

Memo

To: City Council
From: Amy E. Gilson, P.E., Director of Public Works
Date: June 21, 2016
Re: Grit Project Bid Analysis



At the city council meeting on June 13, 2016 council member Bahmer requested a detailed analysis of why the bids received for the grit project differed from the engineer's estimate. The bids were all tight, but they were approximately ten percent over budget. I reached out to our consultant, Moore & Bruggink, for the explanation. Attached is the memo that I received from them.

cc: Gregg Guetschow, City Manager



MOORE & BRUGGINK, INC.
consulting engineers

June 17, 2016

Re: Charlotte WWTP Grit System
Renovation
Project No. 150202.01

Ms. Amy Gilson
City of Charlotte
111 E Lawrence Avenue
Charlotte, Michigan 48813

Dear Ms. Gilson:

Per the City of Charlotte Council's request, Moore & Bruggink is providing a general comparison between the schedule of values provided to the City for the Engineer's Estimate and that of Skye Contracting (the low bid Contractor for the Charlotte WWTP Grit Improvements Project). The following table was created through information provided from Skye and that of our pre-bid estimate.

<u>DESCRIPTION OF WORK</u>	<u>CONTRACTOR SCHEDULED VALUE</u>	<u>ENGINEER'S ESTIMATE</u>	<u>Difference</u>
GCs, Bond, Mobilization	\$44,000.00	\$77,000.00	\$33,000.00
Demolition	8,300.00	20,000.00	11,700.00
Concrete	32,000.00	20,000.00	(12,000.00)
Site Restore & Walks	3,300.00	6,000.00	2,700.00
Cement Brd Ceiling	4,300.00	6,000.00	1,700.00
Steel/Masonry	6,100.00	7,500.00	1,400.00
FRP Grate/Plate	12,800.00	5,000.00	(7,800.00)
FRP Doors/Frames	7,700.00	14,000.00	6,300.00
Painting/Lining	20,300.00	15,000.00	(5,300.00)
Mechanical (Grit Equipment, Gates, Heater, Process Piping, Ductwork, Bypass)	293,000.00	253,500.00	(39,500.00)
Electrical/SCADA	98,000.00	56,000.00	(42,000.00)
Total:	\$529,800.00	\$480,000.00	(49,800.00)

In summary, the mechanical and electrical categories show the most variance. The reasons for such difference can be attributed to the current economic conditions pertaining to this construction season. Initial estimates made with earlier bid dates in mind allowed for more bidding competition to drive pricing down, whereas current timing has dramatically changed the project demand climate. In particular, the mechanical and electrical fields are extremely busy, and demand for

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time is increasing profit margins in those areas of labor. The same can be said for the materials involved. In particular, copper (electrical) and stainless steel (mechanical, necessary for corrosive environments) prices are skyrocketing.

Also contributing are construction conditions and required level of effort in certain areas of the scope of the project with greater than anticipated associated costs. The bypass requirements for the primary lift station, grit aeration chamber, flow channels, RAS piping, and equalization piping became more involved once contractors were able to look at the project and plan means and methods.

Project estimation is a difficult task, and is based primarily on past experience, while bid costs are greatly affected by current economic climate. We understand the effects the true cost of this project has presented to the City, and hope that the information provided above helps to clarify the situation.

Sincerely,



Jeffrey S. Landers, P.E.
Project Engineer