



January 4, 2024

To: Four Lakes Task Force Board

**Memo: Capital Assessment for the Four Lakes Special Assessment District**

This is an update to the [December 21, 2023, memo](#). One of the matters for the January 15<sup>th</sup>, 2024, public hearing is to approve the Operations and Maintenance Assessment for 2025-2029 and the Capital Assessment Computation of Cost and Assessment Roll. The purpose of this memo is to provide an explanation of the Capital Assessment.

In May of 2019 following numerous public hearings and completion of a lake level study, Midland Circuit Court Judge Stephan Carras (also sitting on special assignment for the Gladwin Circuit Court), signed a Lake Level Order under Part 307 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (MCL 324.30701 et seq) (“Part 307”). This established normal or legal lake levels for Wixom, Sanford, Smallwood, and Secord lakes (the Four Lakes Special Assessment District (SAD)) and recognized the authority for FLTF, as the Counties’ Delegated Authority, to acquire, repair and then operate the four dams on behalf of Midland and Gladwin counties.

In May 2020, the Edenville Dam and Sanford Dams failed, and FERC ordered Secord and Smallwood be lowered because the structures sustained considerable damage. FLTF immediately got to work to acquire the properties, recover the community and restore the lakes. Four Lakes Task Force, through Midland and Gladwin County resolution, became the agent to take the Boyce properties and manage the disaster recovery as it relates to rebuilding the dams and maintaining Part 307 legal lake levels. The condemnation is complete, and ownership of the dams and bottomlands was transferred to Midland and Gladwin counties which allowed us to begin recovery. The dams now are under EGLE authority.<sup>1</sup>

The next page summarizes the structure of this document in the Table of Contents. We will update this document prior to the January public hearing and include it in the minutes of the meeting.

Sincerely,

David Kepler  
President  
Four Lakes Task Force

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<sup>1</sup> [https://www.four-lakes-taskforce-mi.com/uploads/1/2/3/1/123199575/egle\\_recognition\\_of\\_county\\_ownership\\_of\\_dams\\_6.30.2021.pdf](https://www.four-lakes-taskforce-mi.com/uploads/1/2/3/1/123199575/egle_recognition_of_county_ownership_of_dams_6.30.2021.pdf)



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## Assessment Summary

### Pre-Restoration Construction Costs

Shortly after the dam failures, FLTF became the local sponsor of the Natural Resource Conservation Service's Emergency Watershed Protection Program that has enabled us to complete larger recovery projects utilizing only a fraction of State funds. We have completed the recovery phase on all four lakes stabilizing over 10,000 feet of shoreline and removing over 2,000 pieces of Debris. Secord, Smallwood, Sanford and Edenville dam structures all underwent extensive stabilization projects allowing the dams to safely pass moderate flows in the interim period.

Secord, Smallwood, and Sanford design engineering and permitting are complete and the dams are under construction. Edenville has begun construction on pull-ahead projects, and we anticipate the permit for the final design in early 2024. In addition, FLTF completed numerous studies and surveys to get to the point of beginning construction.

All the Part 307 establishment, acquisition, recovery, and pre-construction engineering was completed without assessing the district for funds due in large part to grants from the State of Michigan. Following this letter, we have included a summary of the spending that was associated with these activities to prepare FLTF for construction in [Appendix A](#). These costs are excluded from the Capital Assessment Computation of Costs. Therefore, the value of these items in the table below is zero dollars.

### Project Cost and Financing

A summary of the updated cost estimates is contained in [Appendix B](#). Further, in October 2023 FLTF updated its planning range to reflect the reality of the market and the project's updated cost given inflation over the past three years. This resulted in an updated cost planning range of \$330 million to \$380 million with a \$350 million planning estimate. There is greater certainty in these numbers, given they are based on bid projects at Secord, Smallwood and Sanford. The Edenville estimate is now based on 100% design and has been updated to reflect the pricing received for the other three projects.

FLTF plans to leverage State of Michigan funds, U.S. Army Corps funds and funding from a municipal bond issuance to fund the entirety of the Four Lakes Restoration. The financing plan contains several restricted funding sources that will be leveraged across the four lake restoration projects to maximize the utilization of each funding source at the lowest cost to the Assessment District. Details of this funding plan are contained in [Appendix C](#).

### The Capital Assessment Computation of Cost

The Capital Assessment amount is based on the total restoration project cost less the grants that have been received. The computation of cost is itemized beginning on page 4. The computation of cost is based off bid projects at Secord, Smallwood and Sanford. The Edenville estimate is now based on 100% design and has been updated to reflect the pricing received for the other three projects. The Edenville estimate in the Computation of Cost will be updated based on the lowest responsible bid received. The computation of cost contains a 9.5% contingency, necessary to address unanticipated project cost challenges as well as to manage the obligations set forth in Part 301 for the Edenville and Sanford permits.

The Capital Assessment Computation of Cost includes a total project cost of \$364 million with a 9.5% contingency of ± \$34 million. The total project costs are offset by the remaining State of Michigan funds in



the amount of \$180 million leading to a not-to-exceed assessment estimate of \$217.7 million. The total assessment amount may be adjusted based on total project costs including contingency utilization or additional grants received which will not be final until 2026 when the projects are complete. These numbers have been refined and are in line with expectations set at public webinars on October 12, 2023, and December 6, 2023.

**Four Lakes Task Force Special Assessment District  
COMPUTATION OF COST  
Capital Improvement of Secord, Smallwood, Edenville and Sanford  
January 15, 2024 Special Assessment Hearing**

Be It Known, that the Four Lakes Task Force, acting as the delgated authority on behalf of Midland and Gladwin Counties on part 307 Legal Lake Levels, in accordance with the statute in such case, made the following computation of the entire cost of said lake level, to-

<b>1 Establishment of Special Assessment District</b>	
Establishment of Special Assessment District and Legal Lake Level were set as a result of the May 2019 Court Order, all costs associated with the hearing, land aquisition and design engineering were either private or public grants and no Special Assessment District funds were required	\$0
Preparation of Assessment Roll and Levying Assessments for Capital Roll	\$50,000
<b>2 Construction Administration - Quality Assurance, Quality Controls, Surveying, Project Controls</b>	
Secord	\$10,200,000
Smallwood	\$7,800,000
Edenville	\$15,800,000
Sanford	\$13,200,000
<b>3 Estimated Cost of Construction</b>	
All lakes: site safety, booms, Electrical services	\$7,200,000
Secord	\$57,000,000
Smallwood	\$42,400,000
Edenville	\$127,000,000
Sanford	\$76,800,000
<b>4 Estimated Cost of Appeal</b>	<b>\$100,000</b>
<b>5 Cost of Mailing, Publishing Notices and Administration</b>	<b>\$9,500</b>
<b>6a Loan &amp; Bond Issuance Costs</b>	
USACE Loan Fee	\$250,000
Rating Fees	\$75,000
MAC Fee	\$900
Printing notice of sale and official statement	\$3,250
Michigan Department of Treasury Filing for bond	\$1,100
Michigan Department of Treasury Filing for loan	\$1,100
Bond Counsel and Financial Advisor for loan	\$180,000
Bond Counsel and Financial Advisor for bond	\$220,000
<b>6b Cost of Capitalized Interest</b>	<b>\$6,000,000</b>
<i>Gross Sum of Expenses</i>	<b>\$364,290,850</b>
<i>Contingent Expenses (9.5 ±%)</i>	<b>\$34,584,150</b>
<i>Total project computation of cost</i>	<b>\$398,875,000</b>
Less State of Michigan Grant	-\$180,000,000
Less USDA Boom Grant, MDOT Settlement	-\$1,175,000
<b>Total amount to be assessed</b>	<b>\$217,700,000</b>

Filed in the office of the Four Lake Task Force as the Delegated Authority for Midland and Gladwin County with other papers pertaining to the within-mentioned lake level. Dated at \_\_\_\_\_, Michigan, this \_\_\_\_\_ day of \_\_\_\_\_, 2024.



## Descriptions of Items in the Computation of Costs

### Line 1 Establishment of Special Assessment District

The Establishment of the Part 307 SAD and Legal Lake Level were done because of the May 2019 court order and were paid entirely through public and private grants, no Special Assessment funds were required thus they are not included in this Capital Assessment. Further, the property acquisition and design engineering were completed entirely using private donations and State of Michigan grants, leading to no costs being assessed to the district for these project costs, hence in the Computation of Cost above there is a \$0 line item. The summary of pre-construction project spending is described in [Appendix A](#) in detail. Preparation of the Capital Assessment roll is part of the project costs that will be assessed.

### Line 2 Construction Administration and Line 3 Estimated Cost of Construction

Line 2 and Line 3 represent a summary of the updated cost estimates contained in [Appendix B](#). This is a total construction estimate of \$364M. These numbers have been refined and are in line with expectations set at public webinars on October 12, 2023, and December 6, 2023. There is greater certainty in these numbers at this stage in the project.

The computation of cost is based on construction contracts, awarded through a bid process, at Secord, Smallwood and Sanford. The Edenville estimate is now based on 100% design and has been updated to reflect the pricing received for the other three projects. The computation of cost will be finalized to incorporate the Edenville bid results. The computation of cost contains a 9.5% contingency which is \$34 million. This is necessary to address unanticipated project cost challenges as well as to manage the obligations set forth in Part 301 for the Edenville and Sanford permits.

### Line 4 Cost of Appeals

This is the estimated cost associated with legal defense costs of property owner appeals to the Capital Special Assessment.

### Line 5 Mailing, Notices and Administration

This line contains the costs to provide first class mailings of hearing notices, publish notices in the paper and administer the Special Assessment District roll.

### Line 6a Loan and Bond Issuance Costs and Line 6b Cost of Capitalized Interest

FLTF plans to leverage State of Michigan funds, U.S. Army Corps (USACE) funds and funding from a municipal bond issuance to fund the entirety of the Four Lakes Restoration. The financing plan contains several restricted funding sources that will be leveraged across the four lake restoration projects to maximize the utilization of each funding source at the lowest cost to the assessment district.

The FLTF plan of financing must account for many variables surrounding permitting, timing and restricted funding sources. Based on all variables FLTF is actively working on, FLTF plans to proceed with an \$80 million bond by June 1, 2024, to fund the Sanford, Secord and Smallwood project through 2024. Beginning in 2025, Secord and Smallwood will transition back to utilizing State of Michigan funds. Sanford will utilize the remainder of the municipal bond funds in early 2025 and then transition to utilize USACE CWIFP funds for the remainder of the project. Further details of this funding plan are contained in [Appendix C](#).

This is the cost of capitalized interest on the bond in year one.



## Contingency

The computation of cost estimate contains a 9.5% contingency which is \$34 million. This is necessary to address unanticipated project costs based on unforeseen conditions or events, as well as to manage the environmental mitigation obligations set forth in Part 301 for the Edenville and Sanford permits. Part 307 allows for up to a 15% contingency amount.

## Less Grants

The total project costs are offset by the remaining State of Michigan funds in the amount of \$180 million leading to a not-to-exceed assessment estimate of \$217.7 million. In addition, there were offsets from MDOT for the work and accommodations for the M30 Bridge and a USDA grant for dam safety booms.

FLTF continues to seek additional grants and funding sources, particularly as it relates to satisfying Part 301 project requirements and if funds are identified it will reduce the need for utilization on the total contingency amount. Further, no funding sources beyond what has been received are included in this computation of cost and all funds received will serve to reduce the total assessment burden on the Four Lakes Special Assessment District.

## Total Amount to be Assessed

Total “not-to-exceed” cost defines the maximum amount the project may obtain without seeking another approval. This is the total project cost plus the full contingency. This number will be finalized at the January 15 hearing.

The total not-to-exceed number is \$217.7 million, and it includes a contingency of \$34 million. These numbers have been refined and are in line with expectations set at public webinars on October 12, 2023, and December 6, 2023.

Second, Smallwood and Sanford costs are now based on a fixed bid and the costs likely have little room for change. The final phase of the Edenville project is currently out to bid. FLTF will receive bid results in January 2024 and will update the cost estimates accordingly.



### Capital Assessment Allocation

\$217.7 Million is the total amount to be assessed. Total assessment amounts will be determined based on what extent of contingency must be utilized. Below we have summarized tables of the estimated total assessment principal amounts. This is the estimated total assessment amount that will be levied against properties and the amount homeowners would prepay should they choose to do so.

The table below illustrates the estimated total assessment principal at \$217.7 million, which is the high end of the range and the current “not-to-exceed” cost estimate. The total project costs at the end of the project are likely to be under this amount and the exact amount will be determined based on the amount of contingency required and any other grants identified.

<b>\$217.7 Million - Total Assessment Principal</b>			
Factor Total	Bond Total Principal Estimate (\$80M Bond)	USACE Total Principal Estimate (\$137.7M Loan)	<b>Total Principal Estimate (\$217.7M Total)</b>
1 (High Benefit Residential Lot)	\$ 15,600.00	\$ 28,160.00	<b>\$ 43,760.00</b>
0.75 (Average Lakefront Lot)	\$ 11,700.00	\$ 21,120.00	<b>\$ 32,820.00</b>
.50 (Lowest Lakefront Lot, Highest Backlot)	\$ 7,800.00	\$ 14,080.00	<b>\$ 21,880.00</b>
0.25 (Average Backlot)	\$ 3,900.00	\$ 7,040.00	<b>\$ 10,940.00</b>



## Annual Capital Assessment Payments

Based on the Capital Computation of Cost and the Plan of Financing, FLTF is estimating the assessment will run for a total of 40 years, from 2024 to 2064. Interest will be capitalized in 2025 on the bond and principal deferred, along with a deferral of the 2025 USACE payment. As a result, the first capital assessment will not appear on tax bills until Winter 2025. The Army Corps and bond will allow FLTF to defer principal for an additional year, meaning the payment due in 2026 will be interest only on the bond and the loan. This will result in a lower annual payment than the full assessment amount in Winter 2025. The full assessment amount will then begin on tax bills in Winter 2026. Average annual payment examples are summarized below. The annual payment amounts vary further due to the principal repayment structure on the bond and loan, this information is explained on subsequent pages.

### Annual Assessment Estimates

One of the most frequent questions FLTF gets asked is for an estimate of annual payment amounts for homeowners based on the total assessment amount. As this paper has defined, the assessment amount will vary based on what the final project costs are and if any additional grants are received. For informational purposes and an illustrative example, below is a table illustrating what the average annual payment amounts with principal and interest would be assuming the financing plan described above with both bond and USACE loan financing at a 5% interest rate, at \$217.7 million, the not-to-exceed amount. Also incorporated is the 2025-2029 O&M assessment, to define the total annual payment homeowners can anticipate. To find your specific benefit factor total please visit the [assessment map on Four Lakes' website](#).

Total Annual Payment for O&M and Capital Assessments				
Benefit Factor Assigned	2025-2029 O&M Annual Assessment Payment	Capital Assessment Annual Payment (Principal + Interest on \$217.7M)	Total Average Annual Payment (O&M + Capital)	Total Principal* Estimate (\$217.7M total) *This is the amount to prepay to pay off the assessment
1 (High Residential Lot)	\$ 320	\$ 2,560	\$ <b>2,880</b>	\$ 43,760
0.75 (Typical Front Lot)	\$ 240	\$ 1,920	\$ <b>2,160</b>	\$ 32,820
0.5 (Lowest Front Lot)	\$ 160	\$ 1,280	\$ <b>1,440</b>	\$ 21,880
0.25 (Typical Backlot)	\$ 80	\$ 640	\$ <b>720</b>	\$ 10,940
0.075 (Lowest Backlot)	\$ 24	\$ 192	\$ <b>216</b>	\$ 3,282

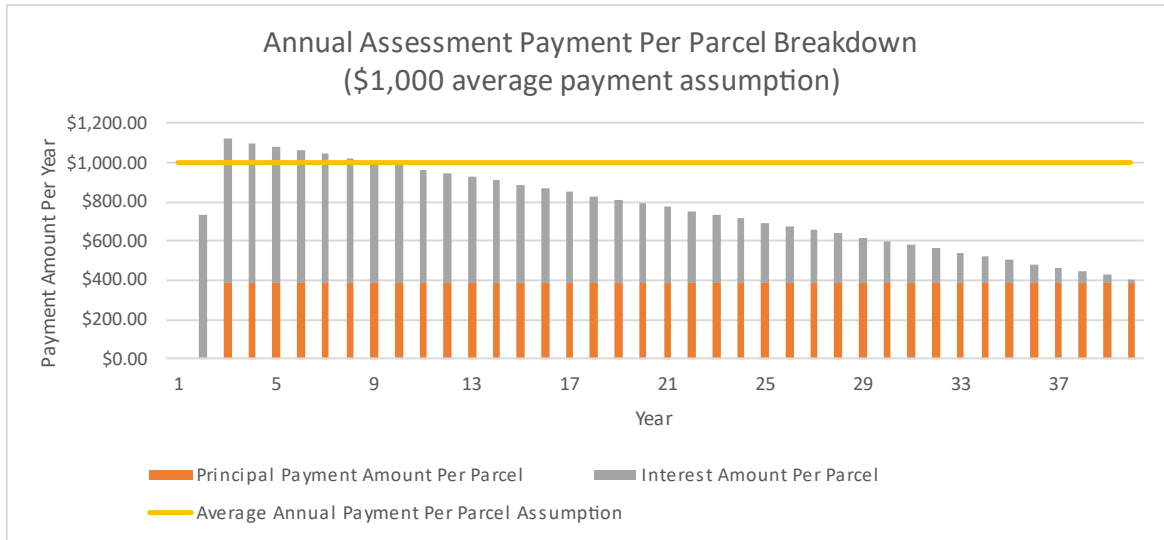
### Variation in Annual Assessment Amounts

The annual payment for the Capital Assessment will not be the same dollar amount year after year. As stated above, all numbers cited in this report use the average annual payment. Each year, homeowners will experience a slight change in the annual amount due, this is due to the equal principal payment model that will be utilized in the bond and USACE loan. The principal amount will remain the same year-to-year, but the interest amount will decrease as the principal balance is reduced. This leads to the highest annual payment in year 1 and the lowest annual payment in year 40.





To illustrate this concept more clearly, the first-year annual payment will be approximately 15% higher than the average payment and the last payment will be approximately 15% lower than the average annual payment. The below graph summarizes how the annual assessment payment varies year after year per \$1,000 average assessment assumption due to the variation in annual payment over the life of the assessment. This assumes a 40-year payment term and 5% interest rate.





## Appendix A: Preconstruction Spending Summary

Since the May 2020 dam failure, the State of Michigan has granted \$220.5 million through appropriations to assist in the recovery and restoration of the Four Lakes System. A Capital Assessment will fund the remainder of restoration construction costs not covered by state or federal grants.

This report is an update on the spending from May of 2020 through 2023. The spending includes the recovery effort, which is now completed, and preconstruction restoration costs, which will be completed by mid-2024. This report is provided for informational purposes and understanding only. The 2023 spend is not final and has not been audited. In April 2022, Four Lakes Task Force released an update to its restoration and financing plan that can be found on its website [here](#), that outlined the plans for preconstruction spending. The table below provides actual spend, 2020-2023 by source as of December 1, 2023.

**Recovery costs** include debris removal, shoreline erosion, and dam stabilization. **Pre-construction restoration** includes bankruptcy and condemnation settlement and legal fees, environmental and flood studies, design engineering and permitting for all four dams. **Operations and maintenance (O&M)** are the operations and administration to manage the dams, lakes, and Special Assessment District. As of 2022, the O&M expenses are funded through an Operations & Maintenance SAD, however, prior to 2022 the O&M was funded using State of Michigan funds and private donations.

2020-2023 High Level Interim Expenditures prior to Construction						
	State of Michigan	Federal	Private Donations	Homeowner Share	SAD	Total Expenditure
Recovery	\$ 12,715,740	\$ 20,413,450	\$ 75,000	\$ 691,880		\$ 33,896,069
Preconstruction Restoration	\$ 24,961,903		\$ 1,395,418			\$ 26,357,320
O&M	\$ 855,211		\$ 875,812		\$ 2,457,670	\$ 4,188,694
<b>Total Spent on interim by source</b>	<b>\$ 38,532,854</b>	<b>\$ 20,413,450</b>	<b>\$ 2,346,230</b>	<b>\$ 691,880</b>	<b>\$ 2,457,670</b>	<b>\$ 64,442,083</b>

Recovery cost through 2023 is \$33.8 million, spending was \$6 million under the estimate from [April 2022](#). While FLTF spending for Recovery has come in under budget, more state funds were utilized than estimated by \$6 million. More state funds were spent than planned on the Recovery projects because of the gap in anticipated matching expenditures from the USDA EWP program in two key areas.

**On Technical Assistance:** NRCS is responsible for the engineering work, but in certain cases the NRCS Local Sponsor (FLTF) provided the work. For the May 2020 flood recovery FLTF took responsibility for the engineering, at the recommendation of NRCS, due to scale of the disaster and the resources NRCS had available. While the NRCS EWP manual provides technical assistance support up to 15% of total construction budget for a project, NRCS to date has only approved and provided funds for technical assistance up to 10% of the agreement amounts.

**On the Dam Stabilization Projects:** There were portions of the work that NRCS covered at only 60% rather than the typical 75% and other portions that NRCS determined were ineligible for the EWP program and did not cover at all. Other projects, such as debris removal also experienced ineligible expenses that further contributed to greater use of State of Michigan funds. On the Tobacco Dam Stabilization, FLTF utilized State of Michigan funds for the local cost match when it was initially anticipated to be funded by EGLE.

Four Lakes Task Force originally planned to begin an Operations and Maintenance assessment in 2021. This plan was delayed to 2022 which required utilizing \$855,000 in State of Michigan funds and \$876,000 of private funds to fund operations and administration of the dams 2020-2021.



## Summary of Grants

In 2020 Four Lakes Task Force received two grants: a \$2.5 million grant and \$15 million grant from the State of Michigan in 2020 for interim recovery and pre-construction restoration efforts. In 2022, Four Lakes Task Force received an additional \$3M from EGLE through the State of Michigan for recovery efforts and received \$200M for restoration and recovery. Of the \$200 million grant FLTF set aside \$10M to pay for interim preconstruction and recovery efforts. In total, \$30.5 million of State of Michigan funds was set aside for preconstruction restoration and recovery expenditures.

<b>Total State of Michigan Spent on Recovery and Preconstruction Restoration</b>	<b>\$ 38,532,854</b>	<b>Total Spending 2020-2022</b>
<b>Less Preconstruction Allowance</b>	<b>\$ (25,000,000)</b>	This includes the \$15M SOM grant from 2020 and the \$10M preconstruction allowance set aside from the \$200M 2022 SOM grant
<b>Less Recovery Allowance</b>	<b>\$ (5,500,000)</b>	This includes the \$2.5M SOM grant from 2020 for Recovery and the \$3M 2022 EGLE Grant for recovery
<b>Overage on estimate</b>	<b>\$ 8,032,854</b>	Given the current funding allocation, this is the amount FLTF is currently over the target SOM preconstruction funding
<b>Anticipated 2024 Recovery and Preconstruction expenditures</b>	<b>\$ 1,020,000</b>	These are costs FLTF has budgeted for 2023/24 preconstruction expenditures related to engineering
<b>Total overage on State of Michigan Preconstruction Allowance</b>	<b>\$ 9,052,854</b>	2020-2023 costs and 2023-2026 Forecasts considered, this is the total amount FLTF is over goal on SOM preconstruction Funding

Near the end of 2023, Four Lakes Task Force spent \$38.5 million of State funds on interim restoration and recovery efforts. In total, this puts FLTF \$8 million over what was estimated to be spent before restoration construction. The recovery projects are complete, permitting is complete on Secord, Smallwood, and Sanford with Edenville to come in 2024. FLTF estimates \$1 million in additional pre-construction spending needed through the end of 2023 and into 2024. The result of this is a \$9 million overage on State of Michigan funds for pre-construction activities.

As was defined in the [April 2022 report](#), FLTF anticipated \$190 million to remain of the \$200 million grant for restoration construction. Given the overages defined above, FLTF now anticipates having only \$180 million available to apply to restoration construction. This is still an estimate as design related spending is not complete currently. Any additional amount of State of Michigan funds that are available will be applied to the restoration construction to reduce the overall capital assessment.



## Appendix B: Restoration Project Cost Estimates and Increase Summary

### Project Background

In May 2021, Four Lakes Task Force (FLTF) released a range of cost estimates for dam restoration as part of its feasibility study<sup>2</sup>. The restoration estimate for all dams was \$215 million, with a sensitivity of +/- 25%, and a planning estimate was set at \$250 million. The planning was based on the 30% dam designs at Sanford, Edenville, Secord and Smallwood.

In April 2022, FLTF released an updated financial plan<sup>3</sup> with current cost estimates for the dams to include the obtainment of a \$200 million State of Michigan grant. The Secord and Smallwood dams were 60% design and Sanford and Edenville were at 30% design, with alternatives narrowed based on the design and capacities set at the two northern dams. The sum of the estimates at this time for all four dams was \$214 to \$275 million. Given the market volatility and unknowns, it was stated the lower limit was not likely to be achieved. Therefore, the financing plan remained set at \$250 million assuming a total project cost estimate between \$230 and \$270 million.

FLTF has now updated its planning range to reflect the reality of the market and the project's updated cost. This has resulted in an updated cost planning range of \$330 million to \$390 million with a \$360 million planning estimate. There is greater certainty in these numbers, given they are based on bid projects at Secord, Smallwood, and Sanford. The Edenville estimate is now based on 100% design and has been updated to reflect the pricing received for the other three projects. This range also includes "all lakes" costs like electrical services, booms, and site safety as well as the costs associated with financing including bond counsel, financial advisor, and capitalized interest costs.

This paper summarizes the market conditions and major factors driving the price increase across each of the Four Lakes projects as well as the costs associated with financing. There are a few key factors driving price increases across the Four Lakes Task Force projects.

### Heavy Civil Construction Market is Volatile

The projects are occurring during a volatile market period in the heavy civil construction industry where skilled labor is difficult to find, steel and concrete prices fluctuate daily, and subcontractor and material quotes are valid for short periods of time, often expiring before contracts are even awarded, forcing general contractors to take additional risk on pricing. General contractors evaluate the risk of a project and cover the risk by adding money to labor rates to attract resources. Profit margins increase on high-risk jobs. Companies reduce production rates to build contingency for anticipated skilled labor shortages.

The skilled labor shortage and degradation of historical production rates over the last three years has been documented by contractors. Research shows the construction cost index has increased an average of 15% year-over-year since 2021. This is due to a combination of inflation, higher wages needed to attract talent, and materials cost increases. FLTF has experienced the 15% year-over-year increases which can be seen by

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<sup>2</sup> [https://www.four-lakes-taskforce-mi.com/uploads/1/2/3/1/123199575/restoration\\_path\\_forward\\_final\\_5.17.21.pdf](https://www.four-lakes-taskforce-mi.com/uploads/1/2/3/1/123199575/restoration_path_forward_final_5.17.21.pdf)  
<sup>3</sup> [restoration\\_and\\_financing\\_plan\\_update\\_final\\_3.pdf \(four-lakes-taskforce-mi.com\)](#)



comparing the 2021 cost estimates to the updated 2023 estimates following bid-receipt on three projects. To put this into perspective, this increase alone on an indexed basis moves a \$250 million estimate to \$330 million.

### Size and Timing of Projects

Another contributing factor to cost increases is the size and timing of the Four Lakes projects. The projects have not attracted large companies with more resources, which would also bring highly competitive bids. This is due to the increase in planned large infrastructure project investments driven by available funding post-COVID. The Four Lakes projects, while large, do not compare in size to many substantial projects currently underway that attract larger companies, and thus receive less desirable bidding from companies.

Alternatively, given that the projects are multi-million-dollar complex infrastructure projects, they are too large for small companies. This leaves a limited number of bidders. Fewer bidders often result in higher bids with larger profits and decreased production rates. FLTF experienced higher bids due to limited bidders at Sanford Dam. This led to FLTF seeking an updated bid approach with Spence Brothers acting as the construction manager. The project was divided into several smaller bids to leverage the local labor market and alleviate some of the cost overruns. This approach of utilizing local labor markets resulted in cost savings from the prior rejected bids of approximately \$10 million. A similar approach will be used at Edenville to ideally leverage the local labor market.

Below is a summary by dam of the major increases that factored into the escalation of costs from the 2021 and 2022 estimates to the recent bids.



## Cost Estimates and Explanation of Increases

### Secord Dam

Labor costs related to structural concrete increased from the original cost estimate by ~\$3 million due to a shortage of skilled workers, both carpenters and laborers, qualified for structural concrete work.

Subcontractor costs further increased from the original RCC quote for the spillway basin by \$4 million. Only one subcontractor would quote the project – a clear indication of the aforementioned tightness in the market. Material costs increased in alignment with the construction cost index, showing a trending increase of 15% year-over-year. Further cost increases were reflected by a \$1 million increase in aggregates, specifically, steel sheet pile. Site restoration and Architectural, Mechanical, Electrical and Plumbing (AMEP) work was bid and resulted in a \$2 million increase from the 2021 estimate due to a required expansion in scope.

Item	Description	Amount
1	Structural Improvements	\$ 27,300,000
2	Embankment Dam Earthwork	\$ 4,300,000
	General Site Conditions, Access, General Site Improvements, Site	
3	Utilities	\$ 9,800,000
	Architectural, Mechanical,	
4	Electrical, Plumbing (AMEP)	\$ 2,300,000
	Owner Furnished Equipment-	
4	Gates, Generator, Steel Sheet Pile	\$ 4,000,000
5	Quality Assurance	\$ 4,500,000
6	Construction Administration	\$ 5,700,000
7	Site Restoration	\$ 800,000
	Steel Sheet Pile and Low Level	
8	Outlet Pull-ahead	\$ 8,500,000
<b>Secord Dam Construction Estimate</b>		<b>\$ 67,200,000</b>

There were further increases in construction administration and oversight costs. These labor rates follow the same 15% year-over-year increase as the construction labor rates. Further, quality assurance work is labor intensive and specialized, resulting in an additional increase from the 2021 estimate of \$4 million.



### Smallwood Dam

Labor costs related to structural concrete increased from the original cost estimate by ~\$4 million due to the shortage of skilled workers, both carpenters and laborers, qualified for structural concrete work. Material costs increased in alignment with the construction cost index, showing a trending increase of 15% year-over-year. Further cost increases were reflected by a \$1 million increase in aggregates, specifically, steel sheet pile. Site restoration and AMEP work was bid and resulted in a \$1.5 million increase from the 2021 estimate due to a required expansion in scope.

Further, there was an additional increase from subcontractors as compared to the 2021 estimate specifically in the steel sheet pile quote. There was also an increase in the margin of \$4 million from the previous estimate, due to the tightness in the market.

There were further increases in Construction Administration and oversight costs. These labor rates follow the same 15% year-over-year increase as the construction labor rates.

Item	Description	Amount
1	Structural Improvements	\$ 17,700,000
2	Embankment Dam Earthwork	\$ 8,000,000
	General Site Conditions, Access, General Site Improvements, Site	
3	Utilities	\$ 8,700,000
	Architectural, Mechanical,	
4	Electrical, Plumbing (AMEP)	\$ 2,300,000
	Owner Furnished Equipment-	
4	Gates, Generator, Steel Sheet Pile	\$ 5,000,000
5	Quality Assurance	\$ 3,300,000
6	Construction Administration	\$ 4,500,000
7	Site Restoration	\$ 500,000
8	Low Level Outlet Pull-ahead	\$ 200,000
<b>Smallwood Dam Construction Estimate</b>		<b>\$ 50,200,000</b>

Further, quality assurance work is labor intensive and specialized and resulted in an additional increase from the 2021 estimate of \$3 million.

### Sanford Dam

The 2021 Sanford estimate was based off 30% design. Design maturity, increased quantities, and altered methods all contributed to the cost increase. The current Sanford estimate is based off bids received and provides significantly improved certainty from the early estimates in 2021.

As it relates to earthwork, the existing dam embankment soils were not suitable for proposed improvements for which required importing materials not previously accounted. This caused a \$7 million increase from the 2021 estimate. Further, the RCC spillway design was altered to improve flow capacity to protect the dam embankment. The final design also included

Item	Description	Amount
1	Dam Construction: Excavation	\$ 27,000,000
2	Dam Construction: Dewatering	\$ 2,500,000
	Dam Construction: Site Access, General Conditions, Utilities, CM	
3	Fee, Demolition	\$ 14,000,000
	Dam Construction: Structural Steel, Roller Compacted Concrete	
4	RCC, Cast in Place Concrete	\$ 22,000,000
	Architectural, Mechanical,	
5	Electrical, Plumbing (AMEP)	\$ 1,500,000
	Owner Furnished Equipment- Gate	
6	Owner Furnished Equipment- Gate	\$ 7,000,000
7	Quality Assurance	\$ 4,200,000
8	Construction Administration	\$ 9,000,000
9	Site Restoration	\$ 1,000,000
10	Sanford Village Park Embankment	\$ 600,000
11	Insurance	\$ 1,200,000
<b>Sanford Dam Construction Estimate</b>		<b>\$ 90,000,000</b>



additional rip rap armoring. These changes resulted in a \$5 million increase from the 2021 30% design estimate.

Materials costs increased according to the index, and additional quantities of structural concrete were included in the final permitted design. Additional concrete was added for the low-level outlet on the primary spillway. Further, dewatering protocol was required due to ground water encountered at Sanford. This dewatering effort requires a specialized dewatering system to manage and resulted in a \$2 million cost increase.

### Edenville Dam

The 2021 Edenville estimate was based off 30% design. Design maturity increased quantities and altered methods which contributed to the cost increase. Edenville bids have not been received, however, the updated project cost is forecasted from bid results from the three previous dam projects and is now based on a complete design. Edenville experienced the same 15% year-over-year increases as was seen in the other dams. Line-item increases will be defined following bid receipt in mid-January 2024.

Item	Description	Amount
1	Edenville Dam Cutoff Wall	\$ 7,000,000
	Edenville Dam Embankment	
2	Restoration	\$ 14,000,000
	Edenville Dam Restoration	
3	Construction	\$ 95,000,000
	Architectural, Mechanical,	
4	Electrical, Plumbing (AMEP)	\$ 3,000,000
	Owner Furnished Equipment-	
4	Gates, Generator, Steel Sheet Pile	\$ 6,000,000
5	Quality Assurance	\$ 6,000,000
6	Construction Administration	\$ 9,800,000
7	Site Restoration	\$ 1,000,000
8	Insurance	\$ 1,000,000
<b>Edenville Dam Construction Estimate</b>		<b>\$ 142,800,000</b>

### All Lakes and Financing Costs

FLTF additionally has costs in the computational cost that span across all lakes. These costs include items like Site Safety for the construction projects, dam safety booms, electrical services, EFA with Consumers Energy and tree clearing services. The total budget for these line items is \$7.2 million and has been updated to reflect the current market and signed commitments.

Further, incorporated in the Computation of Cost is the costs associated with the financing of the projects. As is outlined in Appendix D on the Plan of Financing, the FLTF financing plan has been complicated by permitting issues at Edenville and a delay in the USACE CWIFP Loan. As such, FLTF is now having to seek a municipal bond in addition to the loan. This has resulted in increased bond counsel fees, municipal financial advisor fees as well as the cost of capitalized interest. These items were previously unanticipated when FLTF planned to rely solely on USACE funding. The amounts associated with the funding can be found in [Appendix C](#) on the computation of cost.

### Summary

In summary, the current project estimate for the restoration of the four dams and lakes is between \$330 and \$390 million. Approximately 25% of the increase from the 2022 estimate of \$230 to \$270 million can be





attributed to the fact that the project came in at the high end of the estimate. The remaining cost increases can be attributed to material and labor escalation and a very tight labor market driven by significant government funds targeting infrastructure investments.

With Secord, Smallwood and Sanford costs based on a fixed bid, the costs have little room for change. The final phases of the Edenville project invitations to bid sent out in December 2023 and FLTF will receive bid results in January 2024 and will update the cost estimates accordingly.



## Appendix C: Plan of Financing

The FLTF plan of financing must account for many variables surrounding permitting, timing, and restricted funding sources. Based on all variables FLTF is actively working on, FLTF plans to proceed with an \$80 million Bond by June 1, 2024, to fund the Sanford, Secord, and Smallwood project through 2024. Beginning in 2025, Secord and Smallwood will transition back to utilizing State of Michigan funds. Sanford will utilize the remainder of the municipal bond funds in early 2025 and then transition to utilize USACE CWIFP funds for the remainder of the project.

The transition of Secord, Smallwood, and Sanford to bond funds in 2024 will allow more of the remaining State of Michigan grant to be used for Edenville to keep to its current schedule, as Edenville cannot be financed until there is certainty surrounding the permit. Following certainty on the permit, which is anticipated no later than December 2024, FLTF will transition Edenville to USACE CWIFP funds until completion of the project.

Each of these variables and the driving forces are defined in more detail below.

### Permitting of Edenville

ELGE and USFWS are open to approving the Edenville permit, without the completion of the Take Permit required for the Snuffbox Mussel. This allows us to start construction on the final phase of Edenville, with the Take Permit to be done before Dam is completed. However, because USFWS cannot make a definitive statement on this, it would be a challenge to finance the entire project without the surety that we can restore the lake level. This leads to the need to utilize State of Michigan funding to begin Edenville.

### Starting Edenville with Michigan Funds

A more certain estimate for Edenville comes with the current bid process and plans to start construction in June. If the project were to be delayed due to a lack of funding it would have a considerable cost impact. FLTF Michigan funds, we could start the next phase of Edenville and not put a financing risk on the SAD. However, there are not enough funds to complete Secord, Smallwood, and Edenville with the Michigan grant.

### Davis Bacon Constraint on Construction Financing

Edenville and Sanford will be Davis Bacon (Prevailing Wage) compliant for the USACE loan. Secord and Smallwood are not Davis Bacon Compliant therefore they cannot be funded by the Army Corps loan and must be paid out of State of Michigan or municipal bond funds. This constraint requires FLTF to receive bond funding by June 2024 to ensure sufficient funds remain for starting Edenville and completing Secord and Smallwood.

### U.S. Army Corp of Engineers (USACE) Loan

The USACE continues to indicate a positive outcome for receiving a USACE CWIFP loan. The USACE has updated their processing timeline and has now indicated to FLTF that funding likely could not be received until sometime between September and December 2024. This means FLTF must fund Sanford through 2024 utilizing a different funding source, which is where the bond funding will be utilized.



If FLTF ultimately did not qualify for a USACE CWIFP loan, the remainder of the project financing would be completed through an additional municipal bond issuance.