse Zone. Developed areas within the Zone either drain directly to Barton Springs Pool (in the immediate vicinity of the Bathhouse) or through the bypass tunnel to the lower reaches of Barton Creek.

Much of the infrastructure associated with stormwater management within the Bathhouse Zone appears to be over 50 years old and its condition needs to be more thoroughly assessed. Future planning for stormwater management improvements within the Zone should include a detailed investigation of stormwater drainage and consider options for its improvement, abandonment or replacement.

4. Utility Infrastructure

a) Serviceability

Although consideration of utility infrastructure within the Bathhouse Zone was not within the scope of this feasibility study, it should be noted that much of this infrastructure originated in the 1930s, and should accordingly be considered to be approaching a state of economic unserviceability.¹ Visible electrical infrastructure is of particular concern, particularly with respect to the electrical room adjoining the Zilker Café.

B. Site Amenities, including the Picnic Pavilion, Maintenance Facility, Pecan Grove Picnic Area and Restrooms, and Zilker Playscape

Site Amenities includes those architectural or built improvements within the Bathhouse Zone, with the exception of concession facilities such as the Zilker Zephyr and Zilker Café, which are addressed separately below.

1. Picnic Pavilion

a) Serviceability

The existing, steel and wood-framed picnic pavilion is in a reasonable state of repair given the limited demands imposed on such a structure and, with periodic maintenance, it should be viable for its intended purpose.

b) Compliance

There are no obvious code deficiencies associated with the existing pavilion. This structure is located within the FEMA-designated floodplain,

but is not considered an inhabited structure under the Building Code. Although it not apparent that the lightly-built pavilion was designed to withstand flood loads, this deficiency would not preclude the continued use of the pavilion for its intended purpose. Alteration or enlargement of the pavilion may require both structural evaluation and documentation of no adverse impact on the floodway of Barton Creek.

c) Suitability

The existing picnic pavilion is objectively suitable for its intended function. Nevertheless the number of picnic tables presently occupying the shelter suggests that it is smaller than present demand would dictate, with a corresponding reduction in the level of service, insofar as picnic tables closer to the edges of the pavilion will not enjoy the same level of weather protection as those in the interior. Likewise details of the pavilion, such as the configuration of the downspouts from the roof and the deficient slope of the concrete pad result in inadequate drainage from the picnic area.

2. Maintenance Facility

a) Serviceability

The existing maintenance facility consists of a 1940s era steel Quonset hut with a small, conditioned office addition, various auxiliary structures (sheds) of more recent construction and a fuel point. The quonset structure and attached office are in poor physical condition and would require major structural and envelope rehabilitation for any use other than unconditioned storage. The auxiliary facilities are mostly in better condition. The condition and limited degree of enclosure of the existing buildings in the maintenance facility and the lack of modern air conditioning would limit the viability of their repurposing for any programmatic function currently existing within the Bathhouse Zone. It is understood that this facility has already been deemed unserviceable by PARD, and is scheduled for replacement.

b) Compliance

The Quonset structure contributes to the Zilker Park Historic District and any substantial change or removal of this structure requires careful consideration. Any repurposing of the existing Quonset building classified as either a change in occupancy or a substantial improvement would trigger compliance with current codes. It would be significantly more expensive to update this Quonset structure for use as a public building than it would be to construct a new building of similar size and configuration.²

c) Suitability

The existing maintenance facility has already been deemed unsuitable for its current use. The findings of the present study support this

determination. Furthermore, the current location in the busiest section of Zilker Park detracts from visibility, access and the environmental sensitivity of the Barton Springs locale.

It appears the best use of the existing facility would be to recover the impervious area necessary to facilitate the construction of a replacement facility in a different location, given the indications in Site Plan SPC-2012-1040D that Zilker Park has already reached the maximum permissible aggregate impervious coverage permissible for the facility.

3. Pecan Grove Picnic Area and Restrooms

a) Serviceability

The existing Pecan Grove Picnic Area is in fair physical condition, with some deteriorating infrastructure, significant environmental deficiencies, and a lack of amenities such as weather protection for picnic areas. Those existing amenities serving the Pecan Grove, such as the restrooms, are likewise in poor condition. Although these facilities may remain usable, they have reached a serviceability limit state.

b) Compliance

There are no salient code deficiencies associated with the Pecan Grove other than evident discrepancies in strict and literal compliance with the Texas Accessibility Standards. This picnic area and some of the minor structures in this area (but not including the existing restroom) date back to the 1930s and are cited as contributing to the Historic District.

c) Suitability

The existing Pecan Grove is usable as a large picnic facility with minor repairs and maintenance. Measures to enhance to viability of the existing trees shading the facility should be a priority insofar as these trees are a unique amenity existing in this location. Improvements to the facility should also include accessibility enhancements, including the elimination of elevation changes at the perimeters of concrete pads.

The close proximity of the main trail and the Zephyr tracks is troublesome and consideration should be given to relocating one or more of these facilities. Plans should be made for the replacement of the existing restroom facilities. Drainage in this area and under Barton Springs Road is a problem made even more challenging by some historic appurtenances.



Picnic Pavilion: The Picnic Pavilion and its infrastructure (such as pedestrian connections, waste receptacles, and drinking fountain) are generally serviceable.



Picnic Pavilion: The Pavilion itself is too small for the number of tables it contains, many of which are poorly protected from sun and rain.



Picnic Pavilion: The Pavilion is well-located adjacent to the Playscape, although changes in grade, and the intervening Zilker Zephyr trackway, compromise this adjacency.



Maintenance Yard: Improvised storage, as in the form of this portable building, is a problem throughout the Bathhouse Zone. The quantity of equipment stored in the open-air at the Maintenance Yard indicates that even improvised storage is at a premium.



Maintenance Yard: Ad-hoc storage is characteristic of the current Maintenance Yard. The storage of fuels and other chemicals within the yard over the decades raises concerns over the viability of any potential repurposing of this facility.



Maintenance Yard: The Quonset storage building, although an interesting structure, has reached a serviceability limit state. The extent of rust visible on the exterior of the building, and the number of open holes visible from the interior, indicate a building past economic rehabilitation. It would be less expensive to replace this building than it would to repair it for a different use.



Pecan Grove Picnic Area: The existing restrooms at the Pecan Grove Picnic Area are in poor physical condition.



Pecan Grove Picnic Area: As the existing trees in the grove continue to die off, more picnic areas will be left unshaded. The Grove warrants action both to protect and preserve existing trees, and to incorporate replacement trees for future generations.



Pecan Grove Picnic Area: The Pecan Grove is not a particularly welcoming amenity, being poorly shaded and unprotected from the weather and incorporating significant areas of bare earth.

4. Zilker Playscape

a) Serviceability

The Zilker Playscape adjacent to the Bathhouse is reaching the end of its serviceable life and is due for replacement in accordance with PARD's standards. Generally PARD's playscapes are updated on a twelve to eighteen-year cycle; most of the infrastructure associated with the Zilker Playscape is considerably older.

b) Compliance

The existing playscape is generally not consistent with current standards, such as ASTM F1487-11, *Standard Consumer Safety Performance Specification for Playground Equipment for Public Use*. Given the age and condition of much of the existing playscape infrastructure, and general dissatisfaction with its design (see below) it should be anticipated that current ASTM standards would be addressed in the context of a comprehensive renewal of the existing playscape, rather than through improvement of individual elements.

c) Suitability

The existing playscape is perceived as being too small, a conclusion substantiated by the obvious crowding on busy weekends. The present play equipment is outdated³ and does not appropriately accommodate children of different age groups. The playscape includes a number of legacy hardscape elements, including steps, ramps and retaining walls that impede full access to the play equipment and in some cases may constitute hazards to the safe utilization of the facility. Other than the aging trees, the playscape area has limited support amenities and could use more shade, seating and water fountains.

C. Concessions

1. Zilker Café

a) Serviceability

The existing Zilker Café, constructed in the early 1960s, is rapidly approaching a serviceability limit state.

b) Code Compliance

The Zilker Café is technically consistent with current codes as an existing, non-compliant facility, as demonstrated by its continued operation. Nevertheless the age and inadequacy of certain features, such as the accessibility of the employee restroom, suggest that comprehensive upgrades to the existing structure will be inevitable at such time as the renovation of the existing facility is commenced.



Zilker Playscape: Initial impressions, from the vantage point of a grade school child, is of fences and rails rather than play equipment.



Zilker Playscape: The popular playscape is often overcrowded, and does not adequately address the differing needs of various age groups.



Zilker Playscape: The Zilker Zephyr makes a significant impact on the Playscape. Although a potential asset in differentiating areas for different age groups, the Zephyr trackway is not well integrated into the present playscape design.



Zilker Café: The size of the Café is inconsistent with the number of visitors patronizing this amenity.



Zilker Café: Due to inadequate building area, the operators of the Café rely on exterior and offsite storage. The area shown here used for vehicular parking and storage is within the pool enclosure and drains into the pool.



Zilker Café: The fabric of the Zilker Café dates to the early 1960s, when it was constructed to replace a predecessor damaged beyond repair by flooding.

Although the Café is located within the Floodplain, LDC §25-7-96 explicitly identifies certain “public or recreational” facilities, including “a restroom or bath facility, concessions stand, tool shed, or pump house with an area less than 1,000 sf” as permitted uses in such locations. In order to reconcile this provision of City Code with local amendments to the Building Code the Building Official confirmed, in a meeting 22 October 2015, that such permitted uses would not be considered to be inhabited structures in the context of IBC 1612 and local amendments thereto, thereby facilitating the waiver of the most restrictive provisions of these local amendments. Nevertheless any reconstruction of the Café would have to be designed to withstand anticipated flood loads and potential damage to building systems and components in the event of inundation. The building’s electrical and mechanical systems and particularly the old main supply panels in the rear of the facility may require extensive replacement to meet code requirements.

c) Suitability

Due to the regulatory limitations that would be imposed on any potential replacement for the Zilker Café the present location, and existing configuration of the Café should be considered, if not ideal, at least the best current option for the location of such a facility proximate the playscape and pool. Nevertheless certain features of the café, including specifically the provision of required storage, should be considered deficient.

2. Zilker Zephyr

a) Serviceability

The infrastructure associated with the Zilker Zephyr remains substantially as it was originally constructed in the 1960s. Although the track itself may remain usable, notwithstanding visible and pervasive variances from true gauge and alignment, the right of way associated with Zilker Zephyr occupies a land area in the most crowded and congested portion of the Zilker Park that is incommensurable with the number of visitors actually served. This situation is obviously compounded by the fact that the Zephyr right of way through the playscape and alongside the trail compromises the functionality of these elements even at times that the Zephyr is not actually in operation.



Zilker Zephyr: The right-of-way allocated to the Zilker Zephyr leaves an excessively narrow pathway between the track and the enclosure of the maintenance yard.



Zilker Zephyr: The Zilker Zephyr has been in service since the early 1960s. The track, which is visibly irregular and variable in gauge, appears to be approaching the end of its serviceable lifespan.



Zilker Zephyr: Deficient storage, as here at the Zephyr depot, is a common throughout the Bathhouse Zone.



Zilker Zephyr: The Zilker Zephyr is uncomfortably positioned in the most densely-developed, and intensely visited area of the park.

b) Code Compliance

Whether or not the station and track associated with the Zephyr complies with all applicable regulations⁴, the location of its alignment in close proximity to pedestrian rights of way and to the playscape raises significant questions of operational safety. In addition, the multiple crossings and lengthy fencing separating the Zephyr alignment from adjacent park facilities restricts the main trail and presents additional safety concerns.

c) Suitability

The infrastructure associated with the Zilker Zephyr is not ideally located or configured with respect to other park uses. Nevertheless the popularity of the Zilker Zephyr, which has been in operation since the early 1960s, is undeniable, and the Zephyr is an iconic feature of Zilker Park. Accordingly any assessment of suitability, modification or realignment would have to be made on the basis of a detailed analysis of costs and benefits.

D. Barton Springs Bathhouse

1. Bathhouse Building

a) Serviceability

The physical infrastructure of the Bathhouse was the subject of a comprehensive assessment in 2007 in the context of the Barton Springs Pool Master Plan,⁵ the findings of which confirmed that the building and its systems are approaching a state of unserviceability, a conclusion consistent with the age and quality of construction of the original building. Since the completion of the Master Plan repairs have been made to the bathhouse roof, alleviating a number of imminent concerns.

When the Master Plan was prepared, the mechanical systems serving the Bathhouse and the Sheffield Education Center were presumed to be in need of replacement, including wholesale replacement of ductwork and appurtenances.⁶ Likewise the electrical infrastructure of the Bathhouse, including lighting and other appurtenances, was deemed to have “served most of its useful life” and noted for replacement. The same conclusions were noted for the building plumbing systems, both water and wastewater and all associated fixtures, which were recommended to be removed, replaced, or simply abandoned.



Bathhouse Men's Changing Area: The concrete canopy structures in the mens' and womens' changing areas are in poor condition, with a significant percentage exhibiting spalling concrete and exposed reinforcing.



Bathhouse Men's Changing Area: A typical example of structural deterioration of the glazed structural tile partitions in the mens' and womens' changing areas. This appears to be the consequence of a flaw in the original building design, which did not include dedicated foundations for these partitions.



Bathhouse Men's Changing Area – Entry Corridor: This corridor is used both for storage (including the incorporation of an improvised mezzanine) and for the location of portions of the electrical service for the Bathhouse.



Bathhouse Men's Changing Area: An example of the failure of a sanitary sewer line in the Mens' Changing Area restrooms. Much of the existing plumbing within the Bathhouse is seventy years old and in poor physical condition.



Bathhouse Rotunda: The Bathhouse Rotunda, built as the Service Office, retains much of the historic building fabric, although the interior of this space has been substantially altered over the years.



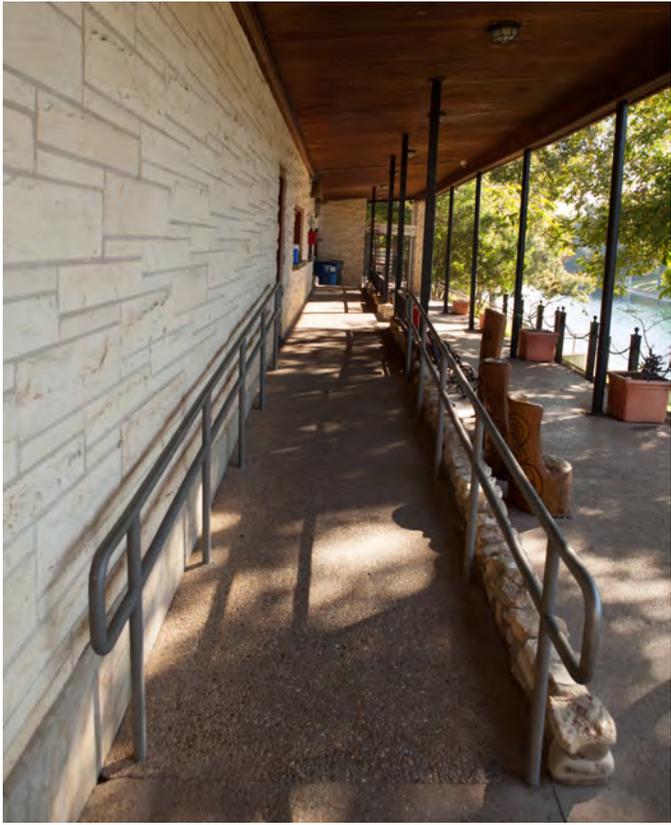
Bathhouse Mens' Changing Area: The mens' changing area specifically preserves much of the original design intent, although the louvered steel doors that originally closed the individual dressing cubicles are no longer existent.



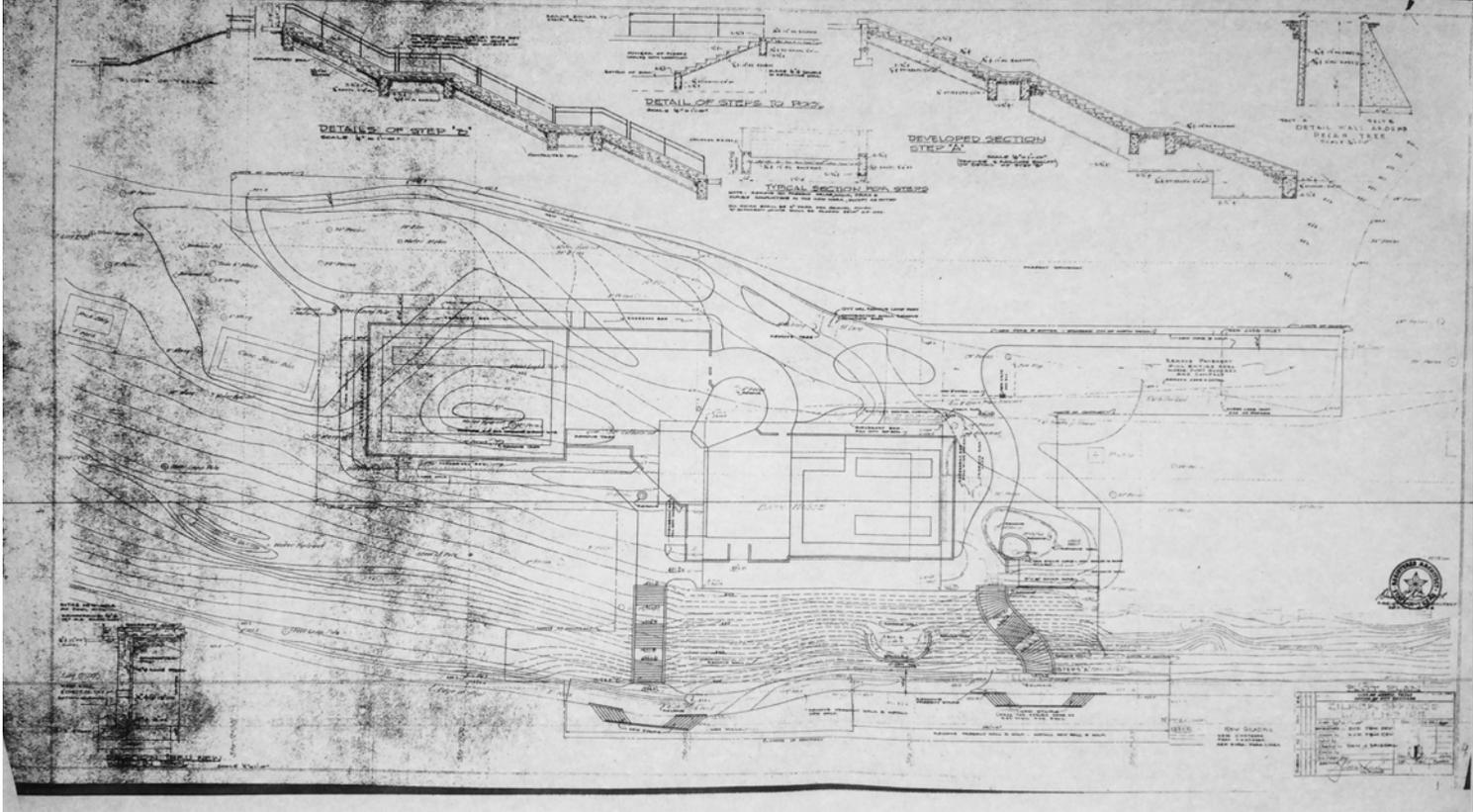
Bathhouse Spectators' Gallery: The Spectators' Gallery serves as the principal means of access to and from the north side of the pool. The Gallery was not intended for this purpose.



Pool Enclosure: Emergency egress from the pool enclosure is a matter of significant concern. Exits from the enclosure do not comply with current code requirements, a deficiency compounded by features such as locked gates.



Pool Enclosure: Emergency egress from the pool enclosure is through the Spectators' Gallery. This is a very narrow pathway given the potential number of people within the pool enclosure.



Pool Enclosure and Bathhouse: Original Construction Plan dated 1945. Of note are the fact that the fence enclosing the pool was not included in the original design, that the present Spectator's Gallery is a legacy of the preceding bathhouse (and preserves intact a portion of the foundation of that destroyed building), and that the reconfiguration of the northeast corner of the existing parking lot was anticipated in the design of the current building.

The years since 2007 have witnessed the continued deterioration of building systems noted in the Master Plan assessment, as well as the evolution of the codes and standards governing their performance. Current field observations are consistent with the 2007 Master Plan conclusions.

b) Compliance

The Bathhouse is an existing architecturally and historically significant building, for which no change of principal use is presently proposed. In general, any existing conditions proposed to remain unchanged would be subject to the International Existing Building Code (IEBC) and could remain in their present conditions. However the IEBC would defer to the International Building Code (IBC) for new construction. These provisions are further clarified by Local Amendments to the section 1612 of the Building Code concerning life safety requirements applicable to buildings located in Flood Hazard Areas.

The existing Bathhouse is located within a Flood Hazard Area, in a location approximately nine feet below the FEMA Base Flood Elevation (commonly identified as the 100-year floodplain).⁷ As a consequence, local code will require that modifications to the Bathhouse include life safety improvements required to bring the building, and the pool enclosure of which it is a component, into compliance with the egress provisions of current code.

At present, the number and location of emergency exits from the north side of the pool are conspicuously deficient with respect to the requirements of the Building Code. Per visitor data provided by PARD, the north side of the pool should be provided per code with not less than four means of egress, with a total width of not less than 25'. Current egress from the north side of the pool, consisting in terms of clearly identified exits of a single turnstile at the main entrance with a clear egress width of less than three feet, is dangerously deficient.

The City Building Official confirmed that the provision of appropriately sized means of egress from the Bathhouse and from the entire enclosed area of pool, would be required for any modifications to the existing facility that necessitate Building Plan Approval. Present conditions such as padlocked access gates pose obvious hazards to the safety of pool visitors, and should be rectified at the first opportunity. The minutes of this meeting are attached hereto as Appendix A.

In the case of the Bathhouse, questions of egress will be further constrained by local amendments to the Building Code pertaining to structures located in Flood Hazard Areas, specifically that “normal access to the building shall be by direct connection with an area that is a minimum of one (1) foot above the design flood elevation, unless otherwise approved by the building official.”⁸ A well-marked safe access route out of the floodplain with an associated flood warning system may be advisable to alleviate public concern.

Additional life safety improvements would pertain to the Sheffield Education Center and the SPLASH! exhibit. Per local amendments to Section 1612 of the 2012 IBC, within FLOOD HAZARD AREAS “all new construction of buildings, and alterations to buildings and structures, structures and portions of buildings and structures, including substantial improvements and restoration of substantial damage to buildings and structures, shall be designed and constructed to resist the effects of flood hazards and flood loads”⁹ as meeting the following requirements:

The design and construction of buildings and structures, and additions and alterations to buildings and structures located in flood hazard areas, shall be in accordance with ASCE 24, Flood Resistant Design and Construction.¹⁰

A minimum freeboard of one foot shall be added where the design flood elevation or other elevation requirements are specified.¹¹

Buildings or structures constructed in the flood hazard area where the ground surface is below the design flood elevation, or where flood water velocities at the building may exceed five feet per second, shall be provided with an enclosed refuge space one foot or more above the design flood elevation of sufficient area to provide for the occupancy load with a minimum of 12 square feet per person. The refuge space shall be provided to an exterior platform and stairway not less than three feet wide.¹²

No floor level or portion of a building or structure that is lower than one foot above the design flood elevation, regardless of the structure or space classification, shall be used residentially, or for storage of any property, materials, or equipment that might constitute a safety hazard when contacted by flood waters.¹³

Normal access to the building shall be by direct connection with an area that is a minimum of one (1) foot above the design flood elevation, unless otherwise approved by the building official.¹⁴

Variances from some of these requirements may be needed given the constraints that could reasonably be accommodated in the existing historic building. Consultations with the Building Official indicated that the provision of a direct, unambiguous, and accessible evacuation path from the bathhouse to a location above the design flood elevation would facilitate consideration of such variances.

Existing building and State regulations pertaining to pool enclosures require all entrances to public pools to be monitored.¹⁵ The current classroom exit likely does not meet these requirements.

c) Suitability

The existing Bathhouse is, in general terms, adequate to the use for which it was originally designed. The additional uses built into the Bathhouse over the years - including the accommodation of operational and storage facilities for Aquatics, the installation of the Sheffield Education Center, and the associated changes in circulation - have met operational restrictions with modifications that detract from the historical design. The use of an adjacent temporary building for storage of equipment necessary for Watershed Protection Department endangered species biologists is inefficient.

Aquatics facilities, presently distributed throughout the Bathhouse, are restrictive and poorly suited to the current requirements of their function. The scattered nature of these accommodations is inefficient and ad-hoc appropriation of areas of the building such as the former entrance corridor to the men's' dressing room where pool equipment is presently stored in close proximity to the building electrical service, is inappropriate.

Notwithstanding floodplain considerations, the present accommodation of the Sheffield Education Center is likewise functionally inadequate. The building volume and space allocated to the offices and classrooms are less than ideal. Most significant in this regard are considerations of emergency egress from the Sheffield Education Center, in accordance with current code as the Building Official has stated, are a prerequisite for any modifications to the existing facility.¹⁶ Although staff have been adept at making the best use of the physical resources presently available, the limitations of the existing building area has been repeatedly noted in interviews with facility stakeholders.

Similar concerns would apply to the SPLASH! exhibit. The exhibit space is small for its continuous operation, relying on in-accessible (not TAS-compliant) space for support functions and not incorporating any of the “back of the house” space required to effectively manage a modern exhibit by facilitating in-service maintenance, partial closures to facilitate updates or repairs, or additional rotating exhibition space.

Continued operation of the SPLASH! Exhibit in a location proximate to Barton Springs is a required conservation measure of the operating permit from the U.S. Fish and Wildlife Service that enables continued recreational use of the springs through the year 2033. Revisions, including the temporary suspension of operations of SPLASH!, to conservation measures in an incidental take permit are considered to be major amendments by the U.S. Fish and Wildlife Service, subject to National Environmental Policy Act requirements.

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IV. PUBLIC ENGAGEMENT

A. Public Meetings and Presentations

Assessment of the Bathhouse Zone included an extensive series of public meetings planned to solicit and record input from stakeholders with an interest in the proposed improvements. The meetings also provided a forum for the presentation of findings and recommendations.

The program of public meetings included the following events. Documentation of the materials presented at each of these meetings has been posted for public review on the City of Austin's website: <https://austintexas.gov/department/zilker-park-improvement-projects-barton-springs>.

- October 27th Open House, 6:00-8:00 PM Zilker Botanical Gardens
- November 3rd Environmental/Infrastructure Focus Group, 6:00-8:00 PM McBeth Recreation Center
- November 12th Bathhouse Focus Group, 6:00-8:00 PM Zilker Botanical Gardens
- November 18th Children's Facilities Focus Group, 6:00-8:00 PM Zilker Botanical Gardens
- December 9th Review and Alternatives, 6:00-8:00 PM 721 Barton Springs Rd, Room 130
- January 9th Draft Recommendations, 2:00-4:00 PM Zilker Botanical Gardens

B. Surveys

In addition to the public meetings, the project team has published a survey to solicit stakeholder input. Results of the survey are published on the City of Austin's website: <https://austintexas.gov/department/zilker-park-improvement-projects-barton-springs>.

V. PROGRAM NEEDS

The preparation of this study included multiple meetings and consultations with project stakeholders. Minutes of these meetings are included as Appendix B.

The following lists represent a summary of points raised during these meetings and consultations, formatted as program objectives for future improvement projects.

Many points raised during the preparation of this study, including some referenced as program needs below, pertained to matters of regulatory compliance. All findings of this study presume compliance with applicable City, State and Federal regulations, although it should be noted that in many circumstances variances will be required to reconcile preexisting conditions with the constraints of current code.

A. Site Infrastructure, including Parking, Circulation, and Stormwater Management

1. Parking

- The inefficient layout of the existing parking lot should be improved to permit the elimination of excessive impervious cover
- Any modifications to the existing parking lot should improve the accessibility of existing facilities
- Modifications to the existing parking lot should improve the viability of existing trees in the Bathhouse Zone

2. Pedestrian Circulation

- Improvements to pedestrian circulation in the Bathhouse Zone must address life safety concerns applicable to the pool enclosure
- Improvements to pedestrian circulation in the Bathhouse Zone should include enhancement of the connection between the Violet Crown Trailhead and Barton Springs Road
- Pedestrian improvements should also safely accommodate bicyclists, particularly in areas constrained by the present alignment of the Zilker Zephyr
- Pedestrian Improvements should be planned to minimize damage to the critical root zones of existing trees
- Elements of the Barton Springs Pool Interpretive Plan should be included throughout the Bathhouse Zone

3. Stormwater Management

- Any improvements to the Bathhouse Zone should provide improved water quality controls compliant with the intent of the SOS Ordinance

B. Site Amenities, including the Picnic Pavilion, Maintenance Facility, Pecan Grove Picnic Area and Restrooms, and Zilker Playscape

1. Picnic Pavilion

2. Maintenance Facility

- The Maintenance Facility should be relocated to a less environmentally-sensitive area of the park
- The existing Maintenance Facility should be demolished and its site restored to a more natural condition
- Provision should be made for relocation of materials presently stored within the Maintenance Facility, and required for the operation of facilities within the Bathhouse Zone, to other locations within the Zone

3. Pecan Grove Picnic Area and Restrooms

- Existing restrooms serving the Pecan Grove should be replaced

4. Zilker Playscape

- The Playscape is too small for the number of visitors using the facility
- Playscape needs to better accommodate children of different age groups
- Play equipment is outdated
- Play equipment should be specific to Zilker Park, and consistent with overall interpretive plan for the Bathhouse Zone
- Playscape is inadequately shaded
- Playscape should be better coordinated with existing trees, both to mitigate hazards to Playscape users and promote long-term viability of trees
- Conflicts with Zilker Zephyr should be addressed
- Playscape should have better access to amenities such as restrooms and drinking fountains

C. Concessions

1. Zilker Café

- The Café building needs to be larger to better serve peak demands
- Additional seating is required to meet current demands
- Additional storage is required for the Café to function efficiently

2. Zilker Zephyr

- The station needs to be larger to accommodate peak demands
- The present location of the station conflicts with a number of other park uses
- The alignment of the Zephyr trackway should be improved to better address conflicts, and associated safety concerns, with the trail and the Playscape

D. Barton Springs Bathhouse

1. Bathhouse

- Life safety concerns pertaining to the evacuation of the Bathhouse and the pool enclosure must be addressed
- Unserviceable building systems should be replaced
- Historic character of the building should be preserved
- Inefficient storage located throughout the Bathhouse should be consolidated and rationalized
- Present facilities for Aquatics operations are too small for current needs
- Entry to the pool, including management of admissions and queuing areas, should be improved
- Women's changing room should be restored

2. Sheffield Education Center, including the SPLASH! Exhibit

- The Sheffield Education Center must be closely connected with the landscape, the aquifer, and the springs to fulfill its mission
- Classrooms cannot be more than 8 minutes' walk [for a third grader] from the springs: Class visits are very short, the more time spent walking around the less time there is for learning
- The SPLASH! Exhibit needs access to aquifer water to support the display tanks for the endangered Barton Springs salamanders
- The Sheffield Education Center could better serve its function with a building that was more versatile, for accommodating groups of different sizes and ages
- The Sheffield Education Center possesses insufficient "back of house" space (including storage, workshop and office space) to support present operations
- Existing classrooms are too small for the present functions
- The Sheffield Education Center needs additional multipurpose space (this could also serve as the common space cited above) to serve as a gallery, venue for changing exhibits, occasional workspace and venue for film screening, etc.
- City funds to operate and maintain the existing SPLASH! Exhibit and Sheffield Education Center are limited. Expansion of the function and use of these

facilities would require additional operating funds to be identified and allocated.

- Regardless of the Sheffield/SPALSH! Location, the Rotunda and any general public space should include interpretive elements of the history, environment and architecture of the Barton Springs area.

3 Visitor's Center

- The Visitor's Center should be fully staffed for generous park hours.
- It should have clear paths and visibility to major features including the Bathhouse, the Pool, the Springs Complex and other amenities.
- It should be at a prominent location visible to Barton Springs Road entrances
- It should have provisions for safe school and transit bus unloading.
- It should have visibility and access to the upper parking and overflow parking areas.
- Any new facility should be located out of the flood plain
- Any new facility should include children's toilet facilities and drinking fountains.
- Any new facility should integrate the educational and play facilities in the interpretive experience.

VI. BATHHOUSE REHABILITATION

The Bathhouse is both the most prominent element existing within the Zilker Bathhouse Zone, and the building with the most complex program. Given that the extent of improvements recommended for the Bathhouse Zone as a whole will be contingent on the specific solutions adopted for the Bathhouse itself, the following is a detailed description of specific programmatic considerations applicable to the Bathhouse deriving from the summary of Program Needs and from the objectives of the Master Plan.

A. Life Safety and Access Improvements

Bringing the north side of the existing pool enclosure into compliance with current codes will necessitate fundamental revisions to the existing means of access to the pool. These revisions pertain most specifically to egress from the pool, although given the requirements imposed by the Texas Administrative Code on access to public pool facilities, specifically that “all doors, gates, and windows in the enclosure [be] directly and continuously supervised by staff at the pool during hours of operation, or locked to prevent unauthorized entry”,¹⁷ it is recommended that where feasible the required means of egress correspond to supervised points of entry.

Insofar as “moving [the] ticket counter back to rotunda” is an explicit objective of the Master Plan¹⁸, due consideration has been given to the access implications of such an intervention. Objectively a staff member stationed in the rotunda could provide the mandated supervision of as many as four additional entry and egress points divided between the two original entry corridors in the Bathhouse. There is no other solution that would offer such an improvement in the access to and from the pool enclosure for so small an obligation in staff supervision. The rotunda was specifically designed in order to provide supervision of the two original entry corridors.

Of alternative locations for access to the north side of the pool, the existing entry point is too constrained by both existing trees and the configuration of the historic spectators’ gallery to be easily expanded, whereas a location at the opposite end of the Bathhouse, although located at the top of the only accessible route to the pool deck, does not presently possess a viable ticket office.¹⁹

The restoration of the original entry corridors would require the identification of an alternate location for the storage activities presently occurring adjacent to the men’s changing area, as well as modifications to the existing electrical infrastructure in this location.

With respect to the men’s and women’s changing areas, the historic gender segregation of the original corridors should be abandoned. From a code standpoint, a corridor that is proposed as a required means of egress cannot be segregated by gender (nor can it be located in an area so segregated). Pragmatically the de-segregation of the corridors

would better accommodate the needs of all pool users, including specifically parents arriving with opposite-sex children, as well as allowing for the scalability of the means of entrance (at times of limited demand one of the two entrance corridors could feasibly remain closed, potentially alleviating supervision and maintenance responsibilities accordingly). Such a de-segregation could be easily accomplished through the introduction of screen walls at the respective dressing areas, a simple and proven solution that could be implemented without compromising the historic appearance, or the surviving historic structure, of the dressing areas.

In order to comply with current code, the means of egress from the pool enclosure must include a “safe and unobstructed” exit discharge to a safe dispersal area per IBC 1027.5.²⁰ In the context of the Bathhouse such a safe dispersal area would be interpreted to be a point above the Flood Hazard Zone. This will require that modifications to the Bathhouse be designed in conjunction with site circulation improvements to facilitate this “safe and unobstructed” exit discharge.

B. Systems Rehabilitation

The existing building systems in the Bathhouse, including the mechanical, electrical and plumbing systems of the building, are approaching a serviceability limit state. The continued operation of the Bathhouse will require a plan for the renewal of building systems. In addition there are serious deficiencies with the structural integrity of building elements such as the changing stalls and canopies in the men’s and women’s dressing areas that must be addressed to facilitate such continued operation.

The Bathhouse was not designed to be an artificially air-conditioned building. The existing building envelope is not insulated, and the existing doors and windows are too thermally-inefficient to comply with current codes. In the context of rehabilitation of the Bathhouse Building, consideration should be given to those building volumes that have to be artificially air-conditioned, with envelope improvements (insulation and weather-sealing) and equipment specification coordinated in unified design. Where possible, consideration should be given to not artificially cooling building volumes such as the former basket rooms and rotunda, in which case passive or low-intensity active measures (such as ceiling fans) could be utilized in accordance with the intent of the original design, allowing the preservation of historic features such as operable clerestory windows and ventilation louvers.

The existing building electrical system, although functional, incorporates elements such as the installation of electrical equipment in areas such as the former men’s corridor, are not consistent with either the current use of this space for equipment storage or for the potential restoration of the corridor for public circulation. During the rehabilitation project, obsolete electrical infrastructure should be replaced and the configuration of the electrical system amended in accordance with the proposed building improvements.

The existing building plumbing, particularly the underfloor wastewater infrastructure, is known to be in poor physical condition. Where this wastewater infrastructure is visible, as at the points of connection of plumbing fixtures, root infiltration has been a serious concern. The degree of observed infiltration indicates the impending failure of the wastewater plumbing. In the context of the building rehabilitation, the building plumbing should be replaced. Such replacement will necessitate the reevaluation of the drains for the open-air showers and coordination with the Plumbing Official on the implementation of a solution consistent with current code.

Plumbing improvements should include the replacement of the associated plumbing fixtures with safe, sanitary, and accessible and water-efficient modern fixtures, standardized throughout the building.

The glazed structural tile changing stalls in the men's and women's dressing areas are in poor physical condition. The deteriorated state of these stalls appears to result in part to a deficiency of the original building design, which did not include separate structural footings for the stall partitions.²¹ Insofar as the stall partitions serve to buttress the exterior building walls the design should be evaluated for resistance to calculated flood loads. The reinforcement and reconstruction of the partitions can be accomplished to enhance the structural stability of the Bathhouse as a whole without changing the exterior appearance or the historic character of the changing stalls.

The cast concrete shade canopies in the men's and women's dressing rooms are also in poor physical condition, exhibiting pervasive indications of rusting of internal steel reinforcing and spalling of the protective concrete. Insofar as these failures are indicative of deficiencies in the original construction (including irregular and inadequate concrete cover at reinforcing and an excessive porous concrete mix design) repair of the existing canopies is not a viable alternative. Apart from being complex and costly to achieve, such repair would not address the inherent faults of the original construction. Accordingly it is recommended that the canopies be replaced with new elements preserving significant features of the original design but incorporating the significant advances made since the 1940s in both the technology and the standards of quality in cast-concrete design.

C. Rotunda and Dressing Area Rehabilitation

Improvements to the Bathhouse addressed by the BSMP include the restoration of the historic function of the building, including the original use of the rotunda as the venue for ticket sales and the primary point of entrance to the pool.

Relocating ticket sales to the rotunda logically requires the restoration of the historic entrances to the dressing rooms, particularly as an efficient response to state regulations pertaining to supervision of points of entry to public pools. Given current operational considerations, restoration of gender-segregated entry corridors is not a

viable alternative. Although making the entry corridors gender-neutral would require the addition of visual screening at the entries to the dressing areas, the design of such screening could be coordinated with necessary structural improvements and the installation of modern plumbing fixtures. In addition, the layout of the women's dressing room should be restored, to the greatest extent practicable, to the configuration of the original design. The primary objective of modifications to both the men's and women's dressing rooms should be the preservation of the historic materials, design elements and character of the dressing rooms for the next century of active public use.

D. Sheffield Education Center Improvements

Per the council-approved Barton Springs Pool Master Plan, long-term projects for the Bathhouse Zone include "enhancements to the Beverly S. Sheffield Education Center, including the design and installation of a new Visitor's Center",²² a project more explicitly described as involving "moving ticket counter back to rotunda; expanding and refurbishing women's changing area; adding a unisex bathroom; [and] relocating classrooms elsewhere".²³

These proposals have been specifically investigated in the context of the present study. Of these proposals, the relocation of the ticket counter, expansion of the women's changing area and addition of new gender-neutral toilet facilities all require, given the constraints imposed by the fixed size and configuration of the existing Bathhouse and the historical designation of this building, the relocation of other occupancies existing in the structure.

Based on the presumption that the reduction in area of either of the existing changing rooms was not a viable proposition, the only other potential alternatives for the reordering of the Bathhouse would be the relocation of Aquatics facilities or of at least some portion of the Sheffield Education Center. To ensure efficiency Aquatics operations should be consolidated within the existing Bathhouse to facilitate the effective operation and maintenance of the pool; relocating Aquatics from the existing Bathhouse is not a viable proposition.

With respect to the educational function of the Sheffield Education Center, considered for the purposes of this discussion to include all areas of the Sheffield Education Center other than the SPLASH! exhibit, the programmatic functions of the facility have exceeded the capacity of the existing building volume allocated to these functions. Most significant in this regard are considerations of emergency egress from the Sheffield Education Center, in accordance with current code, as the Building Official has stated are a prerequisite for any modifications to the existing facility.²⁴



Sheffield Center Classrooms: The existing classrooms are too small. The emergency exit discharging into the pool enclosure is inconsistent with both the current Building Code and the Texas Administrative Code.



Sheffield Center Offices: The limited support space available to Sheffield Center staff constrains the efficient operation of facility programs.



Sheffield Center Storage Space: Operation of the Sheffield Center is facilitated by the utilization of a mezzanine above the classrooms, accessible through this pull-down ladder.

The building code, as locally amended, would require construction within the Sheffield Center to be consistent with the original flood-resistant construction of the Bathhouse. Compliance with this standard is technically feasible, although not inexpensive. The potential complications for the Sheffield Education Center are that thermal and acoustical insulation materials and most finish materials are not flood-resistant by nature. Insofar as the rehabilitation of the Bathhouse will be subject to compliance with City of Austin Council Resolution 20071129-045 concerning sustainability requirements for City buildings, this will pose a particular challenge.

There are technical solutions to concurrently addressing the compliance liabilities associated with the Sheffield Education Center, which include the preservation of historical features, compliance with both structural and material flood-resistance requirements, and improving energy performance in response to Resolution 20071129-045. However the cost of implementing these solutions will easily exceed the objective value of the existing building envelope. In simple terms, it could be less expensive to build an exact reproduction of the existing Sheffield Center to current code on a site out of the flood plain than to reconstruct the Sheffield Education Center to the same standard in its present location. Although counterintuitive, the economic realities of reconstruction of existing historic buildings to comply with current codes have been shown repeatedly in detailed studies, including most recently in the comprehensive assessment of the Dougherty Arts Center, a building similarly located within a Flood Hazard Area.

Any relocation of the Sheffield Education Center must consider the potential implications to the existing City of Austin permit from the U.S. Fish and Wildlife Service enabling recreational use of Barton Springs, and would ideally be done in a manner that ensures continuous operation of the existing facility until the new facility may be occupied.

None of the restrictions pertaining to flood resistance or limiting expansion of the Sheffield Center would apply if the facility were located to a new building sited above the floodplain. Pragmatically such a new structure would be the simplest and most cost effective means of obtaining the “enhanced” Sheffield Center referenced by the Master Plan.²⁵ A Sheffield Center even twice the size of the existing facility would still be a very modest structure. An obvious opportunity of such new construction is that the Center could be a model of sustainable design, incorporating materials, systems and components more consistent with the Center’s objectives.

E. SPLASH! Exhibit Improvements

Unlike the office and educational facilities associated with the Sheffield Education Center, the existing SPASH! exhibit is not inconsistent with the presumed B occupancy of the Bathhouse, and accordingly could be considered a valid pre-existing use of the

building. Under such circumstances an argument could be made for the exhibit to remain unchanged in its present location. The existing condition, however, suffers from the same deficiency in supporting facilities as the remainder of the Sheffield Education Center.

Such a solution, which would be subject to the concurrence of the Building Official, would obligate any future permanent construction of the exhibition to be compliant both in terms of structural performance and composition per IBC 801.5, pertaining to flood-resistant construction.²⁶ Accordingly this solution would represent only a deferral of compliance, insofar as that under current code²⁷ at such time that the exhibit was substantially altered or restored due either to the pending functional obsolescence of the existing exhibit infrastructure or the damage resulting from a future inundation the new construction would have to be fully compliant with the applicable provisions of the code.

F. Visitor's Center

The Bathhouse Rotunda and the SPLASH! area currently function as an informal visitor's center to the Bathhouse Zone with the assistance of the Sheffield staff. A visitor's center is normally located at or near the point of entrance to a building or facility and there is currently a clear public perception that the Bathhouse rotunda serves as this point of entry. However the current facility does not have the layout or resources to be well suited as a Visitor's Center for Zilker Park. As noted above, provision of a new Visitor's Center is a principal objective of the Master Plan. Insofar as §25-7-96 of the Austin City Code limits the construction of structures within a floodplain to "a restroom or bath facility, concessions stand, tool shed, or pump house with an area less than 1,000 sf", alternatives available for the construction of such a facility are limited to locations above the Flood Hazard Zone.

Establishing an accessible connection between the Bathhouse and the area above the Flood Hazard Zone is a priority for both the Bathhouse and the pool enclosure; such a pathway provides an opportunity to integrate the siting and experience of the Bathhouse and Visitor's Center. The parking lot adjacent to the Bathhouse will only accommodate a small percentage of peak attendance to Barton Springs. There are at present approximately 130 parking spaces adjacent to the Bathhouse. Accordingly the majority of visitors to the pool will arrive from other locations within the park, including the remote parking areas utilized by the majority of these visitors.

Ideally the Visitor's Center can be located to welcome Zilker park visitors and this majority of visitors to the Barton Springs Pool as a part of a unified circulation plan to better manage pedestrian access and protect critical root zones through the Zilker Bathhouse Zone. The Visitor's Center should be positioned where it will be the obvious destination for pedestrians approaching the pool complex from throughout Zilker Park

and where it can provide a safe drop-off area to accommodate visitors arriving by personal and transit vehicles.²⁸

A Visitor's Center located above the floodplain should be placed within 500 horizontal feet of the existing Bathhouse rotunda, to which it would be connected through an accessible route with interpretive features, seating, a water quality feature and other site improvements. Additional landscaping and a better organized plaza should be included to allow the Bathhouse Zone to better accommodate large numbers of visitors.

The program for such a Visitor's Center could be easily merged with a new Sheffield Education Center facility sharing needed infrastructure and integrating its environmental awareness and educational functions into the visitor experience of the park.

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VII. RECOMMENDATIONS

All work undertaken in the context of following recommendations shall be completed in accordance with applicable City, State and Federal law, and shall be taken into consideration in the detailed planning of any of the improvements recommended herein.

In certain circumstances strict and literal compliance will be constrained by the unique nature of the Bathhouse Zone - an area of Austin that has been the subject of intensive use since the 19th Century. This Zone maintains the legacy of this prior development, all of which was undertaken in regulatory environments completely unlike that existing at present. The most significant of the legacy issues impacting the Bathhouse Zone are the number of existing improvements located both in the floodplain and the Critical Water Quality Zone of Barton Creek. As a consequence the need for site specific amendments to the SOS Ordinance, which regulates development in this Critical Water Quality Zone, is explicitly addressed in the approved Master Plan as a precondition of the proposed improvements.²⁹

Insofar as waivers of provisions of the SOS Ordinance require the approval of a supermajority of sitting members of the City Council, it is imperative that waiver requests are made on the basis of the significant improvements over existing conditions that would result from the proposed reduction in impervious cover and introduction of water quality features as discussed hereinabove. Under these circumstances the proposed waivers would be consistent with the spirit of the SOS Ordinance in terms of the preservation of water quality in Barton Springs and the Barton Springs Pool rather than literal compliance with the letter, which effectively encourages the preservation of conditions presently existing.

A. Currently Planned Projects

The findings of this study are supportive of the currently-planned projects within the Bathhouse Zone, including specifically the following present projects.

1. Replace Maintenance Facility

The planned replacement of the Maintenance Facility at another location within the park should continue. Insofar as rehabilitation would be problematic and no practical use has been identified for the existing Maintenance Facility or its associated infrastructure, it is recommend that this facility be demolished and its site restored to recreational use.

2. New Trailhead Restroom

The proposed construction of a new restroom facility at the Violet Crown Trailhead should be continued. Future consideration of additional restroom facilities should take the existence of this new restroom into consideration in the planning and distribution of other restrooms throughout the zone. In addition, it

is recommended that any other restroom facilities be designed with as much commonality with the Trailhead Restroom as is practicable to facilitate the consistent and economical maintenance and operation of restroom facilities throughout the Zone.

3. Eliza Spring Daylighting

The Eliza Springs Daylighting project should continue as planned, with construction currently scheduled to begin in October 2016. Eliza Springs should be addressed in a comprehensive interpretive program for the Zone. Understanding and appreciation of Eliza Springs should be encouraged through the design of facilities such as an expanded Sheffield Center, a new Visitor's Center, and site elements and exhibits throughout the Zone.

4. Metered Parking

The improvements recommended for the Bathhouse Zone are not inconsistent with the planned revisions to the payment scheme for parking in the vicinity of the Springs. It is suggested that the planned parking model be flexible enough to accommodate active management of parking in the future.

B. Site Improvements

It is recommended that the planning of site improvements within the Bathhouse Zone be undertaken through an Request For Qualification solicitation for a consultant, or consultant team, with planning, landscape architecture, civil engineering, and jurisdictional expertise. A successful project for site improvements within the Bathhouse Zone will necessitate the integration of disparate project elements and the development of a detailed regulatory and compliance plan to demonstrate to the project stakeholders the net benefits associated with the execution of such a plan of improvements.

1. Parking Lot Improvements

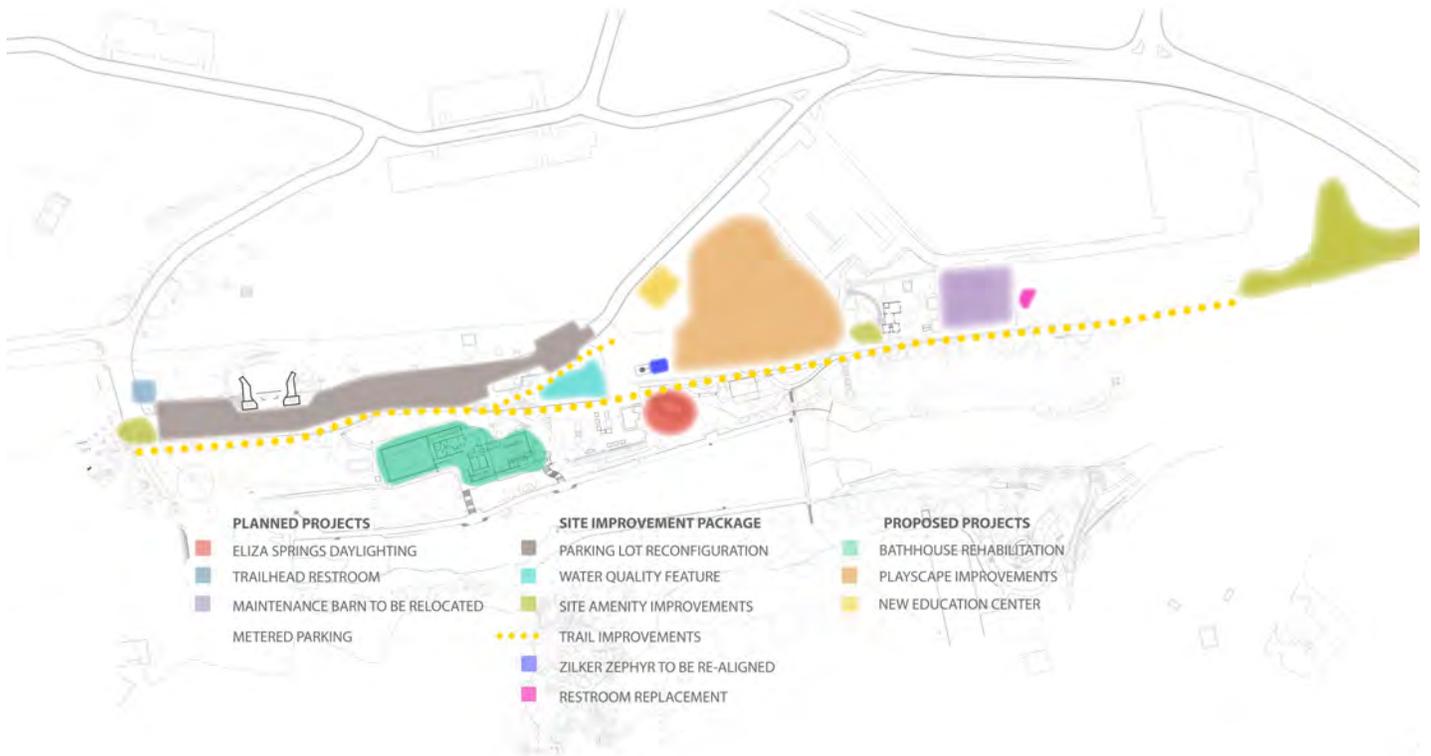
By reconfiguring the existing parking lot at least 20,000 square feet of impervious cover could be eliminated from the Bathhouse zone without compromising either the number of parking spaces provided, the provision of accessible parking spaces, or the maintenance of a code-required fire lane. It is worth noting that although the present parking lot preserves the dimensional legacy of its 1930s predecessor it does not retain the historical integrity of this original feature, its form, layout, and material composition having been substantially modified in later years.³⁰ The parking lot is not itself within the boundary of the Barton Springs Archaeological and Historical District, and is explicitly identified as a "noncontributing structure" in the context of the Zilker Park Historic District.

In addition to reducing overall impervious cover within the Barton Springs Zone, the reordering of the parking lot would have a beneficial impact on the area on the south side of the parking lot and the existing Violet Crown Trail trailhead. As depicted in the attached photograph, this area is currently subject to intensive public use, with an obvious detrimental impact on the existing trees in this location. Relocating the curb line would increase the vegetated areas within the critical root zones of these trees, and replacing the existing compacted earth trail with a properly-engineered solution capable of accommodating pedestrian demands while minimizing continued compaction of the soil within these route zones and facilitating aeration and infiltration of rainwater would offer a significant improvement over existing conditions.

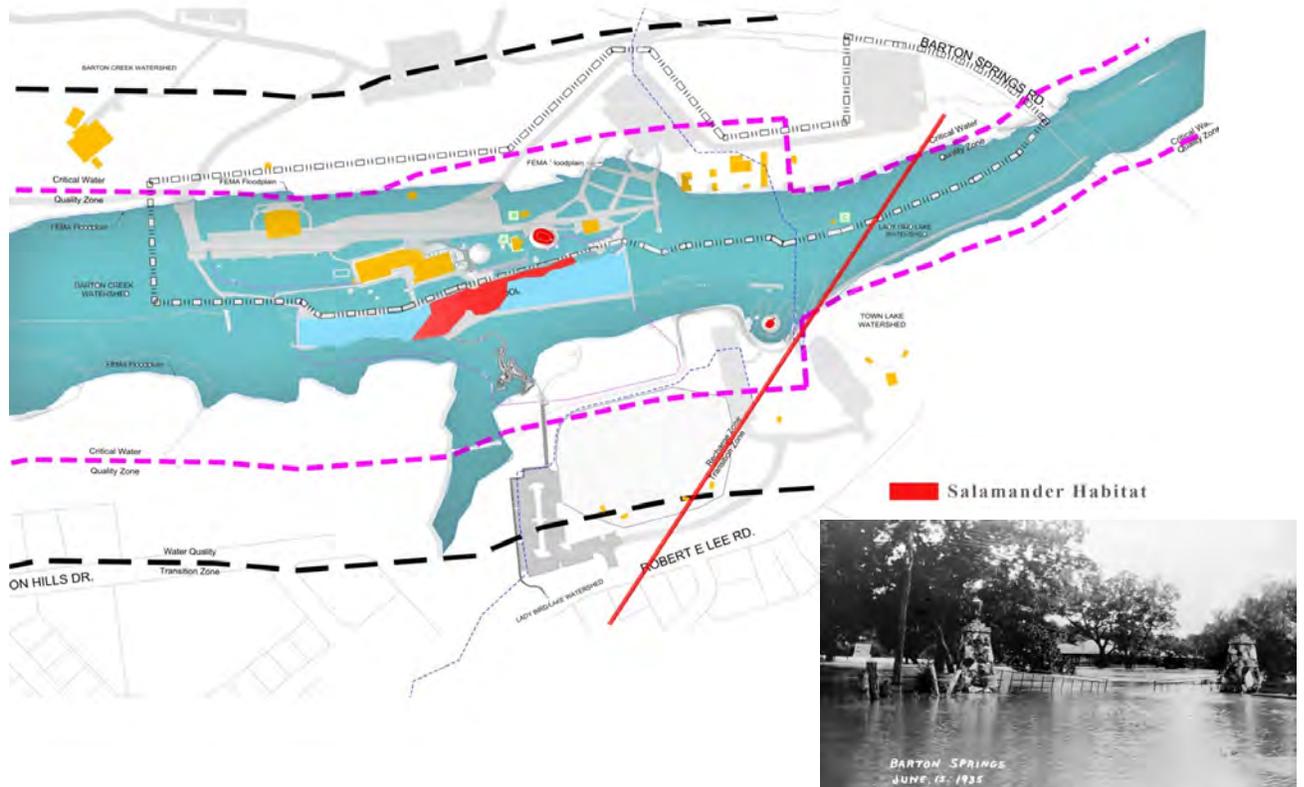
2. Pedestrian Circulation

The first priority for the rehabilitation of the Bathhouse Zone should be modifications to the access and egress provisions for Barton Springs Pool to facilitate the safe evacuation of the pool enclosure to a point above the 1% flood elevation. Although addressing existing life safety concerns, such improvements would have the additional benefit of regularizing access to the Bathhouse from remote parking locations throughout the park. Such a pedestrian connection could also be incorporated into the comprehensive interpretive program for the Bathhouse Zone, providing a venue for the incorporation of outdoor exhibits into the pedestrian plaza adjoining the pool. Ideally such interpretive improvements would be made in conjunction with the experiential education objectives of the Sheffield Center, to encourage active engagement of park visitors in this “enhanced public awareness”.

Improvements to the existing parking lot, as described above, would facilitate a general program of trail improvements between Barton Springs Road and the Violet Crown trailhead. Provision of an improved pedestrian and bicycle trail with adequate width for the safe accommodation of users would provide a pragmatic response to both existing and future demand.



Potential Projects within the Bathhouse Zone: This plan suggests a number of potential projects intended to be implemented in a coordinated effort to achieve the objectives of the Masterplan.



Constraints: The Bathhouse Zone is subject to City, State, and Federal regulations including, but not limited to, those pertaining to the protected habitat within the Zone, the existing historical resources, the FEMA-designated floodplain of Barton Creek, the Edwards Aquifer Recharge Zone, the heritage trees existing within the Zone, the SOS Ordinance, and the current Building and Land Development Codes. Any work undertaken within the Zone must take all of these regulations into consideration.

In addition, trail improvements, ideally incorporating a 12'-14' trail width suitable for the simultaneous accommodation of pedestrian and bicycle traffic, would have the benefit of improving the connections between the various existing amenities on the North side of the creek, enhancing the viability of features such as the Pecan Grove picnic area as integral elements of the Bathhouse Zone. Such integration will serve the vital interest of encouraging the dispersal of visitors throughout the zone to mitigate the extreme, and profoundly detrimental, crowding of certain areas of the park at times of peak occupancy. In order to facilitate such dispersal, the trail improvements should include the provision of additional amenities, potentially including seating, drinking fountains, and shade elements in areas removed from the immediately vicinity of the Bathhouse, as well as the implementation of the interpretive plan.

3. Stormwater Management

Improvements to the existing parking lot would provide an opportunity to provide water quality controls where none presently exist. Although such controls will be required for proposed improvements within the Bathhouse Zone, a clear opportunity exists for such controls to be planned as a feature of the Zone, both as a demonstration of best practices and potentially a venue for monitoring and verifying pollution reduction performance in the interest of developing better and more effective regulations in the future. Water quality controls in the vicinity of the Bathhouse could also be integrated into the comprehensive interpretive plan.

4. Picnic Pavilion

Improvements to the picnic pavilion were not cited as a priority by any of the project stakeholders or the public at large, other than in the context of general improvements to the grounds and amenities.

5. Amenities

Many of the issues concerning site amenities, specifically deficiencies in the availability of shaded seating, of restroom facilities, and of drinking fountains could be applied to the Bathhouse Zone in its entirety. The improvement of such amenities, as well as such prosaic infrastructure as waste receptacles, will contribute significantly to the primary objective of enhancing the enjoyment of the park. A comprehensive program of directional and interpretive signage would enhance the user experience and help to meet the goals of the July 2013 Habitat Conservation Plan.

6. Maintenance Facility

As noted above, it is recommended that the maintenance facility be demolished and insofar as possible returned to a natural state. The impervious cover reclaimed by such demolition should be utilized to offset the additional impervious cover associated with a new maintenance facility elsewhere in the park.

7. The Pecan Grove Picnic Area and Restrooms

In addition to site circulation improvements to better integrate the Pecan Grove with the remainder of the Bathhouse Zone, and the provision of improved infrastructure at this location, improvements should extend both to the preservation of existing trees, in part through the introduction of site improvements to limit detrimental compaction of critical route zones, and the introduction of new plantings (of diverse speciation) to ensure the continued existence of tree cover within the Zone.

8. The Zilker Playscape

Reordering of the playscape in accordance with contemporary standards provides an opportunity to better integrate this feature into the overall design of the Bathhouse Zone. Such integration should include the better coordination of the playscape with other features within the Zone, the better delineation of observable and appropriately bounded play areas for different age groups, the better separation of play areas and natural features (including specifically the mature trees within the playscape area),³¹ and the provision of visitor amenities including shaded seating areas, drinking fountains, and access to restrooms. In addition the opportunity exists to better coordinate the playscape with the overall interpretive program of the Bathhouse Zone, through the use of more natural materials, the design of play elements, and the integration of instructive elements. Ideally the design of the playscape should be coordinated with that of a relocated Sheffield Center, both to permit the sharing of infrastructure (such as restrooms) between the two facilities and permit the coordination of play elements (particularly for younger visitors to the Sheffield Center) with the with educational obligations referenced in the Fish and Wildlife permit.

C. Concessions

Modifications to concessions within the Bathhouse Zone would be subject to compliance with the terms of the respective concession contracts. It is recommended that the following considerations be addressed in the future negotiation of such contracts.

1. Zilker Café

Any rehabilitation of the Café should be undertaken in accordance with the historic appearance of the building in order to enhance this feature as a contributing element of the Historic District. Consideration should be given to the scale of operations in the present Café, in order to allow this function and its supporting facilities to be reasonably accommodated within the existing building. Long-term PARD should investigate alternative, scalable, models for addressing the concession needs of Zilker Park users.

2. Zilker Zephyr

The popularity of the Zilker Zephyr, which has been in operation since the early 1960s, is undeniable and the preservation of this iconic feature of Zilker Park should be prioritized. Nevertheless a detailed study should be undertaken to determine potential modifications to the Zephyr right of way to better reconcile the costs and benefits associated with such preservation. Such a study should consider two principal opportunities each of which should be considered as long-term projects, requiring both detailed planning and coordination with concessionaire contracts.

- **Redesign the Zephyr right of way to mitigate detrimental impacts** As the infrastructure of the Zilker Zephyr, specifically the track, approaches the end of its serviceable life, consideration should be given to modifications of the alignment, the track section itself (including consideration of trackway sections more compatible with other park uses), and particularly the turning loops at the ends of the present right of way. Such modifications should include the dedication of an appropriate area for the storage, maintenance, and fueling of Zephyr locomotives in a location removed from the most crowded and environmentally sensitive area of Zilker Park.
- **Increase the utilization of the Zephyr to better mitigate the intrusive presence of its right of way** If the Zephyr served as a means of transporting visitors throughout the park a number of potential benefits could accrue. Options might include developing Zephyr stops at locations along its right of way. Such a solution might also serve to better integrate the Botanical Garden and Nature and Science Center into the Park particularly for visitors with small children or limited physical abilities, for whom the distances between these features effectively require driving to each attraction individually.

It should be recognized that regulatory obligations applicable to the operation of the Zephyr as a means of public transit would be significant. However it may be possible to continue operating the Zephyr as an attraction while increasing the utilization of this resource.

D. Barton Springs Bathhouse

In accordance with the findings of this study, it is recommended that the existing Barton Springs Bathhouse be the subject of a Request For Qualification solicitation for an architectural team experienced in historical rehabilitation to undertake a phased program of rehabilitation consistent with the objectives of the 2008 Barton Springs Master Plan and in accordance with the Secretary of the Interior's Standards for Rehabilitation of historic structures. Such a rehabilitation program should be phased to facilitate the relocation of the existing Sheffield Education Center and SPLASH! to a new location above the Flood Hazard Zone with the goal of ensuring continuous operation of existing educational programming to comply with the conservation measures in the City's permit from the U.S. Fish and Wildlife Service. Public education should remain a part of the bathhouse through interpretive panels and other means of sharing educational information will be incorporated into this entry into the pool.

1. Bathhouse Rehabilitation

a) Phase 1: Life Safety and Access Improvements

The first priority for the rehabilitation of the Bathhouse should be modifications to the accessing access and egress provisions for Barton Springs. It should be recognized that the primary objective of such improvements is not solely to facilitate the evacuation of the pool in the event of a flood, but rather to ensure that the number of occupants expected to be using the pool can be directed by a safe, orderly, and fully-accessible means to a point of safe dispersal as defined by code.

Planning for access and egress control will require both the identification of additional pathways into and out of the pool, and the implementation of a corresponding entry control procedure. Such improvement would also need to include additional means of emergency egress from the men's and women's changing areas, due to the potential occupancy of these facilities exceeding what would be permitted in a room with a single exit.

With respect to new ingress and egress pathways it is recommended that the two original access pathways to the men's and women's dressing rooms be restored. By so doing, four additional points of ingress (and egress) could be created in a location where they could be observed by a single staff member positioned in the rotunda.

In order to make the best use of the two entry corridors, it is recommended that new screen walls be constructed at the men's and women's changing areas so that the entry-corridors would no longer be segregated by gender. Such an improvement would be mandated by

code insofar as required means of egress cannot be gender-segregated but also better accommodate families using the pool as well as allowing for the closure of one of the two corridors at times of limited demand.

b) Phase 2: Changing Area Improvements

The second phase of improvements would entail the replacement of the plumbing systems in the existing building resolve serviceability concerns with the existing infrastructure. Such improvements would entail the replacement of plumbing fixtures in the men's and women's changing rooms with sanitary, water-efficient, and accessible fixtures, as well as the introduction of new gender-neutral/family toilet and shower rooms to better serve the needs of pool users.

Plumbing improvements would consider, to the extent permissible under current code, the water-efficiency objectives outlined in the approved Master Plan. Alternatives worthy of consideration would include graywater recycling and the enhancement of solar water heating alternatives, although any such strategy would have to be proven through a detailed cost/benefit analysis. Such improvements would also necessitate an innovative solution to facilitate the preservation of the existing outdoor showers.

c) Phase 3: Relocation of Aquatics Facilities

The third phase of improvements would be contingent upon the construction of a new facility to relocate an expanded Sheffield Education Center. This phase would need to be carefully scheduled to ensure that no significant interruption in service affected the Sheffield Education Center or the SPLASH! exhibit, which would be intended to remain in their present location until such time as a new facility could be opened to the public.

This relocation would permit the consolidation of Aquatics offices, operational, maintenance and storage facilities associated with the pool into a new, expanded and consolidated facility in the former women's basket area. It should be noted that these pool uses are permitted within the Floodplain by the LDC, and moreover that such functions are compatible with flood-resistant construction.

d) Phase 4: Rehabilitation of Rotunda and Changing Rooms

With the relocation of the main Aquatics facilities, the women's' changing room could be restored to approximately its original size and configuration. Rehabilitation of the changing rooms would be intended to preserve the historic character of these facilities while addressing both significant maintenance liabilities associated with peculiarities of their

original construction, and better accommodating the needs of modern pool users in the size, configuration, and degree of privacy provided by changing stalls.

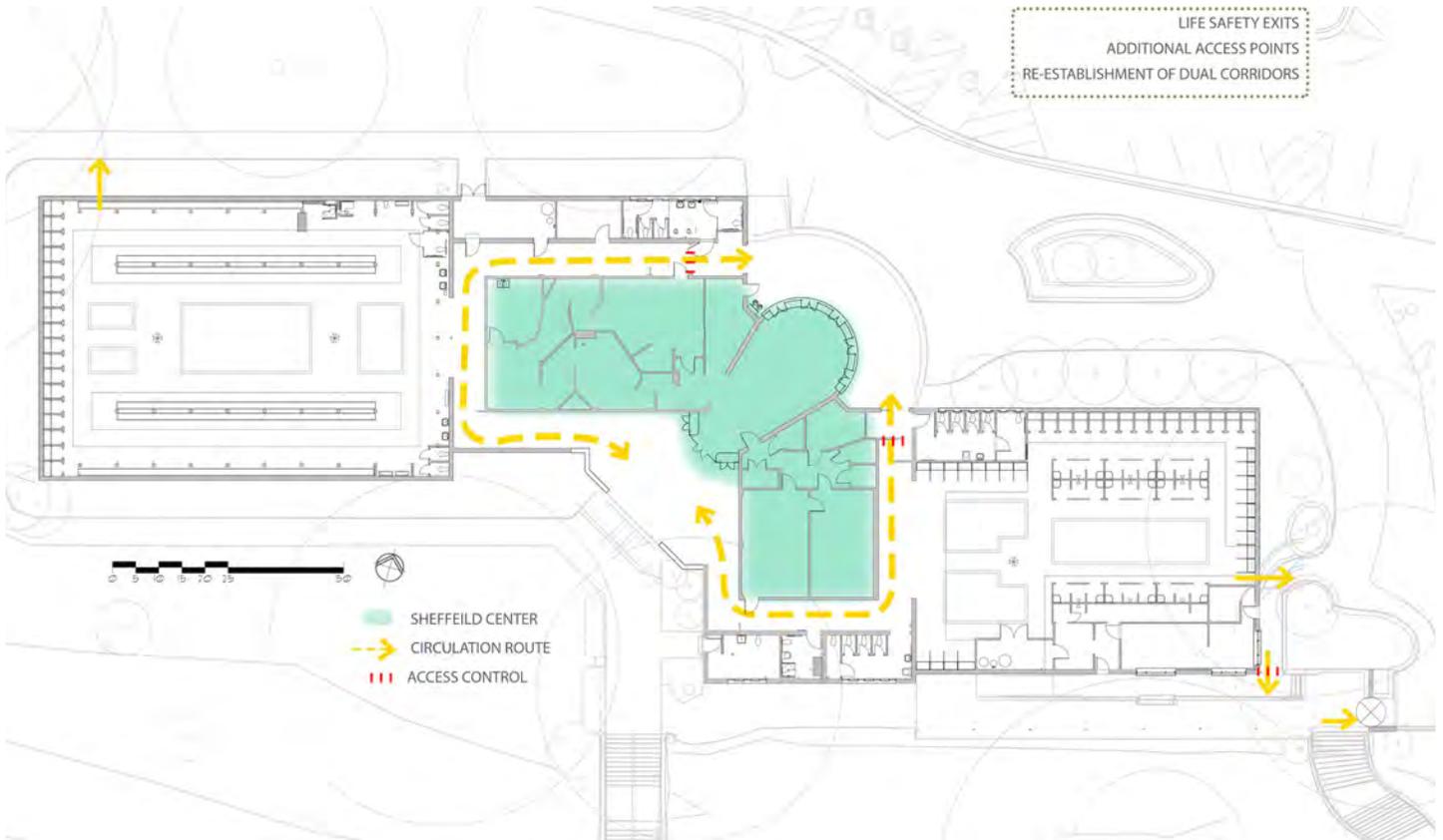
Rehabilitation of the changing areas would include the detailed analysis, and potential strengthening, of elements of the existing building envelope to ensure the structural ability to resist future flood events.

After the relocation of the more delicate or sensitive components of the existing SPLASH! exhibit it is recommended that a significant area of its former location be retained for educational purposes. Interpretive displays of the Barton Springs Pool and Complex history and environment could enhance the pool experience. Public access to a general purpose space and/or the rotunda could allow for additional viewing of the pool and the main, Parthenia Spring.

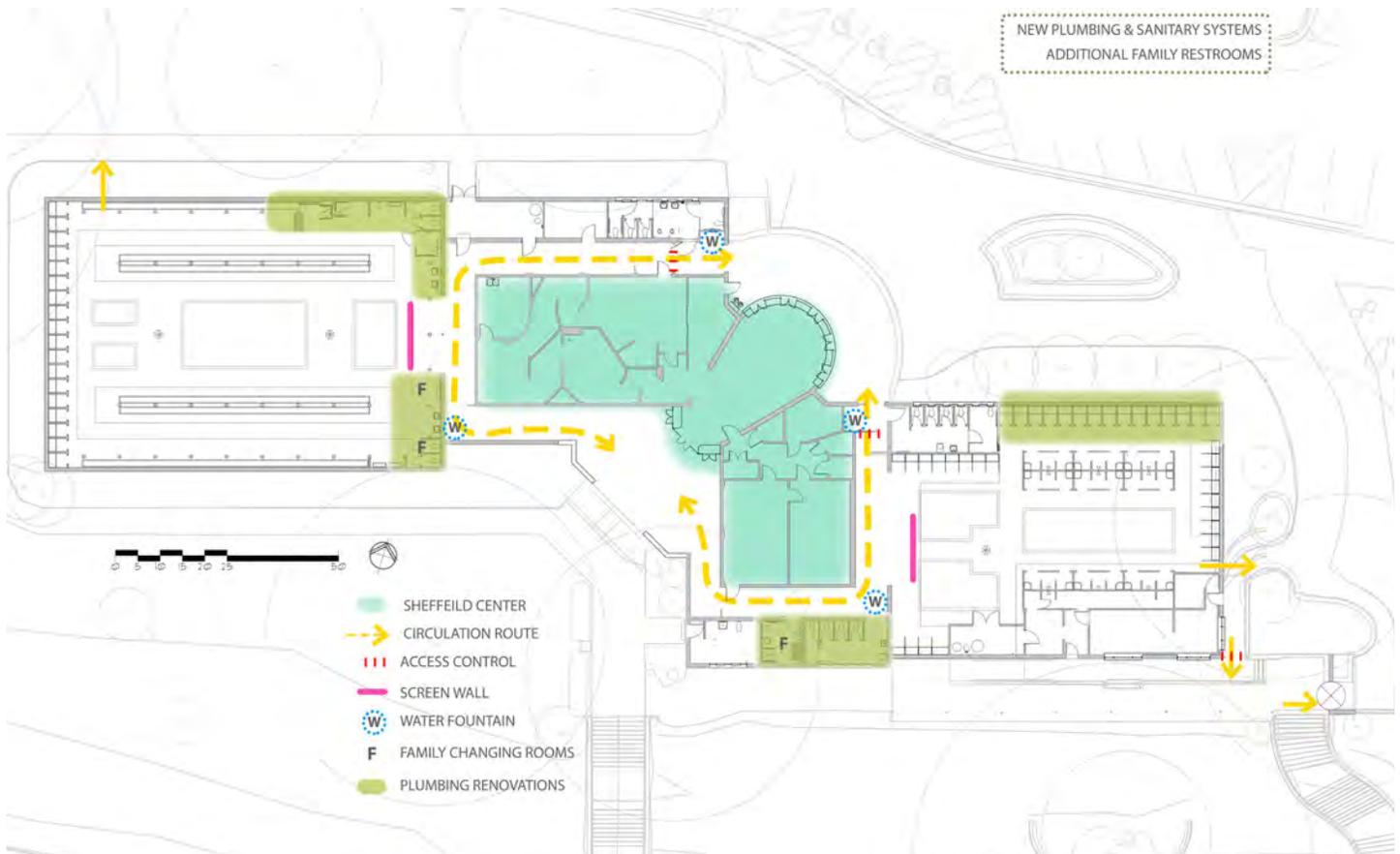
2. Sheffield Education Center Improvements

Relocating the Sheffield Education Center appears to be the most viable means of both ensuring the continued (and uninterrupted) operation of the educational programs of the Sheffield Education Center as presently conceived and expanding the existing facilities (including specifically the provision of accessible staff workspaces and classrooms sized in accordance with projected demands) to serve these programs. Although maintaining the Sheffield Education Center in its present location might be considered a viable short-term solution, it could only be considered as such until the next inundation of the Bathhouse.³² Since under current code the Sheffield Center could not be restored in its present condition following flood damage, such a short-term solution would result in the possibility that the operation of the Sheffield Center could be disrupted without any viable plans for its immediate restoration.

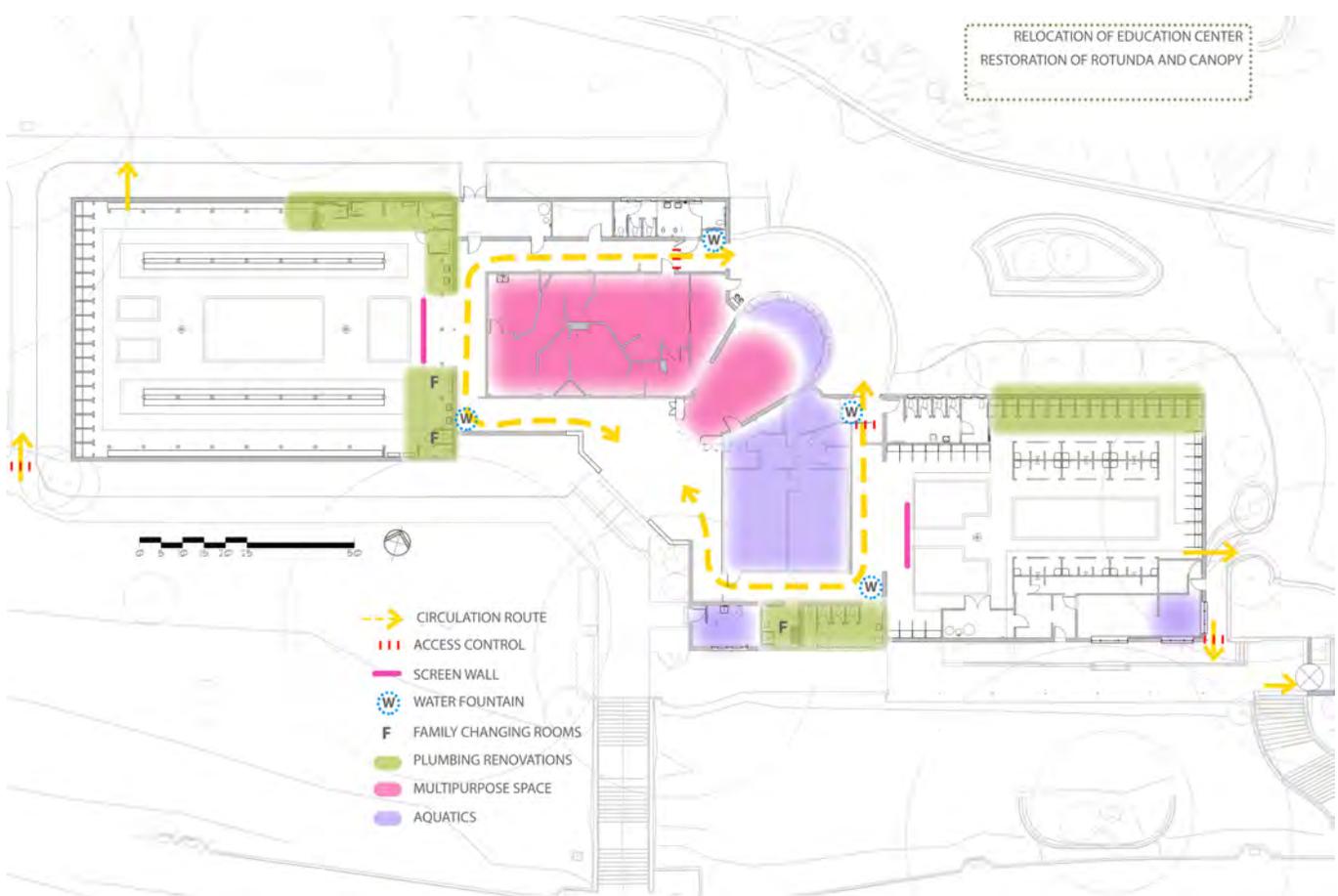
The best solution for a new Sheffield Education Center would include the construction of more durable portions of the SPLASH! exhibit in publicly accessible, possibly exterior locations where they would be viewed by the maximum number of visitors to the springs. The bathhouse entry areas could also incorporate flood-resistant interpretive elements. Those elements of the current display that require more secure locations to avoid vandalism and ease maintenance should be incorporated in the new Interpretive Visitor's center with the Sheffield Education Center. This would further incorporate the minor separation between the two buildings into an integrated educational program. This interpretive program should included state-of-the-art interactive elements and living-animal displays within the climate-controlled environment of a new Sheffield Education Center, as well as experiential exhibits concerning the aquifer and its protection.



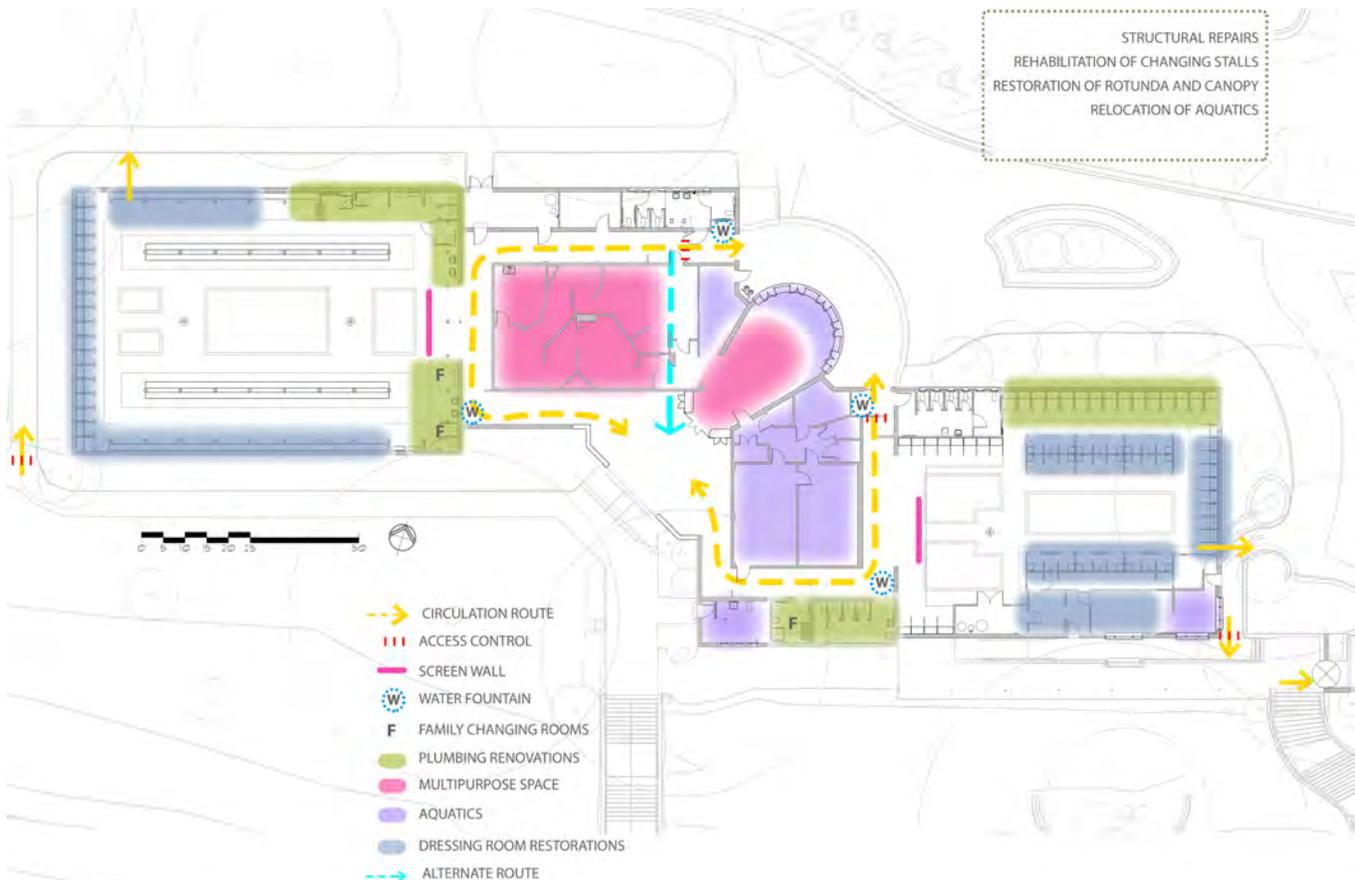
Bathhouse Projects, Phase One: Rehabilitation of the Bathhouse will necessitate a phased plan of improvements in order to minimize disruption during the construction period. The initial project phase should address life-safety concerns pertaining to the Bathhouse and the pool enclosure.



Bathhouse Projects, Phase Two: The second project phase should address rehabilitation of existing plumbing systems and the installation of new amenities such as drinking fountains and gender-neutral changing rooms.



Bathhouse Projects, Phase Three: The third project phase should address the rationalization and consolidation of those functions necessary to the continued operation of the pool. This project phase would be contingent on the relocation of the educational functions of the Sheffield Center to a new facility located out of the Flood Hazard Zone.



Bathhouse Projects, Phase Four: The final project phase should address the restoration of the men's and women's changing areas. This project would entail the substantial reconstruction of the deteriorating masonry elements in the two changing rooms to provide safe, stable, and flood-resistant replacements while preserving the character and quality of the originals. This phase may include exhibition or interpretive functions within the Bathhouse, designed in accordance with current codes and coordinated with the educational objectives of the relocated Sheffield Center.

A relocated Sheffield Education Center could be combined with a new visitor’s center for Zilker Park, making the educational elements of the Sheffield Center an integral part of any introduction to Barton Springs and Zilker Park. It is recommended that PARD finalize a program for this facility in coordination with the recommended design efforts and proposed partnerships.

E. New Visitor’s/Interpretive Center

As noted above, provision of a new Visitor’s Center is a principal objective of the Master Plan. It is recommended that the site improvements package in B. above include the development of site plans for a combined Visitor and Educational center totaling 6,000 to 8,000 square feet. A location near the children’s playscape parking lot should be easily accessible and visually connected to the Barton Springs Road entry, the Bathhouse, Eliza Spring and other nearby amenities.

With obvious synergies between a new Visitor’s Center, the Sheffield Education Center, and the SPLASH! exhibit, it is recommended that these functions be accommodated in a single new building. Doing so would be beneficial both in terms of the cost per square foot of the two facilities (due, for example, to the ability to share infrastructure such as restrooms and building systems) but would firmly integrate the Sheffield Center and its educational functions into the visitor experience of the park.

F. Estimated Budgets

On the basis of cost data from recent City of Austin projects of comparable scope and complexity, the following budget numbers are projected for the individual project elements projected in this feasibility report. Costs quoted are total project costs, including estimated costs of construction, design costs, fees, and project management.

Site Improvements		\$2M – \$3.3M
Parking Lot (and water quality feature)	\$700K-\$1.2M	
Playscape	\$800K-\$1.1M	
Trail & Amenities	\$500K-\$1M	
Bathhouse Improvements		\$3.2M - \$4.7M
Phase 1 Life Safety/Access	\$100K-\$300K	
Phase 2 Building Systems Repair	\$1.2M-\$1.6M	
Phase 3 Aquatics Relocation	\$700K-\$1.3M	

Phase 4 Rotunda & Dressing Rehabilitation	\$1.2-\$1.7M
New Visitor Center/Sheffield Education Center (6,000 to 8,000 sf)	\$3.5M-\$5.5M

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¹ Unserviceability, in the context of this report, shall be defined in terms of a component no longer capable of performing as originally intended and, with respect to economic unserviceability, no longer capable of being restored to such a level of performance by routine maintenance. The term ‘serviceability limit state’ defines the point in time at which a component becomes unserviceable. An unserviceable component is not necessarily in imminent risk of failure.

² Principal concerns would be compliance with energy code, exceptionally difficult for a non-thermally-broken metal building, as well the strong likelihood that a Quonset structure, particularly a genuine ex-military Quonset structure, would have been protected with lead-based anti-corrosion coatings that would need to be abated.

³ This is significant in the context of evolving safety and accessibility standards.

⁴ This report only addresses building and site development regulations associated with the Zephyr. Compliance with operational regulations pertinent to this feature are understood to be the responsibility of the concessionaire.

⁵ Feasibility Study Phase MEP Systems Description, Tom Green & Company Engineers, December 21, 2007.

⁶ This conclusion derives from the age and condition of the existing mechanical systems, and the incompatibility of these systems with the goal of a “sustainable, energy conserving, and water conserving” facility.

⁷ The validity of this 1% flood elevation has been confirmed by detailed engineering calculations completed by MWM DesignGroup in conjunction with the associated floodplain models in support of the detailed investigation of the upstream and downstream dams containing Barton Springs Pool.

⁸ City of Austin amendments to 2012 IBC: 1612.4.3 Means of Egress.

⁹ This local requirement is significantly more restrictive than the 2012 IBC itself, under which Section 1612 pertains only to “all new construction of buildings, structures and portions of buildings and structures, including substantial improvement and restoration of substantial damage to buildings and structures”.

¹⁰ City of Austin amendments to 2012 IBC: 1612.4 Design and construction.

¹¹ City of Austin amendments to 2012 IBC: 1612.4.1 Freeboard.

¹² City of Austin amendments to 2012 IBC: 1612.4.2 Provisions of Safe Refuge. This section explicitly applies to “existing buildings and structures in flood hazard areas which are enlarged, extended, or altered, or where a change of use or occupancy is made”.

¹³ City of Austin amendments to 2012 IBC: 1612.4.2.3 Provisions of Safe Refuge.

¹⁴ City of Austin amendments to 2012 IBC: 1612.4.3 Means of Egress.

¹⁵ Per 25 Tex. Admin. Code §265.200 (a)(2) “a building that serves as part of the [pool] enclosure,” as does the Barton Springs Bathhouse, “shall have doors or gates that open into the pool yard only if (A) any doors or gates between the building and the pool yard are for entry into a storage room, restroom, shower room, dressing room, or mechanical room adjacent to the pool; (B) the room does not have any door or gate openings to the outside of the pool yard enclosure”.

¹⁶ Meeting 22 October 2015.

¹⁷ 25 Tex. Admin. Code §265.200 (a)(3)(d).

¹⁸ Articulated as a “proposal for long-term improvements”.

¹⁹ The shack previously used as an interim office cannot be considered a viable solution, although obviously a permanent building could be constructed to serve this function, or a portion of the men’s dressing area re-purposed accordingly. In either instance, the isolation of such an office from other pool

operations would be less than ideal from the standpoints of personnel management and security of money-handling operations.

²⁰ Although it could be argued that Zilker Park itself could meet the IBC definition of a *public way*, “street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet” it could not reasonably be represented that a point of discharge below the 1% flood elevation would comply with this intent, since the area of the floodplain would manifestly not be available for public use at those times it was actually inundated.

²¹ The stalls were intended to be supported only by thickened slab elements.

²² Barton Springs Pool Master Plan, p. 224.

²³ <http://www.austintexas.gov/page/about-barton-springs-pool-master-plan>

²⁴ Meeting 22 October 2015.

²⁵ Specifically insofar as severe regulatory constraints would apply to any such enhancements of the existing facility.

²⁶ “For buildings in flood hazard areas as established in Section 1612.3, *interior finishes, trim and decorative materials* below the elevation required by Section 1612 shall be flood-damage-resistant materials”, FEMA Technical Bulletin 2/August 2008; Flood Damage-Resistant Materials Requirements for Buildings Located in Special Flood Hazard Areas in Accordance with the National Flood Insurance Program.

²⁷ IBC 1612

²⁸ An accessible drop-off area would also be provided at the Bathhouse.

²⁹ The primary impediment impacting strict compliance with the SOS Ordinance pertains to the designation of the critical water quality zone of Barton Creek, which is established per the approved Site Development Permit SPC-2012-0104D as extending 400’ from the nominal centerline of Barton Creek to a point 400’ downstream of the lower dam, in accordance with LDC §25-8-514(B) and §25-8-92. Within this critical water quality zone LDC §25-8-514(A) requires that any new development, and any revision, extension, or amendment of existing development, be designed to meet the pollution limitation requirement of the SOS Ordinance, while LDC §25-8-514(B) explicitly prohibits the construction of any pollution control structure within this same zone.

³⁰ The parking lot has been repaved, the curb lines substantially altered (most significantly in the context of the construction of the Hillside Theatre), the layout of parking spaces revised, and a new landscape island introduced. Insofar as the original parking lot was constructed of the same material as the adjacent Bee Caves Road (as visible in photographs such as PICA 17205, Austin History Center, Austin Public Library), and given that this segment of Bee Caves Road is noted as being paved with Tarvia (a proprietary binding and surfacing material made from coal tar) in the contemporary *National Park Service General Plan for Zilker Park*, the reconstruction of the parking lot in HMAc (as presently existing) would have had a significant impact on the character of the lot.

³¹ These trees were specifically excluded from the Condition Assessment included in the Master Plan. The fact that this assessment determined the majority of the trees in the Bathhouse Zone to have “compromising factors apparent” is indicative of the generally poor condition of the trees within this Zone.

³² Given the number of times the present Bathhouse, or its predecessor, were flooded in the twentieth century, and in light of the detailed hydrologic models of Barton Creek, the Bathhouse will be flooded again

APPENDIX A: BUILDING PLAN REVIEW MEETING MINUTES

22 October 2015

The meeting was called to discuss permitting procedures for PARD facilities located within designated floodplains, specifically existing facilities in Zilker Park including the Barton Springs Bathhouse, but also including PARD facilities proposed for Beverly S. Sheffield Northwest District Park and Holly Shores / Edward Rendon Park at Festival Beach.

Attendees:

David Taylor	City of Austin (DPW)	David.Taylor@austintexas.gov
Kalpana Sutaria	City of Austin (DPW)	Kalpana.Sutaria@austintexas.gov
Carl Wren	City of Austin (BPR)	Carl.Wren@austintexas.gov
Jose Roig	City of Austin (BPR)	Jose.Roig@austintexas.gov
Kevin Shunk	City of Austin (WPD)	Kevin.Shunk@austintexas.gov
Reynaldo Hernandez	City of Austin (PARD)	Reynaldo.Hernandez@austintexas.gov
W. Owen Harrod	MWM DesignGroup	owenh@mwminc.com

Points of Discussion: the following is a summary issues discussed (*in italics*) and answers addressed in the meeting.

This meeting was convened to discuss the reconciliation of §25-7-96 of the City Code, explicitly permitting the location of certain “public or recreational” facilities, including “a restroom or bath facility, concessions stand, tool shed, or pump house with an area less than 1,000 sf” with provisions of §25-12-3 (Local Amendments to the Building Code), including specifically requirements pertaining to freeboard and areas of refuge that would ostensibly prohibit the approval of such facilities. It was agreed that the City of Austin would consider the facilities addressed by §25-7-96 to not be inhabited structures in the context of §25-12-3, thereby voiding the requirements for Provisions of Safe Refuge per §25-12-3/1612.4.2.1 and permitting the waiver of §25-12-3/1612.4.1 concerning freeboard and §25-12-3/1612.4.3 concerning means of egress. This determination would likewise modify the implementation of ASCE 24 (in these instances) to waive requirements pertaining to freeboard.

With respect to the Bathhouse, discussions focused on the three separate uses existing in the building: the changing and toilet rooms, Aquatics offices and storage, and the Sheffield Center.

With respect to the changing and toilet rooms in the Bathhouse: It was agreed that these existing facilities would be considered in terms of §25-7-96, even though they exceed the nominal building areas cited by code, and would not subject to requirements pertaining to freeboard or safe refuge. Notwithstanding these determinations, Carl Wren stated that

provision of appropriately-sized means of egress from the Bathhouse, and from the entire enclosed area of pool, would be required (at such time as this requirement was triggered by other improvements to the facility), and such egress must include clearly identified and accessible path of evacuation from the pool to a point (or points) above the 100-year flood elevation. Carl Wren also stated that the building envelope of the Bathhouse should be evaluated and reinforced as necessary to resist anticipated flood loads per ASCE 24. It was noted that this requirement was a matter of public health safety, and therefore superseded historical considerations (should the Bathhouse continue in its present use). It was, however, acknowledged that such reinforcement would not necessarily impact the historic appearance of the building.

With respect to the Aquatics Department offices and storage areas in the Bathhouse: Carl Wren expressed concern that these offices constituted an inhabited space, contrary to the intent of §25-7-96 and therefore ostensibly subject to the freeboard and refuge requirements of §25-12-3. However he agreed that should the egress and structural reinforcement considerations discussed above be addressed (thereby mitigating the dangers posed to Aquatics staff by flooding of the building) the freeboard and refuge requirements per code be waived, and these uses allowed to continue. However he noted that all new construction in the Aquatics offices would be required to comply with flood-resistance requirements mandated by code, both in terms of structural performance and composition per IBC 801.5 (“For buildings in flood hazard areas as established in Section 1612.3, interior finishes, trim and decorative materials below the elevation required by Section 1612 shall be flood-damage-resistant materials”, FEMA Technical Bulletin 2/August 2008; Flood Damage-Resistant Materials Requirements for Buildings Located in Special Flood Hazard Areas in Accordance with the National Flood Insurance Program.)

With respect to the Sheffield Center: Carl Wren expressed profound concern over this facility. He emphasized questions regarding the structural stability of the building, and about evacuation facilities (and procedures) in the event of flooding. He stated that the renovations proposed for the Bathhouse (specifically with respect to §25-12-3/1612.4.2.1, triggered for “buildings and structures in flood hazard areas which are enlarged, extended or altered” rather than the “substantial improvement” trigger for general compliance with current code) would require that the areas containing the Sheffield Center likewise be brought into compliance with the structural requirements of IBC 1612, necessitating replacement of gypsum and stud partitions and wood framing within the Sheffield Center with flood-resistant construction. He agreed that the egress considerations discussed above could mitigate concerns about freeboard and refuge, but did not perceive how the existing exhibits and their supporting infrastructure could be brought into compliance with IBC 801.5 in their present location. David Taylor noted that elements of the Sheffield Center (specifically the Splash exhibit) were required in the context of the federal permits authorizing the operation of the pool and that the SOS Ordinance precluded the ready relocation of this exhibit to another location proximate to the springs. Carl Wren stated that these were issues that Council could address. From his perspective as the Building Official the present Sheffield Center in its present location (approximately nine feet below the 100 year flood elevation) would not be permitted under current Code.

With respect to Bathhouse facilities in general: It was agreed that the paramount concerns impacting the continued use of the Bathhouse, structural stability and evacuation considerations, could be addressed in a manner that would not (necessarily) trigger changes to the number of plumbing fixtures provided in the building. Since the proposed rehabilitation of the Bathhouse would not constitute “additions to a building [or] changes of occupancy or type in an existing building” per UPC Table 422.1 (as locally amended) no changes to the number of existing plumbing fixtures would be required, even given the potential replacement of the fixtures themselves.

APPENDIX B: MINUTES OF STAKEHOLDER MEETINGS

The following minutes were compiled from notes taken at each of the meetings cited below. It is the intent of these minutes to provide an accurate record of the topics actually discussed. Given the format of the meetings, many of which were conversational in nature, discrepancies may have been introduced to the record.

Sheffield Center/Splash Exhibit

Contacts: Margaret Russell (Program Manager), Michael Adair (Exhibit Specialist), Adrienne Clark (Environmental Instructor)

Comments:

- We have made big improvements to the Rotunda. It used to be a gift shop, but this wasn't viable financially.
- Splash functions as a visitor clearing house.
- Splash serves a vital function in encouraging people to make enlightened decisions based on an understanding of the aquifer.
- We get a lot of walk-by traffic. The Splash exhibit needs to be in a prominent location to encourage this kind of visitation.
- The existing classrooms are too small for their function. Additional classroom space would be beneficial. The classrooms could theoretically be relocated to another site, but it would be difficult to move the exhibits.
- The rotunda has a bad echo.
- The mechanical system is too loud.
- We need additional circulation area to organize and split-out groups of students.
- An exhibit like Splash needs associated gallery or multipurpose space. The existing rotunda is too small to serve these functions effectively.
- An exhibit like Splash really needs corporate support. The hardware and software supporting the existing exhibit is outdated and mis-matched.
- Most pool users go to the pool and then leave. The former gift shop in the rotunda provided a place for public interaction but is gone now leaving the Sheffield Center to perform this function.

Programs (Sheffield Center)

Contacts: Clark Hancock, Margaret Russell, Kathy Maddox, Adrienne Clark

Comments (Sheffield Center):

- It is important to remember that the Sheffield Center was established on the basis of private donations with the purpose of focusing on the Edwards Aquifer. This originated with proceeds from the Diving Championships at the pool.
- The classrooms were opened before the Splash exhibit was installed.
- The Sheffield Center has never sought controversy. No funding from either Freeport McMoRan or SOS was used in its establishment.

- It was consciously decided that the Sheffield Center would not attempt to attract new visitors to the Bathhouse District, but to serve people who were already there. In order to help avoid overcrowding, groups were accommodated at off-peak times (for example school groups in the early mornings).
- The exhibits are intended as a teaser, to get people interested in nature, to leave the park with a positive view of Barton Springs and Austin in general.
- The reasons the Splash exhibit was put here still exist.
- Among concerns are how the center and its exhibits can remain fresh to repeat visitors, and how the number of people visiting can be controlled.
- This is the only place that provides a description of the history of the site. This is the basis of the present exhibition in the rotunda.
- The Sheffield Center has to be adjacent to the springs to fulfill its educational program.
- Classrooms cannot be more than 8 minutes walk [for a third grader] from the springs. 5 minutes would be better. Class visits are very short: the more time spent walking around the less time there is for learning.
- Classes of 60 students are welcomed at the porch and divided into smaller groups. One group will go to the meadow, one group to Eliza Springs, one group to the classrooms.
- The existing classrooms are small, but completely functional.
- We have reached capacity everywhere we are. Our programs are in high demand.
- The Sheffield Center must be in contact with the landscape, the aquifer, and the springs to fulfill its mission.
- We need a space like the one we have now, that is open to the public, that is flexible enough to accommodate changing exhibits.
- If we were talking about what we're doing now, we need this space. If we're going to expand our programs we need more space.
- Versatility is important. We have groups of all different sizes and all different ages.
- Offices for the Sheffield Center have to be in a central location, and proximate to the exhibits, classroom space and rotunda.
- Storage is not adequate or convenient.
- Workspace is nonexistent. We are forced to improvise.
- The Sheffield Center is not adequately staffed. Additional staff would provide more flexibility in operations and longer opening hours.
- Our goal is to have visitors leaving Zilker Park saying "I respect this place, because it is special."

Comments (Bathhouse):

- In the mid 1980s the Bathhouse [the former administrative and basket handling portions of the Bathhouse] was renovated as offices. At that time the rotunda was leased to a concessionaire as a gift shop. This did not prove financially viable.
- The Nature Center later operated a gift shop out of the rotunda, until funding for this venture became unavailable.
- The porch, restrooms, and drinking fountains are natural gathering places for people visiting the park and using the trails.
- The Bathhouse is a community center.

- The entrance to the original Bathhouse [the previous wooden pavilion] was around the end, where it is now. This is the historic entrance to the pool.
- Entry to the pool was moved in 1964. This was much better. Driscoll's entries [the 1946 entries] were damp and crowded.
- This building, and the staff in this building, are the human face of Zilker Park.
- Moving the entrance to the pool would not solve the underlying problem of how to get people through the gates.
- The rotunda is important to the Sheffield Center. This is used for adult education.

Comments (Bathhouse District):

- There used to be 1,000,000 visitors a year to the park. Now it is much more.
- The Bathhouse District is the second most popular tourist destination in Austin, after the State Capitol. Most of the people who visit are not swimming.
- We have begun implementing an interpretive plan in the Bathhouse District. In public meetings, stakeholders objected to the number of signs.
- At present there the district is a hodgepodge. It is not the showcase it deserves to be.
- It would be great if there was someplace you could leave your car and then be circulated throughout the park.
- The creek below the dam is in very poor condition.
- Signage in the park is perceived to be unfriendly.
- The train tunnel is interesting. We should be able to do more with this.
- Walking down the railroad tracks to get to the creek is not a pleasant experience.
- The Caretaker's Cottage looks like the obvious place for a visitors' center.
- The playscape should be integrated into an overall interpretive program for the site.
- Staff have questions concerning how staff and volunteer parking will be provided when paid parking is introduced.
- Free bus parking for school groups has to be provided.

Aquatics

Contacts: Wayne Simmons (Aquatic Program Manager), Pedro Patlan (Aquatics Supervisor)

Comments:

- A number of pieces of equipment used for the pool are stored in the Maintenance Yard, including a Bobcat, a trailer with two compressors, two pumps, and other equipment used only at the pool. In addition, the maintenance yard is used for refueling and lubricating equipment. At present this arrangement is acceptable, if inconvenient. Relocating the maintenance yard away from the pool could make the storage and operation of this pool maintenance equipment unreasonably difficult.
- Equipment used by the Aquatics Department is stored in many locations throughout the Bathhouse (and the Maintenance Yard). This is very inefficient. Aquatics has much more equipment than they have places to store it.
- Aquatics is only responsible for the pool: other departments (e.g. Watershed Protection) are responsible for the other springs, and have their own equipment stored on-site.
- While there are dedicated cashiers, the remaining Aquatics staff serve as admissions, lifeguards, custodians (of the Bathhouse), educators, and maintenance personnel.

- Aquatics staff have less changing and storage space than they need.
- The general public have more changing and storage space than they need [a significant majority of visitors to the pool on the day of this interview arrived already wearing bathing suits].
- Aquatics staff need more secure storage.
- The Aquatics office is located in a portion of the former women's changing room due to the proximity of this location to a high-risk area of the pool (the diving board). This facility is too small for present needs.
- At any time there are 18-25 Aquatics staff working at the pool.
- There are as many as 500,000 pool visits in a year. 1000 visitors per hour is not unusual, 2000 visitors per hour is common in the summer. At peak times a line stretching from the entry back to the spillway is not uncommon: the entry is clearly inadequate for the peak number of visitors.
- Signage is inadequate. Visitors do not appreciate standing in line for an hour before being told that coolers are not allowed. Aquatics staff try to provide guidance, but staffing levels are often inadequate.
- The configuration of the existing parking lot compromises access to the pool by allowing insufficient site area for queuing at the entrance.
- Aquatics staff working in the evenings need to have safe parking spaces close to the Bathhouse.
- Aquatics management staff need the ability to supervise activities at the pool and to step in and fulfill different needs as required. Accommodation should reflect this need.
- Visitors want to be sure that parking is available.
- There are inherent conflicts between different groups of visitors, including runners who are perceived as using parking spaces prized by regular swimmers and not showering before using the pool.

Grounds

Contacts: Tony Savage (Grounds Supervisor), Joe Diaz (Grounds Manager)

Comments (Parking):

- One of the biggest problems with parking is that different entities each claim their own reserved spaces (e.g. Aquatics, Hillside Theatre, concessionaire) leaving only about 25 spaces for pool users. Parking near the pool is extremely limited (108 total spaces).
- There are nowhere near enough parking spaces near the pool, so the park (e.g. the Polo Field) becomes a parking lot.
- Events like ACL seem to manage parking reasonably well (by parking offsite and providing shuttles).
- The layout of the existing parking lot at the Bathhouse is not efficient.
- The north end of the existing parking lot is always crowded with children waiting to ride the train.

Comments (Vehicular Circulation):

- We have been trying for years to minimize traffic congestion on Barton Springs Road by experimenting with different circulation patterns and using staff and signage to direct traffic flow for special events and on weekends.
- Even with parking distributed throughout the park there are no obvious conflicts between vehicular and pedestrian traffic. Traffic lanes are congested and vehicles are slow moving.
- Many people, particularly out of town visitors, arrive at the park by bike. There are nowhere near enough bicycle parking spaces for events, but the numbers seem sufficient for daily use.
- Generally there are six to twelve busses coming to the park on a daily basis. They load and unload in the playscape parking lot, which is too small for this purpose. It doesn't work well and is not safe.
- School groups generally arrive early, and then leave early, before the park is full.

Comments (Playscape):

- The playscape is the second biggest and most crowded in the City. It's just not big enough. It wasn't big enough in the 1960s and it's not big enough now.
- The trees surrounding the playscape are dying. They do not provide sufficient shade.
- The playscape needs to be doubled in size. An additional playscape should be installed at the rock garden (to accommodate groups waiting in this area).
- There is not enough playground equipment at the playscape. It's old. Not really entertaining.
- Moving the playscape is not a viable option: PARD's model is playgrounds adjacent to pools in parks.
- Playscape needs to better accommodate children of different age groups.
- The area of the existing playscape needs to be better utilized.

Comments (General):

- The location of the train conflicts with a number of other uses, specifically with respect to the track and pedestrian walkways.
- The restrooms at the Pecan Grove are old and need to be replaced. This is an underutilized area of the park.

Comments (Pool):

- Current access to the pool should be relocated.
- Ideally use of the pool could focus on the south side, freeing up more space on the north for other park uses.
- For some reason, pool users prefer to use the toilet rooms located on the park side of the bathhouse. These toilet rooms are too small for the intensity of use they receive: they are a constant maintenance burden.
- Restrooms for park users really need to be provided at the Hillside Theatre.

Concession (Zilker Café)

Contacts: Abel (Concessionaire)

Comments:

- The concession building is too small.
- The building is functional, but not convenient due to its inadequate size. Concession storage area in the maintenance yard is not convenient. Storage in the concession building is inadequate.
- The location of the existing building is good, between the pool, playground and train. No other location would generate the same intensity of business.
- The concession stand presently has more customers than seating.
- There is no signage indicating the closest restrooms. People ask every day where the restrooms are.
- There are not enough serving lines.
- There should be a walk-in cooler.
- There is a big demand for espresso that is not currently being met.
- The geometry of the parking lot is not efficient.

Concession (Zilker Zephyr)

Contacts: Jason R. (Concessionaire)

Comments:

- The station is too small for the number of people riding the train.
- The walkway is too narrow, and is not accessible.
- The walkway is not well maintained. People regularly trip over a step in the sidewalk near the water meter.
- The position of fences relative to the track is hazardous.

Maintenance Barn

Contacts: Tony Savage (Grounds Supervisor)

Comments:

- Everything is old and cramped. A larger, modern facility is needed.
- Need a proper chemical storage area. These materials are currently kept indoors, but could be stored anywhere within the park.
- Maintenance office space is insufficient.
- The location of the maintenance barn is not right. Somewhere behind the Sunshine Camp or the disc golf course would work just as well.
- The existing storage sheds do not provide sufficient weather protection for the materials or equipment stored there.
- Insufficient facilities (e.g. lockers) are provided for the 22 employees on staff.
- Need covered storage areas for vehicles (approximately five trucks and ten utility vehicles, tractors and trailers).

Park Rangers

Contact: LeAnn Ishcomer (Park Ranger Program Manager)

Comments:

- The Caretaker's Cottage at Zilker Park will accommodate administrative but not operational functions of the Rangers.

- Pat’s vision is that the Cottage could function as an interpretive center, but this would inevitably compromise its administrative function given its small size.
- The Cottage could accommodate five to seven little modular desks, but no locker space or room for equipment.
- Ranger operations will remain at Deep Eddy. Objectively separating administration and operational functions of the Rangers to such an extent is not ideal.
- The Rangers also operate out of the Zilker Clubhouse (as Wildlife Austin): this role is distinct enough from the administrative and operational functions that it could remain separate, although ideally all Rangers should be based at the same location.
- Rangers serve as ambassadors and promote environmental stewardship: effective interaction with park visitors is essential to their function, including specifically programs like climbing, fishing, touch tables, and other educational activities.
- Lack of adequate office space is a major problem for the Rangers.
- Rangers will have six vehicles at Zilker Park which will need to be stored securely.
- Rangers are presently collocated with Parks Police. This is ideal (albeit requiring better and more secure facilities than those provided at Deep Eddy) and should be continued. Rangers and Park Police operate together, and effective and rapid coordination is beneficial.
- The existing maintenance yard appears to offer an opportunity for co-location of Ranger (and Parks Police) administration, operations, and interpretive functions.
- Having the Rangers and Parks Police operating out of Zilker Park would be ideal given the number of large public events occurring at the park and the obvious benefits of having first responders on-site.
- Interpretive features and signage would be beneficial in terms of visitor experience.
- The history of Barton Springs is interesting, but most parks visitors don’t appreciate or understand it.

Regulatory Constraints (Initial Meeting with Development Services Department)

Contacts: Sangeeta Jain (DSD), Atha Phillips (Environmental Review), Keith Mars (City Arborist), Beth Robinson (DSD), Patti Dodson (City Arborist)

Comments:

- The areas of the park to the north and west of Sunken Gardens Spring (i.e. areas to the west of the existing maintenance yard) are included in the Barton Springs Zone (BSZ).
- Impervious cover in the Barton Springs Zone will be limited both by ordinance and by the overall impervious cover limits established by the Zilker Park Masterplan. There is a redevelopment exception for projects in the BSZ that allow existing impervious cover to be redeveloped within the same footprint.
- It was explicitly noted that development in the area to the east of Sunken Gardens Spring (i.e. areas to the east of the existing maintenance yard) are not within the Barton Springs Zone.
- Regulations applicable to the Barton Springs Zone classify all developed areas as impervious cover. Technically this would include explicitly include unpaved walkways and paved sidewalks (not classified as impervious in other watersheds). [In the calculations for the approved Site Development Permit for the Barton Springs Pool General Grounds

Improvement Project, SPC-2012-0104D, areas such as sidewalk, compacted gravel, and the playscape are identified as impervious cover, but are NOT included in the impervious cover totals for the Barton Springs Zone.]

- A number of conditions existing in the Bathhouse Zone raise questions regarding their interpretation (as pervious or impervious) under the regulatory constraints applicable to the Barton Springs Zone, including the area of the playscape, unpaved areas of the internal courtyards within the Bathhouse, and grass areas used for parking and for pedestrian circulation within the park. It was stated that such conditions would have to be evaluated on a case-by-case basis, perhaps in accordance with testing data establishing the degree of compaction and actual permeability of the soil facilitating an objective determination of which areas would be considered pervious and impervious.
- The question of impervious classification provoked a discussion of a related issue regarding the compaction of soil within the critical root zones of existing trees, and the resultant poor condition of a significant percentage of the trees within the Bathhouse District. It was noted that the protection of existing trees would be raised in the context of any project for improvements within the park.
- It was explicitly noted that development in the area to the east of Sunken Gardens Spring (i.e. areas to the east of the existing maintenance yard) would be much simpler, from a regulatory standpoint, than development within the Barton Springs Zone.
- It was noted that development in the Park would trigger compliance with Subchapter E (as established by precedent of other parks projects), anticipated to consist primarily of provision of shaded sidewalks.
- Staff requested that we bring photos of the site area to the next meeting. On that same note, staff suggested we organize a site visit to observe existing conditions and discuss specific constraints related to proposed improvements.
- It was suggested that we meet with Eric Bollich (transportation engineer) to discuss macro-level transportation planning within and surrounding the Park.
- Net Site Area and Permissible Impervious Cover regulations (tables Q1 and Q2) will apply.
- Utility maintenance is exempt from Barton Springs Zone regulations. New utilities can't run parallel within CWQZ.

Regulatory Constraints (Initial Meeting with Watershed Protection Department)

Contacts: David Johns (Senior Environmental Scientist), Scott Hiers (Senior Environmental Scientist)

Comments:

- A tree maintenance and/or replacement program that would be acceptable (and to Viola) needs to be developed
- SOS Ordinance amendments will be needed – especially for work in the Critical Water Quality Zone
- Total impervious cover is somewhat over the limit (perhaps 17% current vs. 15% SOS limit) and WPD would like to see movement to reduce IC (i.e. restoration of current Maintenance Barn, parking lots, or in the playscape area) and/or mitigation such as;

- Rain gardens or other water quality treatment – especially for the three parking lots feeding directly into the creek
- Regular program of maintenance (aeration) and supplemental irrigation in the overflow parking (polo field) to offset compaction and run-off problems
- A plan/commitment to add water quality features (rain gardens) to the other parking areas – perhaps as they are repaired or resurfaced.
- The proposed Maintenance Barn location is probably subject to SOS provisions.
- The site development plan contained in the Bypass Repair plans shows the most accurate WQZs
- WPD would likely approve a waiver to use the EA developed for this and earlier work in lieu of an ERI

Other concerns include the proposed projects and:

- Erosion and pollution around Barking Springs and the boat rental area
- Water quality features needed around the older south parking lots
- Redoing the upstream gravel catchment
- The only two active Watershed projects are (K) Eliza Springs Outlet Repair which is scheduled for construction next summer and (Q) Vegetation Restoration (exotic removal) ongoing on the south shore. None of the other proposed projects has current design, construction or funding.

APPENDIX C: REFERENCED CODES AND ORDINANCES

2012 International Energy Conservation Code
2012 International Building Code
2012 International Mechanical Code
2012 Uniform Plumbing Code (As Amended by COA)
2012 National Electric Code (As Amended by COA)
2010 ADA Standards For Accessible Design
2012 Texas Accessibility Standards
2012 International Existing Building Code
LDC 25-8-281(C)(2) Buffer Zone of Critical Environmental Features
Parthenia (Main) Barton Spring Setback
Old Mill Spring Setback
Eliza Spring Setback
Rimrock Setback
Rimrock (CEF)
LDC 25-9-482 Construction within the CWQZ
LDC 25-8-483 Construction within the WQTZ
Barton Creek Watershed (Barton Springs Zone)
Town Lake Watershed (Urban Watershed)
Barton Springs SOS Ordinance – Barton Springs Zone (Barton Springs and Town Lake Watersheds)
USFWS Permits PRT-839031 and TE-833851
FEMA 100-year Floodplain Panel No. 48453C0445H
Zoned Public (P) and Public-Historic (P-H)
Detention Waiver not needed due to project’s proximity to Lady Bird Lake per SP-2012-0104D
National Registered Historic District
Barton Springs Archeological Historic District
Secretary of the Interior’s Standards for the Treatment of Historic Properties
Void and Water Flow Mitigation Rule, ECM 1.12.0 and COA Spec 658S

Zilker Park Bathhouse Zone Feasibility Study- Draft



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