

**Date:** September 14, 2022

**To:** Bertha T. Johnson, Deputy City Manager

**From:** Jina B. Propst, Director, General Services

**Subject:** DPR Aquatics Splash and Play – Wheels Skating Rink Assessment

The design team for the Aquatics Splash and Play project (RATIO) was tasked with conducting additional analysis of the Wheels Skating Rink to report on updates/ renovations necessary to bring the facility up to life safety code and ADA standards. The attached Report and Budgetary Cost Estimate were provided to assist in planning/ decision making related to re-opening the Skating Rink for public use, as a City-owned facility.

Additional non-code violation deficiencies were noted in the report, and are considered maintenance and occupant comfort improvements.

The budgetary cost estimate was evaluated and prioritized into four categories of deficiencies:

- ADA Accessibility Deficiencies (1.1)
- Code, Life Safety, and Risk Deficiencies (1.2)
- Maintenance (2.0)
- Operations (3.0)

Correcting deficiencies included in Priority #1.1 and #1.2 will be necessary to re-open the skating rink as a City of Durham facility, providing a code compliant, safe and accessible amenity to the public. The total probable opinion of cost to correct deficiencies included in the analysis report, is estimated to be **\$1,384,000**. A breakdown of costs associated with the various levels of deficiencies are as follows:

- **Priority #1.1 - ADA Accessibility** deficiency corrections include: modifying interior doors to meet minimum pull clearances, replacing door and plumbing hardware, providing accessible routes to the skating rink from raised perimeter, relocating DJ booth (which is currently not ADA accessible and smaller than required by ADA standards and providing accessible egress routes from all emergency exits. The probable opinion of cost for bringing these items into compliance is estimated to be **\$214,000**.
- **Priority #1.2 - Code/ Life Safety / Risk Mitigation** deficiency corrections include: modifying emergency exit door hardware and signage, verifying proper function and addressing deficiencies related to fire alarm and fire suppression systems, closing gap at skating rink edge, and ensuring water heaters are properly functioning. The probable opinion of cost for bringing these items into compliance is estimated to be **\$370,000**.
- **Priority #2 - Maintenance** deficiency corrections include: replacement three HVAC units which are currently functioning but nearing the end of useful life, replacing all light bulbs/ tubes with LED, replacing receptacles and light switches throughout building, installing pipe insulation and servicing electrical equipment. The total estimated cost for bringing these items into compliance is **\$706,000**. General Services has determined that a portion

of costs associated with LED lighting retrofit may be eligible for incentives through the Duke Energy Small Business Energy Saver Program (recent City of Durham projects included in this program have resulted in an average match of 49%). GSD is scheduling the Duke Energy assessment so additional information regarding actual cost savings for retrofitting the facility with LED lighting can be obtained.

- **Priority #3 – Operations (Kitchen Upgrades)** will be required to meet the needs of a concessionaire/ operator, but are not required to open the facility. Estimate includes **\$94,000** allowance for cleaning and some kitchen upgrades, but the scope and cost of any upgrades will be heavily impacted by the level of concessions offered by a facility operator. For example, if a fire suppression vent hood and/ or grease trap are needed to support food service the cost would likely be significantly higher than the current allowance.

All budget estimates are based on general understanding of construction methods required to bring deficiencies into compliance, and not actual design solutions. Actual costs will be based on current market conditions and material availability at the time of bid.

The numbers reflected here are for construction only and are exclusive of architectural design fees, which are typically 10% - 15% of construction costs. The table below, adds estimated design fees to the deficiency categories for consideration.

Deficiency Category		With 10% Fees	With 15% Fees
ADA	\$214,000	\$235,400	\$246,100
Code/ Life Safety/ Risk	\$370,000	\$407,000	\$425,500
Maintenance	\$706,000	\$776,600	\$811,900
Operations	\$94,000	\$103,400	\$108,100
<b>Total</b>	<b>\$1,384,000</b>	<b>\$1,522,400</b>	<b>\$1,591,600</b>

Additional potential deferred maintenance items, not related to code requirements, and not included in RATIO’s report, should be reviewed further and evaluated if a project moves forward. Reviewing and correcting any exterior waterproofing deficiencies (such as reconnecting perimeter downspouts, addressing exterior cracks in CMU to prevent water infiltration and performing a more robust evaluation of the roof condition) is recommended if the building is to be maintained as an operational facility.

Additionally, Facilities and Public Works are reviewing paving conditions along the west edge of the site as a potential safety issue requiring correction prior to opening to the public. An area of asphalt is being scoured at the stream running along the edge of the property, causing a potentially unsafe condition if accessed by the public. The condition is being reviewed by Public Works to identify possible solutions.

**Current Funding Balance for Wheels Site/ Aquatics Project and Possible Next Steps:**

The currently available funding for the Wheels Site/ Aquatics Project includes a remaining unencumbered balance of \$1,670,966.39. This balance includes funds remaining from the Wheels Fun site purchase and the FY23 CIP allocation of \$1.5M, and is earmarked for the next phase of the Wheels Splash and Play Project; specifically, to hire a designer and CMAR to develop preliminary design and costing, to inform any future CIP requests for construction of outdoor aquatics.



At the direction of the Administration and City Council, this money could be redirected to remedy the deficiencies outlined in this memorandum. Option A would be having GSD advertise a Request for Qualifications (RFQ) for a design team to assemble the documentation. Alternately Option B would be for the City Manager to grant an exemption and hire the RATIO team for design, development of a construction bid set and procure services of a general contractor to complete the identified scope of work. A preliminary timeline for implementation is as follows:

Option A: If City solicits RFQ's for an architect specifically suited for maintenance and renovation projects:

- RFQ/ Contracting Architect: October 2022 – March 2023
- Construction Document Development and Permitting: March 2023 – September 2023
- Bidding/ Contract Approval: September 2023 – December 2023
- Construction: December 2023 – May 2024

OR

Option B: If City chooses to amend Ratio's contract through an exemption process:

- Amend Contract w RATIO/ Council Approval: October 2022 – January 2023
- Construction Document Development and Permitting: January 2023 - July 2023
- Bidding/ Contract Approval: July 2023 –October 2023
- Construction: October 2023 – March 2024

Option A is likely to result in lower design fees but will have increased project timeline due to the solicitation process. Option B is likely to result in higher design fees but elimination of the RFQ process would result in a three-month shorter project schedule.

It is GSD's recommendation to proceed with Option A to obtain services of a local design firm who has a specific emphasis on renovation and accessibility upgrades, which would likely result in lower design fees and overall project cost.



## EXECUTIVE SUMMARY

Prepared For: RATIO

Project Name: Wheel of Fun Durham Aquatics Code Findings

Location: Durham, NC

Estimate Date: 8/30/2022

Project Area (SF): 23,750

Revised Date: 9/14/2022

Project #: 22252

Palacio Lead Contact: Kerron Roberts

Project Phase: Cost Model/Code Analysis Assessment

Project

Description: Building improvements and code upgrades.

### CONSTRUCTION COST SNAPSHOT

PROJECT TYPE	AREA	UNIT	COST/SF	TOTAL
Building Renovation	23,750	SF	\$24.58	\$583,779
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>23,750</b>	<b>\$24.58</b>	<b>\$583,779</b>

### ALTERNATES (INCLUDES COST OF WORK AND MARKUPS)

1	DJ Booth Relocation	\$23,617
2	Clean & Renovate Kitchen	\$70,851
3	Abatement Allowance	\$3,149
4	Replace 3 Rooftop Units Allowance	\$206,650
5	Re-lamp with LED Bulb/Tubes	\$261,756
6	Replace Switches and Receptacles (As Needed)	\$186,969
7	Check & Retorque Panelboards & Transformers	\$23,617
8	Piping Insulation Allowance	\$23,617

### ESTIMATE ASSUMPTIONS

Anticipated Bid Date: 1st Quarter 2023 (Add 1% per quarter for market escalation beyond this point)
Design-Bid-Build delivery method
Receiving bids from at least four (4) qualified general contractors
General contractors to receive bids from at least four (4) qualified subcontractors per trade
Most of the bidders will be from the local market (within 1 hour driving distance)
Assumes normal working hours



# PALACIO

Name: Wheel of Fun Durham Aquatics Code FindingsLocation: Durham, NCDate: 8/30/2022Area (SF): 23,750Rev. Date: 9/14/2022

## ESTIMATE SUMMARY

GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	Entry/Egress				
	Curb Ramps	2	LOC	800.00	1,600
	Pavement Restriping for Handicap Parking	1	LS	250.00	250
	Doors - Install ADA Push-Button Entry	1	EACH	5,500.00	5,500
	Sidewalk Fill-in at Entry	1	LS	500.00	500
	Adjust Ticket Counter Height	1	LS	2,750.00	2,750
	Secure Drain Cover at Entry	1	LS	750.00	750
	Rear Sidewalk for Area of Refuge	400	SF	9.00	3,600
	Reconfigure Ramp	1	LS	2,500.00	2,500
	Replace Handrail	166	LF	285.00	47,310
	Grading Infill Reduce Fall Height at a Portion of Ramp	1	LS	1,200.00	1,200
	Office				
	Move Display Case	1	LS	500.00	500
	Door Hardware - Replace Door Knobs w/Handles	3	EACH	500.00	1,500
	Kitchen Dining				
	Adjust Service Counter Height	1	LS	11,000.00	11,000
	Door Hardware - Replace Door Knobs w/Handles	2	EACH	500.00	1,000
	Relocate Water Cooler	1	EACH	800.00	800
	New Water Cooler	1	EACH	1,800.00	1,800
	Rough-in & Piping	2	EACH	6,000.00	12,000
	Restrooms				
	New Vanity Top	16	LF	325.00	5,200
	Lavatories	4	EACH	675.00	2,700
	Rough-in & Piping	4	EACH	3,500.00	14,000
	Way -Finding Signage	1	LS	300.00	300
	Electrical Room				
	Seal Building at Electrical Conduits	1	LS	2,000.00	2,000
	Rink				
	Remove Stage & Replace Flooring	1	LS	10,000.00	10,000
	Add Accessibility to Rink	1	LS	1,500.00	1,500
	Add Trim at Rink Edge	475	LF	5.50	2,613
	Remove Sec. Bar & Update Egress Doors Hardware	1	LS	1,500.00	1,500
	Party Room	0	SF	0.00	0
	Door Hardware - Replace Door Knobs w/Handles	2	EACH	500.00	1,000
	Door Clearance - Relocate Walls to meet Clearance Compliance	1	LOC	2,800.00	2,800
	Remove Loose Wall Wires	1	LS	1,000.00	1,000
	Skate Rental	0	SF	0.00	0
	Door Hardware - Replace Door Knobs w/Handles	1	EACH	500.00	500
	Door Clearance - Relocate Walls to meet Clearance Compliance	1	LOC	2,800.00	2,800
	Store				
	Replace Lighting	167	SF	15.00	2,505
	Door Hardware - Replace Door Knobs w/Handles	1	EACH	500.00	500



## WHEELS FUN PARK SKATING CENTER

Mechanical, Electrical, Plumbing & Fire Protection  
Needed/Recommended Actions to Keep Skating Rink Open  
June 16, 2022 – updated Aug. 23, 2022

The Wheels Fun Park Skating Center was acquired by the City of Durham in 2020 and has since been used for miscellaneous purposes, such as a COVID vaccination center. At the time of our site visit, the building was occupied and being used. The MEP&FP systems were operating and functional. In our opinion, the MEP&FP systems do not require any major upgrade to keep the building open.

### HVAC

#### **Skating Center**

##### Existing Conditions

**General:** The Skate Center houses the roller-skating rink, snack bar, eating area, restrooms, office, skate storage and party room. Five (5) packaged rooftop units provide HVAC. Four of the RTUs are located above and serve the skating rink. One RTU serves the other areas including the snack bar, eating area, restrooms, office, and entrance.

**HVAC:** Access to the roof was gained on August 11, 2022. The RTU units were observed.

Unit	Make	Model #	Serial #	Nominal Capacity / Tons	Age / Date
RTU 1	Trane	N/A	N/A	N/A	N/A
RTU 2	Trane	TCD150D400BB	90210030	12.5	1 / 2009
RTU 3	Daikin	DCC150XXX4BXXXAB	14062455	12.5	6 / 2014
RTU 4	Daikin	DCC150XXX4BXXXAB	14070649	12.5	7 / 2014
RTU 5	Trane	TCD181B411HB	40710031	15	6 / 2004

##### Notes:

1. RTU#1 was iced up at the time of the site visit.
2. RTU#2 does not have heating capability.

The HVAC Technician reported the following:

When the City of Durham put the building into service as a Covid-19 vaccination center, the units were checked, and the following maintenance items were address:

System	Finding / Action
RTU#1	1. Charged refrigerant system. Unit was low on refrigerant (coil was frosting up).
	2. Cleaned coil.
	3. Changed filters.
	4. Replaced bad heater contacts.
RTU#2	1. Cleaned coil.



	2. Changed filters.
RTU#3	1. Changed limit switches (found filters to be clogged)
	2. Cleaned coil.
	3. Changed filters.
	4. Checked heat.
RTU#4	1. Cleaned coil.
	2. Changed filters.
	3. Checked heat.
RTU#5	1. Charged refrigerant system. Unit was low on refrigerant.
	2. Changed thermostat.
	3. Cleaned coil.
	4. Changed filters.
	5. Checked heat.



*Skate Center RTUs (Photo taken from roof of Play Structure)*

Controls: The RTUs are controlled by individual thermostats.

Exhaust: The Men's and Women's restroom had exhaust fans located above the ceiling. The fans were inaccessible and could not be observed. The fans were operational.

#### **Future Considerations**

- The Trane units (RTU#1 and RTU#5) are in poor condition and have reached their expected useful life.
- Trane unit RTU#2 is 13 years old and nearing the end of its expected useful life.
- The Daikin units (RTU#3 and RTU#4) are 8 years old, in fair condition, and expected to have a remaining useful life of 5 to 10 years with normal maintenance performed on a regular basis.

#### ELECTRCAL

There are no readily observable significant electrical deficiencies that will prevent keeping the building operational.



- If the facility has not been recently re-lamped, we suggest that all bulbs and/or tubes be replaced (preferably with LED's) and the light switches operation be verified, and all receptacles be tested and repaired or replaced as needed.
- The fire alarm system should be tested and serviced by a licensed firm or individual.
- It is recommended that all panelboards and transformers be opened and all feeder conductor terminations be checked and retorqued to factory recommended values.

### Fire Protection

- The system should be inspected, tested, and maintained in accordance with NFPA 25 by a licensed sprinkler contractor.
- Concealed sprinkler heads which have missing or loose cover plates should be replaced.

### Plumbing

- Identify which meter serves this building and install a backflow preventer in the line.
- Install handicap accessible drinking fountain.
- Verify if water heaters work and use them if they do.
- If the water heaters do not work, they should be replaced, and expansion tanks, thermostatic mixing valves, and temperature gages should be added.
- If the handwashing sink in the kitchen serving area is required to be ADA compliant, it should be replaced with a compliant model.
- Repair or replace mop basin faucet.
- Add or replace pipe insulation if the existing insulation or lack of insulation is allowing condensation to drip onto ceiling tiles.