

GLENBROOK HIGH SCHOOLS
Regular Board Meeting Monday July 13, 2009
District Business Office

TO: Dr. Mike Riggle

FROM: Kimberly L. Ptak

DATE: JULY 13, 2009

RE: DISCUSSION/ACTION: AWARD OF BID FIELD HOUSE LIGHTS

Recommendation

It is recommended that the Board of Education award the bid for field house light replacement at Glenbrook North and Glenbrook South to Connelly Electric at a price of \$171,625. Estimated price was \$190,000.

Background

Over the last few years the lighting level in the Glenbrook North and Glenbrook South field houses has been a concern. Currently the field houses are lit at a 5-12 foot candle level, as compared to the new gym at Glenbrook South and the main gym at Glenbrook North which are 30 foot candles. The replacement of the field house lights did not make the priority list for referendum purposes; however it has been brought up and discussed several times over the last few years most recently at the June facility committee meeting. At the facility committee meeting it was decided to put the project out to bid and to bring bid results to the July 13, 2009 board meeting.

The bid was structured to get pricing to light the field houses at both 30 foot candles and 50 foot candles. In addition the bid was structured to get pricing to add switching capability to allow the field houses to be lit at different levels depending on need resulting in energy efficiencies. We are recommending awarding the 50 foot candle layout with switching capability. The standard would be to light the field houses at less than 30 foot candles during the day, 30 foot candles during competitions and 50 foot candles only on an exception basis for things like testing and special events where filming might take place. In addition the bid allowed us to get pricing to buy the light fixtures direct as opposed to going through the contractor. Buying the fixtures direct did not result in savings.

Lead-time for light fixtures is approximately 4-6 weeks and work will be completed for the start of school. In addition, we are working to identify any available grant money to help cover the cost of the project. Potential grant money identified to-date would cover approximately \$10,000 of the cost. See attached for bid results.

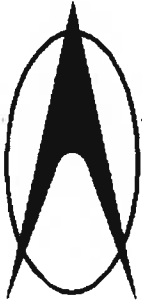
BID RESULTS

30 footcandles

	<u>All work</u>	<u>Add: Switching</u>	<u>Deduct Fixtures</u>	<u>Total w/out fix.</u>	<u>Total with fix.</u>	<u>Fixtures Only</u>
Connelly Electric	135,720	6,915	(66,738)	75,897	142,635	66,738
Electrical Systems	144,775	25,869	(66,215)	104,429	170,644	66,215
All Industrial Electric	150,100	8,410	n/a	n/a	158,510	n/a
Divane Bros. Electric	161,000	15,100	n/a	n/a	176,100	n/a
Brook Electric	n/a	n/a	n/a	n/a	n/a	67,554
MJ Electric	n/a	n/a	n/a	n/a	n/a	72,782

50 footcandles

	<u>All work</u>	<u>Add: Switching</u>	<u>Deduct Fixtures</u>	<u>Total w/out fix.</u>	<u>Total with fix.</u>	<u>Fixtures Only</u>
Connelly Electric	164,490	7,135	(85,064)	86,561	171,625	85,064
Electrical Systems	184,247	25,745	(83,525)	126,467	209,992	83,525
All Industrial Electric	178,570	11,300	n/a	n/a	189,870	n/a
Divane Bros. Electric	189,000	16,500	n/a	n/a	205,500	n/a
Brook Electric	n/a	n/a	n/a	n/a	n/a	86,121
MJ Electric	n/a	n/a	n/a	n/a	n/a	71,123 (reject bid)



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July 6, 2009

Kimberly L. Ptak
Glenbrook High School District 225
1835 Landwehr Rd.
Glenview, IL 60026

RE: Glenbrook H.S. District 225
Fieldhouse Lighting Retrofit

Dear Mrs Ptak,

With regards to LED lighting, there are many reasons why this application would not benefit from the technology. Below are a few bullet points that should be considered.

- The technology and state of the art is too new, in my opinion, to apply to such an ambitious project. Many problems have yet to be discovered and the manufactures have yet to learn how to optimize the fixtures.
- Color temp is 6000K and people look washed out. Incandescent lamps (the color we are used to) are much warmer, in the 3000K range. T5HOs are available from 3000K to 5000K. LEDs are coming out with lower color temperatures but these are not fully developed.
- Color rendering can be poor: in the 70 range. TH5O lamps are a color rendering of 85. This is as of yet controversial and many lighting professionals argue that this measurement is not appropriate for LEDs. Again, the technology is so new the debate about simple topics is not yet settled.
- Appropriate fixture types are not yet available from major tried and true manufactures like Cooper or Lithonia. The reason is that they are responsible for ensure the quality of the products for years. They cannot afford to release a mistake. A small manufacturer can cut and run.
- Light output would not provide proper illumination at high ceiling heights typically found in field houses unless double/triple the amount of fixtures at double/triple the cost is implemented. More fixtures mean more circuits. We require luminous outputs in the 40,000 lumens/fixture range.

- LED is a point source which only provides illumination in (1) direction-Walls/Ceilings will appear dark unless additional fixtures are utilized to supplement these areas. More fixtures, more complications, more expense.
- Bin sorting for LEDs typically provide a variance of color temperature so it would be VERY noticeable that some fixtures have whiter LEDs than others. This is the biggest problem for indoor LED applications!!
- T5HO 80 lumens per watt and LED lamps are around 70 Lumens per watt. T5HOs are more efficient. LED numbers may go up but not yet.
- Lamp life for LEDs is better but not by enough. LED lamp life is guaranteed for around 50,000 hours of operation while T5HO lamp life with a 12 hour start cycle is 35,000 hours.

Please call if you have any questions.

Sincerely,

Cory S. Clarke
AMSCO Engineering Inc.