BALL STATE UNIVERSITY

CENTER FOR BUSINESS AND ECONOMIC RESEARCH
MILLER COLLEGE OF BUSINESS

Phone: 765-285-5926
Fax: 765-285-8024

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Memorandum for Record

Subject: Mounds Lake Phase II Peer Review

1. We have reviewed the Phase II Study for the proposed Mounds Reservoir, and offer the following comments as part of the Ball State Mounds Peer Review. We have focused our comments on the following sections: Financial Feasibility Analysis, January 15, 2015, and Mounds Lake Reservoir Phase II Study, Anderson Corporation for Economic Development. September, 2014. We offer the following comments.

2. Environmental impediments to the feasibility of the proposed reservoir have not been evaluated with sufficient rigor so that remediation costs of industrial properties can be estimated.

3. Cost analysis for land acquisition as part of wetland mitigation is very optimistic, given that net growth of wetlands will need to exceed 1,300 acres in addition to a replacement of over 600 acres which will be within the proposed reservoir. The costs allocated for wetland and woodland mitigation is near the lowest level of compensatory mitigation of U.S. wetlands, and well beneath the average for non-tidal areas. If average costs non-tidal riparian wetland replacement was employed and there was no other required mitigation, the mitigation element of the cost analysis is underfunded by $56 million. (see *Mitigation of Impacts to Fish and Wildlife Habitat: Estimating Costs and Identifying Opportunities*, Environmental Law Institute, October, 2007.)

4. Fiscal analysis of impacted communities is incomplete, and relies on rapid assessment growth that is ahistorical within the region. In particular, we believe that the modeling of land values before and after do not paint a clear picture of the potential lost revenue in the short run (nor potential gains in the long run). Each piece of property proximal to the affected area will have significant changes attributable to lake front view scape and access. (for a discussion of amenity based value differences, see Benson, Earl D., Julia L. Hansen, Arthur L. Schwartz Jr, and Greg T. Smersh. "Pricing residential amenities: the value of a view." *The Journal of Real Estate Finance and Economics* 16, no. 1 (1998): 55-73.)

d. The financial feasibility analysis conclusions are based upon three broad assumptions.

(1) The 3.00% bond issuance assumption is optimistic. Current 20 year municipal bond indices are at 3.62 (Federal Reserve, week ending 2/19/2015), while AA

bond issuances on 30 year municipal bonds are 3.20. If realized bond rates are at their current 45 year low of 3.62 at the time of issuance, this project is not feasible.

(2) The feasibility of the cost analysis has not been subjected to sensitivity tests on costs overruns. With average cost overruns on large scale infrastructure projects running from 20.4 to 44.7 percent, some feasibility analysis of this is appropriate within a Phase II report. At an optimistically low 10 percent cost overrun, this project would not be feasible, even assuming a 3.0 percent bond issuance. (For a review see Flyvbjerg, Bent, Mette K. Skamris Holm, and Søren L. Buhl. "How common and how large are cost overruns in transport infrastructure projects?." *Transport Reviews* 23, no. 1 (2003): 71-88).

(3) There is no evidence of demand for water at this scale. The statewide water plan commissioned by the Indiana Chamber of Commerce does not imply an unmet demand of this size, nor are there current water plans which envision demand growth at the level envisioned by the Phase II Mounds Study. Moreover, the alternative plans for water provision offer to bridge the gap between anticipated demand and supply at a lower cost than assumed in the Phase II study. Even with a large scale commercial customer, residential water demand does not appear to justify this investment.

4. From this we conclude that the determination that the Mounds Lake is financially feasible is, at best, premature. Additional analysis or the revelation of additional information is required to draw a conclusion of feasibility at this time. This is a preliminary review, with final review pending new information.

Dagney G. Faulk, Ph.D.
Director of Research

Michael J. Hicks, Ph.D.
Director