



**MINUTES OF THE SPECIAL MEETING OF THE LAKE LURE TOWN COUNCIL
HELD WEDNESDAY, AUGUST 5, 2020, 2:00 P.M. AT THE LAKE LURE MUNICIPAL
CENTER**

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

ABSENT: N/A

I. CALL TO ORDER

Mayor Carol Pritchett called the meeting to order at 2:04 p.m.

II. APPROVE THE AGENDA

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

III. CONSENT AGENDA

Commissioner John Moore moved to approve Consent Agenda, as presented. Commissioner John Kilby seconded and the motion carried 4-0. Therefore, the Consent Agenda incorporating the following items was unanimously approved and adopted:

- A. Adoption of the FY 20-21 Lake Drawdown Schedule (Attached)
- B. BA# 284 – Sewer – LaBella Technical Memorandum Payment
- C. BA# 285 – Culvert Replacement (Emergency Repair) – ABC Store Parking Lot

<p>IV. VIDEO CONFERENCE WITH NCDOT REGARDING THE BRIDGE OVER THE DAM</p>

(Alternative 1, 2, and 3 Attached)

Town Manager Shannon Baldwin explained that the Town created a Position Paper relative to some of the alternatives presented to the Town by NCDOT regarding the bridge over the Dam. Alternative 1 moves the bridge over the river directly below and adjacent to the Dam, and Alternative 2 is to build the bridge directly over the Lake. Various concerns were expressed with both alternatives.

Jonathan Pittman, Schnabel Engineering, explained that the Dam does not meet NC Dam Safety criteria or contemporary engineering design standards. The Dam requires a functional reservoir drain (sewer access valve) as a safety measure to drain the Lake in the event of an emergency. This drain serves multiple other purposes as well. One alternative being considered is for rehabilitation of the Dam turning it into a concrete gravity structure. Another alternative being considered is replacement with a new concrete gravity structure dam immediately downstream of the existing dam. Both alternatives have advantages and disadvantages to be considered. The bridge, sewer, and Dam projects are all integrated together and all need addressed.

Reese Walsh, LaBella Associates, provided an overview of how the new sewer system would interface with the existing dam or with a new dam. The Town would need to purchase additional properties to support rehabilitation of the existing plant. A gravity assist collections system would be installed in the backshore area, the area of land exposed when the Lake is lowered. Currently, the Lake can only be lowered 12 feet. Installing a sewer access valve (reservoir drain) would allow the Lake to be lowered further. He stated that they are looking at putting in an access point for staging to bring in materials, equipment and personnel on the north side.

Steve Cannon, NCDOT Engineer, questioned the timeline and Mr. Walsh stated that Phase 1 construction of the sewer system including modifications to the WWTP would occur in 2021-2022. Mr. Pittman explained that the timeline is primarily driven by the alternative chosen and the funding utilized. Service life of the existing dam without any modifications depends on outside conditions and maintenance. Mr. Cannon expressed that DOT can have a great working relationship with the Town. However, he stated that they cannot guarantee they can maintain the foundation underneath the bridge. He also mentioned that the third alternative, building the bridge downstream, is a big concern to them because there are a lot of challenges building in that area and a higher cost. Mr. Pittman commented that the service life for rehabilitation of the Dam is estimated at 75+ years and replacement service life would likely be 100+ years.

Mr. Baldwin highlighted on the concerns relative to Alternative 1 and 2. He explained that both alternatives exacerbate existing safety deficiencies, restrict dam rehabilitation or

Page 3- Minutes of the August 5, 2020 Special Town Council Meeting

replacement initiatives, restrict new sewer replacement construction and maintenance operations, constrain recreational activities adjacent to the Dam contrary to the interest of Lake Lure residents, and negatively alter the existing view-scape that drives regional tourism. The Town does not concur with a new bridge over any portion of the Lake or a new bridge over the river directly below and adjacent to the existing dam where a new dam is anticipated to be constructed in the near future. The Town also does not concur with a new bridge impeding the expansion of the existing WWTP at its current location in any possible manner.

Mr. Pittman stated that the Dam must be designed to meet public safety requirements in the event of a failure. They would not want an upstream bridge to serve as an impediment during a large flood and would need to have clearances above the design storm elevation to allow flood waters to flow and debris to pass. He stated that there are some structural concerns with constructing bridge foundations in close proximity to very thin concrete. Access is also needed to perform work on the Dam and intake structure. Shannon pointed out that NC Dam Safety is requiring a rehab or a new dam be built relative to seismic loading across canyon. If that were done and DOT placed a new bridge on a rehabbed or new dam, their foundation would be better than what they are designing because of the standards for a seismic event. He stated that he was not sure that DOT's design would be based on a seismic event.

David Stutts, NCDOT, reported that they have been working on this project and found that it would be much cheaper and economical for a new bridge to be built over the Lake. Missing the intake valve, they would have to design their foundations to withstand extreme pressures. They want to try and get as close to the Dam as they possibly can. He mentioned that they were not aware of the sewer rehab and that 2021-2022 would be a great time to work on their plans as well. He expressed that DOT does not want to put the bridge back on top of the Dam. He commented on design mentioning that they have not found the exact foundation location yet. They plan to use intermediate supports and columns going down into the Lake 100+ feet, as tall as the Dam. The Lake would not have to be drained to be installed. They would use barges and possibly a cofferdam. Discussion continued regarding the alternative for a bridge over the Lake. Mr. Baldwin expressed that the drawing indicates the bridge would connect back to Buffalo Shoals Road right over a town boathouse which was planned for a deep water access. The bridge would also be coming close to the Lake Operations office on the south end which is utilized and necessary for the Town's dam operators and lake personnel. Mr. Stutts stated that they would try to work around these issues to find a better solution on both sides. Commissioner Kilby pointed out that this alternative would also cause a portion of the Lake to be unusable. David Stutts noted this developed plan was two years ago and they were not aware of Schnabel's plan and the Town's options for what they want to do with the Dam. If the Town plans to build a new dam, they could adapt to that design. He stated that they could replace the bridge where the road is now and not deal with any right-of-way issues. They are open to look at all options but are waiting to see what the Town's action is going to be with the Dam.

Mr. Wright asked if DOT were to straighten out the curvature on Buffalo Shoals Road and avoided the existing Lake Operations building on the southern side, would they consider an elevated suspension bridge raising the bottom elevation substantially above the water level to

Page 4- Minutes of the August 5, 2020 Special Town Council Meeting

allow navigation and address concerns with PMP (Probable Maximum Precipitation). Mr. Stutts stated a suspension bridge is not likely. The sewer access raised a flag not knowing what their vertical clearance is under the bridge and changes their design from two years ago. He stated they want to try and coordinate this design with the Town's plans. Mr. Wright asked if Alternative 2 was for a single or double lane bridge. Mr. Stutts stated that Alternative 2 involves a single lane bridge. He stated that they would be open to a mixed use path and adding beautification to the bridge if it is economical. Jacquelyn Bowles, NCDOT, added that a shared bike/pedestrian lane is a DOT policy.

Mr. Baldwin asked if seismic loading is considered and Mr. Stutts stated yes it is considered when building a new bridge. Discussion was held relative to location of the new bridge. Mr. Stutts noted that access and construction is easier further downstream. Going down towards the WWTP is a possibility but tying back to Buffalo Shoals Road goes through a lot of property. He mentioned that they have not looked closely at topography but design firms have and they felt like this was more of an expensive option. Adding the travel distance in did not make it a preferred option at the time but can be an option on the table. Commissioner DiOrio stated that getting down closer to the WWTP is relatively level and he has polled folks on that side of the Lake. A bypass around the dangerous curves on Buffalo Shoals is a preferred alternative to the property owners. That area is also subject to landslides. He mentioned that a bridge would be needed prior to rehabilitation or construction of a new dam as it would close off access to the bridge. Mr. Stutts estimated the timeline for a new bridge is five years. Discussion continued on possible connection locations along Buffalo Shoals Road and Memorial Highway (US 64/74) for rerouting in regards to an alternate bridge location. Kevin Fischer, NCDOT, asked if the Town would be willing to update the Position Paper to indicate that the preferred option for a new bridge would be a bypass option downstream and Council agreed.

Steve Cannon, DOT, questioned when the Town would make a decision on a dam rehab or a new dam and Commissioner DiOrio explained that the timeline depends on funding. He reported that realistically it could take 3-5 years to get a resolution on a dam because the Town cannot fund a new dam. He stated that a new bridge would be needed before a dam decision is made. The downstream alternative does not interfere with anything and eliminates any concerns with the Dam which is why this bypass option is being considered. Mr. Baldwin asked what the existing weight limit is on the existing bridge and Commissioner DiOrio stated that the posted sign states 18,000 pounds. Commissioner DiOrio asked if reducing that weight limit would buy the Town additional time and Mr. Stutts did not believe that it would. He explained that the time life of the bridge is just an estimate. Mr. Fisher added that bridges are inspected every two years and the load postings are sufficient for the existing strength.

Mr. Baldwin asked if ownership of the Bridge could be turned over to the Town, much like the Flowering Bridge, and Mr. Cannon stated this is an option they would have to discuss. DOT would not be opposed but a mutual agreement would be needed. Mr. Baldwin mentioned that Council would update the Position Paper and send back to DOT to explore compatible options.

Page 5- Minutes of the August 5, 2020 Special Town Council Meeting

Commissioner DiOrio pointed out that a bypass down to Island Creek from Buffalo Shoals would be safer for traffic but discussion would need to be held with Riverbend first. Commissioner Kilby pointed out that there are large partials that would be an option to go through outside of Riverbend which would save DOT and tax payers millions. This is an option DOT has not seriously considered. Discussion continued. Commissioner DiOrio felt that realistically a new or refurbished dam was not likely within the next five years and Mr. Wright felt it would be closer to 10-15 years. Council agreed to dissociate the bridge from the Dam and push the bridge down river near the WWTP or Island Creek Road.


Council asked that Assistant Community Development Director Mitchell Anderson create a map to go along with the Position Paper. Council will review the paper and map at the August 19th meeting for final approval. Commissioner DiOrio felt that a new dam would be a better option than a refurbished one because of economic impact. Mr. Wright suggested that Dam & Hydroelectric Director Dean Lindsey look into a hydroelectric facility and Commissioner DiOrio noted that he has already done this. He wanted to start a dialog to find information on what it take to put a hydroelectric plant into a new dam. George Eller gave him a point of contact that he can call to start gathering information. Mr. Wright suggested speaking with Duke Energy as well to see what they are willing to do to get concessions on a new dam. Mr. Baldwin felt that the biggest constraint is the fact we only fluctuate the lake a foot to preserve the recreational integrity use of the Lake and felt that Duke Energy might want more power coming out of the plant. Commissioner DiOrio noted that the Town cannot run a FERC (Federal Energy Regulatory Commission) dam because there are standards of inspections, maintenance, certifications, etc. and Duke Energy would have to oversee it. Mayor Pritchett suggested considering not having a hydroelectric plant in a new dam.

Council discussed an Island Creek bypass, reviewed the location on the map, and discussed positive impacts of this option for the new bridge.

ADJOURN THE MEETING

With no further business, Commissioner Patrick Bryant made a motion to adjourn the meeting at 12:00 p.m. Commissioner David DiOrio seconded and the motion carried 4-0.

ATTEST:

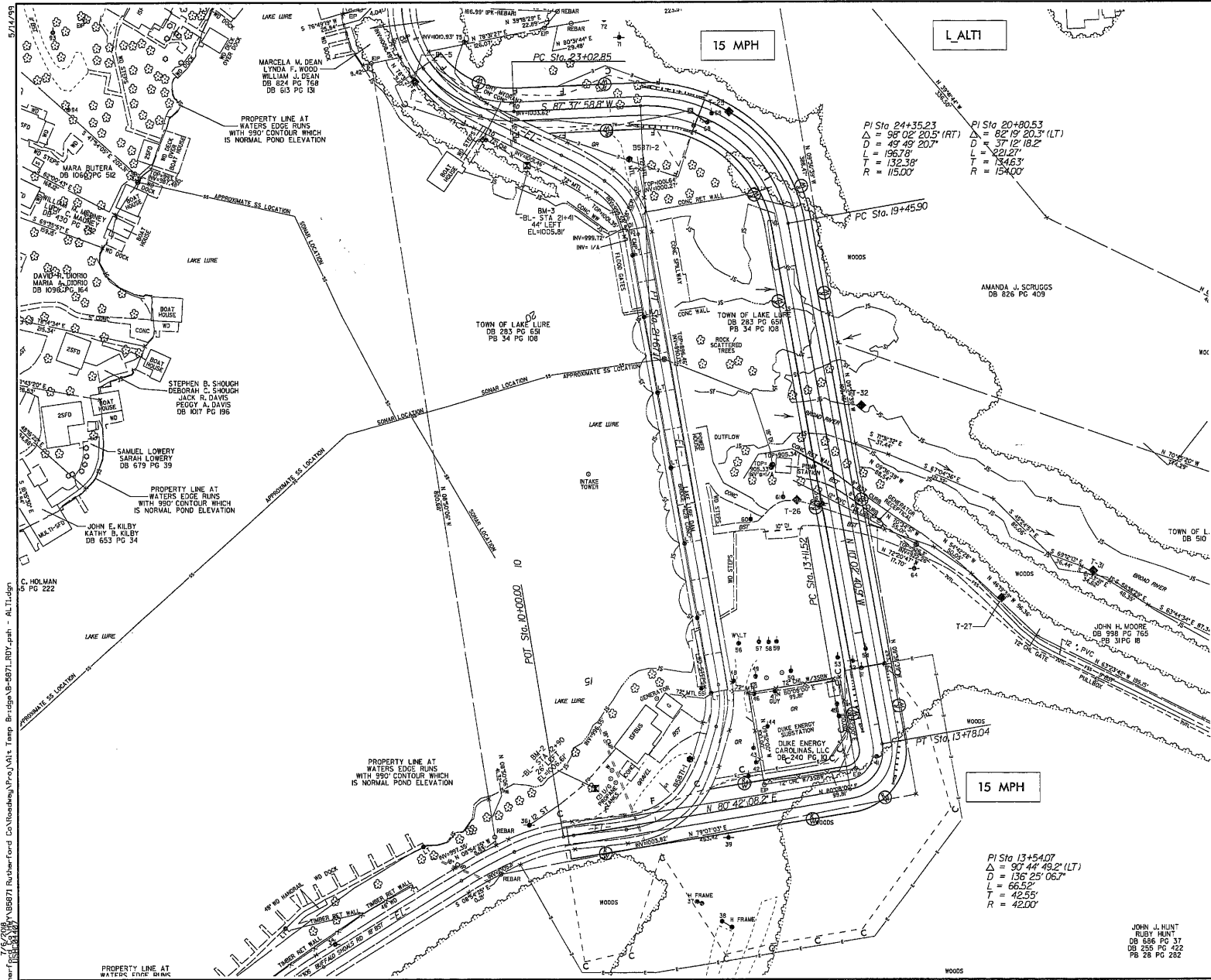

Michelle Jolley,
Town Clerk




Mayor Carol C. Pritchett

TOWN OF LAKE LURE, NC

Each column represents a one-week time period starting with Monday as the first day of the week =====>		12/28/20	1/4/21	1/11/21	1/18/21	1/25/21	2/1/21	2/8/21	2/15/21	2/22/21	3/1/21	3/8/21
HYDROELECTRIC DEPARTMENT - Dean Lindsey												
1	Penstock inspection - Period for drawing down the lake 9' below NPE		4	12								
2	Penstock Inspection Work Performed (2 day duration)			13 - 14								
3	Penstock Work Completed			14								
LAKE MANAGEMENT DEPARTMENT - Dean Givens												
1	Dredging - special dredging of the "silt shelf" during lake drawdown by barge and excavator		Dredging to continue throughout this period									
PUBLIC WORKS DEPARTMENT - David Arrowood												
	(No need to include anything)											
LABELLA - Reese Walsh, PE												
1	Period for drawing down the lake to 12' below NPE		4	15								
2	REFOI from Contractors interested in bidding the sewer project (This task must occur on a weekday)				18 - 20							
3	Geotechnical Investigation (exact date TBD) (This task must occur on a weekday)				18 - 20							
4	Drone footage (exact date TBD) (This task must occur on a weekday)				18 - 20							
5	Refilling the Lake back to NPE				20	31						
SCHNABEL - Jonathan Pittman, PE												
	(No need to include anything)											
BEGINNING OF LAKE DRAW DOWN (Rate is 1 foot per day)			4									
LAKE EXPECTED TO BE 9-FEET BELOW NPE FOR PENSTOCK INSPECTION				12								
LAKE EXPECTED TO BE 12-FEET BELOW NPE FOR LABELLA'S WORK					15 - 20							
RE-FILLING OF THE LAKE TO BEGIN					20							
PERIOD OF TIME TO FILL LAKE BACK TO NPE (based on 1 foot per day)					20	31						
LAKE EXPECTED TO BE AT NORMAL POOL ELEVATION (NPE)						31						
ROWERS ARRIVE AT LAKE LURE FOR TOURNAMENT							1					
NOTES												
1	Commissioners decided 7/14/2020 to drawdown lake after New Year's. This means it will occur during a Peak Month - January. FRP Construction agreed to extend the warranty period two weeks so this can happen.											
2	LaBella requests the lake to be drawdown 12 feet below NPE for their work. LaBella must make arrangements with the Geotechnical firm and the vendor for the drone footage to know the exact date they can perform their work. When this is known the schedule will be updated. The current dates are estimates.											
3	Dean Lindsey called to discuss the schedule on 7/17/2020. His input changed some of the dates. The lake must be back at NPE by the 31st for the Rowing Tournament on 2/1.											

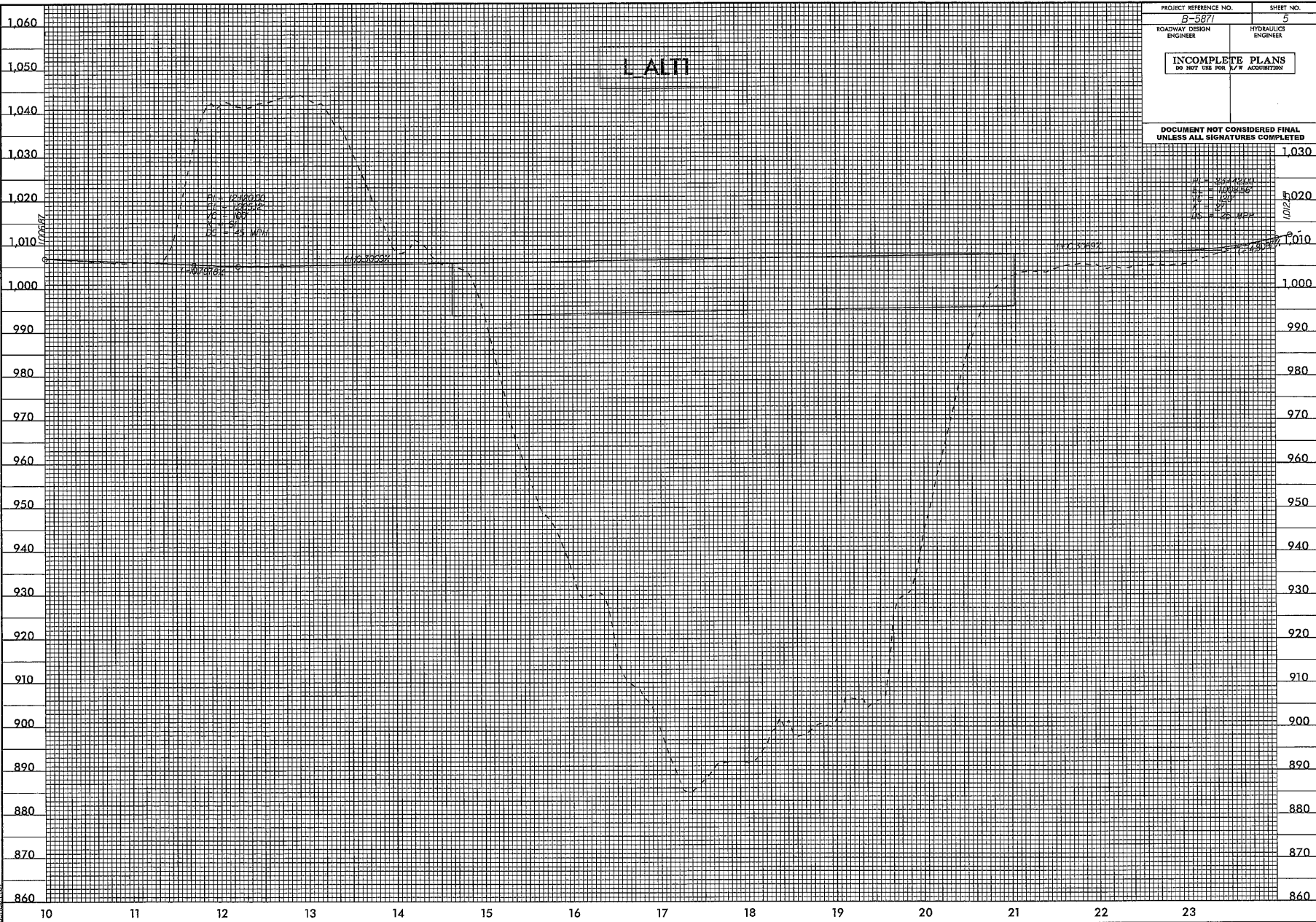


PROJECT REFERENCE NO.	SHEET NO.
B-5871	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

11 Ruben Ford 11/15/2017 11:58:571 Ruben Ford 11/15/2017 11:58:571 Temp. Budget 11/15/2017 11:58:571 RDV.pah - ALTI.dgn

5/14/99

FSM 17 Division 13 Bridge GroupAB-5871 Rutherford Co\HMA\B5871 Rutherford Co\Roadway\Proj\Alt Temp BridgeAB-5871.RDY_pch.BE.sgn



North Carolina Department of Transportation
Preliminary Estimate

TIP No. **B-5871**
Route Buffalo Shoals Rd (SR 1306)
Over Broad River
Typical Section 2 Lane 2 Way

Prel. Alt1

County: **Rutherford**

CONSTR. COST
\$0

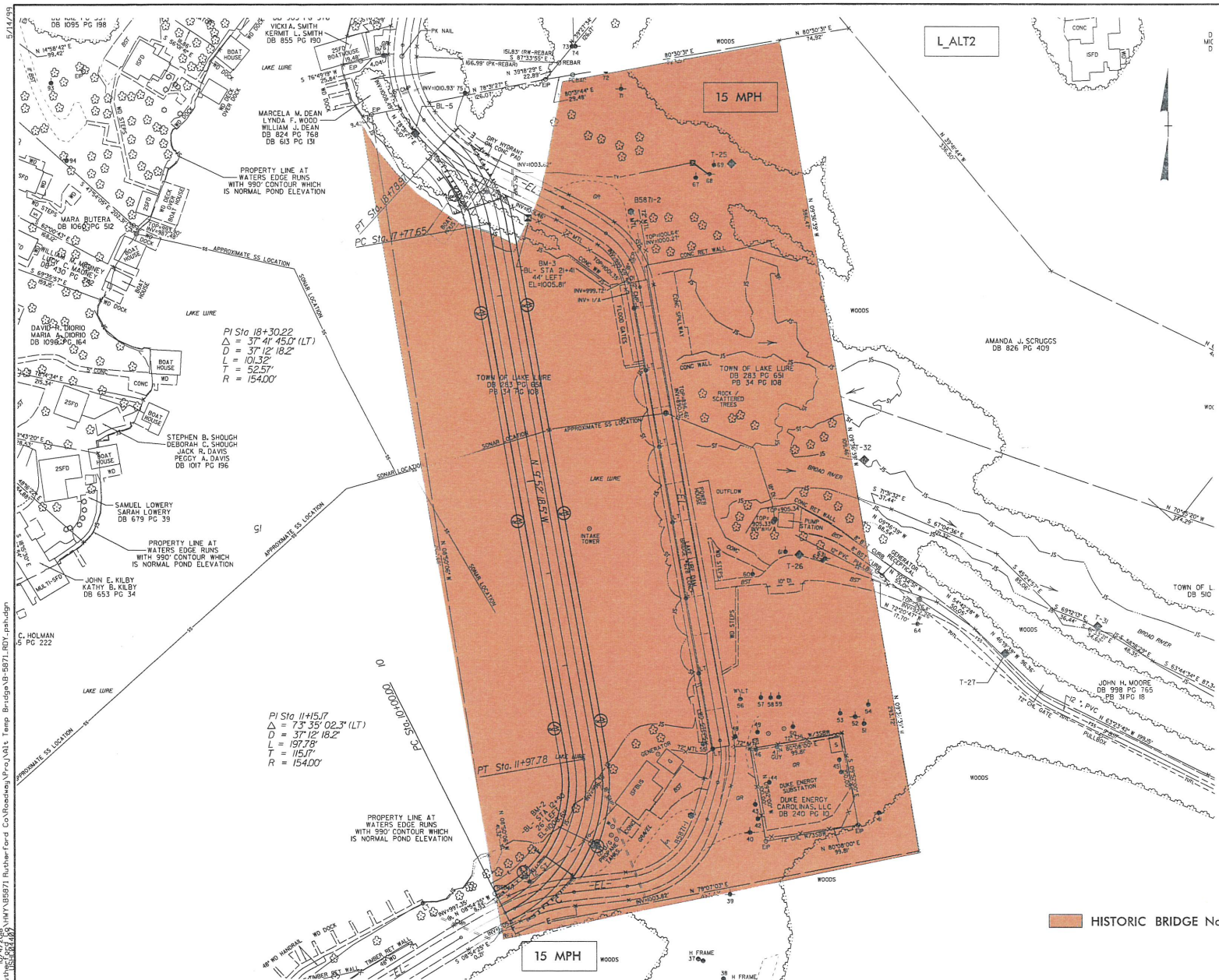
Prepared By: Holly Christenbury, PE
Requested By:

Date 6/28/2018
Date

Line Item	Des	Sec No.	Description	Quantity	Unit	Price	Amount
			Clearing and Grubbing	1.1	Acre		\$ -
							\$ -
			Unclassified Excavation	42,120	CY		\$ -
			Pavement Removal	520	SY		\$ -
			Drainage	0.27	Miles		\$ -
			Fine Grading	1,320	SY		\$ -
			Asphalt Base Course B25.0C	370	Tons		\$ -
			Asphalt Surface Course S9.5B	680	Tons		\$ -
			Subgrade Stabilization	1,320	SY		\$ -
			Guardrail	225	LF		\$ -
			Guardrail Anchors	8	Each		\$ -
			Erosion Control	3.1	Acres		\$ -
			Traffic Control	1	LS		\$ -
			Thermo and Markers	0.27	Miles		\$ -
			Structures				
			New Str / Creek 36'Wx 640'-8"L	23,064	SF		\$ -
			Utility Construction				
			Relocate Existing Water Line	0	LF		\$ -
			Relocate Existing Sewer Line	0	LF		\$ -
			Misc. & Mob (10% Strs&Util)				
			Misc. & Mob (35% Functional)				

Lgth 0.27

Contract Cost	\$ -
E. & C. 15%	
Construction Cost	\$ -



L_ALT2

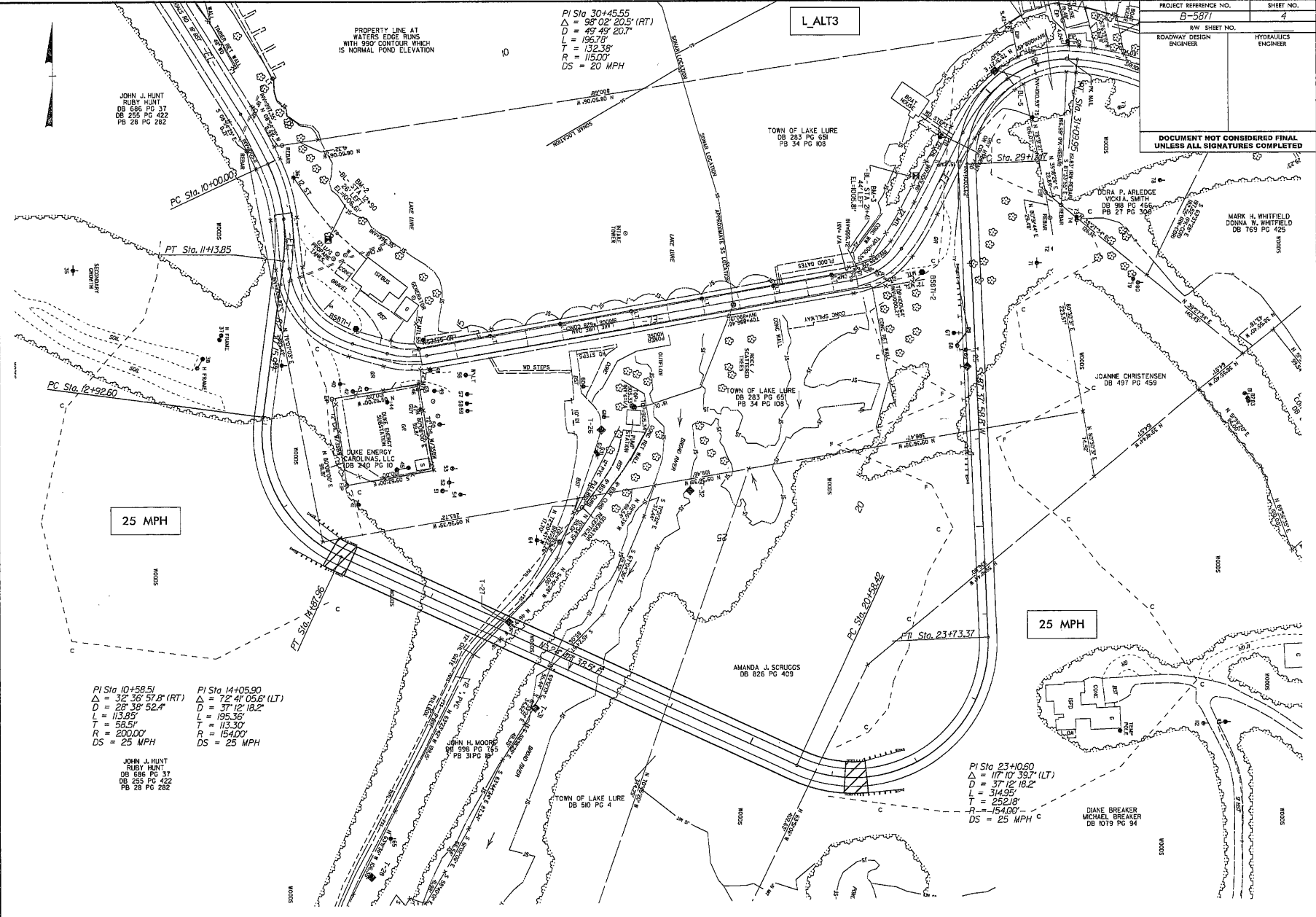
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HISTORIC BRIDGE No. 628

04/2008
B-5871 Rubenford Co Roadway V-Proj VAlt Temp Bridge B-5871.RDY.pah.dgn

5/14/93

17 Rudyard Rd. 11/18/93
 17 Rudyard Rd. 11/18/93
 17 Rudyard Rd. 11/18/93



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RDW. SHEET NO.	HYDRAULICS ENGINEER
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