Introduced by _____

First Reading _____ Second Reading _____

Ordinance No. _____ Council Bill No. _____B 128-07_____

AN ORDINANCE

appropriating funds for pool filtration improvements at The ARC; and fixing the time when this ordinance shall become effective.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF COLUMBIA, MISSOURI, AS FOLLOWS:

SECTION 1. The sum of $23,000.00 is hereby appropriated from the Recreation Center Improvement Fee Account No. 552-0000-101.01-90 RRRCIF to the ARC Capital Equipment Account No. 552-5610-880.66-40 for pool filtration improvements at The ARC.

SECTION 2. This ordinance shall be in full force and effect from and after its passage.

PASSED this _____ day of _____, 2007.

ATTEST:

_____ _____

City Clerk Mayor and Presiding Officer

APPROVED AS TO FORM:

_____

City Counselor

CERTIFICATION: I certify there are sufficient funds available in the Recreation Center Improvement Fee Account No. 552-0000-101.01-90 RRRCIF to cover the above appropriation.

_____

Director of Finance

Source

Mike Hood

Fiscal Impact

YES x

NO

Other Info.

Agenda Item No._____

TO: City Council

FROM: City Manager and Staff

DATE: March 22, 2007

RE: Appropriating Additional Funds for ARC Pool Filtration Improvements

Summary: Funds in the amount of $12,000 were approved for ARC pool filtration improvements as part of the supplemental items in the FY07 budget. The P&R Department is requesting Council action to appropriate an additional $23,000 from the Recreation Center Improvement Fee to purchase the desired Ultraviolet (UV) treatment for the ARC. This system will improve both water & air quality and reduce chemical use.

Discussion: Funds in the amount of $12,000 were approved for ARC pool filtration improvements in the supplemental items in the FY07 budget. After further research, it was determined that the original UV system chosen in the supplemental budget process does not meet industry standards and is not the best choice for the ARC pool. After analysis, the total cost of the desired system that would work best for the ARC pool is $35,000. The funding for this improvement will come from the ARC's Recreation Center Improvement Fee (RCIF) which is generated by the ARC users and may only be used for improvements to the ARC.

The UV technology has been used for decades by various industries to improve water quality and is only recently becoming a standard among indoor aquatic facilities. The critical components of the UV system are the lamps. The lamps are either low or medium pressure lamps which are based on the voltage. While low pressure lamps cost less to install, they also require more lamps and space for the installation. At the ARC, space is restricted and when compared to the medium pressure system, almost eight lamps are needed compared to the one lamp of a medium pressure system. Another key reason for selecting the medium pressure system is it meets the NSF 50 standard as required of the National Sanitation Federation regarding the performance of sanitation equipment used to treat residential and public swimming pools, spas or hot tubs.

The lamps are placed in a quartz sleeves isolating the lamps from direct contact with the water. As water passes around the lamps, the UV destroys the harmful chloramines which are the primary causes of eye irritation, itching, unpleasant odors and potential respiratory problems. Another key benefit of UV is that it is the most cost effective way of removing chlorine resistant organisms such as Cryptosporidium, Giardia, hepatitis-A and E.Coli. It is anticipated that once installed, the annual chemical operating costs may decrease as much as $10,000 per year due to the lower amount of chlorine required. A fact sheet on Ultraviolet for Pools is attached. They system will be bid through the City's Purchasing department and will be installed using contract labor.

Suggested Council Action: Approve the ordinance appropriating the funds.

ULTRAVIOLET FOR POOLS FACT SHEET

- Industries Which Have Utilized UV Technology for Years
  - Pharmaceutical
  - Food & Beverage (bottled water & brewing)
  - Municipal wastewater
  - Municipal potable water
- System Components
  - Arc lamp – medium pressure
  - Quartz sleeve – protects the lamp
  - Wiper system – cleans lamps/sleeve
  - UV monitor – ensures system integrity/delivery of dose
  - Temperature monitor – system protection
- UV Production
  - Similar to standard fluorescent lamps – each contains small amount of mercury; except UV lamps made of clear quartz not white painted glass
  - Electricity arcs across quartz lamps, vaporizing liquid mercury
  - Medium pressure lamps emits every wavelength across the UV spectrum
- "Green Technology" for Water Treatment
  - UV uses light energy to disassociate chemical bonds
  - UV is used to reduce or eliminate chemical use
  - It is not irradiation, merely illumination
  - It does not add anything into the water – no residual
  - You cannot overdose with UV
  - High levels of UV are often used at Superfund cleanup sites to breakdown complex pollutants like fuels and pesticides.
- Disinfection & Chloramine Control
  - UV destroys chloramines
    - Eliminates eye irritation, itching, unpleasant odors
    - Reduces degradation of building components
    - Allows operation at lower chlorine levels
    - Eliminates need for pool "shocking" or "breakpoint" chlorination
  - Supplements chlorine treatment, not a replacement
  - Effectively eliminates or reduces chlorine resistant organisms
    - Cryptosporidium, Giardia, hepatitis-A and E.Coli
  - Improved water & air quality
    - Athletic asthma dramatically reduced among swim teams
    - Healthier environment for staff
    - More enjoyable experience for patrons
    - Significantly reduce corrosion factors - protects building structure, air handlers, & deck equipment
  - Swimsuits last longer
  - Reduced maintenance demands (less chlorine & other specialty chemicals)
- New Standard for Commercial Pools
  - Every major aquatic consultant is specifying UV for new construction or renovation of indoor pools
  - Identified as a "Best Practice" method to reduce the risk of Recreational Water Illnesses (RWI)