



**MINUTES OF THE SPECIAL MEETING OF THE LAKE LURE TOWN COUNCIL
HELD WEDNESDAY, JANUARY 27, 2021, 8:30 A.M. ELECTRONICALLY VIA ZOOM**

PRESENT Mayor Carol C. Pritchett
VIA ZOOM: Mayor Pro Tem John W. Moore
Commissioner Patrick Bryant
Commissioner David DiOrio
Commissioner John Kilby
Shannon Baldwin, Town Manager

ABSENT: N/A

CALL TO ORDER

Mayor Carol Pritchett called the meeting to order at 8:44 a.m.

APPROVAL OF THE AGENDA

Commissioner John Moore made a motion to approve the Agenda, as presented. Commissioner Patrick Bryant seconded and the motion carried 4-0.

COVID-19 EMERGENCY SICK LEAVE POLICY

Mr. Baldwin presented the Policy. He stated the Policy is an open ended policy and is a precautionary measure to protect the Town. It will provide some relief to full-time employees that contract and are affected by COVID. The Town Attorney has reviewed and given his approval.

**Town of Lake Lure
COVID-19 Emergency Sick Leave Policy (CEPSL)
(effective January 1, 2021 through June 30, 2021)**

The Families First Coronavirus Response Act (FFRCA) enacted by Congress expired on December 31, 2020. This act provided up to 80 hours of emergency paid sick leave (ePSL) and emergency FMLA (eFLMA) for specified reasons related to COVID-19.

Rutherford County is currently classified in the red zone by N.C. Health and Human Services indicating critical community spread. The Town of Lake Lure is implementing this policy to assist our employees should they be directly affected by or contract the COVID- 19 virus.

Page 2- Minutes of the January 27, 2021 Special Town Council Meeting

COVID-19 Emergency Paid Sick Leave

The Town of Lake Lure will provide eligible full-time employees up to 80 hours of COVID-19 emergency paid sick leave (CEPSL) for the specified reasons listed below. CEPSL is separate from and independent of any existing sick leave policies that the Town grants employees in the normal course of business.

Qualifying reasons for CEPSL:

1. The employee is subject to a Federal, State, or local quarantine or isolation order related to COVID-19;
2. The employee has been advised by a health care provider to self-quarantine related to COVID-19;
3. The employee is experiencing COVID-19 symptoms and is seeking a medical diagnosis or has been diagnosed with COVID-19; and
4. The employee is caring for an individual subject to an order described in (1) or self-quarantine as described in (2).

Note: Employees' prior use of ePSL will be credited to the CEPSL 80 hour balance. In other words, if an employee used 80 hours of ePSL prior to December 31, 2020, they would not be eligible for CEPSL. However, if an employee used 40 hours of ePSL they would be eligible for 40 hours of CEPSL.

Eligibility

Full-time employees who are not designated as emergency responders by the U.S. Department of Labor and who have been employed with the Town for at least 30 days are eligible for CEPSL in the event the employee is unable to work or telework because the employee meets one or more of the qualifying reasons stated above.

Duration/Compensation

Full-time employees are eligible for up to 80 hours of pay at their regular hourly rate for qualifying reasons 1 through 3. The employee's rate of pay for reason 4 will be paid at two-thirds the employee's regular hourly rate of pay.

Critical Infrastructure Workers/Emergency Responders

The U.S. Department of Labor defines an emergency responder as: *"An employee who is necessary for the provision of transport, care, health care, comfort, and nutrition of such patients, or whose services are otherwise needed to limit the spread of COVID-19. This includes but is not limited to military or national guard, law enforcement officers, correctional institution personnel, fire fighters, emergency medical services personnel, physicians, nurses, public health personnel, emergency medical technicians, paramedics, emergency management personnel, 911 operators, public works personnel, and persons with skills or training in operating specialized equipment or other skills needed to provide aid in a declared emergency as well as individuals who work for such facilities employing these individuals and whose work is necessary to maintain the operation of the facility."*

The Town's dam is a critical infrastructure and hydroelectric employees are considered critical infrastructure workers.

Page 3- Minutes of the January 27, 2021 Special Town Council Meeting

Critical Infrastructure Employees and Emergency Responder employees are eligible for CEP SL for qualifying reason number 3 only.

General CEP SL Rules

Employees may elect to use approved CEP SL prior to utilizing other accrued paid sick leave under the Town's sick leave policy found in the Town's Personnel Policy, Article VII Section 5. ePSL provided by the Town pursuant to the Families First Coronavirus Act prior to January 1, 2021 shall be credited against the CEP SL.

Employees must submit a CEP SL application form and other required EEOC compliant documentation to Human Resources as soon as practicable. Failure to return or submit required documents may result in a delay or denial of receiving CEP SL.

Employees seeking compensation under this policy found solely to be taking this leave to defraud the Town will be subject to disciplinary action up to and including dismissal.

The Town will comply with all EEOC laws and will not discriminate based on race, color, religion, sex (including pregnancy, transgender status, and sexual orientation), national origin, age (40 or older), disability or genetic information.

This policy will expire on March 31, 2021.

EEOC Laws applicable to CEP SL

<https://www.eeoc.gov/wysk/what-you-should-know-about-covid-19-and-ada-rehabilitation-act-and-other-eeo-laws>

Commissioner David DiOrio made a motion to adopt the COVID-19 Emergency Sick Leave Policy as presented. Commissioner John Kilby seconded and the motion carried 4-0.

PRESENTATION ON DAM OPTIONS

(Presentation attached)

Town Engineer Kurt Wright held a presentation on options relative to the Dam. He provided an overview of a WebEx meeting held on January 6, 2021 with NC Dam Safety Engineer George Eller, Engineers Jonathan Pittman and Mark Landis with Schnabel Engineering, and Toby Vinson and Stan Aiken with NC Division of Energy, Mineral and Land Resources Department of Dam Safety to discuss the life expectancy of the existing dam. During that meeting Mr. Eller stated that, from NC Dam Safety's perspective, the three key issues regarding risks include: A PMP (Probably Maximum Precipitation) event, an earthquake, and an aging dam that's had no major structural renovations to bring the Dam to NC standards. He rated the Dam as a high risk but not in the highest risk category. Other key items discussed in the meeting were a Dam Safety Order, the hydroelectric facility, and discussion that a decision on rehabilitation versus a new dam was needed as well as a schedule of implementation by the end of February. The estimate for rehab is around \$65 million and a new dam is roughly the same amount. He recommended working on a mutual schedule of implementation with Schnabel to present to Dam Safety.

Page 4- Minutes of the January 27, 2021 Special Town Council Meeting

Mr. Wright discussed the bridge over the Dam noting that NC DOT presented three options. However, he mentioned that a fourth option was discovered which was overlooked by DOT and is beginning to emerge as the right solution. This option would move the bridge over to Island Creek Road and a new road built. If DOT agrees to do this, the bridge over the existing dam and its relocation are a moot point and would not affect a rehabbed or new dam. Mr. Wright also provided an overview of the options available relative to the hydroelectric facility. Currently there is an opportunity to turn the water into money which is an important revenue stream.

Jonathan Pittman with Schnabel Engineering noted that Dam Safety is willing to work with the Town on a timeline. Typically if the Town shows progress on a path forward they are willing to be more flexible and agreeable. The reservoir drain project shows the Town is taking steps towards meeting regulations. He stated that Dam Safety is aware of the financial restraints the Town has and that funding is not readily available for this multimillion dollar project. However, he noted that Dam Safety can issue a Dam Safety Order if no action is being taken or the Town is not adhering to the schedule agreed upon. He mentioned that they do not want to have to issue a Dam Safety Order and drain the Lake and want to work with the Town on a solution and schedule. He mentioned that this dam is at the top of their list in terms of structures to bring into compliance with regulations due to age and its classification. He explained that design and planning of a new dam usually takes 2-3 years with a new dam in place around 5-10 years. He stated that permitting and engineering is about 10% of the overall cost of the project. Mr. Pittman explained that lack of funding for these types of projects are not uncommon and felt that Dam Safety would be willing to work with the Town. Mr. Pittman conveyed that Dam Safety wants to have a decision from the Town on which option they are taking and in the meantime the Town work at reducing risks. Dam Safety would then be willing to be a little more flexible. Mr. Pittman relayed that the Town should work collaboratively with Dam Safety to prepare a timeline with milestones and not include dates until the design has been completed. Commissioner DiOrio pointed out that if the Dam were moved downstream, the existing bridge and infrastructure would be needed for a foundation to build the new dam. Mr. Baldwin asked if installing a reservoir drain would lock the Town into rehabilitating the existing dam and Mr. Pittman did not think so. He noted that he has been involved in several projects in which improvements were made using federal funding to help mitigate risks. And then several years later the project took a different direction. The terms of the agreement is somewhat negotiable as mindsets, restraints, and requirements change. He pointed out that the reservoir drain can be designed in a way that it can be incorporated into a new dam and would serve key purposes during construction of a new dam. He mentioned that any obligations to FEMA for accepting funding for the reservoir drain would go away as long as the Town is in concert with Dam Safety. Mr. Baldwin noted that we have yet to receive a formal decision on whether we get the grant for the reservoir drain and he does not want it to affect the decision on rehab versus new. Mr. Wright felt this would be worked out and be part of the schedule. Mr. Pittman recommended designing a new dam in compliance with Federal Energy Regulatory Commission (FERC) so there is an opportunity for hydro to be added later. He noted that there may be a small monetary difference but it would not be significant. Mr. Baldwin requested Mr. Pittman attend the meeting on February 9th in case there are additional questions and Mr. Pittman stated he would attend. Mr. Wright suggested the Town consider a public private partnership (PPP) to help determine

Page 5- Minutes of the January 27, 2021 Special Town Council Meeting

which option would be best to pursue. He mentioned that he has an energy purveyor he is familiar with who is interested. The Board continued to discuss dam options.

Mayor Pritchett stated that she had the opportunity to speak with Stan Aiken with NC Dam Safety. She explained that they are only concerned with how the Town will handle the risks associated with the Dam. She asked about the FEMA grant and if it would cover all costs associated with installation of the sewer access valve. Mr. Baldwin explained that there are two grants; one for design and one for construction. Installing the valve will reduce risks associated with the Dam. Council agreed to vote on a dam option at the February 9th meeting, discuss a timeline and milestones with Schnabel, and invite NC Dam Safety Engineer George Eller to attend the meeting to seek his comments and discuss timeline. Mr. Baldwin stated he would ask that Schnabel prepare a timeline to present at the meeting and then revise with any recommendations received from George Eller to be adopted at the end of the month.

Mayor Pritchett announced that a meeting will be scheduled on February 24th to discuss and finalize the timeline.

PRESENTATION BY THE PARKS, RECREATION, AND LAKE DEPARTMENT

(Presentation attached)

Commissioner Kilby reported that the Town has received a \$637,000 grant from the Department of Environmental Quality to assist the Town's dredging needs. This is the largest grant the Town has received to date. The Town, being in a Tier 1 county, was only required to provide a 25% match which is already in the budget. This is down from the 50% match the Town was required to pay in the past. Commissioner Kilby extended his appreciation to Dean Givens and Dana Bradley in the Parks, Recreation, and Lake Department for their exceptional job in securing the grant. Mr. Givens noted that the money must be spent by the end of the year and the Town can reapply for the grant each year. The grant is flexible as long as what we plan to spend the money on can be tied into dredging. He stated that he would like to purchase a Weedoo boat, a motorized barge, and a mini excavator to use for lake debris clean up. The requested equipment requires 28% of the grant money. Mr. Givens noted that his staff and Public Works staff would be trained to operate the equipment. The barge will be designed with anchors so that the excavator will be locked onto the barge without fear of toppling over. He stated that \$560k is to be spent on our current contractor for hydraulic dredging. He reported that property on Chapel Point Road has been surveyed for access to the Lake and he is working with Town Attorney William Morgan to acquire easements from property owners to access the property. He explained that cost sharing with the public are ways to budget more money pointing out that Fire Fly Cove has been paying the Town to dredge in their cove. Mr. Baldwin discussed the need for a larger Public Works site on Island Creek Road and using the existing site to put in a spoils pit. Commissioner Bryant asked about a duplicate dredging contract. Mr. Givens explained that it has never worked in the past and believes we have the right contract with Tim Edwards. Mr. Givens relayed that he would update his graph to show how much money was budgeted for

Page 6- Minutes of the January 27, 2021 Special Town Council Meeting

dredging, how much was spent, and how much of the money was a match to a grant. An article will be prepared to share this information with the public.

REQUEST TO MAKE IMPROVEMENTS TO LARGE BEACH HOUSE

Mr. Givens explained that Lake Lure Tours, Inc. is requesting approval from Council to make improvements to the large beach house in keeping with the concept plans submitted. If approved, Mr. Givens noted that he would work with Lake Lure Tours to develop appropriate design plans and secure appropriate permits. Commissioner Moore asked what percentage of visitors to the Beach are Lake Lure residents. Sonya Ledford, Lake Lure Tours Manager, stated around 20%. Commissioner Moore asked about the request to expand food options. Ms. Ledford explained that the Beach currently uses the Lake Lure Inn's catering license and this expansion would allow more opportunities and menu items. She noted that she was unsure of the costs at this time. Commissioner Moore requested a projection of the range of costs and how much income this addition would increase to see what kind of return the Town would be getting as the investor. Ms. Ledford noted she would work on getting this information for Council.

Mr. Givens stated that \$63,000 is in the CIP budget for the Beach/Marina. Around \$10,000 is needed to replace the roof on the large beach house, which is a town obligation. Lake Lure Tours is asking to use the remainder of the budget to pay for their requested improvements. Mr. Baldwin pointed out that the contract specifies that the tenant must pay the costs for upfits. Mr. Givens noted that there are some erosion control measures needed at the Beach due to water runoff from Memorial Highway which is washing out the beach. However, this was not included in this fiscal year's budget but was set aside for next year. Ms. Ledford stated that their requested improvements would take care of the water runoff issues they're having. Commissioner Moore noted he was okay with using what was already budgeted unless there was something else that needed attention more than this project. Mr. Baldwin explained that the Town is obligated to maintain town buildings and make necessary improvements. However, improvements above those necessities are at the expense of the concessionaire according to the terms in the contract. Council agreed to consider the request pending review of project costs. Commissioner Moore noted that the Zoning and Planning Board must review this request before being approved by

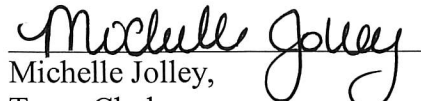
Page 5- Minutes of the January 27, 2021 Special Town Council Meeting

Council. Ms. Ledford noted that the Beach is not currently under inspection of the Health Department but this upgrade would require it.

VI. ADJOURN THE MEETING

With no further business, Commissioner John Moore made a motion to adjourn the meeting at 11:12 a.m. Commissioner David DiOrio seconded and the motion carried 4-0.

ATTEST:


Michelle Jolley,
Town Clerk


Mayor Carol Pritchett





Lake Lure Dam

UPDATE ON THE LAKE LURE DAM

JANUARY 27, 2021

PREPARED BY: KURT WRIGHT, P.E.

TOWN ENGINEER



North Carolina Dam Safety Office

RESPONSE TO JANUARY 6, 2021 WEBEX VIDEO CONFERENCE

January 6, 2021 WebEx Meeting

A WebEx video conference call (meeting) was initiated by Kurt Wright, serving in the role as the Town Engineer on January 6, 2021

PARTICIPANTS:

TOWN ENGINEER
Kurt Wright, P.E.

NC DAM SAFETY OFFICE - DEQ
George Eller, P.E., Toby Vinson (Raleigh), Stan Aiken (ARO)

SCHNABEL ENGINEERING
Mark Landis, P.E., Jonathan Pittman, P.E.

Received: Tuesday, January 26, 2021 @ 11:19 a.m.

Kurt,
George Eller and myself have reviewed the Lake Lure Dam Report outlining the January 6, 2021 meeting. We have discussed the report and generally concur that the report accurately reflects the concerns outlined in the meeting. Thank you for your work in presenting this to the Town of Lake Lure and your efforts to initiate action toward resolution of this issue. Should you have any questions, please feel free to contact me.

Thank You,

Stanley E. Aiken

Regional Engineer
Asheville Regional Office
Division of Energy, Mineral and Land Resources – Land
Quality Section
North Carolina Department of Environmental Quality

January 6, 2021 WebEx Meeting

COMMENTS B Y:

DAM SAFETY ENGINEER

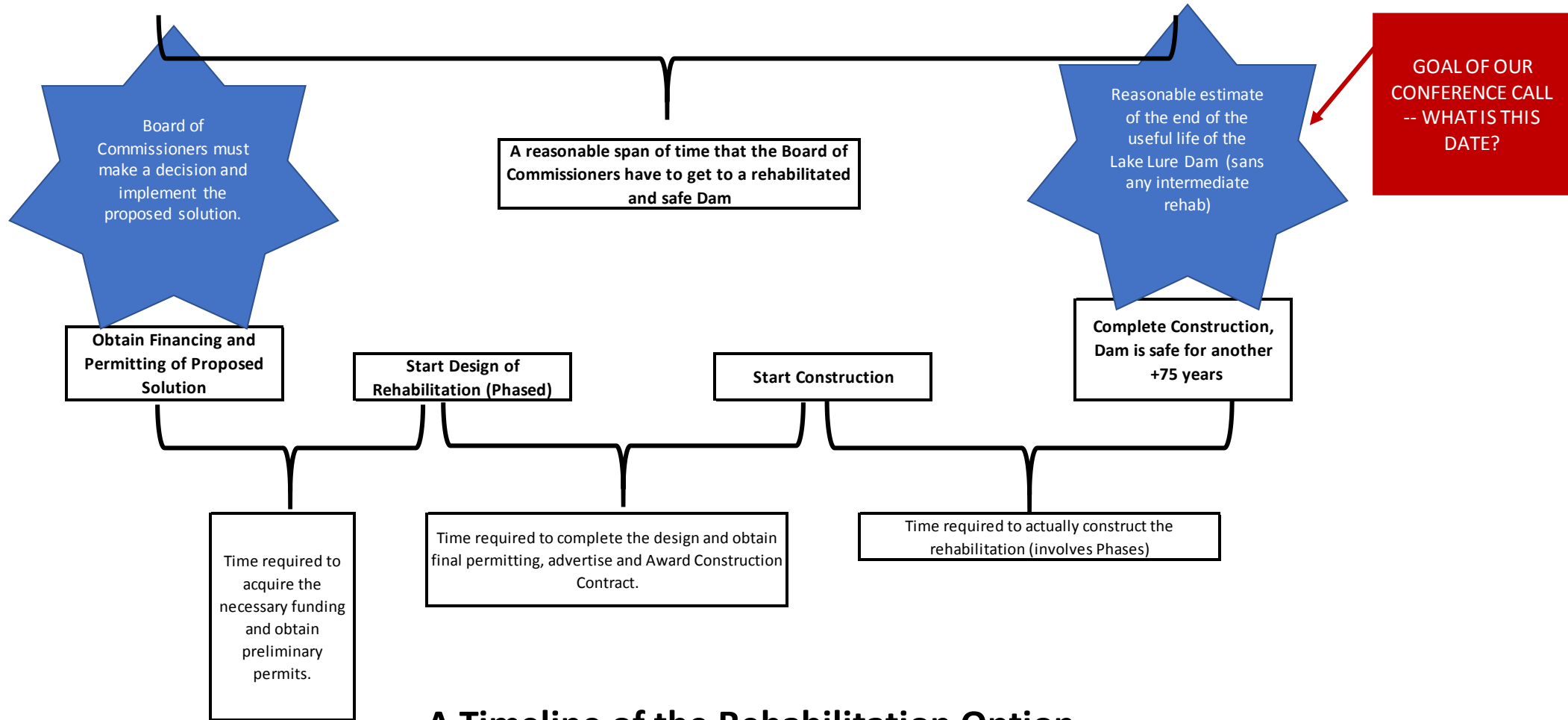
GEORGE ELLER, P.E.

I do not want to have to issue a
“Dam Safety Order.”

I would like to see a decision on
which option the town wishes to
pursue, Rehab or New, and a
schedule of implementation by
the end of February.

RISK

RISK OF FAILURE EXISTS THROUGHOUT THIS PROCESS
(PMP Event, Seismic Activity due to an earthquake, aging, etc.)



A Timeline of the Rehabilitation Option

Town Engineer: Update on Dam

REPORT

(1/19/2021)

- Attempted to convey risk as discussed in the WebEx Meeting with Dam Safety
- As I understood it: *“In the judgement of SDG Engineering, and functioning in the role as the Town Engineer, the risk associated with this Dam is high.”*
- Note: word chosen was “high”, not “highest”

AMENDMENT NO. 1

(1/26/2021)

- Decided to conduct traditional Risk Assessment: $\text{Risk} = \text{COF} \times \text{LOF}$
- Chief Area of Concern is Aging, $\text{LOF} = 4$
- $\text{Risk} = 5 \times 4 = 20$
- Highest risk would be $5 \times 5 = 25$
- Not the “highest”

Town Engineer: Update on Dam

REPORT (1/19/2021)

•Recommendations for both documents are the same which are:

1. Review
2. Deliberate
3. Vote
4. Approve

AMENDMENT NO. 1 (1/26/2021)

1. Review: Schnabel Alternatives Report and Town Engineer's Documents
2. Deliberate: Rehab vs New
3. Vote: Rehab vs New
4. Approve: schedule of implementation

Town Engineer: Update on Dam

VOTE

- Rehab Alternative: 2020 \$ = $\pm$ \$65M
- New Alternative: 2020 \$ = $\pm$ \$65M
- Schnabel Executive Summary:
- *“...the dam replacement alternative (New), excluding replacement of the hydroelectric facilities, appears to be the most advantageous and lowest risk alternative...”*

SCHEDULE

- Recommend the town retain their Dam Engineer to develop the schedule of implementation work in concert with Dam Safety Office.
- Possibly similar to the manner in which LaBella is working with the ARO in writing the Consent Order?

Executive Summary - Schnabel

Schnabel updated
their Executive
Summary in their
Alternatives Report on
January 26, 2021

Based on multiple discussions with the Town following the issuance of this report, Alternative 2B has been determined to be the most viable rehabilitation alternative. The estimated total project costs for this rehabilitation alternative and the dam replacement alternative (excluding new hydroelectric facilities) are expected to be similar, on the order \$65M in 2020 dollars.

Moving forward, we understand the Town desires to proceed with the installation of the reservoir drain as the first phase in the overall dam rehabilitation project. In addition to addressing a major dam safety requirement, the reservoir drain will allow the Town to further lower the reservoir level, beyond the limitations of the existing spillway gates, to support the rehabilitation of the sanitary sewer system and additional maintenance activities such as lake dredging. This work will be implemented regardless of whether the Town chooses to rehabilitate the existing dam or replace it.

Based on a WebEx meeting held between representatives of Schnabel, SDG Engineering, and NCDEQ Dam Safety on January 6, 2021 (approximately 8 months after issuance of this final report), NCDEQ Dam Safety has requested that the Town select an alternative for the dam (rehabilitation or replacement) and provide a plan and schedule for implementation of this alternative to NCDEQ Dam Safety for review and approval by the end of February 2021. If this information is not provided by this time or if the Town does not follow through on the approved plan and schedule, NCDEQ Dam Safety has indicated that they will issue a Dam Safety Order which formally orders the Town to take steps to upgrade the dam to meet current dam safety standards on a schedule determined by NCDEQ Dam Safety. Disciplinary measures for not conforming to a Dam Safety Order may include civil penalties up to a requirement to drain the lake and breach the dam.

To support the Town's selection of a preferred dam rehabilitation or replacement alternative, we recommend that the Town closely review the various advantages and disadvantages presented in this report and determine which scenario best meets the short-term and long-term constraints and needs of the Town.

Executive Summary - Schnabel

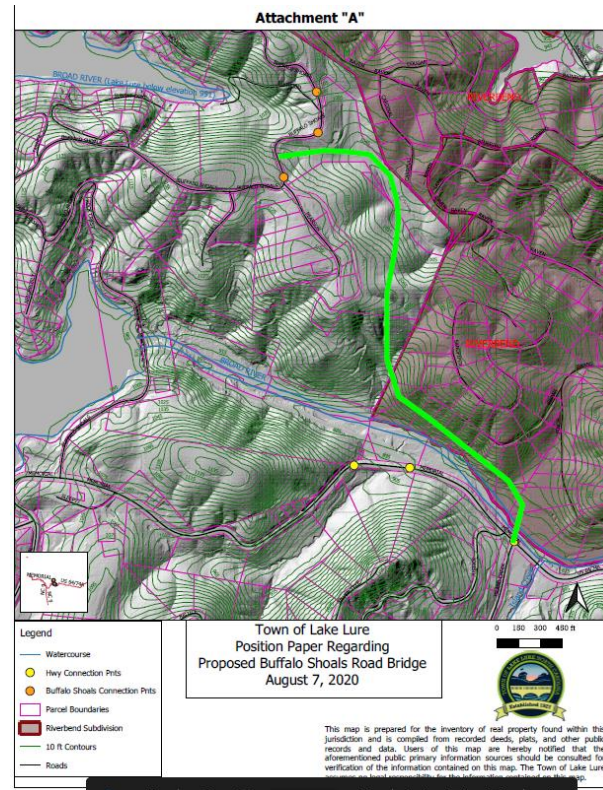
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Too Many Issues - Confusing

Using a
snow globe
as an
allegory



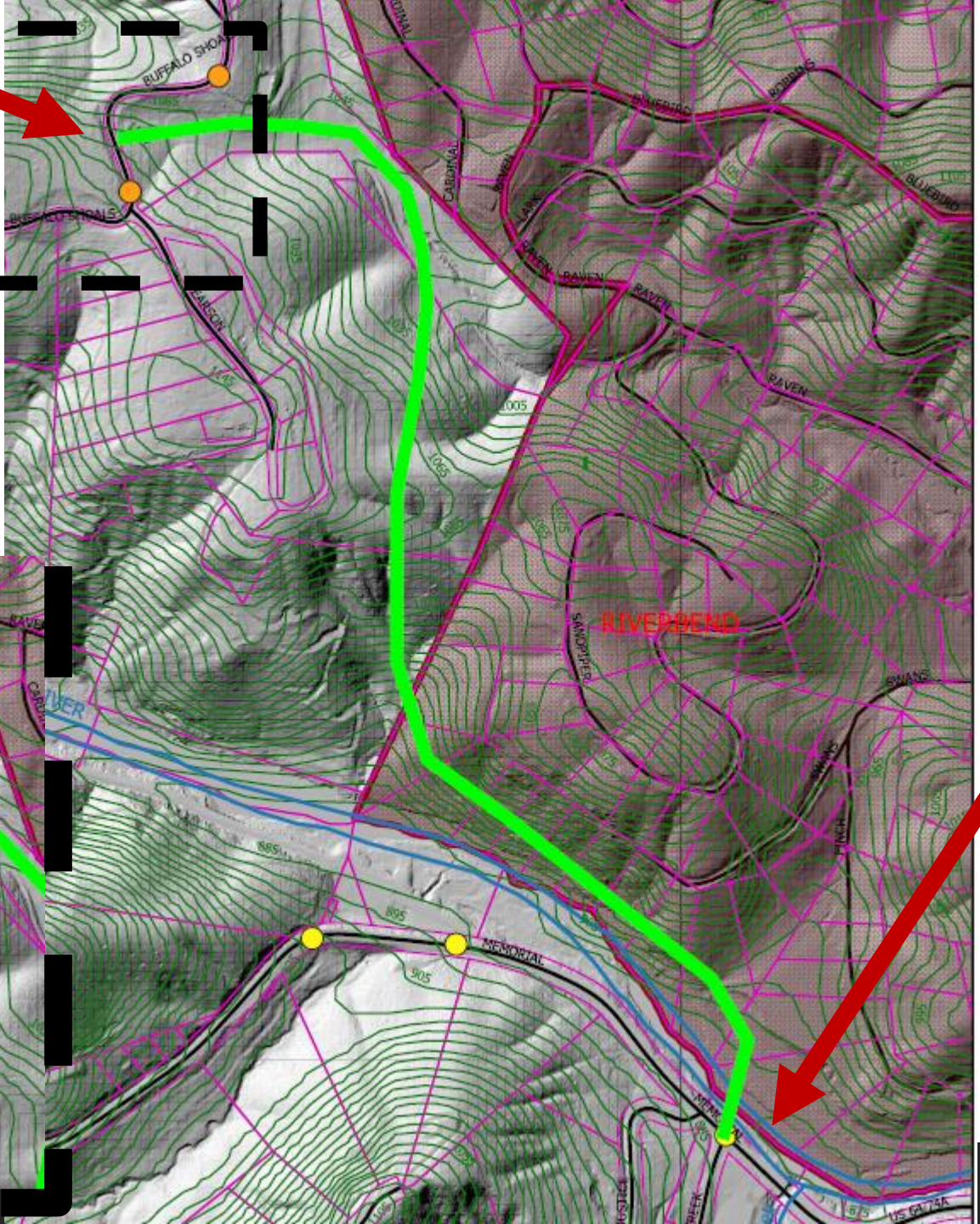
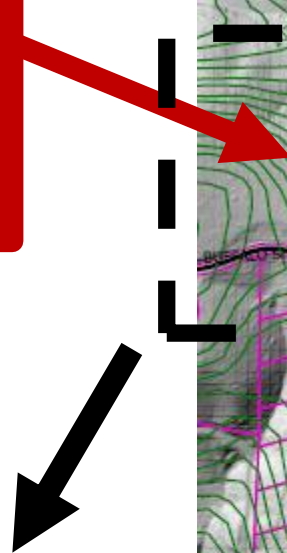
NC DOT Bridge over the Dam



Town of Lake Lure Position Paper Regarding Proposed Buffalo Shoals Road Bridge August 3, 2020, Revised August 7, 2020

The Town of Lake Lure in consultation with Schnabel Engineering, LaBella Associates and SDG Engineering finds the two locations proposed by NCDOT over the lake and below the dam, exacerbate existing dam safety deficiencies, restrict dam rehabilitation or replacement initiatives, restrict new sewer replacement construction and maintenance operations, constrain recreational activities adjacent to the dam contrary to the interests of Lake Lure residents, and negatively alter the existing view-scape

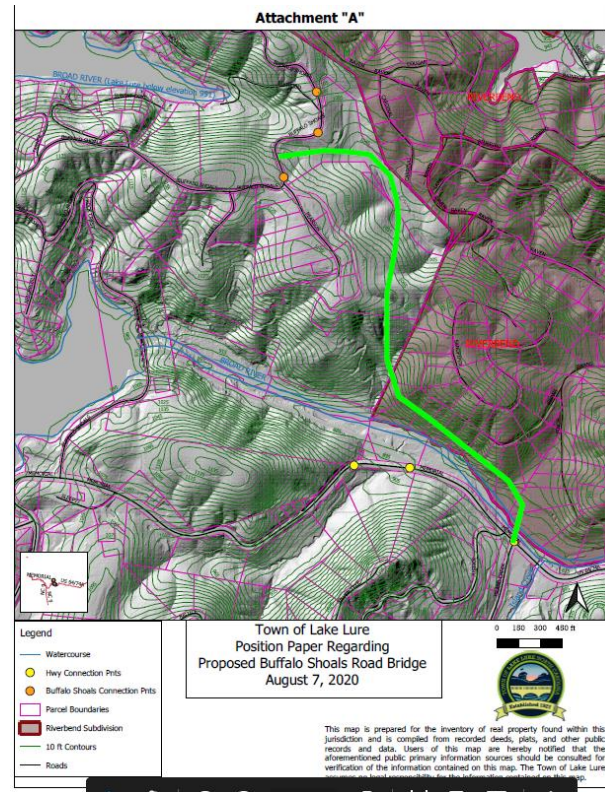
Buffalo Shoals Rd.



Island Creek Rd.



NC DOT Bridge over the Dam



IF DOT AGREES TO DO
THIS.....

BRIDGE OVER THE
EXISTING DAM AND ITS
RELOCATION IS NOW A
MOOT POINT.

Hydroelectric Facility



Hydroelectric Facility & FERC

CATEGORY	NOT FERC REGULATED	FERC REGULATED	COMMENTS
CURRENT SITUATION	X		Not sustainable
REHABILITATE THE EXISTING STRUCTURE	X		Rehab Alternative
NEW REPLACEMENT DAM		X	New Dam Alternative
PPP (Depends on the buyer)	?	?	TBD

PPP

PUBLIC-PRIVATE PARTNERSHIP

Public-private partnership (PPP), partnership between an agency of the government and the private sector in the delivery of goods or services to the public. Areas of public policy in which public-private partnerships (PPPs) have been implemented include a wide range of social services, public transportation, and environmental and waste-disposal services.

--- Encyclopaedia Britannica, Inc., online <https://www.britannica.com/topic/public-private-partnership>

PPP

PUBLIC-PRIVATE PARTNERSHIP

- There may be an energy purveyor who might be interested in a PPP with the Town of Lake Lure on the Dam/Hydroelectric Facility.
- If so, this is a good time to bring them in because they can choose which option to pursue.
- PPP in the hydroelectric industry is not SDG Engineering's expertise, however, I am aware that this might be a possibility.

REHABILITATION ALTERNATIVE

PROJECTS ASSIGNED BASED ON RISK

	RISK	Items in Schnabel's Report	STATUS	\$ per EA (in 2021\$)	CUMMULATIVE (in 2021 \$)
	25 				
It can be debated which risk level these items are within this space	20 	Reservoir Drain	NOW	\$2M	\$2M
	15 	Aging (concrete)	Next 15 years	\$30M	\$32M
It can be debated which risk level these items are within this space	10 	PMP	50 years from now	\$15M	\$47M
	5 	Earthquake	50 years from now	\$20M	\$67M

It is not possible to break up each item in Schnabel's Report in this manner. The Reservoir Drain can. Perhaps passing the PMP can. But, most likely the aging of the concrete and seismic activity must be constructed together as one project. That said, it is helpful to see what the phasing of construction would look like if you could break them up. Perhaps consideration should be given as to how to create projects based on risk. Do the highest risk projects first, the other much later when financing can be arranged.



163 Heritage Lane, Bostic, NC 28018 • 828.245.4080 office • 828.223.2265 mobile • 828.245.2189 fax

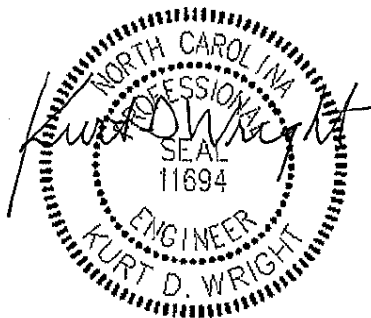
Report to The Town of Lake Lure, North Carolina

STATUS OF THE LAKE LURE DAM

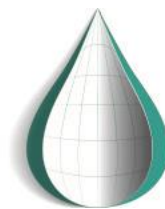
Presented to: Mr. Shannon Baldwin
Town Manager
2948 Memorial Highway
Lake Lure, NC 28746

Prepared by: SDG Engineering, Inc.
163 Heritage Lane
Bostic, Nc 28018
NC License C-2366

Project Number: 2020-111
Date: January 19, 2021



January 19, 2021

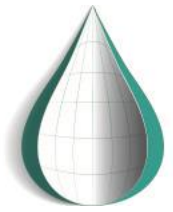


Contents

EXECUTIVE SUMMARY	1
1.0 INTRODUCTION	1
2.0 WEBEX VIDEO CONFERENCE WEDNESDAY, JANUARY 6, 2021	2
3.0 FACTORS TO CONSIDER.....	3
4.0 FUNDING	4
5.0 RECOMMENDATIONS.....	4

APPENDICES

APPENDIX A	Graphic - WebEx Call January 6, 2021
APPENDIX B	Revised Graphic - WebEx Call January 6, 2021



EXECUTIVE SUMMARY

The purpose of this Report is to present a status update to the Board of Commissioners of the Town of Lake Lure regarding the Lake Lure Dam including recommended actions.

In the judgement of SDG Engineering, and functioning in the role as the Town Engineer, the risk associated with this Dam is high.

The recommended actions are presented below as sequential steps.

1. Review

All pertinent personnel associated with the Town of Lake Lure should review the Schnabel Report, which presents the Options for the Dam, and read this Report in light of that review.

2. Deliberate

All pertinent personnel associated with the Town of Lake Lure, especially the elected officials, should have a thorough and robust deliberation regarding which of the two options to pursue (Rehabilitate or New) during the upcoming January 27, 2021 Town of Lake Lure Workshop Meeting. Although an official decision would not be made in that Workshop meeting, there should be a general consensus by the end of the meeting as to which path to choose.

3. Vote

At the next Board of Commissioners meeting on February 9, 2021, vote on which option to pursue and authorize step number 4. to be undertaken.

4. Develop

The town should then develop a plan of action to implement the option chosen by the elected officials. The town should consider requesting their current Dam Engineers, Schnabel Engineering, to assist in the development of this schedule. This process should include a dialog with the NC state Dam Safety Office.

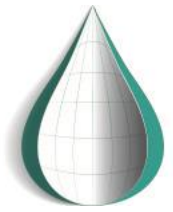
5. Approve

Approve of this schedule and formally submit it to the NC State Dam Safety Office on or before February 26, 2021 in accordance with item 4. in Section 3.0 of this Report.

1.0 INTRODUCTION

The purpose of this Report is to present a status update to the Board of Commissioners of the Town of Lake Lure regarding the Lake Lure Dam. It will present a framework for decision making to the Board of Commissioners of the Town of Lake Lure regarding the Lake Lure Dam.

A WebEx video meeting was conducted on Tuesday, December 29, 2020, with various representatives of the Town of Lake Lure to discuss the upcoming lake draw down. During that meeting, issues pertaining to the future of the Dam were discussed. Town Manager Shannon Baldwin directed Town Engineer Kurt Wright, P.E., to contact George Eller, NC State Dam Safety Engineer, as well as Jonathan Pittman, P.E., and Mark Landis, P.E. with Schnabel Engineering, to discuss the life expectancy of the existing Dam. This



discussion was to be exclusively between engineers regarding the life expectancy of the existing Dam. A WebEx video meeting with Dam Safety and Schnabel Engineering was therefore conducted on Wednesday, January 6, 2021. The following representatives attended this meeting.

1. Kurt Wright, P.E., Town Engineer
2. George Eller, State Dam Safety Engineer, NC Division of Energy, Mineral and Land Resources, Dam Safety - Raleigh Office
3. Toby Vinson, NC Division of Energy, Mineral and Land Resources, Dam Safety - Raleigh Office
4. Stan Aiken, NC Division of Energy, Mineral and Land Resources, Dam Safety - Asheville Regional Office
5. Mark Landis, P.E., Schnabel Engineering
6. Jonathan Pittman, P.E., Schnabel Engineering

Kurt Wright, P.E., prepared a graphic which was to be used to frame the discussion during the WebEx meeting. It was based on the Rehabilitation option, which was randomly chosen for the purpose of this graphic, the New Dam option could just as easily have been chosen. Identifying the Rehabilitation option in this graphic is not to be construed as the recommended option in this Report, that has yet to be decided. This graphic was emailed to all the invited participants to the WebEx video meeting. It is presented in Appendix A. The purpose of the graphic was to establish the useful life expectancy of the existing Dam. Then from that life expectancy to determine how much time the town has to make a decision on which of the two viable options in Schnabel's Engineering Report¹ to implement.

1. REHABILITATE

Rehabilitate the existing Dam with Option 2B "Downstream Infilling"

2. NEW

Replace the existing Dam with a brand-new Dam

The key points raised during this telephone call are discussed in the next section.

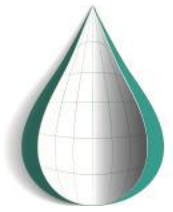
2.0 WEBEX VIDEO CONFERENCE WEDNESDAY, JANUARY 6, 2021

George Eller, State Dam Safety Engineer, established very quickly during the WebEx meeting that the paradigm presented by Kurt Wright, P.E. in his graphic (Appendix A) did not represent the paradigm of the NC State Dam Safety Office. From their perspective the main issue with the Dam is risk. This Report is not intended to be conclusive regarding the issues pertaining to risk, nor is it the goal of this report to copy all the issues raised in the Schnabel report. However, there were three key issues discussed during the meeting regarding risk and they are presented below.

1. PMP

A PMP is "Probable Maximum Precipitation." It is theoretically the greatest depth of precipitation for a given duration that is physically possible over a given size storm area at a particular geographic location at a given time of the year. In Schnabel's report, it was clearly stated that the existing Dam cannot pass the PMP. Therefore, if the PMP were to occur there could be catastrophic consequences, including Dam failure.

¹ Evaluation of Rehabilitation Alternatives, Lake Lure Dam (RUTHE-003), Town of Lake Lure, Rutherford County, NC, Schnabel Reference #18C21024.01, February 19, 2020



2. Earthquake

Should an earthquake occur near the Dam it is not designed to current NC codes for structural stability under seismic loading conditions. Therefore, if an earthquake were to occur near the Dam there could be catastrophic consequences, including Dam failure.

3. Aging

The Dam was completed in September 1926; therefore, this September 2021 the Dam will be 95 years old. There have been no major structural renovations to bring the Dam to NC standards. The town is directed to the condition assessment documentation presented to the town by Schnabel Engineers as well as their subsequent report² on the alternatives to rehabilitate or replace the dam. These documents identify issues related to the aging of the Dam and lack of improvements over time.

As stated earlier, there are other issues with the existing Dam which will not all be discussed in this report. However, it can be said that if any one of the three items identified above were to occur, the existing Dam is in jeopardy of catastrophic failure. ***Therefore, in the judgement of SDG Engineering, and functioning in the role as the town engineer, the risk associated with this existing Dam is high.***

Making the paradigm shift to that of the NC State Dam Safety Office can be illustrated by modifying the original graphic regarding the Dam (Appendix A) to focus on RISK. Everything related to the existing Dam should be considered under the umbrella of RISK. In other words – the Dam is at a high level of risk. This revised graphic with risk included is presented in Appendix B.

3.0 FACTORS TO CONSIDER

There were other key items that were discussed during this WebEx meeting. They have been condensed and summarized into four major categories.

1. Risk

The NC State Dam Safety Office (Dam Safety) is focused on risk. A catastrophic event can take down the dam. The two most notable events are a PMP event and an earthquake. Therefore, they believe the time has passed for the town to act to mitigate this risk.

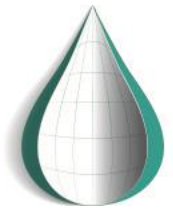
2. Dam Safety Order

Dam Safety reiterated that they possess the authority to issue a “Dam Safety Order”. If they do that, decision making is essentially taken out of the hands of the Town of Lake Lure. Under a Dam Safety Order the town must do what Dam Safety dictates. Failure to follow the Dam Safety Order would lead to penalties, fines, and other serious consequences. Dam Safety does not wish to issue such an order and desires for the town to make a decision now regarding which path they wish to pursue in order to address the current risk associated with this Dam and present to Dam Safety a schedule to implement their decision by the end of February.

3. Hydroelectric

Dam Safety does not take into consideration the hydroelectric facility. They believe this to be a minor issue in comparison to risk. Delaying a decision because the town is not sure which way to go with the hydroelectric facility has no bearing with the Dam Safety engineers. Requesting Dam

² Evaluation of Rehabilitation Alternatives, Lake Lure Dam (RUTHE-003), Town of Lake Lure, Rutherford County, NC, Schnabel Reference #18C21024.01, February 19, 2020



Safety to allow additional time to act regarding the current risk posed by the existing Dam in order to decide which option to pursue regarding the hydroelectric facility is not an option.

4. Decision by the end of February

George Eller, State Dam Safety Engineer, stated that he wants to receive a formal submission from the town by the end of February regarding two things: a decision on which option the town is going to pursue and a schedule for the next steps to implement that option.

Messrs. Eller, Vinson, Aiken, Pittman, and Landis were each provided a draft copy of this report so that they might review the manner in which the WebEx meeting was presented in this Report. This was done in order to obtain their input, comments, corrections or revisions. No feedback was provided by any of these individuals, therefore, it is considered to be an accurate characterization of that meeting.

4.0 FUNDING

Funding the option chosen by the town is certainly a critical topic and will require careful analyses, study, and deliberation. It will also involve taking action on many fronts to obtain any available assistance that there may be in terms of funding packages under various State and Federal programs. However, that said, discussing the topic of funding the selected option is not part of this Report. That is because this Report focuses on risk.

A decision must be made now, a plan of action must be developed now, and that decision and plan of action must be submitted to the NC State Dam Safety Office by the end of February. Failure to do so jeopardizes the town to being placed under a Dam Safety Order.

5.0 RECOMMENDATIONS

The recommended actions are presented below as sequential steps.

1. Review

All pertinent personnel associated with the Town of Lake Lure should review the Schnabel Report, which presents the Options for the Dam, and read this Report in light of that review.

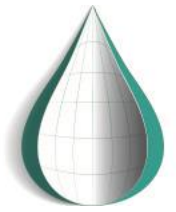
2. Deliberate

All pertinent personnel associated with the Town of Lake Lure, especially the elected officials, should have a thorough and robust deliberation regarding which of the two options to pursue (Rehabilitate or New) during the upcoming January 27, 2021 Town of Lake Lure Workshop Meeting. Although an official decision would not be made in that Workshop meeting, there should be a general consensus by the end of the meeting as to which path to choose.

3. Vote

At the next Board of Commissioners meeting on February 9, 2021, vote on which option to pursue and authorize step number 4. to be undertaken.

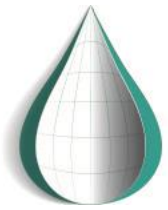
4. Develop



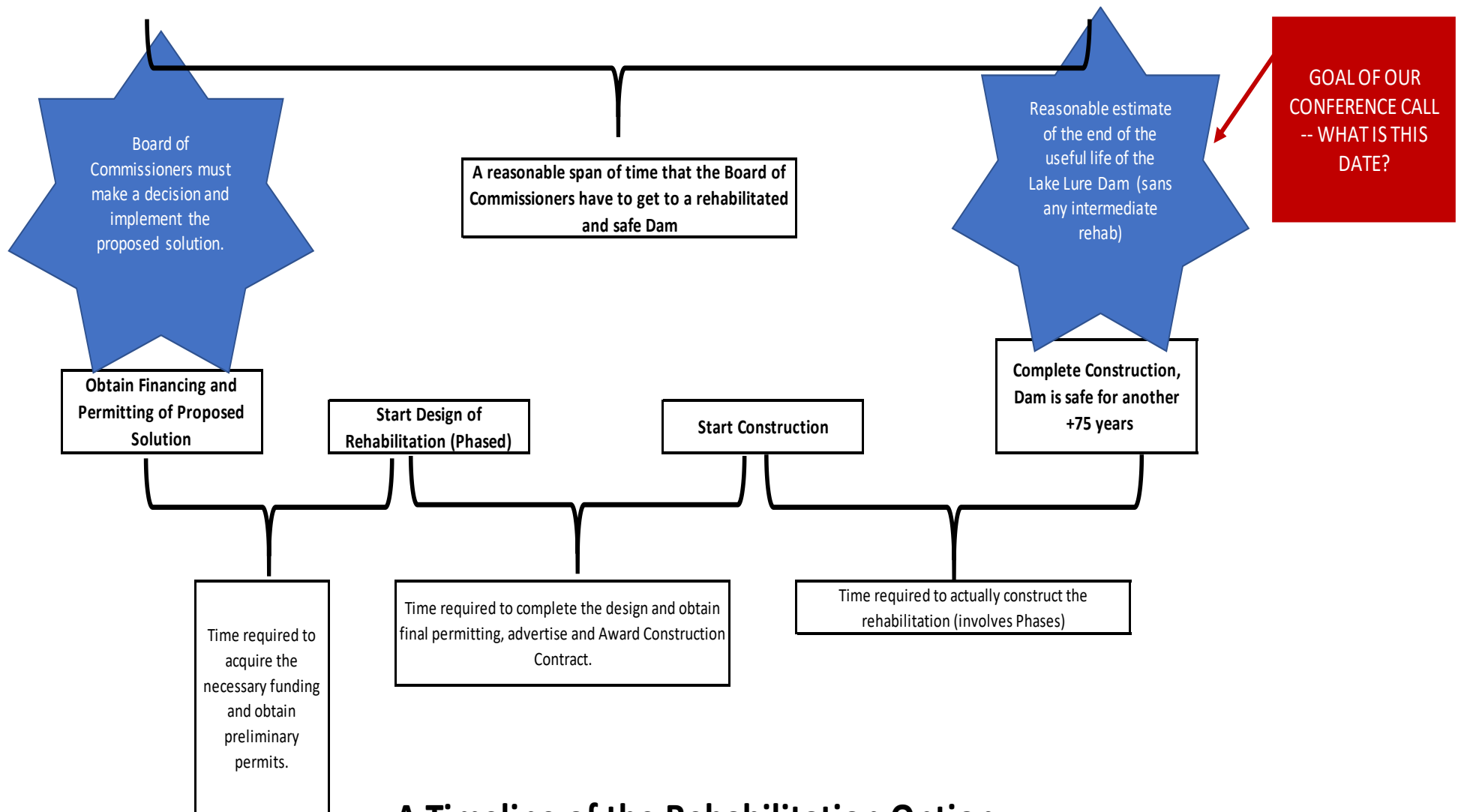
The town should then develop a plan of action to implement the option chosen by the elected officials. The town should consider requesting their current Dam Engineers, Schnabel Engineering, to assist in the development of this schedule. This process should include a dialog with the NC state Dam Safety Office.

5. Approve

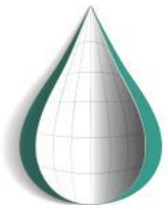
Approve of this schedule and formally submit it to the NC State Dam Safety Office on or before February 26, 2021 in accordance with item 4. in Section 3.0 of this Report.



APPENDIX A



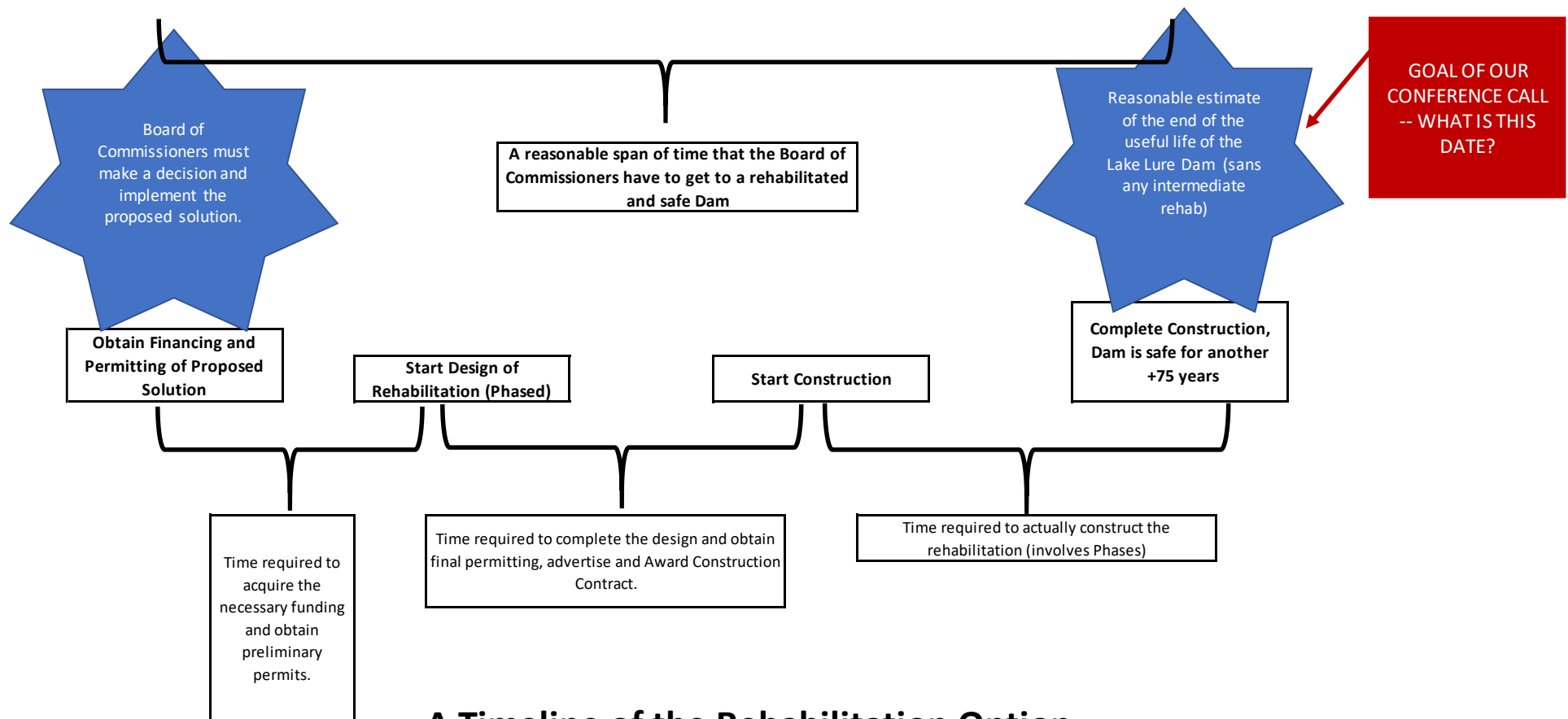
A Timeline of the Rehabilitation Option



APPENDIX B

RISK

RISK OF FAILURE EXISTS THROUGHOUT THIS PROCESS
(PMP Event, Seismic Activity due to an earthquake, aging, etc.)



A Timeline of the Rehabilitation Option



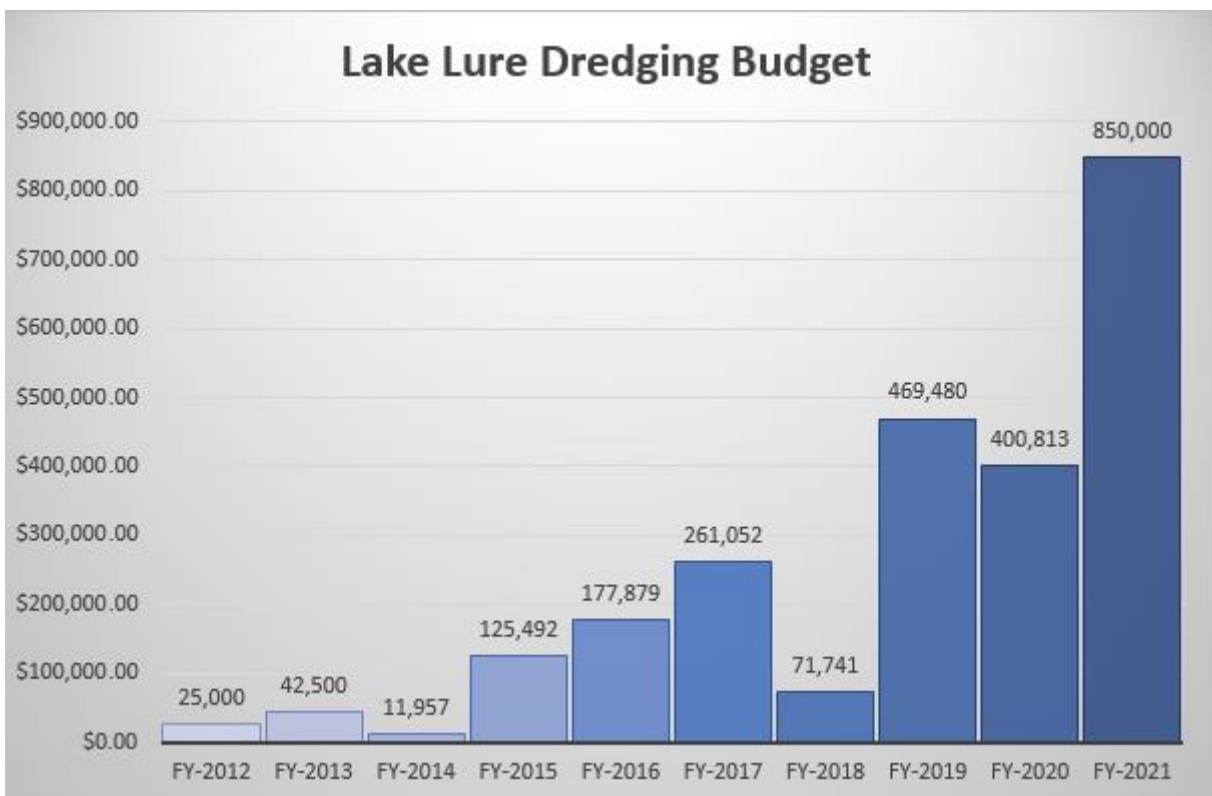
PARKS, RECREATION, & LAKE DEPARTMENT

Director Dean Givens

Dredging Grant Update

We have exciting news! The 2021 Dredging Grant that we applied for has been approved. We received a total of \$637,000 from the Department of Environmental Quality (DEQ) to assist in our dredging needs this year. It is the largest dredging grant to date and the Town of Lake Lure, being a Tier 1 county, was only required to provide a 25% match, which was \$212,500. This is down from the 50% match we were required to provide in the past.

The Town has been increasing our investment in dredging over the last 10 years. The graph below illustrates the funding allocated by the Town for dredging each fiscal year.



The original budget that was submitted for the 2020-2021 fiscal year is listed below.

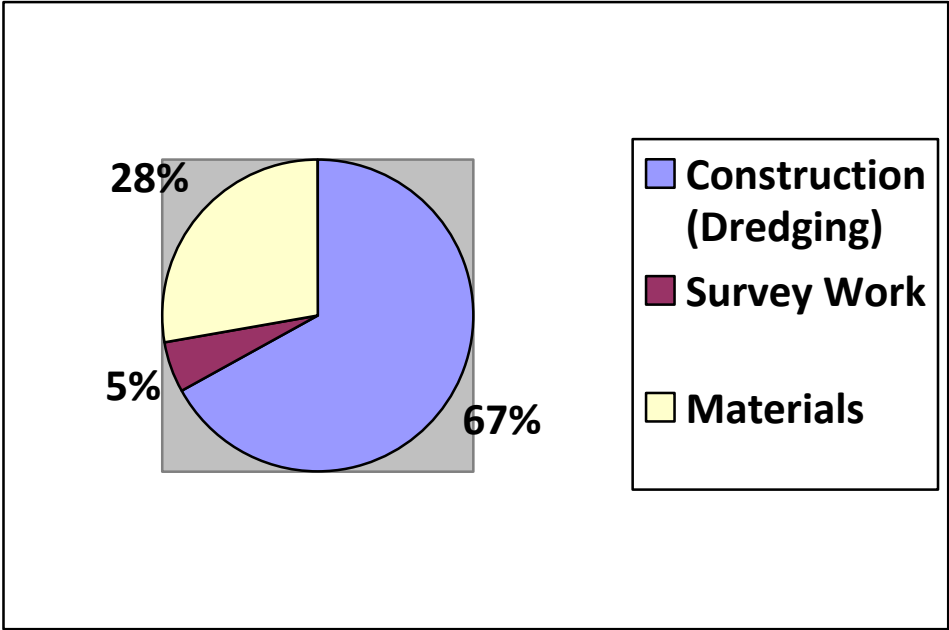
1. Project Title		Town of Lake Lure General Navigation Dredging Project				
	State DWR	Local / Municipal Match	Other Non- Federal Match	Federal Contribution	Local + Other Non-Federal Match Total	Category Total
Administration						
Cash					\$0.00	\$0.00
In-kind					\$0.00	\$0.00
Design						
Cash	\$60,000.00				\$0.00	\$60,000.00
In-kind					\$0.00	\$0.00
Permitting						
Cash					\$0.00	\$0.00
In-kind					\$0.00	\$0.00
Survey						
Cash	\$45,000.00				\$0.00	\$45,000.00
In-kind					\$0.00	\$0.00
Construction Oversight						
Cash					\$0.00	\$0.00
In-kind					\$0.00	\$0.00
Construction						
Cash	\$387,500.00	\$212,500.00			\$212,500.00	\$600,000.00
In-kind					\$0.00	\$0.00
Construction Materials						
Cash	\$145,000.00				\$0.00	\$145,000.00
In-kind					\$0.00	\$0.00
Land						
Cash					\$0.00	\$0.00
In-kind					\$0.00	\$0.00
Cash Sub-total	\$637,500.00	\$212,500.00	\$0.00	\$0.00	\$212,500.00	\$850,000.00
In-kind Sub-total		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total	\$637,500.00	\$212,500.00	\$0.00	\$0.00	\$212,500.00	\$850,000.00
DWR Total =	\$637,500.00	Local + Non-Fed Total =		\$212,500.00	Non-Federal % =	100.00%
DWR Match % =	75.00%	Local + Non-Fed Match % =		25.00%	Federal % =	0.00%

The amounts in each line item are fluid and can be moved around, as needed.

After researching some much-needed dredging equipment, we have amended the budget to allow for the purchase of this equipment. See below for the proposed 2021 dredging budget with recommended updates.

1. Project Title		Town of Lake Lure General Navigation Dredging Project				
	State DWR	Local / Municipal Match	Other Non- Federal Match	Federal Contribution	Local + Other Non-Federal Match Total	Category Total
Administration						
Cash					\$0.00	\$0.00
In-kind					\$0.00	\$0.00
Design						
Cash					\$0.00	\$0.00
In-kind					\$0.00	\$0.00
Permitting						
Cash					\$0.00	\$0.00
In-kind					\$0.00	\$0.00
Survey						
Cash	\$45,000.00				\$0.00	\$45,000.00
In-kind					\$0.00	\$0.00
Construction Oversight						
Cash					\$0.00	\$0.00
In-kind					\$0.00	\$0.00
Construction						
Cash	\$356,500.00	\$212,500.00			\$212,500.00	\$569,000.00
In-kind					\$0.00	\$0.00
Construction Materials						
Cash	\$236,000.00				\$0.00	\$236,000.00
In-kind					\$0.00	\$0.00
Land						
Cash					\$0.00	\$0.00
In-kind					\$0.00	\$0.00
Cash Sub-total	\$637,500.00	\$212,500.00	\$0.00	\$0.00	\$212,500.00	\$850,000.00
In-kind Sub-total		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total	\$637,500.00	\$212,500.00	\$0.00	\$0.00	\$212,500.00	\$850,000.00
DWR Total =	\$637,500.00	Local + Non-Fed Total =		\$212,500.00	Non-Federal % =	100.00%
DWR Match % =	75.00%	Local + Non-Fed Match % =		25.00%	Federal % =	0.00%
Budget Breakdown:						
Survey:		\$45,000 for Survey Work				
Construction:		\$569,000 for Dredging				
Construction Materials:		\$236,000 for equipment: *\$100,000 for Dredging Barge *\$96,000 for Weedoo Dredging Boat *\$40,000 for Dredging Spoils Pit Maintenance				

With this new budget, 67% of the funds would go towards dredging the lake, 28% would be utilized for materials/equipment, and 5% would be used for survey work.



The construction materials line item includes funding for the Parks, Recreation, and Lake Department to create an Emergency Action Plan (EAP) for the unlikely events of a sewer line break inside the lake. This EAP would include multiple contractors with the technology, equipment, and education to rapidly respond and repair a subaqueous sewer line break.

This line item also includes funding for a dredge barge, a Weedoo dredge boat, and dredging spoils pit maintenance. We have listed details about each piece of equipment on the following pages.

Weedoo Dredge Boat

The Weedoo dredge boat is a powerhouse that will allow us to reach places in the lake that we have not been able to in the past due to shallow water and confined spaces. The dredge attachment will allow us to dredge under docks and in small coves that are inaccessible to larger dredge boats. This boat also has attachments that will also allow us to remove floating debris from the lake that can close down the lake to boaters.



Weedoo shown with dredge attachment.



Weedoo shown with loading attachment.



Weedoo shown in operation with loading attachment.

Dredge Barge

The dredge barge we are wanting to purchase is 12 foot wide and 32 foot long. Below are a few samples.



Mini Excavator for Dredging

Mini excavators are perfect for use on dredge barges. They can be used to lift logs and other debris out of the way, remove silt from the lake, and much more. We are still researching brands of mini excavators. The Kubota 16 and the John Deere 17G are examples listed below.



Kubota 16



John Deere 17G