

ITEM # 25

DATE: 4-26-16

COUNCIL ACTION FORM

SUBJECT: LIGHTING REPLACEMENT PROJECT AT THE AMES/ISU ICE ARENA

BACKGROUND:

This project is to replace the lighting over the ice at the Ames/ISU Ice Arena. In 2012, an energy assessment was conducted for the Ames/ISU Ice Arena to determine where potential savings could be achieved. One item identified was replacing the existing metal halide lamps over the ice. Not only are the lamps energy inefficient, they do not provide enough light to meet the NCAA standards for collegiate hockey games.

KCL Engineering from West Des Moines was hired to assess the lighting and provide recommendations to maximize energy savings and meet the lighting standards of the Ice Arena user groups. Their recommendation is to replace the metal halide lamps with LED lighting. Therefore, the base bid includes replacing the existing lighting with LED lighting and keeping the current function of on/off controls. The lights are currently configured in two zones so 50% of lights could be on and 50% could be off. The Alternate bid adds dimming controls and dimmable LED lamps so the lighting could be dimmed 100% to 10%. This option keeps all lights on at the same time, provides greater energy savings, and consistent lighting across the ice.

ENERGY COMPARISON:

Below is a breakdown of the energy savings comparison between the base bid and the Alternate. This comparison assumes the lights will be dimmed for different activities. One concern for the dimming option is it may be difficult to justify to users why some groups get 100% lighting while others get less than 100%. Nonetheless, the dimming option is being listed as an alternate because retrofitting the dimming controls at a later time may not be cost efficient based on the engineers recommendation.

	<u>Base Bid</u>	<u>Alternate</u>
Current Energy Costs	\$23,048	\$23,048
Estimated Energy Costs	\$6,146	\$4,610
% Energy Savings	73%	80%
Annual Savings	\$17,982	\$19,518
Payback (in years)	2.0	2.6

COST ETIMATE AND FUNDING:

The cost estimate for this project is \$52,560 for the Base Bid which includes materials, equipment, and installation. The Alternate (adding dimming controls and dimmable LED lights) is estimated at \$14,040. In addition, design fees are \$10,000. The Engineer also indicates this project is eligible for \$15,840 worth of rebates. This brings the total project cost of the base bid and alternate as follows:

	<u>Base Bid</u>	<u>Alternate</u>
Project Cost	\$52,560	\$66,600
Design Fees	\$10,000	\$10,000
Rebates	<u>(\$15,840)</u>	<u>(\$15,840)</u>
Total Cost	\$46,720	\$60,760

The funding for this project (Base Bid) of \$20,000 was included in the FY 15-16 Capital Improvement Plan. The additional \$26,720 will come from \$30,000 of savings from the Rubber Flooring Replacement Project at the Ice Arena. If additional funding is needed, an option is to utilize funds from the Operational Fund Balance. Since the estimated annual energy cost savings is greater than \$17,000, the Operational Fund Balance could be replenished in less than one to two years depending on the amount used.

ALTERNATIVES:

1. Approve plans and specifications for the Lighting Replacement project at the Ames/ISU Ice Arena and set May 25, 2016, as the bid due date and June 14, 2016, as the date of hearing and award of the construction contract.
2. Do not approve the plans and specifications at this time, delaying the Lighting Replacement project at the Ames/ISU Ice Arena.
3. Refer back to staff.

MANAGER'S RECOMMENDED ACTION:

The proposed project will replace the lighting over the ice at the Ice Arena which will result in significant energy savings. The lighting will also meet the NCAA standards for collegiate hockey games. In addition, the Ice Arena user groups are supportive of improving the lighting.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as described above.