COUNTY OF MILWAUKEE
Inter-Office Communication

DATE: January 14, 2011

TO: Chairman Michael Mayo

FROM: Julie Esch, Legislative Research Analyst

SUBJECT: Pro and Con Analysis of Estabrook Dam Alternatives

Per your request, I have prepared a listing of "pros" and "cons" for repairing the Estabrook Dam and the "pros" and "cons" of abandoning the dam, as follows:

Repair, Operation and Maintenance of Estabrook Dam

Pros

- ✓ $2.1 million in general obligation bonds budgeted for repairs
- ✓ More large motorized boat recreational opportunities, particularly for nearby residents, if the County were allowed to fill the impoundment seasonally
- ✓ Seasonally the impoundment creates the aesthetics of a lake amenity

Cons

- ✓ Would still need an estimated of $2 million in cash to clean up contaminated sediment behind the dam
- ✓ Phase II legacy match needed at an estimated $3.5 million (including the aforementioned $2 million) to clean up sediment behind the dam and up the river; otherwise, contaminated sediments will continue to flow downstream and re-contaminate the area around dam structure
- ✓ $1.3 million of operation and maintenance (O/M) costs over the next 20 years in order to maintain a 20 year lifecycle of the dam; without budget O/M funding, the lifecycle of the structure decreases
- ✓ Need easements for short and long term access to the dam structure along the west side of the stream bank, which is privately owned

- ✓ County has been previously unsuccessful in securing grants for repair of the Estabrook Dam
- ✓ Cost of fish passage improvements is not included in any of the estimates – these costs vary depending upon the size and sophistication of the structure
- ✓ An operational order that allows seasonal fill and draw of the dam impoundment (as was past practice) is not guaranteed after repair of the dam
- ✓ Negative impacts on the river's ecosystems if seasonal fill and draw were to be permitted
- ✓ When Impoundment is full, with gates closed, potential for flooding upstream increases for three months of the year
- ✓ The dam is an impediment to navigation
- ✓ Costs associated to provide safe navigation around the dam is not included in the estimates
- ✓ Unfeasible to implement more stream bank stabilization and habitat structures using US EPA sediment cleanup funding due to a three month impoundment behind the dam
- ✓ The river will continue to be lined with exposed banks that are not fully vegetated due to the seasonal fill and draw of the impoundment
- ✓ Mud flats exposed nine months of year during seasonal draw down

Removal of the Estabrook Dam

Pros

- ✓ Eliminate ongoing operating and maintenance costs estimated at $80,000 - $100,000 annually
- ✓ Less cost to demolish the dam than repair it
- ✓ More grant programs available for habitat restoration and dam removal
- ✓ Eliminate ongoing dam responsibilities and liabilities
- ✓ Free-flow of the Milwaukee River (without the obstruction of the dam structures) will maintain natural wetland hydrology

- ✓ Barriers to fish movement from Lake Michigan through the Milwaukee River would be removed
- ✓ Dam removal would result in the greatest reduction in flood elevations along the river upstream from the dam thereby reducing the potential for upstream flooding
- ✓ Aesthetics associated with a free flowing river
- ✓ Eliminates vandalism/graffiti that has occurred in the past

Cons

- ✓ Would still need an estimated $2 million in cash to clean up contaminated sediment behind the dam
- ✓ Phase II legacy match needed at an estimated $3.5 million (including the aforementioned $2 million) to clean up sediment behind the dam and up the river; otherwise, contaminated sediments will continue to flow downstream and re-contaminate the area around dam structure
- ✓ Most costs for dam removal are not bond eligible
- ✓ Without an impoundment to raise water levels behind the dam, the river will be less able to support large, motorized boat recreation during the summer season
- ✓ Mud flats along river will be exposed until re-vegetated

"Cons" highlighted in red are the same for both repair and removal options for the dam.