# North Liberty, Iowa  |  Aquatic Master Plan

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INTRODUCTION

The City of North Liberty, Iowa currently operates one indoor swimming pool and one outdoor swimming pool. The two pools are adjacent to each other on the recreation center/library site. North Liberty’s first splash pad was installed at Penn Meadows Park, summer 2016. Additional facilities are available in surrounding communities and are compared in this report with North Liberty’s pool features and operation.

The recent ongoing population growth has a strong impact on the pools’ programs, overloading the facilities at certain times. As a result, access by the public is challenged and crowding reduces the patron’s experience at the pools.

The overall purpose of this master plan is to first understand how each pool fulfills the aquatic needs in the North Liberty community. Future needs can then be identified and options outlined for City leaders to consider. A variety of items can affect public aquatic facilities: demographics (population and age distribution), features and programs, program fees, nearby facilities, operation hours, and more.

Citizen comments were obtained and used as part of the process to prepare this master plan. Report preparation focused on specific features that provide multi-generational aquatic activities. The opportunities and challenges of both outdoor and indoor pools are described. The overall goal is to provide a planning tool that gives the City a realistic path for the future of North Liberty aquatics.

EXECUTIVE SUMMARY

The aquatic facility situation in North Liberty is mostly positive. By that we mean both indoor and facilities are currently available. Facility use is strong, to the point of being too crowded. Population growth continues, so interest in additional aquatic facilities will likely increase.

In contrast to older pools, the North Liberty pools appear to be in fairly good condition, both physically and operationally. With the strong demand for pool use, the focus of this master plan will be on enhancing or expanding the aquatic facilities in North Liberty.

Splash pads are a feasible option to consider and additional splash pads may be appropriate in the future to better serve specific areas in the community.

Pool attendance and operation data are combined for the indoor and outdoor pools. Direct comparison of the existing pool operations by benchmarking with other Iowa public facilities is not possible without separate attendance, program participation, direct pool expenses and direct pool revenues. Available attendance, program participation, expenses and revenues are included in this report.

Attendance at the pools from July 1, 2015 through June 30, 2016 (FY16) was captured as follows:

Memberships accounted for 28,381 pool uses by 2,883 members.

Daily Pool Fees were as follows:

- FY16: $130,722 divided by $3.50 = approximately 37,349 individuals
- FY15: $104,973 divided by $3.50 = approximately 29,992 individuals
- FY14: $112,288 divided by $3.50 = approximately 32,082 individuals
• FY13: $105,517 divided by $3.50 = approximately 20,148 individuals

Income was divided by the average of the ticket prices ($3.00 and $4.00) to show an approximate number of individuals. The revenue for both pools was $416,941 during FY16. The annual expense budget for both pools was $703,078 for FY16. Percentage breakdown for FY16 was Taxes: 40.70% and User Fees: 59.30%.

In 2015, the City of North Liberty hired Water’s Edge Aquatic Design to develop an Aquatic Master Plan. The goals included studying the condition of the current pools and the potential for improving the overall aquatic systems in the community. The overall focus of this report is to give the elected leaders and decision makers in the North Liberty community information they need to choose the future path for aquatic facilities.

In preparing the master plan, Water’s Edge visited the pools two times to review their physical condition. Water’s Edge also met with City staff members to listen to their comments and concerns. A survey of the community provided valuable information for master planning purposes. A summary of the survey results is included in this report and emphasizes the need to expand the outdoor area.

The most important measure of a pool’s operation is attendance. To a large degree, expenses at a pool are fixed, based on pool size and the type and number of features. Therefore, each pool must have a certain minimum level of attendance to break even – the greater the attendance, the better the operation. The annual attendance for the North Liberty pools was approximately 242,000. This is an average attendance of over 660 patrons per day.

The day of a community culture with multiple pools is fading into history. People are mobile and will travel to a pool with preferred features, even if it requires driving as opposed to walking or riding a bike. The acceptance of relatively small public pools with few features is not being received well. Four factors influence this reality: construction and operating costs, air conditioning, safety, and entertainment. The cost to build and operate multiple pools exceeds that for one larger facility. The operating subsidy for multiple pools is typically greater than that for one pool with more attractive features. In the 1950’s and 60’s air conditioning was relatively new and the public pool was a great place to cool off. Parents are now more reluctant to allow their kids to bike or walk alone to the pool. This generation has many entertainment choices and expects the public pool to provide more than splashing and jumping into the water.

The North Liberty pools were constructed in 2004, so are nearly 12 years old. Maintaining the pools is feasible, but the costs will begin to increase with time. The concerns now are not keeping the pool operational, but enhancing and perhaps expanding the features to better serve the growing population.

The overall strategy recommended for North Liberty is to focus on expanding and enhancing both pools at the current site, to add more splash pads, and to plan ahead for future separate outdoor pool locations.

Specific recommendations follow:

• Consider the following options for improvements and additions to the existing indoor pool:
  … Expand the lap area and building toward the east.
... Provide a fixed bulkhead (divider) to create separate lap and exercise areas.
... Remove the diving board and partially fill the diving area.
... Provide a climbing wall and a basketball goal.
... Plan a drop slide from the east observation deck into the filled diving area.
... Refurbish the deck coating.
... Plan a hot tub (spa) addition in the southeast corner of the building addition.
... Revise the pool chemical system for sodium hypochlorite as the disinfectant.
... Provide sound dampening measures for the air treatment system.
... Begin planning for dehumidification system replacement now (20 year life expectancy).
  Frequent repairs to the air treatment equipment continue to occur.
... A preliminary planning cost for the above improvements is $2 to $2.5 million

- Consider the following options for improvements and additions to the existing outdoor pool:
  ... Replace the water play unit.
  ... Add a toddler slide in the shallow area.
  ... Remove the concrete wall that anchors the water walk and has a basketball goal.
  ... Provide columns for the water walk for improved visibility.
  ... Install a basketball goal on the pool deck.
  ... Revise the pool chemical system for sodium hypochlorite as the disinfectant.
  ... Build an adjacent outdoor pool addition that provides more shallow water and enhanced features.
  ... Provide a new filter building for the new pool that includes an entrance ticket area and additional restrooms.
... A preliminary planning cost for the above improvements is $4 to $5 million

- Provide splash pads throughout the community at both existing and future new park locations. Several park options include Centennial Park, Creekside Commons, Goose Lake, Quail Ridge, and West Lakes. These are the largest parks. Others can certainly be considered if they have adequate available space and if the splash pad activity fits the overall park purpose.
- Consider future separate outdoor pool locations based on continuing population growth.
- Partner with the School District for a joint indoor competitive pool.

The current demand in North Liberty is primarily for the younger age group and their aquatic needs. It is important to consider all age groups and their needs now and in the future. Building and maintaining swimming facilities is costly. Before you consider building additional pools at new sites, your population growth and public support must create the momentum for these costs. As your community ages, you will first see a gradual shift with more demand for features for teens and young adults. This may drive planning for a new outdoor pool with more larger and more active features, such as a lazy river or large slides. Next your demographic should see a demand for more exercise and wellness programs for adults and seniors. This may prompt an interest in a new indoor facility with more lap and exercise programs along with warm water exercise and even therapy.

You have a great community facility that has the potential for some expansion, but it will not serve your entire community in the future without additional facilities. Additional aquatic facilities are needed now and should be planned within the next 5 years.
The next steps are to choose a final plan, develop the funding, and determine a schedule for the work. One approach is to start small with enhancements at the current pools. Next, consider adding one or more splash pads. The final step is to plan and build a new aquatic center. While this last step is costly, it will have the greatest positive impact on your overall pool operations. Certainly this would be exciting, but in order to gain the confidence of the voters, enhancing the existing pools would be a strong start. It would show the neighborhoods have value and investing in them is supported by the City leaders.

**Aquatic History**

During the early 1900’s, lakes, streams, and rivers drew people to cool off, exercise, relax, and have a good time. Aquatic recreation is a part of childhood; the concept of a community pool was introduced to provide patrons with a safe and better controlled aquatic experience. For decades, children and adults alike have found refuge from the summer heat, as well as entertainment, at their local pool.

As public pools go, the North Liberty pools are relatively new. North Liberty is a relatively new community, having grown from a population under 1,000 in 1960 to over 18,000 in 2015, with a projection to exceed 22,000 by 2020.

**The Traditional Pool**

Swimming pools built through the 1970’s and even into the 1980’s, were typically based on the dimensional needs for competitive swimming and diving. The pools emphasized deep-water recreation and exercise. Most traditional pools had a lap-swim area adjacent to a diving basin with one or more diving boards. Little-to-no shade was provided at these facilities, and often a separate wading pool was provided. A bathhouse, perhaps with a concessions area, greeted patrons and provided a place to change and rinse off.

Before air conditioning became prevalent, visits to the summer pool were a key method for cooling off in the summer. It felt refreshing to simply be in the water. Diving, playing in the water, and sunbathing were the primary activities. Kids held onto the gutter edge and entertained themselves by jumping into the pool, dunking their friends, and even occasionally swimming a bit. These were the traditional pools that served communities well for many decades.

The attraction of the community pool is changing along with our cultural changes. The social goals of the 1920’s moved to the lap lane focus of the 1960’s. During the 2000’s, the aquatic focus shifted to an expectation of fun, entertainment, excitement at public pools. This new reality is evident at your current pools.

**The Trend in Aquatics**

The trend in public pools for the last several decades continues to be away from pools based only on rectangular basins needed to support competition swimming. While competition and lap swimming are valid features to consider, the trend is one of balance by providing features for all ages and abilities. In addition to serving a wider range of patrons, the increased attendance helps reduce the operating subsidy.
The City of North Liberty aquatic facilities have side-stepped the traditional aquatic history. Your two pools are just over 10 years old and include swimming, diving and shallow recreation features. Today, North Liberty is witnessing adjacent communities adding new pools with even more attractive aquatic features. More appealing pool features will continue to attract residents to area pools. People will go to the pools their kids prefer and to pools that offer them the pool experience they want.

This Aquatic Master Plan is a timely outcome of the current trend in public pools. We offer a look at your existing pools, their condition, their features and their aquatic opportunities. Our report provides a summary of what we see, what your community is requesting, and a path to enhance your aquatic services to your growing community.

COMMUNITY ANALYSIS

When planning for aquatic facility additions or renovations, community culture and dynamics must be considered. A review of the area facilities, the demographic information, and the community’s aquatic needs all assist in determining the optimum alternatives for the community.

We begin with an overview of your existing pools and their features. We then summarize your community demographics and how that information impacts your pool planning needs. Finally we present the results of your community survey specific to aquatic facilities in North Liberty.

EXISTING AQUATIC FACILITIES

One outdoor swimming pool and one indoor swimming pool exist in North Liberty. The pools were constructed in 2004. Both are functional facilities with minimal operation and maintenance concerns. The Penn Meadows splash pad was recently completed, following the start of this report. A summary of the swimming pool facilities follows:

**Indoor Pool Summary**
- Location – Recreation Center and Library site
- Year built – 2004 (12 years of use)
- Water Area – 4,139 square feet indoors
- Indoor Features – 6-lane 25 meter lap area, connected zero depth to 11 feet - 6 inches; minimal diving clearances exist for a one meter springboard; lock fulcrum forward; do not use a Maxiflex board.
- Condition – overall concrete and piping conditions are fairly good; no immediate improvements needed
- Pool Structure – good floor and walls
- Filter – vertical pressure sand filters; good condition
- Chemicals – calcium hypochlorite and acid
- Gutter – concrete gutter channel with PVC grating; good condition
- Coating – epoxy paint; good condition
- Pool caulking – currently needs replacement; plan this every 3 to 5 years
• Deck – concrete with drains; fair structural condition – shrinkage cracks exist, no immediate repairs needed; coating renewal needed indoors
• Lighting – underwater lighting and overhead lighting are provided
• Filter room – adequate condition
• Chemical Storage – exterior access; challenging in winter
• Parking – challenging with pools, library, recreation center and playground use
• Site – limited indoor expansion space available to east for pool expansion, additional deck and storage.
• Improvement ideas include
  … Expand the lap area and building to the east.
  … Provide a fixed bulkhead (divider) to create separate lap and exercise areas.
  … Remove the diving board and partially fill in the deep area.
  … Plan a drop slide from the east observation deck into the filled diving area.
  … Provide a climbing wall and a basketball goal.
  … Plan for a drop slide
  … Refurbish the deck coating.
  … Consider a hot tub (spa) addition.
  … Revise the pool chemical system for sodium hypochlorite as the disinfectant.
  … Provide sound dampening measures for the air treatment system.
  … Begin planning for dehumidification system replacement now (20-year life expectancy).
  Frequent repairs to the equipment continue to happen.

Outdoor Pool Summary
• Location – Recreation Center and Library site
• Year built – 2004 (12 years of use)
• Water Area – 9,994 square feet outdoors
• Outdoor Features – shallow play area connected to diving area; play structure, floatables, 2 water slides, basketball goal, floating water walk, 1 meter and 3 meter diving, 4 shade structures
• Condition – overall condition is fairly good
• Pool Structure – good concrete floor and walls (2 wall cracks being repaired this fall)
• Filter – vertical pressure sand filters; good condition
• Chemicals – calcium hypochlorite and acid
• Gutter – concrete gutter channel with PVC grating; good condition
• Coating – epoxy paint; good condition
• Caulking – needs replacement; plan to replace every 3 to 5 years.
• Deck – concrete with drains; fair structural condition
• Lighting – underwater lights and overhead lighting
• Filter room – adequate condition
• Chemical Storage – exterior access; challenging in winter
• Parking – challenging with pools, library, recreation center and playground use
• Site – pool expansion space available to the south
• Expansion ideas include:
  … Plan to replace the water play unit.
  … Add a toddler slide in the shallow area.
  … Remove the concrete wall that anchors the water walk and has a basketball goal.
  … Provide columns for the water walk for improved visibility for guards.
... Install a basketball goal on the deck.
... Revise the pool chemical system for sodium hypochlorite as the disinfectant.
... Build an adjacent outdoor pool that provides additional shallow water and more features.
... Provide a new filter building for the new pool that includes an entrance ticket area and additional restrooms.

**DEMOGRAPHICS**

North Liberty’s existing pools opened for the 2004 summer. The overall population of North Liberty and nearby communities is listed as follows.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North Liberty</td>
<td>1,055</td>
<td>2,046</td>
<td>2,926</td>
<td>5,367</td>
<td>7,224</td>
<td>13,374</td>
<td>18,228 (2015)</td>
</tr>
<tr>
<td>Coralville</td>
<td>6,130</td>
<td>7,687</td>
<td>10,347</td>
<td>15,123</td>
<td>18,907</td>
<td>20,349</td>
<td>(2014)</td>
</tr>
<tr>
<td>Iowa City</td>
<td>46,850</td>
<td>50,508</td>
<td>59,735</td>
<td>62,220</td>
<td>67,862</td>
<td>73,415</td>
<td>(2014)</td>
</tr>
<tr>
<td>Tiffin</td>
<td>975</td>
<td></td>
<td>1,947</td>
<td>2,444</td>
<td>(2014)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxford</td>
<td>705</td>
<td></td>
<td>807</td>
<td>877</td>
<td>(2014)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swisher</td>
<td>813</td>
<td></td>
<td>879</td>
<td>932</td>
<td>(2014)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ely</td>
<td>1,149</td>
<td></td>
<td>1,776</td>
<td>1,996</td>
<td>(2014)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solon</td>
<td>1,177</td>
<td></td>
<td>2,037</td>
<td>2,460</td>
<td>(2014)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shueyville</td>
<td>154</td>
<td>287</td>
<td>223</td>
<td>250</td>
<td>577</td>
<td>674</td>
<td>(2014)</td>
</tr>
</tbody>
</table>

The trend shows a continuous increase in the North Liberty population from 1970 through 2010. This population growth is projected to continue to over 22,000 by 2020.

A previous NRPA (National Recreation and Park Association) planning recommendation was to have one pool for each 20,000 population increment. By no means is this ratio a hard rule, but offers a starting point for planning aquatic recreation facilities. Unfortunately, this planning criterion did not offer guidance for the pool size. The existing two pools have a total water area of 14,133 sq ft, which we would expect to be adequate for the estimated population of 18,228.

The age distribution should be considered for North Liberty. When compared with the State of Iowa, you can see a significant difference. Overall, North Liberty is younger than the State averages. This indicates a higher potential for pool users in North Liberty. See the following table:

<table>
<thead>
<tr>
<th>Population Distribution Comparison</th>
<th>North Liberty</th>
<th>State Of Iowa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Range</td>
<td>% of total</td>
<td>% of total</td>
</tr>
<tr>
<td>Under 5 years</td>
<td>10.62</td>
<td>6.39</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>7.54</td>
<td>6.62</td>
</tr>
</tbody>
</table>
North Liberty has a relatively young population. For example, approximately 83% of the population is less than 44 years of age, while the State of Iowa averages 58% for the same group. For the youngest groups, ages under 5 to 14 years, North Liberty averages nearly 25% of the population and the State of Iowa averages 20% of the total population.

This young age distribution means that the aquatic focus should be on swim lessons, open recreation and play, birthday parties, summer camps and day care groups. This matches comments given by the aquatic staff members for the need for more shallow water at both pools.

Refer to the following population pyramid for a graph of the age distribution in North Liberty. Note the population grouping under the age of 34 years totals approximately 65% of the city population. For pool planning purposes, this is the primary population group that will use the pools and will be attracted to use enhanced features and expanded pools. This represents a strong population base for pool planning purposes.
Potential exists for the North Liberty pool market to extend beyond the City limits. A look at the 2010 population within several circled areas from the center of North Liberty follows:

- 5 mile radius: 38,869
- 10 mile radius: 123,400
- 15 mile radius: 148,546

When planning aquatic facilities we not only look at the city population, but also the population in the surrounding area. Within a 15 mile radius of North Liberty, the population is over 10 times more than the City alone. It is doubtful they would all travel to North Liberty to attend your pool, but it is feasible that a percentage would visit if the features met their needs and their interest. Attendance is the key measure for a positive pool operation. The goal is not to serve a large population, but to enhance attendance from the City and encourage attendance beyond the current city limits.

There is preliminary talk about a commercial water park on the southern side of Cedar Rapids. This would have some, but limited, impact on the North Liberty outdoor facility. Commercial water parks are profit oriented, charge higher fees, and typically do not focus on younger age group programs such as lesson or classes.
The potential for more people to come to North Liberty will increase as features are added to the current pools, and more so, if a regional pool attraction is built. This reality does not justify building more pools, but instead validates how enhancing the attractiveness of current or replacement pools can help reduce the operating subsidy.

Another consideration for pool master planning is school proximity and enrollment. By their very nature, schools are generally located within populations that include children. Parents and their children are frequent patrons of public pools. Awareness of the North Liberty school situation is discussed herein.

Two school districts serve the North Liberty area: the Iowa City Community School District and the Clear Creek-Amana School District. They include 4 Elementary Schools, 2 Junior High/Middle Schools, and 2 High Schools, and a third High School scheduled to open in 2017. A third school system, the Heritage Christian Schools, provides an elementary and a middle school for the North Liberty area. The enrollment breakdown by school type follows:

<table>
<thead>
<tr>
<th>School Type</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>2,312</td>
</tr>
<tr>
<td>Jr. High/Middle</td>
<td>1,025</td>
</tr>
<tr>
<td>Senior High</td>
<td>2,577</td>
</tr>
<tr>
<td>Total enrollment</td>
<td>5,914</td>
</tr>
</tbody>
</table>

Please refer to the exhibit in the Appendix for a City map along with the pool location and the school locations. Once again, school enrollment does not directly predict pool attendance, but gives an overall sense of the potential demand for pool water and their relevant features.

**PUBLIC SURVEY SUMMARY**

The public survey was aimed at gaining an understanding of the current and future of North Liberty aquatic facilities and programming. The survey generated a total of 579 responses, which is about 4% of the population. From our experience this is enough of a sample size to draw conclusions and formulate a plan.

The survey used an extensive and in-depth questionnaire; a summary of the results follows.

- A large majority (83%) of respondents indicate they use the existing outdoor pool and have a high level of interest in the future of it.
- Programming is ranked in the following order: recreation/family swimming, lessons/training, fitness, competition.
- The majority (70%) site “the facility is too busy; discouraged to use/over-crowdedness” as their experience with the current outdoor pool.
- 60% indicate the facility does not meet community needs
- 72% are in favor of a renovation/upgrades to the current outdoor pool
- 76% are in favor of an additional outdoor pool
- 57% are not in favor of an additional indoor pool
According to demographic information, North Liberty is a young, vibrant, and fast growing community, and the goals and preferences indicated through the survey results reflect this (modern aquatic amenities that cater to families). Results show a strong desire for upgrades to the current facility and the addition of a new facility to meet the needs of the community. Additionally, results and comments show a strong opinion that the current facility, while kept clean, affordable, accessible, and safe, and well maintained, lacks modern amenities and is extremely over crowded.

Feature preference results and comments show a strong desire for modern play features (separate areas, climbing walls, lots of shade, lazy river, spray and play areas, water slides, wave pools, zero-depth areas, diving, etc.). It is of note that the majority did not prefer lap swimming/competition over play features (only 6% indicate participating in competition programming). In summary, the respondents communicate strong support for modern upgrades to the current facility, and a new facility that meets the aquatic needs of all demographics.

**POOL FACILITIES IN THE SURROUNDING AREA**

**Coralville, IA:** Coralville Community Aquatic Center
- 25-meter L shaped 6 lane lap pool
- Two 3-meter diving boards
- Drop slide
- Open flume slide
- Swirl (space) bowl slide
- Small spray ground
- Zero depth entry with small play structure
- Toddler slide

**Iowa City, IA:** City Park Pool
- Large lap pool
- 1 and 3 meter diving
- Small toddler pool

**Cedar Rapids, IA**
- Noel Ridge Aquatic Center
  - Zero depth area with play structure, toddler slide, and sprays
  - Plunge pool area with open flume slide and closed flume slide
  - 1 meter diving
  - Drop slide
- Cherry Hill Aquatic Center
  - 6 lane 50 meter, with 8 lane 25 meter section pool
  - 1 meter diving
  - Drop slide
  - Zero depth area with play structure sprays and toddler slide
  - Water walk
  - Open flume slide
  - Speed slide
Shade in water

Williamsburg, IA: Williamsburg Aquatic Center
- Large water slide
- Spray features
- Children’s slide
- Diving board
- Drop slide
- Sand play area

Toledo, IA: Tama-Toledo Family Aquatic Center
- 6 land lap pool
- 1 and 3 meter diving
- Drop slide
- Zero depth area with toddler slide and sprays
- Speed slide
- Open flume slide

Grinnell, IA: Grinnell Mutual Family Aquatic Center
- 8 lane lap pool
- 1 and 3 meter diving
- Zero depth area with play structure, shade in water, sprays
- Floatables
- Water walk
- Closed flume slide
- Speed slide
- Lazy river

Davenport, IA
- Fejervary Family Aquatic Center
  - Zero depth area with tall mushroom spray and toddler slide
  - 1 meter diving
  - Drop slide
  - Open flume slide
- Annie Wittenmyer Aquatic Center
  - Zero depth area with tall mushroom spray and toddler slide
  - 1 meter diving
  - Drop slide
  - Open flume slide

POOL OPERATIONS

Managing public outdoor pools begins with the most asked question by patrons. “What will it cost to swim”? When competing with surrounding communities for pool attendance, you must consider fees at
area pools. Just with most businesses, you do not want to be the most expensive or the lease expensive.

We include a table with some of the area pools your patrons may use for comparison with North Liberty.

### Admission Fees to Area Pools

<table>
<thead>
<tr>
<th>City/state</th>
<th>Child Day Pass</th>
<th>Adult Day Pass</th>
<th>Family Summer Pass</th>
<th>Individual Summer Pass</th>
<th>Punch Cards</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Liberty – 1 mo.</td>
<td>$3.00</td>
<td>$4.00</td>
<td>$51 R / $61 NR</td>
<td>$25 R / $30 NR</td>
<td>None</td>
</tr>
<tr>
<td>North Liberty – 1 yr.</td>
<td>$3.00</td>
<td>$4.00</td>
<td>$300 R / $360 NR</td>
<td>$150 R / $180 NR</td>
<td>None</td>
</tr>
<tr>
<td>Coralville</td>
<td>2 &amp; under, free</td>
<td>$4.50</td>
<td>$214</td>
<td>$112 R / $139 NR</td>
<td>$45 for 10 uses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$3.50 after 6 pm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iowa City – 1 mo.</td>
<td>2 &amp; under, free</td>
<td>$4.00</td>
<td>$36 R / $54 NR</td>
<td>$19 R / $28.50 NR</td>
<td>$30 for 10 R and $35 for 10 NR</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Iowa City – 1 yr.</td>
<td>2 &amp; under, free</td>
<td>$4.00</td>
<td>$402 R / $603 NR</td>
<td>$208 R / $312 NR</td>
<td>(see above)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cedar Rapids</td>
<td>2 &amp; under, free</td>
<td>$5.00</td>
<td>$235 R / $251 NR</td>
<td>$115 R / $123 NR</td>
<td>$61 for 16 R &amp; NR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tama</td>
<td>2 &amp; under, free</td>
<td>$5.00</td>
<td>$150</td>
<td>$75</td>
<td>$40 for 10 uses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$3.00 after 5 pm</td>
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<td></td>
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</tr>
<tr>
<td>Grinnell</td>
<td>2 &amp; under, free</td>
<td>$4.00</td>
<td>$150</td>
<td>$60</td>
<td>$30 for 10 uses</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Davenport**</td>
<td>1 &amp; under, free</td>
<td>$4.00 R &amp; $5 NR</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Williamsburg</td>
<td>2 &amp; under, free</td>
<td>$4.00</td>
<td>$160 R &amp; NR</td>
<td>$75 Both</td>
<td>None</td>
</tr>
</tbody>
</table>

Note: R = resident and NR = nonresident

* North Liberty and Iowa City offer one month passes and annual passes for their combined indoor and outdoor pools; no specific summer passes are listed.

** Davenport also offers a $1.00 daily admission at their Dohse pool. Combined rates for their other two outdoor pools are listed in the above table.

Annual passes allow entrance to the indoor as well as outdoor pools. Summer season passes go from Memorial Day to Labor Day. Family passes include four to six members, depending on each City. Some pools offer lesser rates for seniors and for specific programs such as lap swimming and water fitness.

### Staff Wage Rates at Area Pools

<table>
<thead>
<tr>
<th>City/state</th>
<th>Lifeguards</th>
<th>Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Liberty, IA</td>
<td>$8.85 - $11.45</td>
<td>$13.84 - $16.57</td>
</tr>
<tr>
<td>Des Moines, IA</td>
<td>$8.85 - $11.45</td>
<td>$14.43 - $16.57</td>
</tr>
<tr>
<td>Cedar Rapids, IA</td>
<td>$9.25 - $10.50</td>
<td>$11.00 - $11.50</td>
</tr>
<tr>
<td>Davenport, IA</td>
<td>$8.00 - $9.00</td>
<td>$10.00</td>
</tr>
<tr>
<td>Iowa City, IA</td>
<td>$9.00 - $13.00</td>
<td>$11.00 – 13.00</td>
</tr>
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</table>

The current Federal and Iowa State minimum wage rates are $7.25 per hour. The current Johnson County, Iowa, minimum wage rate is $9.15 per hour, which supersedes the Federal wage rate. After January 1, 2017, the Johnson County minimum wage rate increases to $10.10 per hour. This higher rate will exceed the starting wages for life guards listed above.
The Fair Labor Standards Act (FLSA) provides employment standards, which includes employees of
government agencies. The standards apply to both full-time and part-time employees. Seasonal
employees, such as life guards, could be considered exempt from the minimum wage requirement until they
worked 90 days or reach age 20. But the reality is that competition for guards will likely require North
Liberty to meet or exceed the upcoming County minimum rate. If North Liberty offers to pay less than the
County minimum rate, potential guards will be even more difficult to hire.

One potential benefit of enhancing the pool features and possibly adding a new pool will be the improved
interest in working at the pools due to peer pressure from basic excitement about the pools. Before subsidy
reduction can occur, the attendance must grow. When features are added and hours are increased, even
more lifeguards will be needed. If they cannot be found, operations will be reduced and no progress will
result. Lifeguard acquisition is a growing critical need.

The pool budget for North Liberty includes both indoor and outdoor pool operations. Revenue and expenses
are blended together for both facilities. Comparison with other communities’ pool operations is not directly
available, as very few communities have combined operations. An operation breakdown for FY16 for the
North Liberty pools follows.

**FY 16 Aquatic Center Operations**

<table>
<thead>
<tr>
<th>Revenues</th>
<th></th>
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<tbody>
<tr>
<td>Season Passes</td>
<td>$90,466</td>
</tr>
<tr>
<td>Daily Passes</td>
<td>$130,722</td>
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<tr>
<td>Swim Lessons</td>
<td>$94,240</td>
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<tr>
<td>Programs/Classes</td>
<td>$29,495</td>
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<tr>
<td>Concessions</td>
<td>$51,486</td>
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<tr>
<td>Rental</td>
<td>$20,532</td>
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<tr>
<td><strong>Total Revenues</strong></td>
<td><strong>$416,941</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenditures</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>$464,741</td>
</tr>
<tr>
<td>Contracts/Commodities</td>
<td>$193,337</td>
</tr>
<tr>
<td>Transfer (Cap. Reserve)</td>
<td>$45,000</td>
</tr>
<tr>
<td><strong>Total Expenditures</strong></td>
<td><strong>$703,078</strong></td>
</tr>
</tbody>
</table>

An operation summary for the North Liberty pools since they were first opened follows.

**North Liberty Aquatic Operations Summary**

*Combined Indoor and Outdoor Pools*

<table>
<thead>
<tr>
<th>FY</th>
<th>Revenues</th>
<th>Expenditures</th>
<th>Deficit Paid By:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>$</td>
<td>Taxes</td>
</tr>
<tr>
<td>05</td>
<td>232,599</td>
<td>475,657</td>
<td>51.10</td>
</tr>
<tr>
<td>06</td>
<td>263,380</td>
<td>525,427</td>
<td>49.87</td>
</tr>
<tr>
<td>07</td>
<td>243,425</td>
<td>489,572</td>
<td>50.28</td>
</tr>
<tr>
<td>08</td>
<td>256,092</td>
<td>531,613</td>
<td>51.83</td>
</tr>
<tr>
<td>09</td>
<td>318,005</td>
<td>515,649</td>
<td>38.33</td>
</tr>
<tr>
<td>10</td>
<td>300,793</td>
<td>511,612</td>
<td>41.21</td>
</tr>
</tbody>
</table>
The best operation balance was for FY09 where user fees provided nearly 62% of the operating costs. Since then, user fees have contributed from 56% to over 59% of the operating costs. Traditionally we see an outdoor pool recovering a higher percentage of the operating costs compared to indoor pools. It is possible for an outdoor pool to pay back over 80% of costs, with some larger pools actually creating an operating profit. Indoor pools typically pay back 50% or less of their costs.

Proposed additions and enhancements should improve the user fee contributions for the outdoor pool. We understand that people are occasionally turned away when the pool is at capacity. Greater attendance is the first key to improved operations. The proposed indoor pool improvements are aimed at improved comfort and, more importantly, at expanding water space for more flexible programming. This, in turn, allows more program users in the pool at one time.

**INDOOR POOL PLANNING**

North Liberty currently operates an indoor pool facility. It is adjacent to the existing outdoor pool, both of which are part of the North Liberty Recreation Center.

A stand-alone indoor pool typically has the worst cost recovery potential of all the possible options. The common belief is that an indoor pool has the potential to operate at a profit compared with an outdoor pool because it operates all year. The opposite is actually true.

Although an outdoor pool only operates for a three month season, it has no expenses for the remaining nine months. An indoor pool operates 12 months per year, but nearly all struggle to recover even 50% of their expenses. The best operation plan is to combine an indoor pool with a recreation center and use memberships and program fees for income sources. Several partners will further help the overall operation. The North Liberty facility combines an outdoor pool with an indoor pool, a library and a community center. Still, it struggles to operate without a substantial subsidy.

Construction costs usually receive all the initial attention when planning indoor pools. Actually, the pool operating costs play a key role in making planning decisions because over the life of the pool, operating costs can exceed the construction costs. This situation is particularly true for indoor pools, where the continuous demand for dehumidification and other energy use is important. The following represents a range of operating cost recovery potential for various indoor pool sizes:

- **Small indoor pool** – used for exercise, lessons, and recreation
  - 1,500 to 2,000 square feet of water
  - Operation cost recovery of less than 30%
- **Medium indoor pool** – used for competition, exercise, lessons, therapy, and recreation
  - 2,000 to 4,000 square feet of water
  - Operation cost recovery of less than 40%
- **Large indoor pool** – used for competition, exercise, lessons, therapy, and recreation
  - 4,000 to 6,000 square feet of water
  - Operation cost recovery of less than 50%
- 4,000 to 6,000 square feet of water
- Operation cost recovery of less than 50%

50-meter indoor pool – competition emphasis, also used for variety of programs
- 10,000 to 13,000 square feet of water
- Operation cost recovery less than 50%

Indoor recreation pool – used for play, party rentals, early lessons, some exercise
- 3,000 to 5,000 square feet of water
- Operation cost recovery of more than 50%

Aquatic programs that the community members will use and actually purchase are an essential element for successful indoor pool planning. After the programs are identified, aquatic features are chosen to support the programs. The features determine the pool size and the building size follows.

An indoor pool should not be planned strictly by demographics, but should respond to the community demand for programs. This planning process is slightly different from an outdoor pool planning process, which is based on feature preferences and demographics.

The combined indoor and outdoor operating costs at North Liberty equate to $49.75 per square foot of pool water area. Indoor pool operating costs typically range from $40 to $60 per square foot of indoor pool water surface area. This equates to $750,000 to over $1,000,000 for a 50 meter pool with a small recreation pool. This further means over $2,000 income must be collected each day of the year for a large indoor pool. A smaller pool would need over $1,000 of revenue each day, also challenging to achieve without several partners (schools, hospitals, YMCA’s and more).

The North Liberty indoor pool offers a wide range of aquatic programs, including lessons, lap swimming, swim team training, lessons and open recreation. Because the indoor pool offers several program choices without focusing on any specialty aquatic area, the result is a diluted attraction for patrons. The lap lanes are too shallow for competition swimming. The diving area overlaps with the lap lanes, so both features cannot be used concurrently. The shallow area is small and allows only a few patrons for recreation play. The deck space is small and limits patron participation. The indoor pool deck is also small in size, making it difficult to teach or train large groups.

Yes, North Liberty has an indoor pool, but the pool is too small to offer all the programs the community would like to use; available times for programs conflict with capacity and other programs.

**Outdoor Pool Planning**

Based on survey responses and the success of the existing North Liberty outdoor pool, an enhanced or perhaps a second outdoor pool would be supported by the citizens. Outdoor pools are a recreation staple in Iowa during summer months. Indoor pools have a place in the recreation program, but with summer people love to be outside in the summer. North Liberty is fortunate to have both indoor and outdoor pools. Yes, the survey comments included requests for indoor competition, including a 50-meter facility. But the overall support for a large lap pool was less than 6%. The majority of requests were for improved, expanded and enlarged outdoor aquatic facilities, even to the point of building a new outdoor pool at a second site.
Outdoor pools are most effective when planned and designed for a diverse population. The existing North Liberty outdoor pool does a reasonably good job of meeting that goal. Due to the significant population growth within the city and the growth of young families, the outdoor pool appears to be too small for the demand. Outdoor pool options will be considered in the following sections of the report.

**POOL OPTIONS FOR NORTH LIBERTY**

Moving forward is the next step for North Liberty. Several options are outlined in the following paragraphs. Your preferred option may not be listed. You have the flexibility to combine the listed options, to phase in the recommendations or adjust the planning to satisfy your goals and needs. With this Master Plan you have the planning information to improve and enhance North Liberty Aquatics for the next generation in your community.

Closing the indoor or the outdoor pool in North Liberty are options, but we do not recommend them for consideration. Both facilities are just over a decade old. Both are in good condition. Neither pool needs extensive repair or maintenance. Both pools are actively used by the community. The indoor pool has limited features but is heavily used. The outdoor pool is overcrowded and patrons are occasionally turned away. The community demand for pool access exists and would be well served with pool expansion or enhancement. Overall pool attendance should increase, reducing the unit operation cost per square foot of water area.

Status quo is a term meaning to keep things the way they are. While that is one possible option for North Liberty, it is not necessarily the best option or even a good option. While keeping things as they are may seem undesirable, change can also be risky and unpredictable to accept, let alone pursue. Anytime people are involved, their reaction to change can be unpredictable. The one thing that can be predicted with a status quo option is continued patron disappointment. Simply keeping the pools open without improving features or facilities may be politically safe, but is not recommended as a long-term benefit to the North Liberty community.

Enhancing or expanding both pools is another option. Any improvements should consider suggestions from the citizen survey and future public meetings. City staff members also have a good understanding of citizen demands and preferences. All suggestions may not be physically or financially feasible, but limitations and benefits should be defined along with costs.

**Option 1 – Indoor Pool Enhancements**

Two items need attention now. The HVAC system for the indoor pool needs improvement, specifically to the overhead duct system to help improve acoustics. The indoor pool deck coating needs partial replacement at a minimum, with eventual complete recoating a future goal.

Enhancing the indoor pool presents a challenge due to available space limitations. The indoor pool is confined by the recreation center on the north side, by the library on the west side, and by the outdoor pool to the south. A potential expansion of the indoor pool could be planned toward the east.
An indoor pool expansion to the east would require adding building walls and roofing, moving the pool drain manhole, removing a building wall, and relocating an electrical transformer. A fixed bulkhead could be installed in the lap pool as a divider creating 25 yard lanes and an expanded shallow exercise area. This would also benefit swim team use by creating a deeper turn wall needed for swim meets.

The existing shallow turn wall is only three feet deep. Most likely this was originally designed as a compromise for swim lessons and exercise classes, but came at the expense of an effective competition pool. By building a bulkhead in deeper water, a turning depth of four feet can be provided and swim competition can be provided.

The indoor lap lanes are used for exercise swimming and for exercise classes. The small shallow area is for toddlers. Both areas offer limited space for the program demands.

The High School swim team currently uses the lap area for training. If a competitive pool is developed in conjunction with the High School, the North Liberty lap area could be used full time for exercise, which is in high demand.

An indoor pool option that would help provide additional exercise class space would be to eliminate diving by filling in the deep area. This would have a modest capital cost and would not require modification to the water treatment system, as the water volume would be reduced.

If the deep area is kept, a climbing wall should be considered. This can be bolted to the deck and does not require water or electrical support.

A small toddler slide should be considered for the shallow area. It could be placed on the deck or in the pool with a landing area in the pool. A foam caricature could also be secured to the pool floor for additional toddler play. These could also be placed on protective foam pads.

Floatables could be installed in the lap area. These can be moved for program uses.

A master planning cost for the above indoor aquatic improvements is approximately $2 to 2.5 million.

A more involved option to expand indoor pool space would be to remove or modify the outdoor pool to provide space for a larger indoor pool. A new indoor pool could be built adjacent to the current pool. The existing indoor pool could be converted to a shallow exercise and recreational pool. The diving area would be filled to create more shallow water. Recreational features could then be added, for example, a family slide, floatables, toddler slide or even a play structure.

The new pool addition could be planned to provide a competition pool with suitable seating and support spaces. While physically possible, this indoor expansion would come at the expense of reducing or eliminating the outdoor pool. This option is more drastic than expanding the indoor area to the east. A new outdoor pool would then be needed. We do not recommend this option.
Option 2 – Outdoor Pool Enhancement

Expanding the outdoor pool is an immediate and primary goal to help relieve overcrowding and congestion during the summer months. This work can be accomplished during the non-summer season. Some space is available to the south of the current outdoor pool. Additional shallow water is recommended and can be planned south of the diving area. More shade and more fun features are also recommended.

An outdoor option should consider a more programmed shallow area than just shallow water. For example, a new shallow pool could be planned with a “wet bubble”. This is a soft material that is air inflated and allows young teens and adults to climb and slide into about 3 to 4 feet water.

Additional shade should be installed within the east and west grassed areas, as well as on the deck.

A current channel should be considered as a small version of a lazy river. A true lazy river would only fit on the south open space if no other enhanced features were provided. A current channel will interest 8 to 12-year-old kids and provide features the existing pool does not provide.

A few cracks in the existing concrete pool walls were recently repaired, but should be monitored for future movement.

Another concept is to provide a water mini-golf feature with the additional pool area. This is shown in one of the two outdoor concepts included in the Appendix.

A preliminary project cost for these concept plans is $4 to $5 million.

Option 3 – Splash Pads

A splash pad was installed at Penn Meadows Park this summer. A second splash pad was recommended by the recent park master plan. This is an appropriate consideration for a growing community. In general, building multiple small community pools is an outdated and inefficient method to provide community aquatic recreation.

Splash pads provide a low capital cost and low operating cost method for enhancing park features and providing no fee access to water play. This is particularly helpful for introducing children to fun water experiences at an early age. This in turn can lead to interest in safe swimming lessons, a great goal for all communities.

A reasonable planning size for a municipal splash pad is 1,500 to 2,000 square feet (sq. ft.) of wet area. Project costs should range from $300,000 to over $400,000 depending on water treatment, coatings and spray feature animation.
Option 4 – Second Outdoor Pool

Planning a new outdoor pool on a new site is another possible option. A new facility should provide suitable features for all ages, while not losing the traditional features of lap swimming and diving. This recommendation is not given lightly and it may seem counter intuitive. North Liberty has two pools; why build a second outdoor pool? Due to the continued strong population growth, both existing pools experience overcrowding, to the point where demand for swim lessons exceeds availability and groups are turned away in the summer. Expanding the current outdoor pool can provide a short term fix, but it will eventually become overloaded if population growth continues.

A 15,000 to 20,000 sq. ft. future outdoor facility should be considered.
- Key features: short course lap pool, lazy river, shallow recreation pool.
- Unit project costs should be $525 to $575 per sq. ft. of water. This would include buildings, parking, deck and the pools. Design fees and material testing are included.
- Project costs could range from $8,000,000 to $11,500,000.

The new outdoor pool in Fort Dodge has 19,530 sq. ft. of water and a project cost of approximately $9 million in 2009 (no 50-meter pool); equivalent to $10.4 million today.

The new Ankeny outdoor pool has 21,400 sq. ft. of water and a project cost of approximately $10.8 million in 2009 (no 50-meter pool); equivalent to $12.5 million today.

Smaller pools with fewer features can be considered, but the subsidy recovery will be reduced. Operation costs for a 15,000 to 20,000 sq ft pool could range from $300,000 to $450,000. Subsidy recovery can be 80% to over 90% with appropriate feature selections.

The above are planning costs, based on current day regional facilities and 5% inflation for the future. Site specifics and final feature preferences will impact the above costs.

Option 5 – New Indoor Pool

The North Liberty school district does not include an indoor pool, yet they support a swim team. Partnering with the school district would benefit the City and the school district by building an indoor competition pool facility. Several programs can be developed, including: training, competition, physical education, swim lessons, open lap swimming, therapy programs, and exercise programs.

The option costs for new and renovated facilities are significant. Understand they are preliminary planning numbers intended for decision making information. A concept design is the next step to confirm each project scope for each pool. Better costs can be identified at that time.
Appendix

Existing Pool Photos
Pool Location Map
School Location Map
Example Concepts for Outdoor Pool Expansion
Example Concepts for Second Outdoor Pool
Public Survey Results
Existing Indoor Pool Photos

Lap Lanes – View Looking West

Shallow Area – View Looking East
Lap Area – View Looking North

View of Ceiling Ducts and Acoustic Panels
Filter System

Existing Outdoor Pool Photos

Zero Entry and Play Structure (view to South)
Play Structure (view to Southeast)

Water Slides
Basketball and Water Walk

Filter System
South Open Area – Potential Expansion Space
Pool Location Map

North Liberty School Location Map (existing pool site*)
Example Concepts for Outdoor Pool Expansion

Concept A
Examples for Second Outdoor Pool

Example B

Example B

Example B