

Long Meadow Pool Assessment Findings

City Council Presentation

10/09/14





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Introduction

Status of Szostak Assessment Study

- Szostak began City Pools study in May 2014
- Focus of study has been on Long Meadow Pool that was closed for 2014 season due to an electrical hazard from water infiltration into the underground Pump Room





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Background

Project Initiation

- Led by Szostak Design
- Study includes all five City Pool facilities and four spraygrounds
 - **Long Meadow Pool**
 - Hillside Pool and sprayground
 - Forest Hills Pool and sprayground
 - Campus Hills Pool
 - Edison Johnson Pool and sprayground
 - East End Park sprayground
- Initial Focus has been on Long Meadow Pool
- Goals for the Long Meadow Pool Assessment
 - Investigate the issues with Pump Room water infiltration and loss of water in the pool
 - Provide Options for repairs/improvements
 - Develop a long-term planning strategy for Long Meadow Pool

Team

- Szostak Design, Inc.
- Counsilman-Hunsaker – Pool design and evaluation specialists
- Structural engineers
- MEP engineers
- Leak detection company



Long Meadow Pool Key Issues

- **Age / Lifespan / Use**
- **Location in Floodplain**
- **Deficiencies**

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Above: A well designed pool has separate areas for teaching

Age / Lifespan / Use

Age

Facility Construction: 1963 - **51 Years Old**

Second Pool Shell Construction: 1980 - **34 Years Old**

Lifespan

Typical Lifespan of U.S. Aquatic Facilities - **45 Years**

Use

Typical Long Meadow Pool Usage each Summer - 4,050 visits

Functionally Obsolete / One size fits all, 1960 Design

- Inadequate for Competitive Swimming
- Unsuitable for Fitness, Education and Therapy Aquatics
- Inadequate Recreational Amenities by Current Standards
- Inappropriate for New and Non-Swimmers
- Inaccessible for Differently-Abled Users



Location in the Floodplain

FEMA and UDO govern new development and repairs of existing facilities

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-  Long Meadow Pool Perimeter
-  Medium Flood Risk
-  High Flood Risk
-  Floodway Goose Creek



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Location in the Floodplain

Implications:

- Long Meadow Pool is subject to periodic flooding
- Any New Facility Improvements will continue to be at risk
- Some types of repairs may require that the structures be brought into full compliance with UDO Floodplain Code:

Full compliance means either floodproofing the structures or raising them 2 feet above the floodplain.

Either renovation is prohibitively expensive.



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Deficiencies

- **Pool Water Loss**

Approximately 4"-8" per day during the summer season

- **Pool Shell Leaks**

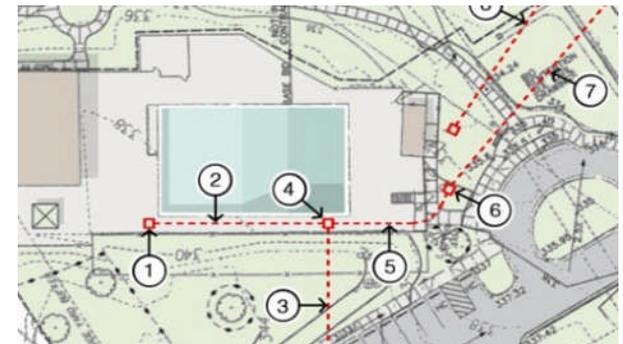
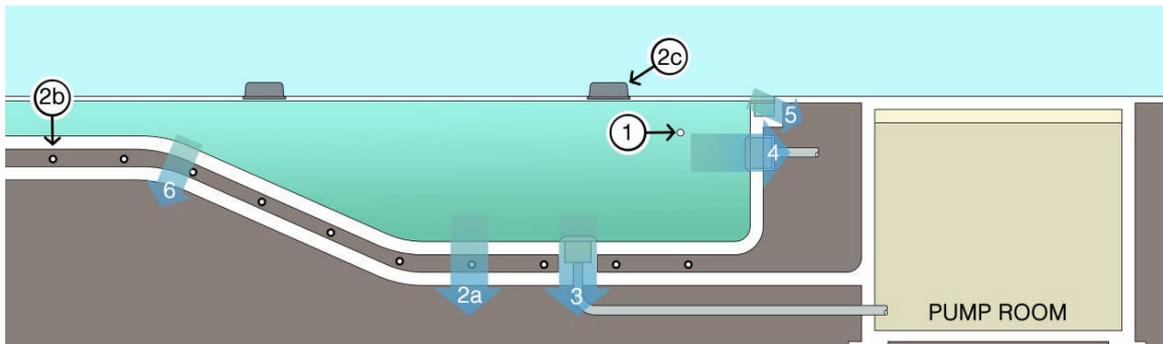
6 leaks in the pool shell/gutter system have been detected

- **Clogged Stormwater Inlets and Piping**

Stormwater from heavy rainfall events saturates soil around underground Pump Room

- **Cracks in the Concrete Pool Deck**

Possible water infiltration into Pump Room





Deficiencies

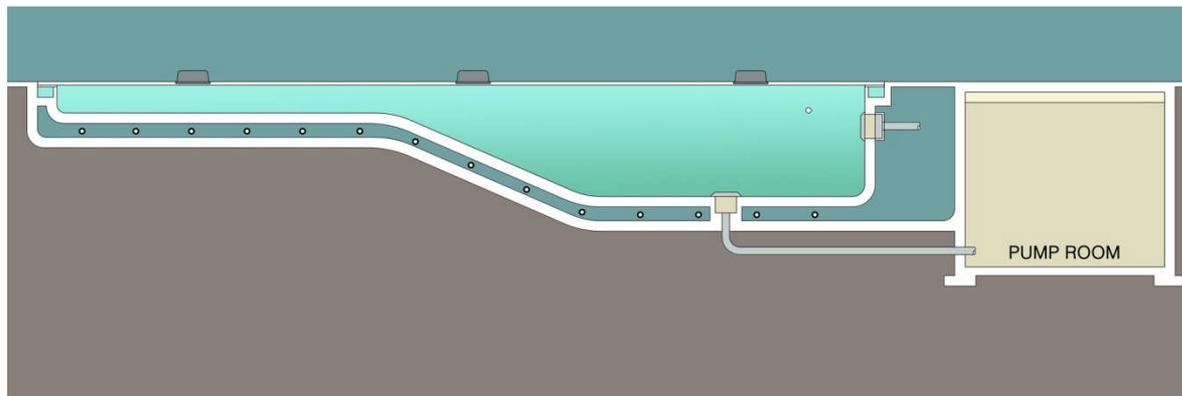
- **Existing Pool Construction**

Pool shell built within a pool shell (1980 shell built inside the 1963 one). Evidence of water between the 2 shells. Condition of original shell is unknown.

Below grade structures – pool shells at 10' below grade and pump room at 12' below grade – may act as an underground dam obstructing the flow of groundwater as it moves toward Goose Creek. Hydrostatic pressure.

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Open stair allows rainwater to flow into the Pump Room.





Pool Shell and Equipment Repairs Since 2007

- Repair and replacement of pump equipment
- Leak repairs and testing
- Two full pool shell replastering projects
- Valve replacements

Cost of over \$140,000

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Short-Term Option

Minimum Investment to Reopen the Pool:

Eight Action Items

- | | |
|---|----------|
| 1. Pool Shell Leak Repairs | \$10,000 |
| 2. Stormwater Inlet and Piping Flushing
Public Works has added to an existing contract | N/A |
| 3. Pump Room Stairwell Cover | \$2,500 |
| 4. Seal Cracks in Pool Deck | \$8,000 |

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Short-Term Option

5. Foundation Drain

\$30,000

This work will require design services and municipal approvals

6. Electrical Upgrades in Pump Room

\$19,000

Includes Testing for all Fixtures/Fittings, Water-Tight Fittings
High Water Sensor Alarm, Shunt Trip Breaker, Staff Training

7. Building Code Requirements

\$11,800

Includes ADA Lift, Stairwell improvements, Latching Gates

8. Health Code Requirements

\$15,800

Includes Drain Covers, Gutter Covers, Removal of Trip Hazards,
Depth Marker Replacement, Elevation of Chemical Storage

Total Estimated Construction Costs

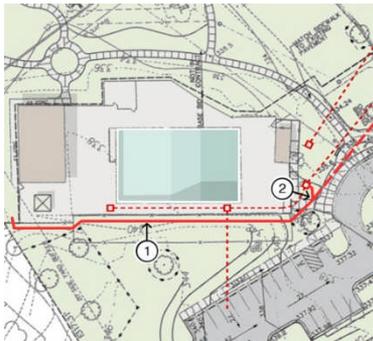
\$131,085

With Fees, Contingency, P&O Added

Estimated Schedule for above work:

9 months

Includes Design and Municipal approvals (including Site Plan/
Public Works approval/Stormwater Impact Analysis and Floodplain
Development permit)





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Issues with the Short-Term Option

- It is possible that at the completion of all the Short-Term repairs there will still be an unacceptable amount of water infiltration into the underground Pump Room.
- It is anticipated the Short-Term repairs can be accomplished without triggering the requirement for full compliance with UDO Floodplain Code. But FEMA will advise based on the proposed scope of work.
- UDO Floodplain Code will continue to limit repairs that may be needed in the near future.



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Issues with the Short-Term Option

- Double pool shell construction makes it impossible to evaluate the condition of the outer shell and extent of possible soil erosion under the shell caused by years of leaking water.
- In addition to the Short-Term repairs, approximately \$22,650 in deferred maintenance repairs need to be addressed in the next several years.
- No guarantees.



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Given the limiting factors of the floodplain location and age / obsolescence of the facility:

- Begin planning for a new neighborhood outdoor swim/spray facility to replace Long Meadow Pool.



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Long-Term Planning Strategy

Options for the Long-Term:

- Possible redevelopment of Long Meadow pool facility as an at-grade sprayground. Existing site may not be feasible for redevelopment given the extent of the floodplain.

Construction Estimate: \$2-\$4 Million

- Planning for a new neighborhood outdoor swim/spray facility to ultimately replace the Long Meadow Pool Facility, accommodating larger number of users with a variety of water features and amenities. Existing site unlikely to accommodate such a redevelopment.

Construction Estimate: \$7-\$10 Million



Long-Term Planning Strategy

- Full Pool Assessment Study to be finalized by Winter 2014/15.
- Study to be used as a tool for long-term planning for City-wide pool facilities.

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