

LAKE LURE TOWN COUNCIL REGULAR MEETING PACKET

Tuesday, January 10, 2017



Mayor Bob Keith

Commissioner John Moore

Commissioner Mary Ann Silvey

Commissioner Stephen Webber

Commissioner Bob Cameron



REGULAR MEETING OF THE LAKE LURE TOWN COUNCIL

January 10, 2017

6:00 p.m.

Lake Lure Municipal Center

AGENDA

- I. Call to Order
 - Invocation (Please rise and remain standing)
 - Pledge of Allegiance
- II. Agenda Adoption
- III. Mayor's Communications
 - Proclamation recognizing January 22-28, 2017 as Lake Lure School Choice Week
- IV. Town Manager Communications
- V. Presentations
 - A. 2017-2022 Capital Improvements Plan Presentation
- VI. Council Liaison Reports and Comments
- VII. Public Comment: The public is invited to speak on any non-agenda and/or consent agenda topics. Comments should be limited to less than five minutes.
- VIII. Consent Agenda
 - A. Meeting Minutes Adoption:
 - **Suggested Motion:** Adopt the December 9, 2016 Regular Meeting Minutes
 - B. Special Council Meeting
 - **Suggested Motion:** To schedule a special town council meeting to be held at the Lake Lure Municipal Center on January 31, 2017 at 2:00p.m. to review and consider approval of Lake Lure Classical Academy's master site plan and corresponding resolution.

Page 2 – Town Council Meeting Agenda
January 11, 2017

IX. Unfinished Business

- A. Duke Energy Grant – Electric Vehicle Charging Station
 - **Suggested Motion:** None at this time pending further Council discussion.
- B. Anthroware Contract - Boat Permit Database
 - **Suggested Motion:** None at this time pending further Council discussion.

X. New Business

- A. Buffalo Creek Park Trail Damage Assessment and Recommendations
 - **Suggested Motion:**
 - 1) To Approve the Buffalo Creek Park Repair Contract with Trail Dynamics in an Amount Not to Exceed \$19,000 and to Authorize the Town Manager to Execute the Necessary Documents.
 - 2) To Approve the Transfer of \$19,000 from the General Fund Balance (#10-398604) to the Capital Outlay “Trail Construction” (#10-80000.566) Line Item.
- B. Hickory Nut Gorge Community Covenant
 - **Suggested Motion:** To Adopt the Hickory Nut Gorge Community Covenant.
- C. Sewer Manhole Inspection Services Agreement – Brown Consultants and Byers Environmental
 - **Suggested Motion:**
 - 1) To approve the Proposal for Services with Brown Consultants and Byers Environmental Inc. in an amount not to exceed \$18,125 and to authorize the Town Manager to execute the necessary documents.
 - 2) To approve the transfer of \$18,125 from Water and Sewer Fund retained earnings to the 53-714000-691 Contractual Services line item.
- D. Ordinance 17-01-10 Amending Lake Lure General Ordinance Chapter 51 – Sewer System Ordinance, Section 51.05: Connection to Sewer System Required
 - **Suggested Motion:** To Adopt Ordinance 17-01-10 Amending Lake Lure General Ordinance Chapter 51 – Sewer System Ordinance, Section 51.05: Connection to Sewer System Required.
- E. Adjournment

**PROCLAMATION
BY
MAYOR BOB KEITH
LAKE LURE, NORTH CAROLINA**

**RECOGNIZING JANUARY 22-28, 2017 AS
LAKE LURE SCHOOL CHOICE WEEK**

WHEREAS, all children in Lake Lure should have access to the highest-quality education possible; and,

WHEREAS, Lake Lure recognizes the important role that an effective education plays in preparing all students in Lake Lure to be successful adults; and,

WHEREAS, quality education is critically important to the economic vitality of Lake Lure; and,

WHEREAS, North Carolina is home to a variety of high quality public and nonpublic schools from which parents can choose for their children, in addition to families who educate their children in the home; and

WHEREAS, educational variety not only helps to diversify our economy, but also enhances the vibrancy of our community; and,

WHEREAS, Lake Lure has many high-quality teaching professionals in all types of school settings who are committed to educating our children; and,

WHEREAS, School Choice Week is celebrated across the country by millions of students, parents, educators, schools and organizations to raise awareness of the need for effective educational options;

NOW, THEREFORE, I, Bob Keith do hereby recognize January 22-28, 2017 as Lake Lure School Choice Week, and I call this observance to the attention of all of our citizens.

Mayor Bob Keith

ATTEST:

Andrea H. Calvert, Town Clerk

Town Manager STAT Report from Lake Lure Police Department

Date: 12/31/2016

417 Police Activities Logged for Month (Total) *Partial breakdown below*

0 Reported Breaking & Entering with Larceny

28 Traffic Stops

5 Citations

14 Warning Citations

4 Verbal Warnings

3 Accidents

0 Total Arrests

0 Motorcycle Mufflers Checked

0 Roadside Checkpoints

Boys Camp Road – 0 Accidents 0 Speeding Complaints (acted on)

Happenings in Department

The town is seeing slower traffic however still a good amount of people coming into town to see the damage from the fire. There has been an increase of calls off of Carson's where hunting blinds and camps have been located. We attempt to locate and contact the land owner's, most of the time to no avail. This has been a problem in other areas over the years. North Carolina, until the past two years, required that hunters carry written documentation from the land owner with contact information that the hunter is permitted on their property. This is no longer required, so without the time taken to locate and calling the land owner, hoping that we're successful, we've no way to know if the hunting is permitted.

The department was able to have their Awards Banquet, hosted by Larkin's on the Lake, with a few of the sponsors in attendance. The banquet originally scheduled for November was delayed due to the Party Rock Fire.

New equipment was installed in the Patrol Room to allow officers to monitor the marina cameras as well as LLCA cameras.

One of two new patrol vehicles was received this month and is scheduled for new decals and equipment.

The Medicine Drop Box continues to be successful with people coming in during office hours to drop medication no longer needed. To date from its inception of August of 2015, we've counted 51,801 medications. Not only Lake Lure residents come in, but we've had Polk County and Henderson County residents take advantage of this service.

Activity Log Event Summary (Cumulative Totals)

Lake Lure Police

(01/01/2016 - 12/31/2016)

911 Hangup	9	ABC Permit Inspection	7
Accident	44	Advised Civil Matter	6
Alarm activation	160	Animal Complaint	36
Assault	4	Assist EMS	16
Assist Fire Department	60	Assist Other Department	128
Assist other Lake Lure Officer	476	Assist Subject	15
Attempt to Locate	33	Attempt to Serve a Warrant	11
BOLO	10	Breaking and Entering	9
Business Check	1	Call by Phone	132
Careless and Reckless Driving	14	Chase	1
Checkpoint	7	Citation	227
Code 20	1	Collect/Process Evidence	8
Communicating Threats	1	Community Contact	64
Community Policing	6	Court	32
Damage to Property	4	Debris in Roadway	2
Deliver Message	2	Direct School Traffic	93
Disorderly Conduct	2	Dispute	8
Disturbance	25	Domestic Trouble	13
Drug Charges	1	DWI	8
Escort	3	Extra Patrol	1,408
Fight	3	Fingerprinted Individual(s)	1
Fireworks	6	Follow up Investigation	76
Foot Patrol	748	Found Property	6
Harrassing Phone Calls	2	Hit and Run	4
Home Lockout	1	Illegally Parked Vehicle	5
Improperly Parked Vehicle	6	In Office Work	166
Interview	4	Intoxicated Subject(s)	27
Investigate	29	Investigate Suspicious Vehicle	69
Involuntary/Voluntary Commitment Transport	3	Lake - Patrol	26
Lake - Reckless boater	1	Lake - Safety check	1
Lake - Stranded Boat	20	Lake - Towed Stranded Boat	3
Lake - Unauthorized Swimmer	5	Larceny Report	13
Lost Property Reported	2	Loud Music	3

Activity Log Event Summary (Cumulative Totals)

Lake Lure Police
(01/01/2016 - 12/31/2016)

MAMA Landing Site Clear	1	Meet with Subject	30
Mental Subject	8	Missing Person	3
Motor Vehicle Theft	1	Motorcycle Driver/Rider Education Safety/Noise	1
Motorcycle Visual Straight Pipe Check	77	New Event	3
Noise Complaint	9	Party Rock Fire Event (Assist, Prep LZ, Evacuate	48
Pill Drop Box Processing	31	Possible Breaking and Entering	1
Possible Overdose/Overdose	2	Possible Prowler	4
Prisoner in Custody	36	Public Assist & Transport	3
Put Out/Take Down Radar Trailer	1	Requested Residential Checks	63
Residence Check	3	Return Property	6
Road Check	5	Rutherford County Jail/Processing	35
School Patrol	1	Secure Door(s)	14
Series of Business Checks	621	Serve a Warrant	5
Serve Criminal Summons	1	Sexual Assault	2
Shots Fired	9	Silent 911	6
Speak With Subject	38	Stand By for Closing	7
Stationary Patrol	25	Stranded Motorist	120
Streetlight Maintenance Check	3	Subject Threatening Suicide	1
Subject With a Gun	2	Suspicious Person(s)	50
Threatening Suicide	3	Took a Report	15
Traffic Control	9	Traffic Stop	655
Training	30	Transport a Subject	10
Tree Blocking Road	9	Trespassing	29
Vandalism	6	Vehicle Maintenance	63
Verbal Warning	140	VR Complaint	1
Warning Citation	267	Weapon Maintenance	4
Welfare Check	21	Wildlife Issue/Injury	8
Wrecker Needed	2	Write a Report	1

Total Number Of Events: 6,866

Activity Log Event Summary (Cumulative Totals)

Lake Lure Police
(12/01/2016 - 12/31/2016)

ABC Permit Inspection	3	Accident	3
Alarm activation	12	Animal Complaint	1
Assist EMS	1	Assist Fire Department	1
Assist Other Department	7	Assist other Lake Lure Officer	24
Assist Subject	2	BOLO	3
Breaking and Entering	1	Call by Phone	2
Careless and Reckless Driving	1	Citation	5
Community Contact	9	Court	4
Direct School Traffic	10	Domestic Trouble	1
Extra Patrol	141	Follow up Investigation	4
Foot Patrol	60	In Office Work	16
Intoxicated Subject(s)	1	Investigate	3
Investigate Suspicious Vehicle	6	Loud Music	1
Meet with Subject	1	Pill Drop Box Processing	1
Requested Residential Checks	4	Secure Door(s)	2
Series of Business Checks	50	Shots Fired	1
Silent 911	1	Speak With Subject	1
Stationary Patrol	1	Stranded Motorist	3
Subject With a Gun	1	Suspicious Person(s)	3
Took a Report	2	Traffic Stop	28
Training	2	Vehicle Maintenance	5
Verbal Warning	4	Warning Citation	14
Welfare Check	5	Wildlife Issue/Injury	2

Total Number Of Events: 453

[illegible]

Community Development Department
Monthly Report
for
December 2016

Board/Committee Activity

Zoning and Planning Board, December 20, 2016

Meeting Cancelled

Board of Adjustment, December 20, 2016

Meeting Cancelled

Lake Structure Appeals Board, December 20, 2016

Meeting Cancelled

Staff Activity

Zoning Administration/Code Enforcement

Certificate of Zoning Compliance Issued	1
Certificates of Zoning Compliance Denied	0
Certificates of Occupancy Issued.....	3
Vacation Rental Operating Permits Issued	0
Sign Permits Issued.....	0
Complaints Logged.....	0
Complaints Investigated.....	0
Notices of Violation Issued.....	0
Civil Penalties Issued.....	0
Stop Work Orders Issued	0
Improperly Posted Address Notifications Issued.....	0
Abandoned/Dilapidated Structures Cases Open	0
BOA Hearings Processed.....	0
VROPs Active to Date.....	265

Subdivision Administration (Baldwin/Smoyer)

Preliminary Plat:	0
Final Plat	0
Minor Subdivisions:.....	0
Exempt Plat Reviews:	0
Lots Approved	0
Review Officer (per GS 47-30):	

Plats Reviewed:0
Plats Approved:0

Grants Administration (Smoyer)

Total Grants In Progress (see below): \$598,600

- RHI Legacy Grant (Morse Park Trails)- \$48,600
- 2013 RTP Grant (Phase 2 BCP)- \$200,000 (Project Management through CMLC)
- PARTF Grant- \$350,000.00 (Suzy did not write this one. CMLC is working on this.)

Grants submitted recently and waiting for review: \$505,000

- PEV Charging Station - \$5,000
- ARC- ToLL-CRV CCC – \$500,000

Community Development Director Activity Overall (Baldwin)

Current ongoing projects associated with the department staff:

1. Commercial Signs – Planning Board discussed Arcade signs 11/5/16. Currently sourcing an arborist to analyze trees on Town Center Islands @ Arcade 12/29/16.
2. Continuing Care Developments for Senior Citizens –Tommy Hartzog reported that ground should break within a couple of weeks on this project 11/3/16.
3. Buffalo Creek Park – Two miles of trails are now complete from BCP and Eagle Rock per CMLC Report 8/4/16. Fire line cut through park. Meeting called to determine next step relative to repairs 1/2/17.
4. Business Needs Initiative (BNI) – Planning Board is currently looking at ways to direct customer to the Arcade building to help businesses. This will be discussed at the 11/15 Planning Board Meeting.
5. TOLL-CRV Commercial Corridor Connector – Pre-application submitted to ARC for consideration. Met with Equinox, Tm, and other stakeholders in October 2016. Progress is being made 11/5/16. Grant submitted 12/6/16. Waiting to hear results 1/4/17.
6. Gateway - LLFB West End Plan. *This project concerns itself with ultimate disposition of the El Sureno property and is intimately connected with LLFB West End Improvements as well as linkages for the CRV Pedestrian Facility.* Improvements are well underway as of 11/6/16.
7. Firing Range Remediation – TOLL extended Temp CO and gave permission for LLCA to rough grade for ball field 10/5/16. TM and Mayor met with Russ Pitts and other members of LLCA to discuss project on 11/5/16. Ask Brad Burton to summarize activities to date and outline next steps 1/3/17.

8. Wayfinding System – Scheduled to go before Planning Board on 11/15 and Town Council on 12/13/16 for approval. Approved by Town Council 12/13/16.
9. Comprehensive Plan Update – Meeting held with stakeholders 11/7/16. Will start project again in March timeframe.
10. Vision Book - Meeting with Ron Nalley and Meg Nealon to discuss on 10/7/16. Holding pattern.
11. Records Scanning/Digitizing & Accessing – Town Clerk has been working with Ricoh throughout November. Records received back in Town Hall. Will be working with Town Clerk to determine next phase for records not yet digitized 1/4/17.
12. EV Charging Station – Requested \$20,000 from Duke Energy but only received \$5,000. Asking for input from Town Council on 1/10/17.

C. Shannon Baldwin, AICP
Community Development Director

Date

PUBLIC WORKS DEPT

DECEMBER 2016

MONTHLY REPORT

Installed Christmas lights throughout town.

Checked out snow plows and spreaders to be ready for any bad weather.

Blew leaves from around City hall trying to get caught up. The wildfires got us behind.

Repaired a water leak on a 2" waterline at Geneva Motel.

Repaired a water leak on Memorial Hwy. ¾ line repair.

Removed a large tree out of the road on Bottomless Pools rd.

Hauled bags of leaves to Buffalo Creek Park (BCP).

Made a trip to Liberty Press for City Hall.

Went to Asheville on 12-20-16 and picked up new truck for Public Works Dept.

Blew leaves back off of streets with tractor and blower.

Thanks,

David Arrowood

Lake Operations Activities Report

December, 2016

Lake Enforcement & Patrol*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YEAR
Patrols	4	12	20	19	32	22	40	36	20	18	25	4	252
Patrol Hours	2	28	22	29	115	76.5	142	101	41	22	32	2	612.5
Warnings	0	0	6	4	26	30	45	28	12	4	15	0	170
Citations	0	0	0	0	0	0	3	0	0	0	0	0	3
Assistance to Boaters	2	2	5	3	11	14	22	19	4	2	0	2	86
Camera Violations	0	0	0	0	0	5	15	6	8	0	0	0	34
Camera Citations	0	0	0	0	0	0	0	0	0	0	0	0	0

*Lake Operations + Police Department

Lake Structures

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YEAR
LS Permits Issued	3	2	1	1	0	3	1	0	0	0	0	3	14
LS certificate Issued	0	0	2	0	2	0	1	0	0	0	0	1	6
Shorline Stabilization permits	1	0	0	0	0	0	0	0	0	1	1	0	3
LS Complaints logged	0	0	0	0	0	0	0	0	0	0	0	0	0
LS Complaints investigated	1	0	0	0	0	0	0	0	0	0	0	0	1
Site Visits	5	2	2	2	2	5	1	10	8	4	1	2	44

Environmental Management

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YEAR
Land disturbance Permits Issued	7	5	2	6	0	3	0	4	3	4	1	3	38
Soil Erosion Complaints Logged	0	0	0	0	0	0	0	0	0	0	1	0	1
Soil Erosion Complaints Investigated	0	3	1	0	0	0	0	0	0	0	1	0	5
Notices of Violation issued	0	1	0	0	0	0	0	0	0	0	0	0	1
Stop Work Orders Issued	0	1	1	1	0	0	0	0	0	0	0	0	3
Site Visits	15	13	9	14	8	11	8	16	18	9	6	7	134

Water Quality

Fecal Count (CFU per 100ml)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Date Collected				25th	30th	27th	25th	29th	26th			
1. Pool Creek				6	42	68	68	80	27			
2. Beach Swim				7	84	42	57	160	60			
3. Beach Slide				5	62	27	27	78	44			
4. Broad River				25	61	24	22	51	15			
5. Tryon Bay				2				13	82			
6. Dam				1		15	3		5			
7. Sunset Cove				1		5		3				
8. Hummingbird Cove				1				39				
9. Havners Cove				0			6					
10. Rumbling Bald Beach				1	6	3	7	11	16			
11. Broad River - WWTP												
12. Broad River + WWTP												
13. Edward's Cove					224	0	1		4			
14. Pier Point					1		1		2			
15. RBR Chimney Rock Park												
16. Reedy Patch Creek												
17. Hickory Creek												
18. Fire Fly Cove						8						
19. LLVR					1	5	3		2			
20. Picnic Point												
21. Deerwood/Thomas Dr.					5			2				
22. Rockcrest Cove												
23. Dam Marina												
24. Grey Logs COVE					10			11				
	0-99 Good			99-199 Marginal				199+ Concern				

Environmental Management

Floodplain Development Permits Issued.....	6
Notices of Violations Issued.....	0
Stop Work Orders Issued.....	0
Site Visits.....	2

Tree Protection Officer

Tree Service Provider Licenses Issued.....	1
Tree-related Complaints Logged.....	0
Tree-related Complaints Investigated.....	0
Notices of Violations Issued.....	0
Stop Work Orders Issued.....	0
Site Visits.....	3

Highlights for the month:

Submitted grant application to NC Division of Water Resources for dredging. Probably will be spring before we hear whether we got it or not.

Did trail damage assessment out at Buffalo Creek Park where NC Forest Service put in a fire line. Affected portion of trail has since been closed and we are working with Valerie to get informational signs at the trailhead. Also working with CMLC to get a plan together for repairing the trail and all cut areas to reduce erosion potential. Hallie, our Americorps Member is coordinating volunteers to have some work days to put in temporary measures until dozer work can begin.

Lake Operations Projects:

PROJECT	Status	Target Completion Date
Dredging	Dredging is scheduled to start on January 9 th .	March 2017
2017/18 Budget	We are in the process of drafting the Lake Operations budget for 2017/18	June 2017
New Lake Operations Boathouse, New covered, floating docks to provide year-round housing for lake ops, hydro, police and fire boats.	I will be presenting this project for next year's CIP budget	2017/18

[illegible]

Town of Lake Lure

Monthly Financial Summary Report as of: 12/31/2016

50%



Revenues in excess of Expenditures

General Fund					General Fund					General Fund	
Revenues:	Annual Budget:	Month To Date:	Annual To Date:	Y-T-D % Collected	Expenditures:	Annual Budget:	Month To Date:	Annual To Date:	Y-T-D % Spent	Annual Budget	
Taxes	\$ 2,384,146	\$ 93,472	\$ 1,207,000	50.63%	Governing Body	\$ 47,305	\$ 3,304	\$ 36,070	76.25%	0	
State Shared Revenues	\$ 1,261,927	\$ 179,464	\$ 684,826	54.27%	Administration	\$ 670,781	\$ 47,441	\$ 268,080	39.97%		
Lake	\$ 305,250	\$ 4,930	\$ 62,290	20.41%	Central Services	\$ 99,050	\$ 8,258	\$ 49,425	49.90%		
Beach & Marina	\$ 199,800	\$ 6,000	\$ 115,640	57.88%	Police	\$ 724,219	\$ 59,546	\$ 325,076	44.89%		
Facilities Rentals	\$ 27,000	\$ 10,750	\$ 18,200	67.41%	Fire	\$ 705,564	\$ 32,827	\$ 391,968	55.55%		
Loan Proceeds	\$ 182,595	\$ -	\$ -	#VALUE!	Sanitation	\$ 216,720	\$ 18,202	\$ 107,546	49.62%		
Miscellaneous Revenues	\$ 42,294	\$ 698	\$ 42,640	100.82%	Public Works	\$ 358,642	\$ 26,493	\$ 170,476	47.53%		
Land Use Fees	\$ 20,975	\$ 2,060	\$ 12,199	58.16%	Economic Development	\$ 49,500	\$ 3,247	\$ 28,426	57.43%		
Transfers	\$ 743,964	\$ 10,000	\$ 10,000	1.34%	Community Development	\$ 320,256	\$ 54,481	\$ 145,277	45.36%		
Total:	\$ 5,167,951	\$ 307,374	\$ 2,152,795	41.66%	Parks and Rec.	\$ 140,867	\$ 12,766	\$ 61,331	43.54%		
					Beach and Marina	\$ 12,720	\$ 177	\$ 2,062	16.21%		
					Golf	\$ 81,000	\$ 10,030	\$ 74,675	92.19%		
					Lake	\$ 218,523	\$ 12,760	\$ 91,652	41.94%		
					Capital Outlay	\$ 807,358	\$ 66,573	\$ 195,799	24.25%		
					Debt Service	\$ 266,521	\$ 26,696	\$ 122,930	46.12%		
					Non Governmental	\$ 129,000	\$ 3,085	\$ 111,568	86.49%		
					Transfers	\$ 255,831	\$ -	\$ -	0.00%		
					Performance & Long	\$ 64,094	\$ 63,169	\$ 63,169	98.56%		
					Contingency Reserve	\$ -	\$ -	\$ -	#DIV/0!		
					Total:	\$ 5,167,951	\$ 449,055	\$ 2,245,530	43.45%		

Water & Sewer Fund					Water & Sewer Fund					Water & Sewer Fund	
Revenues:	Annual Budget:	Month To Date:	Annual To Date:	Y-T-D % Collected	Expenditures:	Annual Budget:	Month To Date:	Annual To Date:	Y-T-D % Spent	Annual Budget	
Water & Sewer charges	\$ 1,145,000	\$ -	\$ 604,495	52.79%	Water	\$ 178,487	\$ 11,143	\$ 73,187	41.00%	-	
Taps & Connection fees	\$ 9,000	\$ 2,310	\$ 3,465	38.50%	Sewer	\$ 411,052	\$ 38,198	\$ 281,132	68.39%		
Penalties and Interest	\$ 6,500	\$ -	\$ 2,450	37.69%	Capital Projects	\$ -	\$ -	\$ -	#DIV/0!		
Tank Rental	\$ 12,000	\$ 1,000	\$ 8,000	66.67%	Transfer to Fund Balance	\$ 450,668	\$ -	\$ -	0.00%		
Interest & Transfer Fees	\$ 550	\$ -	\$ 530	96.36%	Performance & Long	\$ 5,868	\$ 5,867	\$ 5,867	100.00%		
SRL Loan	\$ -	\$ -	\$ 50,000	#DIV/0!	Debt Service	\$ 132,843	\$ -	\$ 6,449	4.85%		
Transfer from Fund Balance	\$ 5,868	\$ -	\$ -	0.00%	Total:	\$ 1,178,918	\$ 55,208	\$ 366,635	31.10%		
Total:	\$ 1,178,918	\$ 3,310	\$ 668,940	56.74%							

Hydro Electric					Hydro Electric					Hydro Electric	
Revenues:	Annual Budget:	Month To Date:	Annual To Date:	Y-T-D % Collected	Expenditures:	Annual Budget:	Month To Date:	Annual To Date:	Y-T-D % Spent	Annual Budget	
Power Generation	\$ 350,000	\$ 30,743	\$ 148,652	42.47%	Operations	\$ 216,651	\$ 18,974	\$ 100,484	46.38%	-	
Interest	\$ 500	\$ 50	\$ 249	49.80%	Transfer to General Fund	\$ 160,000	\$ -	\$ -	0.00%		
Transfer from Fund Balance	\$ 437,382	\$ -	\$ -	0.00%	Transfer to Silt Reserve	\$ 50,000	\$ -	\$ -	0.00%		
Total:	\$ 787,882	\$ 30,793	\$ 148,901	18.90%	Performance & Long	\$ 2,731	\$ 2,730	\$ 2,730	100.00%		
					Cap. Outlay/Special Proj.	\$ 358,500	\$ 32,860	\$ 104,701	29.21%		
					Total:	\$ 787,882	\$ 54,564	\$ 207,915	26.39%		

Cash & Investment Position			Buffalo Creek Capital Project Fund to date			Capital Funds		Comments / Items of note
Carolina Trust Bank			Expenditures	Budget	Actual		Balance to Date	
General Fund	\$	1,739,217		\$ -	\$ (51,483.00)	Capital Res. Fund	\$ 77,860	
Water & Sewer	\$	82,597				Silt Res. Fund	\$ 58,465	
						Strip Center	\$ 178,883	
Hydro	\$	743,133				Bridge Pres. Fund	\$ 75,000	
Total:	\$	2,564,947						
NC Capital Management Trust			Date	Amount				
			8/1/2015		91,010			
General (Cash)	\$	102,864			-			
Water& Sewer	\$	7,355			-			
Hydro	\$	31,442			-			
Total:	\$	141,661			-			
Total Cash and Investments:	\$	2,706,608						

01/04/17
09:22:50

TOWN OF LAKE LURE
Statement of Revenue Budget vs Actuals
For the Accounting Period: 12 / 16

Page: 1 of 4
Report ID: B110

10 GENERAL FUND

Account	Received Current Month	Received YTD	Estimated Revenue	Revenue To Be Received	% Received
310000 TAXES					
310100 P & I - Taxes	0.00	1,806.26	9,000.00	7,193.74	20 %
Account Group Total:	0.00	1,806.26	9,000.00	7,193.74	20 %
311000 Ad Valorem Taxes-2000					
311090 Ad Valorem Taxes-2009	0.00	668.91	0.00	-668.91	** %
311100 Ad Valorem Taxes-2010	0.00	271.43	0.00	-271.43	** %
311110 Ad Valorem Taxes-2011	0.00	2.90	1,000.00	997.10	0 %
311120 AD VALOREM TAXES-2012	0.00	171.90	1,000.00	828.10	17 %
311130 AD VALOREM TAXES-2013	0.00	292.82	1,000.00	707.18	29 %
311140 AD VALOREM TAXES-2014	0.00	270.90	2,500.00	2,229.10	11 %
311150 AD VALOREM TAXES-2015	0.00	18,401.77	16,000.00	-2,401.77	115 %
311160 AD VALOREM TAXES-2016	0.00	1,177,147.49	2,320,809.00	1,143,661.51	51 %
Account Group Total:	0.00	1,197,228.12	2,342,309.00	1,145,080.88	51 %
312000 Ad Valorem-Veh-2000					
312013 AD VALOREM VEH TAX-2013	0.00	0.90	0.00	-0.90	** %
312016 AD VALOREM VEH TAX - 2016	0.00	7,964.53	32,837.00	24,872.47	24 %
Account Group Total:	0.00	7,965.43	32,837.00	24,871.57	24 %
332000 STATE SHARED REVENUES					
332200 Beer & Wine Tax	0.00	0.00	5,700.00	5,700.00	0 %
332300 Court Costs, Fees and Chrgs	23.72	305.28	1,000.00	694.72	31 %
332400 Utilities Franchise Tax	61,384.22	105,778.35	233,000.00	127,221.65	45 %
332600 Powell Bill - Tax on Gas	0.00	34,010.29	68,562.00	34,551.71	50 %
332930 State Shared Sales Tax	77,108.97	496,285.26	925,000.00	428,714.74	54 %
332933 Solid Waste Disposal Tax	0.00	404.32	765.00	360.68	53 %
332942 Video Programming Tax	6,946.70	14,042.56	26,900.00	12,857.44	52 %
332960 Gas Tax Refund	0.00	0.00	1,000.00	1,000.00	0 %
Account Group Total:	145,463.61	650,826.06	1,261,927.00	611,100.94	52 %
347000 LAND USE FEES					
347100 Zoning Permits	875.00	7,265.00	15,000.00	7,735.00	48 %
347200 Land Disturbance Permit	420.00	1,810.00	3,500.00	1,690.00	52 %
347300 Sign Permit	0.00	69.00	75.00	6.00	92 %
347450 Subdivision Fees	0.00	0.00	1,000.00	1,000.00	0 %
347550 Vacation Rental Fees	765.00	2,550.00	1,000.00	-1,550.00	255 %
347600 Lake Structure Permit/LSA	750.00	1,600.00	1,250.00	-350.00	128 %
347800 Fire Inspection	0.00	505.00	400.00	-105.00	126 %
Account Group Total:	2,810.00	13,799.00	22,225.00	8,426.00	62 %
361000 LAKE					
361201 Lake Lure Tours	0.00	42,463.18	45,000.00	2,536.82	94 %
361202 Lake Fines	0.00	250.00	1,000.00	750.00	25 %
361203 Lake Comm License Fees	0.00	2,565.00	3,000.00	435.00	86 %
361204 Boat Permits	4,180.00	57,874.64	300,000.00	242,125.36	19 %
Account Group Total:	4,180.00	103,152.82	349,000.00	245,847.18	30 %
363000 BEACH					
363801 Beach-Admission Fee-Adult	0.00	50,782.65	50,000.00	-782.65	102 %
363804 Beach-Concessions	0.00	7,975.67	7,500.00	-475.67	106 %

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10 GENERAL FUND

Account	Received Current Month	Received YTD	Estimated Revenue	Revenue To Be Received	% Received
364000 MARINA					
364902 Marina-Open Slip Rental	6,000.00	6,200.00	90,000.00	83,800.00	7 %
364905 Marina-Concessions	0.00	3,305.97	3,100.00	-205.97	107 %
364908 Marina-Rentals	0.00	4,912.79	4,200.00	-712.79	117 %
Account Group Total:	6,000.00	14,418.76	97,300.00	82,881.24	15 %
383000 MISCELLANEOUS REVENUES					
383100 Interest Earned on Investments	0.00	353.77	500.00	146.23	71 %
383200 Beer and Wine Permits	0.00	30.00	800.00	770.00	4 %
383321 Fire-Rural Fire Protection	0.00	2,778.63	8,514.00	5,735.37	33 %
383410 ABC-Rentals	502.50	3,015.00	6,030.00	3,015.00	50 %
383430 Community Center Rental	50.00	450.00	1,500.00	1,050.00	30 %
383440 Pavilion/Gazebo Rental	10,250.00	16,850.00	25,000.00	8,150.00	67 %
383450 Meadows Rental	0.00	900.00	500.00	-400.00	180 %
383500 Sale of Assets	0.00	908.01	1,500.00	591.99	61 %
383700 LIABC-Distribution for Law Enforcement	0.00	0.00	250.00	250.00	0 %
383701 ABC-Dist. for Drug/Alcohol	0.00	0.00	200.00	200.00	0 %
383800 ABC-Distribution of Funds	0.00	19,328.27	10,000.00	-9,328.27	193 %
383900 Misc Revenue	20.57	3,491.22	1,000.00	-2,491.22	349 %
383903 Town Promotional Materials	93.48	339.40	1,000.00	660.60	34 %
383910 Copies	81.30	701.90	500.00	-201.90	140 %
383930 Recycling Collections	0.00	11,693.43	12,000.00	306.57	97 %
Account Group Total:	10,997.85	60,839.63	69,294.00	8,454.37	88 %
398000 TRANSFERS					
398500 Transfer from Capital Reserve	0.00	0.00	181,747.00	181,747.00	0 %
398502 Installment Agreement Proceeds	0.00	0.00	182,595.00	182,595.00	0 %
398601 Transfer from Electric	0.00	4,999.80	160,000.00	155,000.20	3 %
398602 Transfer from Water/Sewer	0.00	4,999.80	10,000.00	5,000.20	50 %
398603 Transfer from Silt Reserve Fund	0.00	0.00	150,000.00	150,000.00	0 %
398604 Transfer from Fund Balance	0.00	0.00	242,216.85	242,216.85	0 %
Account Group Total:	0.00	9,999.60	926,558.85	916,559.25	1 %
Fund Total:	169,451.46	2,118,794.00	5,167,950.85	3,049,156.85	41 %

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53 WATER AND SEWER FUND

Account	Received		Received YTD	Estimated Revenue	Revenue		% Received
	Current Month				To Be Received		
371000							
371103 SRL Loan	0.00		50,000.00	0.00	-50,000.00	**	%
371105 Chimney Rock Water	0.00		5,000.00	15,000.00	10,000.00	33	%
371300 Charges for Water	0.00		131,582.61	230,000.00	98,417.39	57	%
371400 Charges for Sewer	0.00		466,812.23	900,000.00	433,187.77	52	%
371500 Taps and Connect-Water	0.00		1,155.00	4,000.00	2,845.00	29	%
371600 Taps and Connect-Sewer	2,310.00		2,310.00	5,000.00	2,690.00	46	%
371700 Transfer Fee-Water/Sewer	0.00		480.00	500.00	20.00	96	%
371800 W/S - Penalty and Interest	0.00		2,449.79	6,500.00	4,050.21	38	%
Account Group Total:	2,310.00		659,789.63	1,161,000.00	501,210.37	57	%
383000 MISCELLANEOUS REVENUES							
383100 Interest Earned on Investments	0.00		48.87	50.00	1.13	98	%
383460 Water Tank Rental	0.00		8,000.00	12,000.00	4,000.00	67	%
Account Group Total:	0.00		8,048.87	12,050.00	4,001.13	67	%
398000 TRANSFERS							
398604 Transfer from Fund Balance	0.00		0.00	5,868.00	5,868.00	0	%
Account Group Total:	0.00		0.00	5,868.00	5,868.00	0	%
Fund Total:	2,310.00		667,838.50	1,178,918.00	511,079.50	57	%

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56 ELECTRIC FUND

Account	Received Current Month	Received YTD	Estimated Revenue	Revenue To Be Received	% Received
372000					
372300 Charges for Utilities-Electric	0.00	117,909.16	350,000.00	232,090.84	34 %
Account Group Total:	0.00	117,909.16	350,000.00	232,090.84	34 %
383000 MISCELLANEOUS REVENUES					
383100 Interest Earned on Investments	0.00	197.49	500.00	302.51	39 %
Account Group Total:	0.00	197.49	500.00	302.51	39 %
398000 TRANSFERS					
398604 Transfer from Fund Balance	0.00	0.00	437,382.00	437,382.00	0 %
Account Group Total:	0.00	0.00	437,382.00	437,382.00	0 %
Fund Total:	0.00	118,106.65	787,882.00	669,775.35	15 %
Grand Total:	171,761.46	2,904,739.15	7,134,750.85	4,230,011.70	41 %

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10 GENERAL FUND

Account	Object	Committed Current Month	Committed YTD	Original Appropriation	Current Appropriation	Available Appropriation	% Committed
411000 COMMISSION							
102	Salaries-Part Time	1,100.00	6,600.00	13,200.00	13,200.00	6,600.00	50 %
109	FICA	84.15	504.90	1,010.00	1,010.00	505.10	50 %
214	Supplies-Dept	119.80	1,666.99	3,000.00	3,000.00	1,333.01	56 %
215	Supplies-Materials	1,999.99	8,609.29	9,250.00	9,250.00	640.71	93 %
310	Travel and Transportation	0.00	593.54	2,750.00	2,750.00	2,156.46	22 %
691	Contractual Services	0.00	18,095.00	0.00	18,095.00	0.00	100 %
	Account Total:	3,303.94	36,069.72	29,210.00	47,305.00	11,235.28	76 %
413000 ADMINISTRATION							
100	SALARIES	23,690.92	133,436.28	369,142.00	369,142.00	235,705.72	36 %
103	Professional Services	6,250.00	9,200.00	25,000.00	25,000.00	15,800.00	37 %
109	FICA	1,798.52	9,936.23	28,239.00	28,239.00	18,302.77	35 %
110	Retirement	3,097.86	17,168.99	47,988.00	47,988.00	30,819.01	36 %
111	Group Insurance	2,603.30	14,725.55	43,780.00	43,780.00	29,054.45	34 %
120	401 (K) Contribution	1,108.51	6,100.20	18,457.00	18,457.00	12,356.80	33 %
180	Legal Services	1,960.00	4,350.00	12,000.00	12,000.00	7,650.00	36 %
214	Supplies-Dept	359.82	3,936.36	8,000.00	8,000.00	4,063.64	49 %
215	Supplies-Materials	75.97	1,765.43	2,100.00	2,100.00	334.57	84 %
310	Travel and Transportation	457.58	2,388.82	6,500.00	6,500.00	4,111.18	37 %
320	Postage	0.00	400.63	3,000.00	3,000.00	2,599.37	13 %
322	Printing	0.00	666.20	1,200.00	1,200.00	533.80	56 %
324	Dues and Subscriptions	0.00	4,741.00	4,800.00	4,800.00	59.00	99 %
330	Utilities	2,803.83	15,501.75	30,500.00	30,500.00	14,998.25	51 %
350	Repairs and Maint-Buildings	262.50	6,520.39	10,000.00	10,000.00	3,479.61	65 %
353	Repairs and Maint-Equipment	412.00	780.00	4,000.00	4,000.00	3,220.00	20 %
370	Advertising	0.00	682.67	1,200.00	1,200.00	517.33	57 %
687	Contractual - County Tax Collection	0.00	13,073.25	14,000.00	14,000.00	926.75	93 %
691	Contractual Services	2,559.89	22,705.82	40,875.00	40,875.00	18,169.18	56 %
	Account Total:	47,440.70	268,079.57	670,781.00	670,781.00	402,701.43	40 %
	Account Group Total:	47,440.70	268,079.57	670,781.00	670,781.00	402,701.43	40 %
420000 CENTRAL SERVICES-Technology & Telecommunications							
321	Telephone	2,255.43	13,727.38	26,400.00	26,400.00	12,672.62	52 %
325	Internet Services	319.90	1,599.50	4,250.00	4,250.00	2,650.50	38 %
380	IT Support Services	5,683.00	34,098.00	68,400.00	68,400.00	34,302.00	50 %
	Account Total:	8,258.33	49,424.88	99,050.00	99,050.00	49,625.12	50 %
	Account Group Total:	8,258.33	49,424.88	99,050.00	99,050.00	49,625.12	50 %
431000 POLICE							
100	SALARIES	33,064.62	187,309.49	414,276.00	414,276.00	226,966.51	45 %
101	OVERTIME	1,093.34	5,603.69	2,000.00	2,000.00	3,603.69	280 %
102	Salaries-Part Time	1,440.00	6,345.00	15,000.00	15,000.00	8,655.00	42 %
104	Separation Allowance-Jaw Enforcement	1,184.72	7,108.32	11,848.00	11,848.00	4,739.68	60 %
109	FICA	2,777.33	14,994.16	32,993.00	32,993.00	17,998.84	45 %
110	Retirement	4,819.09	26,301.61	57,238.00	57,238.00	30,936.39	46 %

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10 GENERAL FUND

TOWN OF LAKE LURE
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Account	Object	Committed Current Month	Committed YTD	Original Appropriation	Current Appropriation	Available Appropriation	% Committed
111	Group Insurance	5,038.60	29,446.83	68,200.00	68,200.00	38,753.17	43 %
112	Special Benefit Fund-Police	2,247.93	9,752.81	20,814.00	20,814.00	11,061.19	47 %
212	Supplies-Fuel	1,645.14	7,133.97	38,000.00	38,000.00	30,866.03	19 %
214	Supplies-Dept	332.49	6,123.82	11,500.00	11,500.00	5,376.18	53 %
217	Supplies-Uniforms	-682.57	5,870.30	7,250.00	7,250.00	1,379.70	81 %
220	Alcohol & Drug Ed.	0.00	677.17	0.00	0.00	-677.17	%
310	Travel and Transportation	190.00	1,042.88	3,250.00	3,250.00	2,207.12	32 %
320	Postage	18.80	126.19	500.00	500.00	373.81	25 %
324	Dues and Subscriptions	399.25	2,203.41	9,750.00	9,750.00	7,546.59	23 %
333	Utilities-Boat House and Range	38.41	180.74	800.00	800.00	619.26	23 %
353	Repairs and Maint-Equipment	382.80	3,031.33	4,000.00	4,000.00	968.67	37 %
354	Repairs and Maint-Vehicles	1,304.06	7,020.42	19,000.00	19,000.00	11,979.58	37 %
490	Miscellaneous	0.00	179.22	1,300.00	1,300.00	1,120.78	14 %
691	Contractual Services	4,252.47	4,624.51	6,500.00	6,500.00	1,875.49	71 %
Account Total:		59,546.48	325,075.87	724,219.00	724,219.00	399,143.13	45 %
434000 FIRE		59,546.48	325,075.87	724,219.00	724,219.00	399,143.13	45 %
Account Group Total:		59,546.48	325,075.87	724,219.00	724,219.00	399,143.13	45 %
100	SALARIES	18,304.79	118,137.81	265,865.00	269,117.85	150,980.04	44 %
101	OVERTIME	0.00	13,318.13	9,250.00	9,250.00	-4,068.13	144 %
102	Salaries-Part Time	2,589.50	13,169.00	30,000.00	30,000.00	16,831.00	44 %
109	FICA	1,460.51	10,236.36	23,341.00	23,341.00	13,104.64	44 %
110	Retirement	2,352.18	16,982.44	35,765.00	35,765.00	18,782.56	47 %
111	Group Insurance	2,540.02	17,664.50	41,680.00	41,680.00	24,015.50	42 %
120	401 (K) Contribution	830.41	6,117.78	13,756.00	13,756.00	7,638.22	44 %
212	Supplies-Fuel	1,954.60	5,917.78	16,000.00	16,000.00	10,082.22	37 %
214	Supplies-Dept	227.76	1,586.99	3,000.00	3,000.00	1,413.01	53 %
215	Supplies-Materials	69.26	1,514.29	6,500.00	6,500.00	4,985.71	23 %
217	Supplies-Uniforms	0.00	1,914.77	3,000.00	3,000.00	1,085.23	64 %
218	Supplies-Equipment	483.69	4,543.74	11,000.00	11,000.00	6,456.26	41 %
310	Travel and Transportation	15.49	1,677.18	5,000.00	5,000.00	3,322.82	34 %
320	Postage	0.00	36.23	750.00	750.00	713.77	5 %
324	Dues and Subscriptions	240.00	2,225.86	7,800.00	7,800.00	5,574.14	29 %
330	Utilities	532.59	4,182.82	11,500.00	11,500.00	7,317.18	36 %
331	Repairs and Maint-Grounds	0.00	434.82	5,000.00	5,000.00	4,565.18	9 %
353	Repairs and Maint-Equipment	1,008.30	3,419.52	10,000.00	10,000.00	6,580.48	34 %
354	Repairs and Maint-Vehicles	217.92	181.14	15,000.00	15,000.00	14,818.86	1 %
490	Miscellaneous	0.00	102.96	2,500.00	2,500.00	2,397.04	4 %
514	Protective Clothing	0.00	0.00	10,000.00	10,000.00	10,000.00	%
553	Communications Equipment	0.00	0.00	7,000.00	7,000.00	7,000.00	%
693	Fairfield Volunteer Fire Dept	0.00	78,604.00	78,604.00	78,604.00	0.00	100 %
694	Chimney Rock Volunteer Fire Dept	0.00	45,000.00	45,000.00	45,000.00	0.00	100 %
695	Bills Creek Volunteer Fire Dept	0.00	45,000.00	45,000.00	45,000.00	0.00	100 %
Account Total:		32,827.02	391,968.12	702,311.00	705,563.85	313,595.73	56 %
Account Group Total:		32,827.02	391,968.12	702,311.00	705,563.85	313,595.73	56 %

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10 GENERAL FUND

Account	Object	Committed Current Month	Committed YTD	Original Appropriation	Current Appropriation	Available Appropriation	% Committed
451000 PUBLIC WORKS-STREETS							
451000 PUBLIC WORKS-STREETS							
100 SALARIES		10,228.54	72,862.85	164,935.00	164,935.00	92,072.15	44 %
103 Professional Services		0.00	2,499.50	2,800.00	2,800.00	300.50	89 %
109 FICA		740.75	5,360.62	12,618.00	12,618.00	7,257.38	44 %
110 Retirement		1,314.36	9,362.85	21,442.00	21,442.00	12,079.15	42 %
111 Group Insurance		1,545.75	9,526.26	25,400.00	25,400.00	15,873.74	38 %
120 401 (K) Contribution		353.46	2,664.94	8,247.00	8,247.00	5,582.06	32 %
211 Supplies-Automotive		608.72	3,924.49	13,000.00	13,000.00	9,075.51	30 %
214 Supplies-Dept		17.29	681.52	1,200.00	1,200.00	518.48	37 %
215 Supplies-Materials		1,423.06	13,344.04	23,000.00	23,000.00	9,655.96	58 %
217 Supplies-Uniforms		105.02	718.28	1,500.00	1,500.00	781.72	48 %
310 Travel and Transportation		0.00	283.76	600.00	600.00	316.24	47 %
331 Utilities-Street Lights		1,502.56	9,487.09	16,500.00	16,500.00	7,012.91	57 %
334 Utilities-Buildings		852.15	2,950.95	10,500.00	10,500.00	7,549.05	28 %
350 Repairs and Maint-Buildings		125.00	6,759.94	13,000.00	13,000.00	6,240.06	52 %
351 Repairs and Maint-Grounds		0.00	8,193.45	10,000.00	10,000.00	1,806.55	82 %
353 Repairs and Maint-Equipment		3,926.94	10,530.50	15,000.00	15,000.00	4,469.50	70 %
354 Repairs and Maint-Vehicles		3,671.87	10,908.90	18,000.00	18,000.00	7,091.10	61 %
691 Contractual Services		0.00	209.76	900.00	900.00	690.24	23 %
Account Total:		26,415.47	170,269.70	358,642.00	358,642.00	188,372.30	47 %
472000 SANITATION							
472000 SANITATION							
691 Contractual Services		14,150.00	84,900.00	169,800.00	169,800.00	84,900.00	50 %
692 Contractual Services-Recycling		1,136.00	5,736.00	14,400.00	14,400.00	8,664.00	40 %
696 Tipping Fees		2,916.06	16,909.94	32,520.00	32,520.00	15,610.06	52 %
Account Total:		18,202.06	107,545.94	216,720.00	216,720.00	109,174.06	50 %
492000 ECONOMIC DEVELOPMENT							
492000 ECONOMIC DEVELOPMENT							
585 Community Branding		996.39	4,926.42	12,500.00	12,500.00	7,573.58	39 %
631 Chamber of Commerce Support		0.00	10,000.00	10,000.00	10,000.00	0.00	100 %
688 Contractual-Communications Coordinator		2,250.00	13,500.00	27,000.00	27,000.00	13,500.00	50 %
Account Total:		3,246.39	28,426.42	49,500.00	49,500.00	21,073.58	57 %
493000 COMMUNITY DEVELOPMENT							
493000 COMMUNITY DEVELOPMENT							
100 SALARIES		7,004.61	48,259.89	109,337.00	109,337.00	61,077.11	44 %
102 Salaries-Part Time		1,039.73	3,426.38	16,000.00	16,000.00	12,573.62	21 %
103 Professional Services		0.00	0.00	50,000.00	50,000.00	50,000.00	0 %
109 FICA		608.02	3,917.16	9,588.00	9,588.00	5,670.84	41 %
110 Retirement		900.10	6,181.85	14,214.00	14,214.00	8,032.15	43 %
111 Group Insurance		757.89	4,863.81	13,850.00	13,850.00	8,986.19	35 %
120 401 (K) Contribution		350.23	2,405.37	5,467.00	5,467.00	3,061.63	44 %
180 Legal Services		43,186.50	64,880.80	70,000.00	70,000.00	5,119.20	93 %
212 Supplies-Fuel		0.00	24.45	800.00	800.00	775.55	3 %
214 Supplies-Dept		0.00	3,212.18	3,700.00	3,700.00	487.82	87 %
Account Group Total:		3,246.39	28,426.42	49,500.00	49,500.00	21,073.58	57 %

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10 GENERAL FUND

Account	Object	Committed Current Month	Committed YTD	Original Appropriation	Current Appropriation	Available Appropriation	% Committed
613000 PARKS & RECREATION							
613000 PARKS & RECREATION							
Account Group Total:							
613000 PARKS & RECREATION		54,480.52	145,276.66	320,256.00	320,256.00	174,979.34	45 %
100 SALARIES							
102 Salaries-Part Time		4,576.39	27,616.89	62,067.00	62,067.00	34,450.11	44 %
109 FICA		0.00	587.50	0.00	0.00	-587.50	0 %
110 Retirement		348.11	2,145.78	4,748.00	4,748.00	2,602.22	45 %
111 Group Insurance		588.05	3,548.72	8,069.00	8,069.00	4,520.28	44 %
120 401 (K) Contribution		984.20	5,930.40	13,580.00	13,580.00	7,649.60	44 %
212 Supplies-Fuel		228.82	1,380.88	3,103.00	3,103.00	1,722.12	45 %
215 Supplies-Materials		93.08	1,131.06	4,000.00	4,000.00	2,868.94	28 %
335 Flowering Bridge Lighting		0.00	4,752.45	10,000.00	10,000.00	5,247.55	48 %
351 Repairs and Maint-Grounds		1,027.54	1,353.11	3,800.00	3,800.00	2,446.89	36 %
353 Repairs and Maint-Equipment		2,206.11	7,068.93	15,000.00	15,000.00	7,931.07	47 %
633 GEESSE MITIGATION		308.45	1,410.40	7,000.00	7,000.00	5,589.60	20 %
691 Contractual Services		0.00	0.00	5,000.00	5,000.00	5,000.00	0 %
Account Total:		2,405.00	4,405.00	4,500.00	4,500.00	95.00	98 %
		12,765.75	61,331.12	140,867.00	140,867.00	79,535.88	44 %
615000 BEACH & MARINA							
615000 BEACH & MARINA							
Account Group Total:							
615000 BEACH & MARINA		12,765.75	61,331.12	140,867.00	140,867.00	79,535.88	44 %
214 Supplies-Dept							
350 Repairs and Maint-Buildings		0.00	0.00	2,500.00	2,500.00	2,500.00	0 %
351 Repairs and Maint-Grounds		0.00	0.00	5,000.00	5,000.00	5,000.00	0 %
353 Repairs and Maint-Equipment		177.36	2,061.81	4,220.00	4,220.00	2,158.19	49 %
Account Total:		0.00	0.00	1,000.00	1,000.00	1,000.00	0 %
		177.36	2,061.81	12,720.00	12,720.00	10,658.19	16 %
617000 GOLF							
617000 GOLF							
Account Group Total:							
617000 GOLF		177.36	2,061.81	12,720.00	12,720.00	10,658.19	16 %
350 Repairs and Maint-Buildings							
618 GOLF-Contractual Payments		0.00	4,415.00	5,000.00	5,000.00	585.00	88 %
691 Contractual Services		10,000.00	70,000.00	75,000.00	75,000.00	5,000.00	93 %
Account Total:		30.00	260.00	1,000.00	1,000.00	740.00	26 %
		10,030.00	74,675.00	81,000.00	81,000.00	6,325.00	92 %
618000 LAKE							
618000 LAKE							
Account Group Total:							
618000 LAKE		10,030.00	74,675.00	81,000.00	81,000.00	6,325.00	92 %
100 SALARIES							
102 Salaries-Part Time		7,706.24	46,169.36	100,180.00	100,180.00	54,010.64	46 %
109 FICA		0.00	4,185.00	18,500.00	18,500.00	14,315.00	23 %
110 Retirement		563.26	3,694.54	9,079.00	9,079.00	5,384.46	41 %
111 Group Insurance		1,020.32	6,112.92	13,415.00	13,415.00	7,302.08	46 %
		1,018.92	6,113.52	13,780.00	13,780.00	7,666.48	44 %

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10 GENERAL FUND

Account	Object	Committed Current Month	Committed YTD	Original Appropriation	Current Appropriation	Available	% Committed
120	401 (K) Contribution	385.32	2,308.52	5,099.00	5,099.00	2,790.48	45 %
212	Supplies-Fuel	307.43	1,633.32	5,000.00	5,000.00	3,366.68	33 %
213	Supplies-Boat Fuel & Supplies	73.23	4,309.41	8,000.00	8,000.00	3,690.59	54 %
214	Supplies-Dept	859.92	1,467.34	3,500.00	3,500.00	2,032.66	42 %
215	Supplies-Materials	303.95	1,361.50	7,000.00	7,000.00	5,638.50	19 %
216	Supplies-Fish Purchase	0.00	0.00	8,000.00	8,000.00	8,000.00	%
217	Supplies-Uniforms	0.00	241.09	700.00	700.00	458.91	34 %
219	Boat and Fishing Permits	0.00	3,362.00	3,300.00	3,300.00	-62.00	102 %
310	Travel and Transportation	0.00	3,325.29	3,500.00	3,500.00	174.71	95 %
320	Postage	0.00	0.00	300.00	300.00	300.00	%
324	Dues and Subscriptions	0.00	0.00	670.00	670.00	670.00	%
353	Repairs and Maint-Equipment	273.98	1,345.51	5,000.00	5,000.00	3,654.49	27 %
691	Contractual Services	247.46	6,022.29	13,500.00	13,500.00	7,477.71	45 %
Account Total:		12,760.03	91,651.61	218,523.00	218,523.00	126,871.39	42 %
Account Group Total:		12,760.03	91,651.61	218,523.00	218,523.00	126,871.39	42 %
800000 CAPITAL OUTLAY/SPECIAL PROJECTS							
800000 CAPITAL OUTLAY/SPECIAL PROJECTS							
503	FIRE-Truck Replacement	0.00	0.00	30,000.00	30,000.00	30,000.00	%
509	COMM DEV-Printer/Scanner	5,932.81	5,932.81	15,000.00	15,000.00	9,067.19	40 %
511	POLICE- Carpet	0.00	0.00	5,275.00	5,275.00	5,275.00	%
517	COMM DEV-Sidewalk Old ABC to New ABC	0.00	0.00	30,000.00	30,000.00	30,000.00	%
520	PW-Dump Truck Replacement	0.00	0.00	48,600.00	48,600.00	48,600.00	%
521	TECH-Computer Upgrades	220.00	2,601.83	5,000.00	5,000.00	2,398.17	52 %
523	PW-Pickup Truck Replacement	34,772.08	34,772.08	35,295.00	35,295.00	522.92	99 %
525	POLICE-Replace Vehicle Cameras	0.00	3,920.00	5,500.00	5,500.00	1,580.00	71 %
526	TECH-Server Upgrades	0.00	4,126.26	0.00	4,416.00	289.74	93 %
528	PW-Locator	0.00	3,907.20	0.00	3,907.00	-0.20	100 %
538	LAKE-Replace Boat Permit Database	0.00	21,823.59	0.00	0.00	-21,823.59	%
539	COMM DEV-Sidewalk Boys Camp to CRV	0.00	15,108.75	90,000.00	90,000.00	74,891.25	17 %
541	POLICE-Vehicles	25,647.85	25,647.85	68,700.00	68,700.00	43,052.15	37 %
548	PW-Parking Lot Repaving	0.00	70,140.00	82,065.00	82,065.00	11,925.00	85 %
559	BEACH-Renovations	0.00	0.00	15,000.00	15,000.00	15,000.00	%
571	PARK&REC-Morse Park Improvements	0.00	-48,600.00	0.00	0.00	48,600.00	%
592	PW-Street Paving	0.00	45,257.75	68,600.00	68,600.00	23,342.25	66 %
697	Silt Removal	0.00	11,160.57	300,000.00	300,000.00	288,839.43	4 %
Account Total:		66,572.74	195,798.69	802,942.00	807,358.00	611,559.31	24 %
Account Group Total:		66,572.74	195,798.69	802,942.00	807,358.00	611,559.31	24 %
820000 BONUSES (PERFORMANCE & LONGEVITY							
820000 BONUSES (PERFORMANCE & LONGEVITY							
100	SALARIES	51,300.00	51,300.00	0.00	52,224.00	924.00	98 %
109	FICA	3,777.80	3,777.80	0.00	3,778.00	0.20	100 %
110	Retirement	6,457.71	6,457.71	0.00	6,458.00	0.29	100 %
120	401 (K) Contribution	1,633.50	1,633.50	0.00	1,634.00	0.50	100 %
Account Total:		63,169.01	63,169.01	0.00	64,094.00	924.99	99 %
Account Group Total:		63,169.01	63,169.01	0.00	64,094.00	924.99	99 %

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10 GENERAL FUND

Account	Object	Committed		Committed		Original	Current	Available		%
		Current Month	YTD	YTD	YTD	Appropriation	Appropriation	Appropriation	Appropriation	
910000 DEBT SERVICE										
910000 DEBT SERVICE										
503 FIRE-Truck Replacement		0.00	0.00	0.00	0.00	4,167.00	4,167.00	4,167.00	4,167.00	%
531 FIRE-Fire Engine		20,562.63	20,562.63	20,562.63	20,562.63	41,312.00	41,312.00	20,749.37	20,749.37	50 %
541 POLICE-Vehicles		1,901.02	19,395.07	42,915.00	42,915.00	42,915.00	42,915.00	23,519.93	23,519.93	45 %
544 Work Truck		1,356.39	8,098.90	27,915.00	27,915.00	27,915.00	27,915.00	19,816.10	19,816.10	29 %
622 LAKE-Marina Slips		0.00	32,500.00	65,000.00	65,000.00	65,000.00	65,000.00	32,500.00	32,500.00	50 %
624 ADMIN-Strip Center Memorial Hwy		0.00	25,000.00	50,000.00	50,000.00	50,000.00	50,000.00	25,000.00	25,000.00	50 %
720 Bond Interest		2,875.88	17,373.32	35,212.00	35,212.00	35,212.00	35,212.00	17,838.68	17,838.68	49 %
Account Total:		26,695.92	122,929.92	266,521.00	266,521.00	266,521.00	266,521.00	143,591.08	143,591.08	46 %
920000 Non-Governmental										
920000 Non-Governmental										
130 Unemployment		31.05	31.05	31.05	31.05	8,000.00	8,000.00	7,968.95	7,968.95	%
450 Insurance and Bonding		2,979.00	111,454.35	120,000.00	120,000.00	120,000.00	120,000.00	8,545.65	8,545.65	93 %
751 Bank Fees		75.00	82.73	1,000.00	1,000.00	1,000.00	1,000.00	917.27	917.27	8 %
Account Total:		3,085.05	111,568.13	129,000.00	129,000.00	129,000.00	129,000.00	17,431.87	17,431.87	86 %
980000 TRANSFERS										
980000 TRANSFERS										
967 Transfer to Capital Reserve Fund		0.00	0.00	0.00	0.00	255,831.00	255,831.00	255,831.00	255,831.00	%
Account Total:		0.00	0.00	0.00	0.00	255,831.00	255,831.00	255,831.00	255,831.00	%
Account Group Total:		448,976.77	2,245,322.17	5,078,093.00	5,167,950.85	2,922,628.68	2,922,628.68	43 %		

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53 WATER AND SEWER FUND

Account	Object	Committed Current Month	Committed YTD	Original Appropriation	Current Appropriation	Available Appropriation	% Committed
713000 WATER							
100 SALARIES		3,491.26	20,935.37	46,248.00	46,248.00	25,312.63	45 %
101 OVERTIME		0.00	294.16	0.00	0.00	-294.16	%
103 Professional Services		0.00	0.00	4,000.00	4,000.00	4,000.00	43 %
109 FICA		247.71	1,507.84	3,538.00	3,538.00	2,030.16	45 %
110 Retirement		448.64	2,728.02	6,012.00	6,012.00	3,283.98	43 %
111 Group Insurance		506.23	3,037.39	7,000.00	7,000.00	3,962.61	43 %
120 401 (K) Contribution		174.55	1,061.45	2,312.00	2,312.00	1,250.55	46 %
212 Supplies-Fuel		196.09	1,031.59	4,500.00	4,500.00	3,468.41	23 %
214 Supplies-Dept		93.33	2,817.06	8,000.00	8,000.00	5,182.94	35 %
310 Travel and Transportation		0.00	15.00	830.00	830.00	815.00	2 %
321 Telephone		121.06	333.16	700.00	700.00	366.84	48 %
324 Dues and Subscriptions		255.00	425.00	547.00	547.00	122.00	78 %
330 Utilities		1,053.04	6,273.37	15,000.00	15,000.00	8,726.63	42 %
350 Repairs and Maint-Buildings		0.00	9,705.93	23,500.00	23,500.00	13,794.07	41 %
353 Repairs and Maint-Equipment		262.50	9,421.64	15,000.00	15,000.00	5,578.36	63 %
354 Repairs and Maint-Vehicles		0.00	585.44	4,800.00	4,800.00	4,214.56	12 %
358 Repairs and Maint-Lines		747.80	1,844.89	13,000.00	13,000.00	11,155.11	14 %
430 Equipment Rental		0.00	0.00	500.00	500.00	500.00	48 %
691 Contractual Services		3,546.22	8,670.28	18,000.00	18,000.00	9,329.72	50 %
964 Transfer to General - ADM Charge		0.00	2,499.50	5,000.00	5,000.00	2,500.10	50 %
Account Total:		11,143.43	73,187.49	178,487.00	178,487.00	105,299.51	41 %
714000 SEWER							
Account Group Total:							
11,143.43		73,187.49	178,487.00	178,487.00	105,299.51	41 %	
714000 SEWER							
100 SALARIES		2,621.40	15,843.17	32,895.00	32,895.00	17,051.83	48 %
101 OVERTIME		0.00	294.16	0.00	0.00	-294.16	%
103 Professional Services		0.00	2,415.43	3,000.00	3,000.00	584.57	81 %
109 FICA		196.24	1,209.26	2,516.00	2,516.00	1,306.74	48 %
110 Retirement		336.86	2,073.72	4,276.00	4,276.00	2,202.28	48 %
111 Group Insurance		356.27	2,115.08	5,150.00	5,150.00	3,034.92	41 %
120 401 (K) Contribution		131.05	806.79	1,645.00	1,645.00	838.21	49 %
214 Supplies-Dept		0.00	457.38	1,000.00	1,000.00	542.62	46 %
215 Supplies-Materials		17,941.98	115,430.86	115,000.00	115,000.00	-430.86	100 %
320 Postage		0.00	697.84	2,000.00	2,000.00	1,302.16	35 %
321 Telephone		47.70	674.01	1,500.00	1,500.00	825.99	45 %
330 Utilities		476.57	6,726.04	16,000.00	16,000.00	9,273.96	42 %
350 Repairs and Maint-Buildings		40.00	540.00	2,000.00	2,000.00	1,460.00	27 %
353 Repairs and Maint-Equipment		930.00	11,015.57	10,000.00	10,000.00	-1,015.57	110 %
355 Repairs and Maint-Collection System		50.00	9,741.32	10,000.00	10,000.00	258.68	97 %
690 Contractual Services-Sludge Hauling		4,950.00	44,139.48	60,000.00	60,000.00	15,860.52	74 %
691 Contractual Services		84.15	6,286.42	25,570.00	25,570.00	19,283.58	25 %
699 Contractual Services-WWTP Operator		10,036.01	58,165.89	113,500.00	113,500.00	55,334.11	51 %
964 Transfer to General - ADM Charge		0.00	2,499.90	5,000.00	5,000.00	2,500.10	50 %
Account Total:		38,198.23	281,132.32	411,052.00	411,052.00	129,919.68	68 %
Account Group Total:							
38,198.23		281,132.32	411,052.00	411,052.00	129,919.68	68 %	

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53 WATER AND SEWER FUND

Account	Object	Committed Current Month	Committed YTD	Original Appropriation	Current Appropriation	Available Appropriation	% Committed
820000 BONUSES (PERFORMANCE & LONGEVITY)							
820000 BONUSES (PERFORMANCE & LONGEVITY)							
100 SALARIES		4,675.00	4,675.00	0.00	4,675.00	0.00	100 %
109 FICA		357.64	357.64	0.00	358.00	0.36	100 %
110 Retirement		600.74	600.74	0.00	601.00	0.26	100 %
120 401 (K) Contribution		233.75	233.75	0.00	234.00	0.25	100 %
Account Total:		5,867.13	5,867.13	0.00	5,868.00	0.87	100 %
Account Group Total:							
5,867.13			5,867.13	0.00	5,868.00	0.87	100 %
910000 DEBT SERVICE							
910000 DEBT SERVICE							
611 SRJ Fund Project		0.00	0.00	55,955.00	55,955.00	55,955.00	%
612 Joint Wrapping Project		0.00	0.00	63,990.00	63,990.00	63,990.00	%
720 Bond Interest		0.00	6,448.73	12,898.00	12,898.00	6,449.27	50 %
Account Total:		0.00	6,448.73	132,843.00	132,843.00	126,394.27	5 %
Account Group Total:							
0.00			6,448.73	132,843.00	132,843.00	126,394.27	5 %
980000 TRANSFERS							
980000 TRANSFERS							
958 Transfer to Fund Balance		0.00	0.00	450,668.00	450,668.00	450,668.00	%
Account Total:		0.00	0.00	450,668.00	450,668.00	450,668.00	%
Account Group Total:							
0.00			0.00	450,668.00	450,668.00	450,668.00	%
55,208.79			366,635.67	1,173,050.00	1,178,918.00	812,282.33	31 %

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56 ELECTRIC FUND

Account Object

Committed Current Month YTD Original Appropriation Current Appropriation Available Appropriation Committed %

720000 ELECTRIC OPERATIONS

720000 ELECTRIC OPERATIONS

100 SALARIES	2,909.87	15,190.71	35,000.00	35,000.00	19,809.29	43 %
101 OVERTIME	1,107.16	9,766.05	30,500.00	30,500.00	20,733.95	32 %
109 FICA	298.16	1,853.78	5,011.00	5,011.00	3,157.22	37 %
110 Retirement	516.18	3,206.91	8,515.00	8,515.00	5,308.09	38 %
111 Group Insurance	416.04	2,518.80	5,400.00	5,400.00	2,881.20	47 %
120 401 (K) Contribution	200.87	1,247.92	3,275.00	3,275.00	2,027.08	38 %
212 Supplies-Fuel	153.63	691.16	5,000.00	5,000.00	4,308.84	14 %
214 Supplies-Dept	329.56	745.91	1,400.00	1,400.00	654.09	53 %
310 Travel and Transportation	0.00	0.00	50.00	50.00	50.00	%
321 Telephone	207.15	1,772.67	3,500.00	3,500.00	1,727.33	51 %
330 Utilities	262.15	1,733.04	4,000.00	4,000.00	2,266.96	43 %
350 Repairs and Maint-Buildings	272.40	5,556.65	10,000.00	10,000.00	4,443.35	56 %
351 Repairs and Maint-Grounds	3,026.85	4,708.70	10,000.00	10,000.00	5,291.30	47 %
352 Repairs and Maint-Dam	0.00	5,213.17	15,000.00	15,000.00	9,786.83	35 %
353 Repairs and Maint-Equipment	5,389.22	12,703.97	15,000.00	15,000.00	2,296.03	85 %
689 Contract Services-J. Wilson	3,885.00	22,575.00	45,000.00	45,000.00	22,425.00	50 %
691 Contractual Services	0.00	6,000.00	10,000.00	10,000.00	4,000.00	60 %
964 Transfer to General - ADM Charge	0.00	4,999.80	10,000.00	10,000.00	5,000.20	50 %
Account Total:	18,974.24	100,484.24	216,651.00	216,651.00	116,166.76	46 %

Account Group Total:

800000 CAPITAL OUTLAY/SPECIAL PROJECTS

800000 CAPITAL OUTLAY/SPECIAL PROJECTS

501 HYDRO-Install Electric-Taintor Gate	0.00	0.00	12,000.00	12,000.00	12,000.00	%
502 HYDRO-Generator	0.00	0.00	25,000.00	25,000.00	25,000.00	%
504 HYDRO-Truck	0.00	38,565.16	45,000.00	45,000.00	6,434.84	86 %
505 HYDRO-Cover Over Taintor Gate Hoists	26,610.46	39,846.72	75,000.00	75,000.00	35,153.28	53 %
507 HYDRO-Repair/Replace Small Turbine	0.00	12,239.38	10,000.00	10,000.00	-2,239.38	122 %
512 Replace Roof-Lake Ops	0.00	7,800.00	22,500.00	22,500.00	14,700.00	35 %
534 HYDRO-Circulating Hydraulics Small	0.00	0.00	15,000.00	15,000.00	15,000.00	%
557 HYDRO-Automate Butterfly Valve	0.00	0.00	30,000.00	30,000.00	30,000.00	%
565 Basement Rewiring & Lighting	0.00	0.00	10,000.00	10,000.00	10,000.00	%
576 DAM-Inspection	6,250.00	6,250.00	18,000.00	18,000.00	11,750.00	35 %
578 HYDRO-Repair/Replace Large Turbine	0.00	0.00	10,000.00	10,000.00	10,000.00	%
579 HYDRO-Install New Turbine Water Seals	0.00	0.00	45,000.00	45,000.00	45,000.00	%
580 HYDRO-Replace Electric Motor in Hoist	0.00	0.00	12,000.00	12,000.00	12,000.00	%
582 HYDRO-Temp Repairs Corrosion Penstock	0.00	0.00	25,000.00	25,000.00	25,000.00	%
596 Control Panel	0.00	0.00	4,000.00	4,000.00	4,000.00	%
Account Total:	32,860.46	104,701.26	358,500.00	358,500.00	253,798.74	29 %

Account Group Total:

820000 BONUSES (PERFORMANCE & LONGEVITY

820000 BONUSES (PERFORMANCE & LONGEVITY

100 SALARIES	2,175.00	2,175.00	0.00	2,175.00	0.00	100 %
109 FICA	166.39	166.39	0.00	167.00	0.61	100 %
110 Retirement	279.49	279.49	0.00	280.00	0.51	100 %
120 401 (K) Contribution	108.75	108.75	0.00	109.00	0.25	100 %
Account Total:	2,729.63	2,729.63	0.00	2,731.00	1.37	100 %

01/04/17
09:01:26

TOWN OF LAKE LORE
Statement of Expenditure - Budget vs. Actual Report
For the Accounting Period: 12 / 16

Page: 10 of 10
Report ID: B100

56 ELECTRIC FUND

Account	Object	Committed Current Month	Committed YTD	Original Appropriation	Current Appropriation	Available Appropriation	% Committed
Account Group Total:		2,729.63	2,729.63	0.00	2,731.00	1.37	100 %
980000 TRANSFERS							
980000 TRANSFERS							
962 Transfer to Silt Reserve		0.00	0.00	50,000.00	50,000.00	50,000.00	%
966 Transfer To General		0.00	0.00	160,000.00	160,000.00	160,000.00	%
Account Total:		0.00	0.00	210,000.00	210,000.00	210,000.00	%
Account Group Total:		0.00	0.00	210,000.00	210,000.00	210,000.00	%
Fund Total:		54,564.33	207,915.13	785,151.00	787,882.00	579,966.87	26 %
Grand Total:		558,749.89	2,819,872.97	7,036,294.00	7,134,750.85	4,314,877.88	40 %

Lake Lure Golf Club Report

December 2016

December 2016 was very inconsistent in that some days we were very busy then we would have a stretch of complete inactivity. All in all the end of the year was a definite positive going forward. Golf rounds in December totaled 186 versus 230 last December. Most of these rounds came in the last weeks of the month. FootGolf continued to provide many great memories for families visiting our town as 38 people played the last three days of the year. FootGolf totaled 40 players for the month.

Year-end totals for Golf- <u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
4609	5051	4829	5041

Year-end totals for FG- <u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
		262	644

Total visits for the year then is 5685 a very positive sign for the future.

We continue to work on our winter list of project with the drainage pipe and gravel ready to be installed in the right-hand bunker on number three. The spoils from the trenches has been hauled to areas designated for seed. We have begun to weedeat the creek banks throughout the course so strong regrowth will happen strengthening the vegetation. We will also cast Turf-type Tall Fescue seed along the entirety of the creek. Other projects are cutting underbrush, drainage and sand to the bunkers on number eight, two and the practice range which is new, irrigation head leveling and painting in the Clubhouse.

Lake Lure Fire Department

Monthly Report

December 2016

Hired Firefighter Brent Hoyle to replace the firefighter the quit during the Party Rock Fire. Brent has been with us as a part time fill in firefighter for over 2 years and has already completed most of the training required. This normally takes a firefighter approximately 2 years to complete after we hire them. Brent started as a full time employee on Dec. 30th.

Assistant Chief Dustin Waycaster completed Fire Inspector Level 2 training and is preparing to take his state exam.

Responded to approximately 22 fire rescue or ems calls including calls associated with the Party Rock Fire, still working on these reports.

Lake Lure Fire Dept. responded to a total of 608 Fire/Rescue/EMS calls in 2016, this is approximately 14% increase from last year. This is approximately a 50% increase in calls since 2008.

Completed annual hose testing that was delayed due to the Party Rock Fire.

Completed annual service testing of Lake Lure and Chimney Rock Fire engines.

Completed annual pre fire plan reviews required for ISO and used on commercial building responses.

Lake Lure Firefighters participated in 340 hours of training in December.

**LAKE LURE TOWN COUNCIL
REQUEST FOR BOARD ACTION**

Meeting Date: January 10, 2017

SUBJECT: 2017-2022 Capital Improvements Plan Presentation

AGENDA INFORMATION:

Agenda Location: Presentations to Council
Item Number: A
Department: Administration
Contact: Ron Nalley, Town Manager
Presenter: Ron Nalley, Town Manager

BRIEF SUMMARY: The Capital Improvement Program (CIP) is a financial planning tool that looks into the future to forecast the Town's equipment, building and infrastructure needs. Generally speaking, an item is included in the Town's CIP if it has a life expectancy of greater than one year and a value of greater than \$5,000. The CIP process began with the distribution of the worksheets to department heads and will end in March or April with the adoption of the final plan.

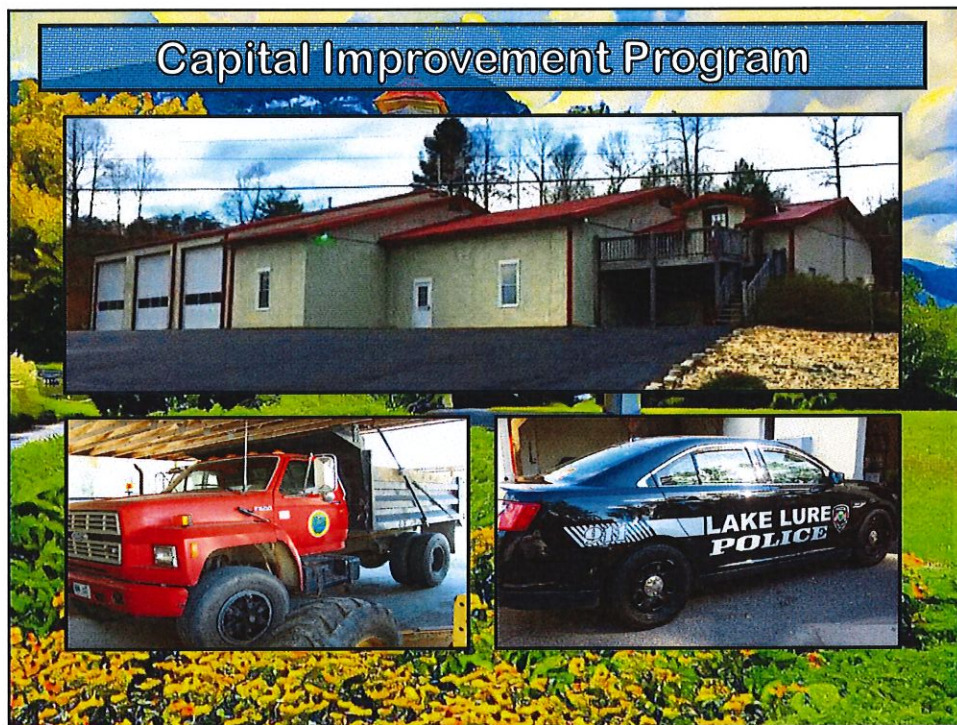
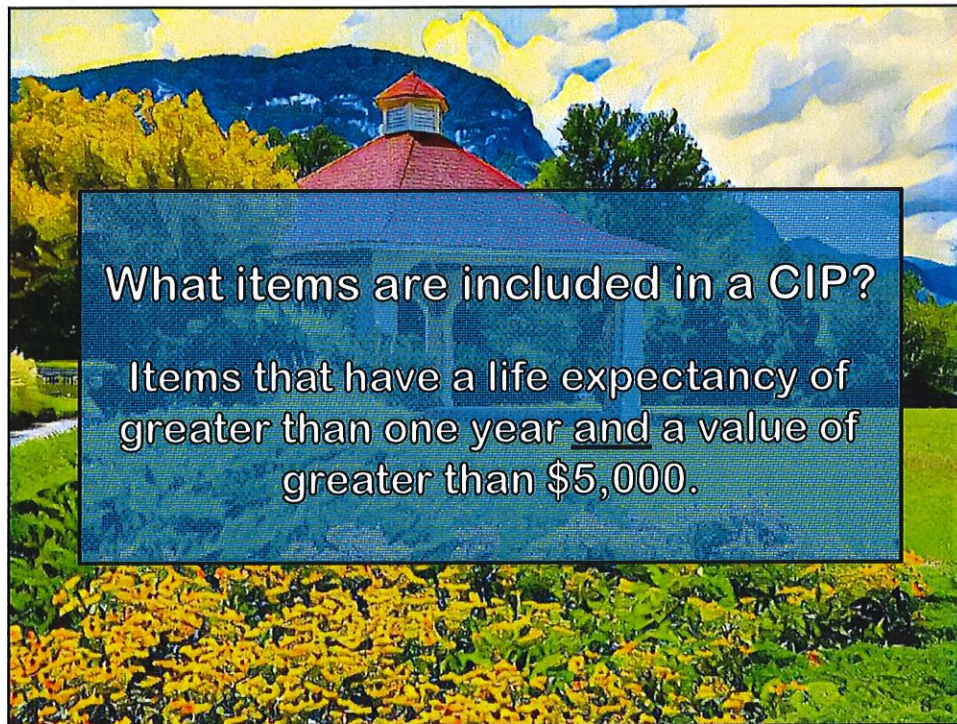
RECOMMENDED MOTION AND REQUESTED ACTIONS: None

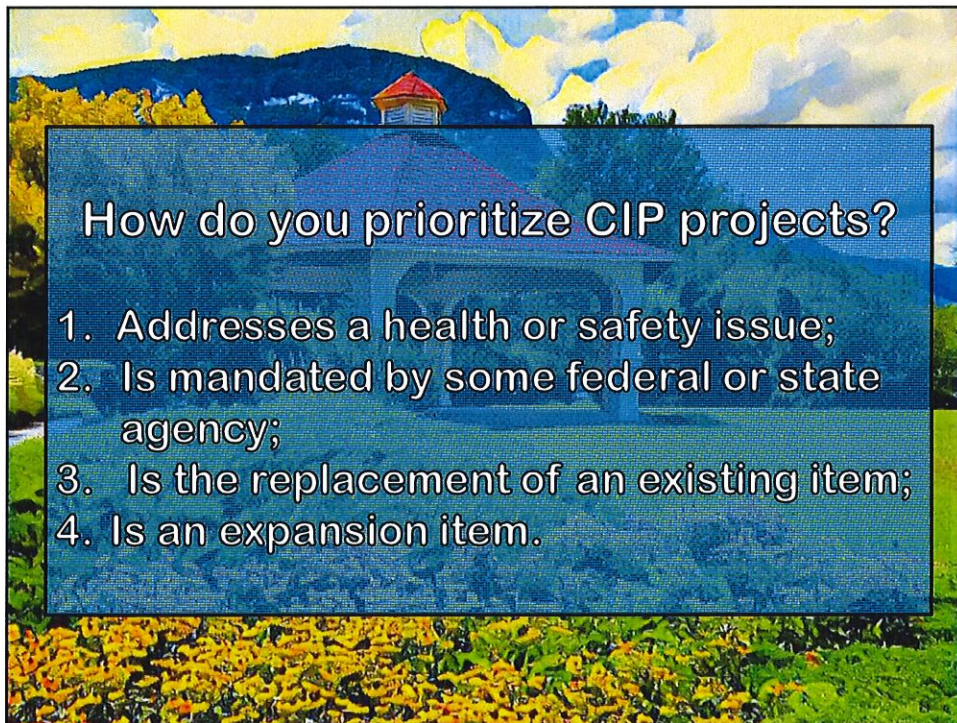
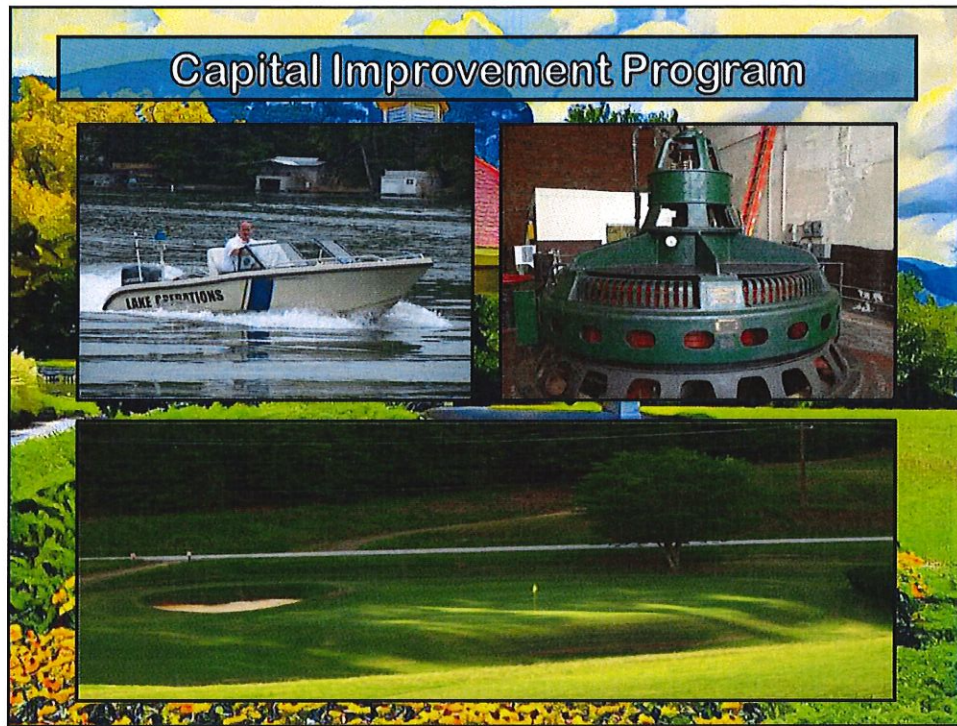
FUNDING SOURCE: None

ATTACHMENTS: Presentation Handout

STAFF'S COMMENTS AND RECOMMENDATIONS: As you can see from the handout, the purpose of the CIP presentation is to describe the following: what is a capital improvement program; what is included in a CIP; and a description of the process for Board members or our residents to request an item be included in the CIP. The first draft of the CIP will be completed by late January and I will distribute a copy to you for your consideration at your meeting in February. Over the next month, the Board and residents will be asked to determine if there are any projects that you or they feel need to be added, modified or even deleted from the plan. Following a public hearing in March and any final modifications, the Board can then adopt the plan.







Town of Montreat Capital Improvement Plan - Project Summary Form																															
Project Title:	Local Street Paving					Departmental Priority:	1																								
Department:	Streets					Organizational Priority:	1																								
Acct. Number:	10-20-5600-730																														
Purpose:	Health, Safety and Welfare	☐	Mandate	☐	Renovation/Replacement	☒	Expansion	☐																							
Description:	This project sets aside an annual appropriation to maintain local streets within the Town. Funding should provide for routine resurfacing, maintenance needs and replacement or upgrade of the storm drainage system. Budget figures for 2015-2016 include Texas Road. Figures for 2016-2017 include Appalachian (S.C. to top) for \$190,000 and Mecklenburg Circle (\$160,000). Figures for 2017-2018 include Louisiana from Virginia to Harmony (\$150,000) and on Virginia from Mississippi to Louisiana (\$135,000). Figures for 2018-2019 include Upper Kentucky (\$190,000) and Oklahoma (\$150,000). Figures for 2019-2020 include Eastminster (\$150,000), Maryland (\$100,000) and a portion of Shenandoah (\$100,000). Figures for future years include Arkansas (\$150,000) and John Knox (\$190,000).																														
Justification:	Weather, heavier traffic flows, poor sub-bases and limited funds have contributed to deteriorating roadways in Montreat. For these reasons, streets are breaking down sooner, cracking and becoming riddled with potholes. This project provides for a more systematic approach to repaving local streets. Streets are indexed on a scale of 1 (poor) to 5 (good), prioritized and presented to the Board for their consideration during their annual retreat.																														
Project Status:	Unfunded	☒	Partially Funded	☐	Funded	☐																									
	<table border="1"> <thead> <tr> <th rowspan="2">Total Appropriations To Date</th> <th colspan="5">Unappropriated Subsequent Years</th> <th rowspan="2">Future Years</th> <th rowspan="2">Total Requested Funds</th> <th rowspan="2">Total Project Cost</th> </tr> <tr> <th>Budget Year 1 2015 - 2016</th> <th>Year 2 2016 - 2017</th> <th>Year 3 2017 - 2018</th> <th>Year 4 2018 - 2019</th> <th>Year 5 2019 - 2020</th> </tr> </thead> <tbody> <tr> <td>\$ 194,000</td> <td>\$ 385,000</td> <td>\$ 314,000</td> <td>\$ 374,000</td> <td>\$ 385,000</td> <td>\$ 374,000</td> <td>\$ 2,026,000</td> <td>\$ 2,026,000</td> </tr> </tbody> </table>									Total Appropriations To Date	Unappropriated Subsequent Years					Future Years	Total Requested Funds	Total Project Cost	Budget Year 1 2015 - 2016	Year 2 2016 - 2017	Year 3 2017 - 2018	Year 4 2018 - 2019	Year 5 2019 - 2020	\$ 194,000	\$ 385,000	\$ 314,000	\$ 374,000	\$ 385,000	\$ 374,000	\$ 2,026,000	\$ 2,026,000
Total Appropriations To Date	Unappropriated Subsequent Years					Future Years	Total Requested Funds	Total Project Cost																							
	Budget Year 1 2015 - 2016	Year 2 2016 - 2017	Year 3 2017 - 2018	Year 4 2018 - 2019	Year 5 2019 - 2020																										
\$ 194,000	\$ 385,000	\$ 314,000	\$ 374,000	\$ 385,000	\$ 374,000	\$ 2,026,000	\$ 2,026,000																								

Project Title: Local Street Paving										Capital Improvement Plan - Project Summary Form										Page 2	
Milestones:		Recommended Time Schedule										Operating Budget Impact									
		2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020			2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020						
Planning/Preliminary Design	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒											
Engineering/Arch. Services	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒											
Land/ROW/Acquisition	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒											
Award of Contract	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒											
Construction/Purchase	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒											
Operating Budget Impact:		Salaries/Benefits		☐	Utilities		☐	Departmental Expenses		☐	Capital Outlay		☐								
		Professional Services		☐	Maintenance/Repair		☐														
Project Costs:		Current Estimated Cost	Prior Year Costs	Budget 2015 - 2016	Budget 2016 - 2017	Budget 2017 - 2018	Budget 2018 - 2019	Budget 2019 - 2020	Future Years	Project Total											
Planning/Design/Engineering	\$ 18,000		\$ 18,000	\$ 35,000	\$ 29,000	\$ 34,000	\$ 35,000	\$ 34,000	\$ 185,000												
Land/ROW Acquisition	\$ 176,000		\$ 176,000	\$ 350,000	\$ 285,000	\$ 340,000	\$ 350,000	\$ 340,000	\$ 1,841,000												
Construction									\$ -												
Equipment									\$ -												
Hardware/Software									\$ -												
Total Project Costs:	\$ 194,000	\$ -	\$ 194,000	\$ 385,000	\$ 314,000	\$ 374,000	\$ 385,000	\$ 374,000	\$ 2,026,000												
Total Operating Budget Costs:			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -												
Total Project Estimated Costs:	\$ 194,000	\$ -	\$ 194,000	\$ 385,000	\$ 314,000	\$ 374,000	\$ 385,000	\$ 374,000	\$ 2,026,000												
Source of Funds:		Percentage	Budget 2015 - 2016	Budget 2016 - 2017	Budget 2017 - 2018	Budget 2018 - 2019	Budget 2019 - 2020	Future Years	Project Total												
Current Revenue	☒	100.00%	\$ 194,000	\$ 385,000	\$ 314,000	\$ 374,000	\$ 385,000	\$ 374,000	\$ 2,026,000												
Bonds	☐								\$ -												
Assessment	☐								\$ -												
Lease/Purchase	☐								\$ -												
Grant	☐								\$ -												
Other:	☐								\$ -												
Total Funding:		100.00%	\$ 194,000	\$ 385,000	\$ 314,000	\$ 374,000	\$ 385,000	\$ 374,000	\$ 2,026,000												

5600/5700 - STREET/POWELL BILL SUMMARY

The Street Department of the Town of Montreat provides street services and upgrades to the residents of Montreat. The Street Department is responsible for storm water management, road repair and resurfacing, mowing and right-of-way maintenance.

PROJECT DESCRIPTION	PRIORITY CODE	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FUTURE	TOTAL
Local Street Paving	1	\$ 194,000	\$ 385,000	\$ 314,000	\$ 374,000	\$ 385,000	\$ 374,000	\$ 2,026,000
Bridge Replacement	2	\$ 818,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 818,000
New Road Paving	10	\$ 37,000	\$ 40,000	\$ 88,000	\$ 35,000	\$ 75,000	\$ 100,000	\$ 375,000
Truck Replacement (96)	4	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 45,000
Dump Truck Replacement (85)	B	\$ -	\$ 16,500	\$ 16,500	\$ 16,500	\$ 16,500	\$ 16,500	\$ 82,500
Sander Replacement	B	\$ -	\$ 6,000	\$ -	\$ -	\$ -	\$ -	\$ 6,000
Chipper	B	\$ -	\$ -	\$ 44,000	\$ -	\$ -	\$ -	\$ 44,000
Truck Replacement (04)	B	\$ -	\$ -	\$ 45,000	\$ -	\$ -	\$ -	\$ 45,000
Dump Truck Replacement (95)	B	\$ -	\$ -	\$ -	\$ -	\$ 16,500	\$ 66,000	\$ 82,500
Leaf/Bucket Truck	C	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 82,500	\$ 82,500
TOTALS		\$ 1,094,000	\$ 447,500	\$ 507,500	\$ 425,500	\$ 493,000	\$ 639,000	\$ 3,606,500
Expenditure Classifications								
Planning/Design/Engineering		\$ 23,000	\$ 40,000	\$ 37,000	\$ 37,000	\$ 45,000	\$ 34,000	\$ 216,000
Land		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Construction		\$ 1,026,000	\$ 385,000	\$ 365,000	\$ 372,000	\$ 415,000	\$ 440,000	\$ 3,003,000
Equipment		\$ 45,000	\$ 22,500	\$ 105,500	\$ 16,500	\$ 33,000	\$ 165,000	\$ 387,500
Hardware/Software		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTALS		\$ 1,094,000	\$ 447,500	\$ 507,500	\$ 425,500	\$ 493,000	\$ 639,000	\$ 3,606,500
Revenue Classifications								
Operating Revenues - General		\$ 439,600	\$ 431,000	\$ 491,000	\$ 409,000	\$ 460,000	\$ 474,000	\$ 2,704,600
Operating Funds - Powell Bill		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt/Financing		\$ -	\$ 16,500	\$ 16,500	\$ 16,500	\$ 33,000	\$ 165,000	\$ 247,500
Grant		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other		\$ 654,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 654,400
TOTALS		\$ 1,094,000	\$ 447,500	\$ 507,500	\$ 425,500	\$ 493,000	\$ 639,000	\$ 3,606,500

GENERAL FUND EXPENDITURES SUMMARY ALL DEPARTMENTS

PROJECT DESCRIPTION	PRIORITY CODE	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FUTURE	TOTAL
4100 Governing Board								
Sub-Total: Governing Board		0	0	0	0	0	0	0
4200 Administration								
Comprehensive Plan Update	B	0	60,000	0	0	0	0	60,000
Computer Software Update	B	0	0	30,000	0	0	0	30,000
Sub-Total: Administration		0	60,000	30,000	0	0	0	90,000
5000 Public Buildings								
Town Hall Replacement	3	97,650	109,300	109,300	109,300	109,300	1,147,650	1,682,500
Public Works Facility	B	0	57,800	35,600	35,600	35,600	409,400	574,000
Pavement of Compactor Area	7	25,000	0	0	0	0	0	25,000
Sub-Total: Public Buildings		122,650	167,100	144,900	144,900	144,900	1,557,050	2,281,500
5100 Police								
Police Vehicle Replacement	B	0	36,000	0	36,000	0	36,000	108,000
Radio Replacement	A&B	0	35,000	0	0	0	0	35,000
Sub-Total: Police		0	71,000	0	36,000	0	36,000	143,000
5400 Planning & Zoning								
Stormwater Utility Study	5	35,000	0	0	0	0	0	35,000
Wayfinding Signage Plan	6	20,000	30,000	39,000	35,000	12,000	0	136,000
GPS/GIS Integration	C	0	27,500	0	0	0	0	27,500
UDO/Form Based Code	C	0	25,000	25,000	0	0	0	50,000
Ordinance Recodification	B	0	0	15,000	0	0	0	15,000
Vehicle Replacement	B	0	0	0	0	0	25,000	25,000
Sub-Total: Planning & Zoning		55,000	82,500	79,000	35,000	12,000	25,000	288,500
5550 Public Works								
Radio Replacement	B	0	0	4,200	0	0	0	4,200
Sub-Total: Public Works		0	0	4,200	0	0	0	4,200
5600 Streets & 5700 Powell Bill								
Local Street Paving	1	194,000	385,000	314,000	374,000	385,000	374,000	2,026,000
Bridge Replacement	2	818,000	0	0	0	0	0	818,000

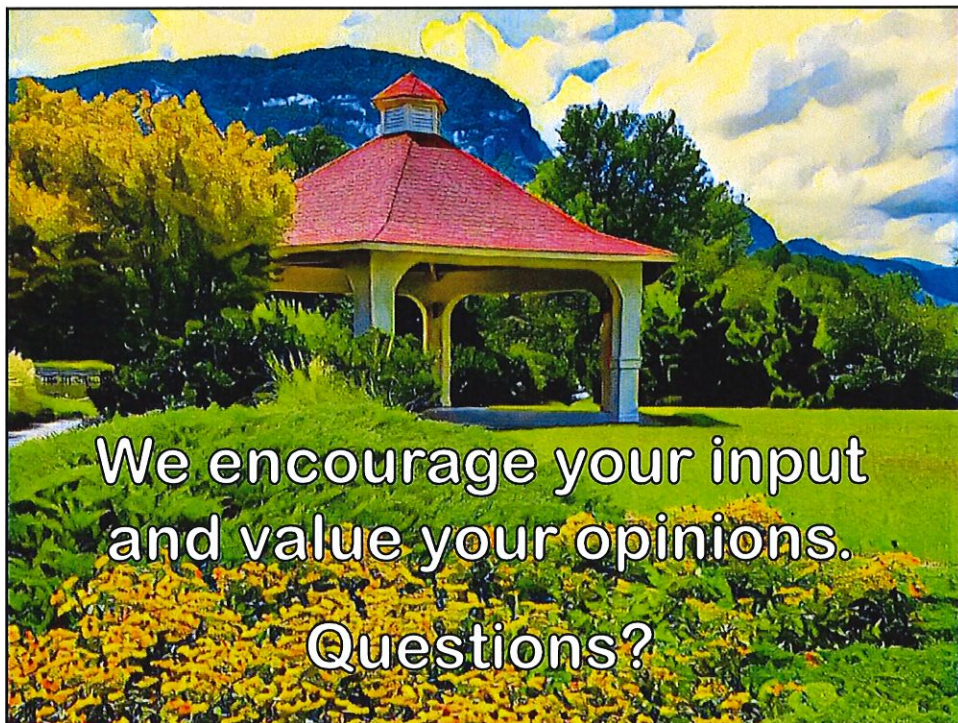
GENERAL FUND EXPENDITURES SUMMARY ALL DEPARTMENTS								
PROJECT DESCRIPTION	PRIORITY CODE	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FUTURE	TOTAL
New Road Paving	10	37,000	40,000	88,000	35,000	75,000	100,000	375,000
Truck Replacement (96)	4	45,000	0	0	0	0	0	45,000
Dump Truck Replacement (85)	B	0	16,500	16,500	16,500	16,500	16,500	82,500
Sander Replacement	B	0	6,000	0	0	0	0	6,000
Chipper Replacement	B	0	0	44,000	0	0	0	44,000
Truck Replacement (04)	B	0	0	45,000	0	0	0	45,000
Dump Truck Replacement (95)	B	0	0	0	0	16,500	66,000	82,500
Leaf/Bucket Truck	C	0	0	0	0	0	82,500	82,500
Sub-Total: Streets/Powell Bill		1,094,000	447,500	507,500	425,500	493,000	639,000	3,606,500
5800 Sanitation								
Sanitation Trk. Replacement	8	75,000	0	0	0	0	0	75,000
Sanitation Pick-Up Truck	B	0	0	0	0	48,000	0	48,000
Sub-Total: Sanitation		75,000	0	0	0	48,000	0	123,000
6190 Conservation/Recreation								
Native Plant Garden	9	10,000	0	0	0	0	0	10,000
Sidewalks/Greenways Devp.	C	0	25,000	0	0	75,000	0	100,000
Gateway Plan	C	0	55,000	55,000	0	0	0	110,000
Sub-Total: Recreation		10,000	80,000	55,000	0	75,000	0	220,000
GENERAL FUND TOTALS		1,356,650	908,100	820,600	641,400	772,900	2,257,050	6,756,700
Expenditure Classifications								
Planning/Design/Engineering		121,000	165,000	77,000	37,000	45,000	34,000	479,000
Land		0	0	0	0	0	0	0
Construction		1,115,650	622,100	603,900	551,900	646,900	1,997,050	5,537,500
Equipment		120,000	93,500	109,700	52,500	81,000	226,000	682,700
Hardware/Software		0	27,500	30,000	0	0	0	57,500
TOTAL		1,356,650	908,100	820,600	641,400	772,900	2,257,050	6,756,700
Revenue Classifications								
Operating Revenues-General		647,600	744,500	659,200	480,000	595,000	535,000	3,661,300
Operating Revenues-Powell Bill		0	0	0	0	0	0	0
Debt/Financing		54,650	143,600	161,400	161,400	177,900	1,722,050	2,421,000
Grant		0	20,000	0	0	0	0	20,000
Other		654,400	0	0	0	0	0	654,400
TOTAL		1,356,650	908,100	820,600	641,400	772,900	2,257,050	6,756,700

GENERAL FUND REVENUES SUMMARY							
	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FUTURE	TOTAL
REVENUE SOURCES							
Ad Valorem Taxes	967,000	976,000	986,000	996,000	1,005,000	1,016,000	5,946,000
Other Taxes	369,000	380,000	391,000	402,000	413,000	425,000	2,380,000
Unrestricted Intergovernmental	59,000	59,000	59,000	59,000	59,000	59,000	354,000
Restricted Intergovernmental	694,500	41,500	42,500	43,500	44,500	45,500	912,000
Permits and Fees	96,000	96,500	97,000	97,500	98,000	98,500	583,500
Sales and Services	13,000	13,000	13,000	13,000	13,000	13,000	78,000
Investment Earnings/Miscellaneous	5,500	5,500	6,000	6,000	6,500	6,500	36,000
TOTALS	2,204,000	1,571,500	1,594,500	1,617,000	1,639,000	1,663,500	10,289,500
HISTORICAL DATA							
Average % Capital vs. Revenue	45%	45%	45%	45%	45%	45%	45%
Capital Funding Based on Average %	991,800	707,175	717,525	727,650	737,550	748,575	4,630,275
DEBT SERVICE							
Existing	0	0	0	0	0	0	0
Proposed	54,650	143,600	161,400	161,400	177,900	1,722,050	2,421,000
Other	654,400	0	0	0	0	0	654,400
REVENUE CLASSIFICATIONS							
Operating Revenues - General	647,600	744,500	659,200	480,000	595,000	535,000	3,661,300
Operating Funds - Powell Bill	0	0	0	0	0	0	0
Debt/Financing	54,650	143,600	161,400	161,400	177,900	1,722,050	2,421,000
Grant	0	20,000	0	0	0	0	20,000
Other	654,400	0	0	0	0	0	654,400
TOTAL	1,356,650	908,100	820,600	641,400	772,900	2,257,050	6,756,700
EXPENDITURE CLASSIFICATIONS							
Planning/Design/Engineering	121,000	165,000	77,000	37,000	45,000	34,000	479,000
Land	0	0	0	0	0	0	0
Construction	1,115,650	622,100	603,900	551,900	646,900	1,997,050	5,537,500
Equipment	120,000	93,500	109,700	52,500	81,000	226,000	682,700
Hardware/Software	0	27,500	30,000	0	0	0	57,500
TOTAL	1,356,650	908,100	820,600	641,400	772,900	2,257,050	6,756,700



Next Steps:

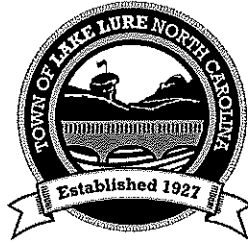
- Review Projects and Establish Priorities
- Consider Revenue/Expenditure Impacts
- Draft CIP Presented in February
- CIP Public Hearing Held in March
- Adopt CIP in March or April



We encourage your input
and value your opinions.

Questions?





**MINUTES OF THE REGULAR MEETING OF THE LAKE LURE TOWN COUNCIL
HELD TUESDAY, DECEMBER 13, 2016, 6:00 P.M. AT THE LAKE LURE MUNICIPAL
CENTER**

PRESENT: Mayor Bob Keith
Commissioner Mary Ann Silvey
Commissioner Bob Cameron
Commissioner John W. Moore
Commissioner Stephen M. Webber

Ron Nalley, Town Manager
J. Christopher Callahan, Town Attorney

ABSENT: N/A

CALL TO ORDER

Mayor Bob Keith called the meeting to order at 6:15 p.m. Attorney Chris Callahan gave the invocation. Council members led the pledge of allegiance.

APPROVE THE AGENDA

Commissioner Bob Cameron made a motion to approve the agenda as presented. Commissioner Stephen Webber seconded and the motion carried 4-0.

MAYOR'S COMMUNICATIONS

Mayor Bob Keith read Resolution No. 16-12-13 expressing gratitude to firefighters, emergency personnel and those assisting during the Party Rock Fire. Fire Chief Ron Morgan gave a presentation overviewing the events of the fire.

Commissioner Stephen Webber made a motion to adopt Resolution No. 16-12-13 as amended. Commissioner Bob Cameron seconded and the motion carried 4-0. Commissioner Mary Ann Silvey suggested that someone create a publication outlining the events of the Party Rock Fire.

RESOLUTION NO. 16-12-13

**EXPRESSING GRATITUDE TO FIREFIGHTERS, EMERGENCY PERSONNEL AND
THOSE ASSISTING DURING THE PARTY ROCK FIRE**

WHEREAS, on November 5, 2016 the Party Rock Fire began in the Town of Lake Lure; and

WHEREAS, this fire increased in size and intensity and eventually burned over 7,171 acres in Lake Lure, Rutherford County, Buncombe County, and Henderson County; and

WHEREAS, fighting this fire required the services of over 200 municipalities, counties, states and federal offices; and

WHEREAS, due to the bravery and expertise of these firefighters no structures were lost and no serious injuries nor deaths occurred; and

WHEREAS, an emergency of this nature commands the services of many other agencies including public safety, rescue workers, and volunteers who responded with courage, selfless compassion, and determination; and

WHEREAS, the Town of Lake Lure recognizes the Town departments which responded including Fire, Police, Public Works, Lake Management and Administration; and

WHEREAS, personnel from the Fire Services, Fire Departments, Incident Command, and many other agencies manned stations for many long and weary hours; and

WHEREAS, the community helped support those who were serving on the front lines by providing supplies, overnight accommodations, gas and other vital necessities.

NOW, THEREFORE, BE IT RESOLVED that the Town Council of the Town of Lake Lure does hereby recognize and express gratitude to the heroic efforts of the firefighters and emergency personnel and to those who offered the many unselfish acts of kindness and urges all citizens to join in recognizing these outstanding men and women.

Adopted this the day 13th of December, 2016.

PRESENTATION:

**A. WAYFINDING MASTER PLAN - CANDACE B HLADICK, J.M. TEAGUE
ENGINEERING & PLANNING**

Community Development Director Shannon Baldwin explained that the Town has been working on a wayfinding system with the Rutherford County Tourism Development Authority ("TDA") at various times over the last three to four years. The objective of the Lake Lure Wayfinding Master Plan is to implement a wayfinding signage system throughout the Town.

Don Cason, Rutherford County TDA Executive Director, discussed the plan for the Town and explained that the TDA will pay for the manufacturing and installation of the signage to promote travel and tourism in Rutherford County and the Town of Lake Lure will be responsible for the maintenance and future replacement of the signage.

Kristy Carter of JM Teague Engineering and Planning highlighted the process for installation of the signs and answered Council's questions concerning the plan.

Commissioner Bob Cameron asked who will represent the Town to provide direction concerning placement of the signs. Mr. Baldwin stated that the public works department would be involved and Ms. Carter explained that usually North Carolina Department of Transportation (NCDOT) will only allow the signs to be placed in specific locations.

Commissioner Webber expressed concerns about omission of specific names on some of the proposed signs including the titles such as "Washburn Marina" and "Dittmer-Watts Nature Trail". Ms. Carter responded that there are restrictions in place that restrict the size of signs and lettering and most of the signs are directional and list general information instead of specific location names. Ms. Carter further stated that she will continue to review options for the signs.

TOWN MANAGER COMMUNICATIONS

Ron Nalley provided a brief staff report including the following:

- Mr. Nalley informed the Board that the Town was unsuccessful in its attempt to purchase the American Legion property and that the property was sold to a private individual.
- Dam Operator Donnie McCraw provided an update on the repair at the dam.
- Environmental Management Officer Clint Calhoun explained that the Buffalo Creek Trail Park was damaged during the Party Rock Fire and gave details concerning the significant trail repair work that will be required.

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- Town Manager Ron Nalley introduced the Town's new Public Works Director David Arrowood and the Town's new Coded Enforcement Coordinator Brad Burton.

COUNCIL LIAISON REPORTS & COMMENTS

Commissioner Bob Cameron reported the activities of the Utility Advisory Board.

Commissioner Mary Ann Silvey reported the activities of the Lake Lure ABC Board and the Lake Advisory Board.

Commissioner John Moore reported the activities of the Zoning and Planning Board and explained that they had recommended that Council have the trees on the island in front of the arcade be inspected by an arborist. Commissioner Moore made a motion to have an arborist along with Zoning and Planning Board member Norman McGlohon, Environmental Management Officer Clint Calhoun and the Parks and Recreation Board study the trees on the island in front of the arcade. Commissioner Bob Cameron seconded and the motion carried 4-0.

Commissioner Stephen Webber reported the activities of the Board of Adjustment and Lake Structure Appeals Board, the Asset Management Advisory Board, and the Parks and Recreation Board.

PUBLIC FORUM

Fran Nordt of 156 Hilltop Court suggested that Council revisit discussion of extending Carson Way for the safety of citizens in Rumbling Bald Resort as well as on Boys Camp Road. Mayor Bob Keith explained that Town officials are working on the project.

PRESENTATION:

- A. Strip Center and ABC Store Proposal – Charlie Ellis, Asset Management Advisory Board Chairman

Charlie Ellis, Chairman of the Asset Management Advisory Board, gave a brief history of Town Council's decision to acquire the strip center. Mr. Ellis explained this project offers a unique opportunity to redevelop an underutilized piece of town owned property. The project is seen as an economic driver for the Town Center Plan and may prove to be the catalyst to making the Plan a reality. The relocation and redevelopment of this property will help encourage private investment, create jobs, expand the property tax base, and improve access, increase tourism, and leverage additional funding in the Town Center.

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Tony Brodfuhrer, Chairman of the ABC Board, stated that the ABC Board members would like for the store to stay where it is currently located due to their heavy dependency on tourist traffic and easy visibility. Mr. Brodfuhrer further explained that the ABC Board believes that the office that was formerly Dr. Burch's office is a much better location and may be less expensive to renovate.

Linda Turner of 211 Hawks Nest Trails inquired as to whether the ABC Board was involved in the decision to purchase the property. Ms. Turner explained that she believes if someone is looking for an ABC store they will find it even if it is relocated.

Patricia Maringer of Memorial Highway inquired as to what will happen to the chapel located in the ABC store area if the property is repurposed and asked if anyone has done a study to see if the ABC store will make it in the new location.

Council discussed the concerns and Town Manager Ron Nalley agreed to continue to move forward with the Strip Center Project as planned.

CONSENT AGENDA

Mayor Bob Keith presented the Consent Agenda and asked if any items should be removed before calling for action.

Commissioner Stephen Webber made a motion to approve the Consent Agenda as presented. Commissioner Bob Cameron seconded and the motion carried 4-0. Therefore, the Consent Agenda incorporating the following items was unanimously approved and adopted:

- A. Approved the October 11, 2016 Regular Meeting minutes
- B. Adopted the 2017 Town Council Meeting Schedule

TOWN COUNCIL MEETING SCHEDULE FOR 2017

<u>DATE</u>	<u>LOCATION</u>	<u>TIME</u>	<u>TYPE</u>
January 10, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
February 14, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
March 14, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
April 11, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
May 9, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
June 13, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular

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July 11, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
August 8, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
September 12, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
October 10, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
November 14, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular
December 12, 2017	Lake Lure Municipal Center	6:00 p.m.	Regular

* Regular Town Council meetings are held on the 2nd Tuesday of each month.

C. Adopted the 2017-2018 CIP and Budget Preparation Calendar (attached)

NEW BUSINESS:

A. WAYFINDING MASTER PLAN AND INTERLOCAL AGREEMENT

Commissioner Stephen Webber made a motion to find that the Wayfinding Master Plan is consistent with the Arnett Muldrow Study, the 2007-2027 Comprehensive Plan and is also in keeping with Section 92.154(B) of the Lake Lure Zoning Regulations; Commissioner Bob Cameron seconded and the motion carried 4-0.

Commissioner Stephen Webber made a motion to approve the Wayfinding Master Plan and request that the Town Brand Manager, Community Development Director and Town Manager coordinate final color, content, location and height of each sign with the Rutherford County Tourism Development Authority before signs are ordered and installed. Commissioner Bob Cameron seconded and the motion carried 4-0.

Commissioner Stephen Webber made a motion to approve the Interlocal Agreement with the Rutherford County TDA after final review by the Town Attorney for legal sufficiency and to authorize the Town Manager to execute the necessary documents. Commissioner Bob Cameron seconded and the motion carried 4-0.

NEW BUSINESS:

B. HEARING: APPEAL OF LAKE STRUCTURE APPEALS BOARD DECISION – CALDWELL CALAME

Commissioner Bob Cameron asked that he be recused from the hearing since he has done work for the property owners. Commissioner John Moore made a motion to honor Commissioner

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Cameron's request to be recused. Commissioner Stephen Webber seconded and the motion carried 3-0.

Commissioner Stephen Webber disclosed that he was contacted by Mr. Calhoun prior to his decision on the property in question and he told Mr. Calhoun that he would have to make his own determination concerning the property. Commissioner Webber further stated that he was also asked his opinion during the meeting of the Lake Structure Appeals Board, as noted in the minutes of that Board. Commissioner Webber also stated after the Lake Structure Appeals Board meeting he told the applicant if they appealed he would likely support the approval of the appeal. Commissioner Webber stated that Jonathan Hinkle has also been contracted to do work on his property.

Ms. Calame stated that she has no concern with any of the Commissioners serving on the appeal.

Mary Ann Silvey disclosed that she has discussed the decision with Mr. Calhoun and as a former member of the LSAB is familiar with the ordinance and that she is aware that Mr. Calhoun actually wrote and revised the ordinance in questions.

After discussion of the purpose of the hearing, Attorney Chris Callahan read from the Lake Structure Regulation and agreed that Lake Structure Appeals Board Chairman John Kilby or Mr. Calhoun should make a presentation. Ms. Calame stated that Jonathan Hinkle and Kim Warner will speak on her behalf.

Kim Warner, Jonathan Hinkle, Caldwell Calame, Clint Calhoun, and John Kilby were sworn in.

Mr. Calhoun explained that he denied a Lake Structure Permit application for 308 Snug Harbor Circle on the grounds that the proposed structure projected beyond the allowed thirty feet as required by Section 94.05 of the Lake Structure Regulations. The applicant appealed the Administrator's decision to the Lake Structures Appeals Board and following the hearing the Board upheld the decision of the Lake Structure Administrator. He stated that the regulation doesn't explain how the allowed thirty feet projection should be drawn and all he has to measure from is the length of the structure and how far it projects. The arch drawn in the proposed plans include an arch that isn't always available.

Kim Warner explained the process used when designing a boathouse and stated that the only way to measure the distance from the shoreline is perpendicular to the shoreline. Based on the location of the structure it is his opinion that extreme shoreline stabilization is needed. Mr. Warner explained that the proposed plan includes four feet of riprap installation.

Mr. Calhoun stated that riprap is not required unless someone is building a new seawall.

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Commissioner Webber asked Mr. Warner if he believes the proposed riprap is necessary based on the condition of the seawall. Mr. Warner stated that the wall is not in good condition and riprap would be helpful.

Council members discussed the need for the proposed riprap. Commissioner Webber asked if the structure could still be built as proposed without the riprap. Mr. Warner replied that the proposed structure would have to be moved back if the riprap was not installed.

After lengthy discussion, Commissioner Stephen Webber made a motion to grant Caldwell Calame and Jonathan Hinkle's appeal of the decision by the Lake Structure Appeals Board rendered at their October 25, 2016 meeting regarding the appeal of a decision of the Lake Structure Administrator to deny a Lake Structure Permit application at 308 Snug Harbor Circle. Commissioner John Moore seconded. Commissioner Silvey stated that she agrees with the 30 foot construction boundary drawn on the plans within the inclusion of the riprap. Commissioners John Moore and Stephen Webber voted in favor of the motion. Commissioner Mary Ann opposed. The motion carried 2-1.

NEW BUSINESS:

C. ENGINEERING SERVICES AGREEMENT AMENDMENT NO. 1 – BROWN CONSULTANTS

Commissioner Bob Cameron explained that the original contract for the Greenline Project, signed March of 2016, was based on the new force main discharging into the Town of Spindale's sewer trunk line. During the summer, the Town of Spindale requested that the force main be extended to the headworks of their waste water treatment plant. The Town of Lake Lure agreed and a revised project was submitted to the State prior to the award of the loan to fund the project. The additional force main amounts to 1.7 miles and has resulted in additional surveying and engineering services. An amendment to the engineering services agreement in the amount of \$70,000 is proposed to cover additional surveying, engineering design, environmental work, encroachment permits and revisions to the State engineering report.

Commissioner Bob Cameron made a motion to approve Amendment Number 1 to the Engineering Services Agreement with Brown Consultants in the amount of \$70,000 and to authorize the Town Manager to execute the necessary documents. Commissioner John Moore seconded and the motion carried 4-0.

NEW BUSINESS:

D. PROPOSAL FOR PROFESSIONAL SERVICES – 2017 DAM SAFETY EVALUATION AND STRUCTURAL ANALYSIS REPORT

Town Manager Ron Nalley stated that Dr. Dan Marks has submitted a proposal for professional services to conduct an evaluation of the current structural integrity, stability and overall safety of the Lake Lure Dam. Originally, a proposal for only a safety inspection was submitted to the Town, however due to observed evidence of accelerated deterioration of the dam, a significantly expanded scope of work has been proposed. The proposal is broken up into two phases – the dam safety analysis (phase one) and the structural analysis (phase two). The estimated cost of \$50,000 for the services is proposed to be broken up into two fiscal years.

Commissioner John Moore made a motion to approve the Scope of Work for the 2017 Dam Safety Evaluation and Structural Analysis Report dated October 14, 2016 with Dr. Dan Marks of Marks Enterprises of NC in an amount not to exceed \$50,000 and to authorize the Town Manager to execute the necessary contract documents. Commissioner Stephen Webber seconded and the motion carried 4-0.

NEW BUSINESS:

E. WATER RESOURCES DEVELOPMENT PROJECT GRANT APPLICATION

Commissioner Stephen Webber suggested that a title relating to general navigation be applied to the project language in the Resolution. After discussion, Commissioner Bob Cameron made a motion to adopt Resolution No. 16-11-08 sponsoring the Town of Lake Lure Dredging Project and supporting the application to the NC Water Resources Development Project Grant Program as amended. Commissioner Stephen Webber seconded and the motion carried 4-0.

Resolution No. 16-12-13A

Town of Lake Lure General Navigation Dredging Project

WHEREAS, the Town of Lake Lure Board of Commissioners desires to sponsor the Town of Lake Lure General Navigation Dredging Project. This project is projected to remove approximately 60,000 cubic yards of sediment via dredging from the Broad River and Lake Lure, improving general navigation and boater safety in an area of the lake that experiences significant impact from upstream sedimentation, impeding access to the Town marina and public launch ramp.

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NOW, THEREFORE, BE IT RESOLVED THAT:

- 1) The Board requests the State of North Carolina to provide financial assistance to Town of Lake Lure for the Town of Lake Lure General Navigation Dredging Project in the amount of \$300,000 or 50 percent of project construction cost, whichever is the lesser amount;
- 2) The Board assumes full obligation for payment of the balance of project costs;
- 3) The Board will obtain all necessary State and Federal permits;
- 4) The Board will comply with all applicable laws governing the award of contracts and the expenditure of public funds by local governments.
- 5) The Board supervise construction of the project to assure compliance with permit conditions and to assure safe and proper construction according to approved plans and specifications;
- 6) The Board will obtain suitable spoil disposal areas as needed and all other easements or rights-of-way that may be necessary for the construction and operation of the project without cost or obligation to the State;
- 7) The Board will assure that the project is open for use by the public on an equal basis with no restrictions;
- 8) The Board will hold the State harmless from any damages that may result from the construction, operation and maintenance of the project;
- 9) The Board accepts responsibility for the operation and maintenance of the completed project.

ADOPTED by the Town of Lake Lure Board of Commissioners this 13th day of December, 2016.

NEW BUSINESS:

F. YACHT ISLAND BRIDGE REPAIR

After brief discussion, Commissioner Bob Cameron made a motion to award the Yacht Island Bridge Repair Project to Carolina Specialties Construction in the amount of \$19,917 and to authorize the Town Manager to execute the necessary contract documents. Commissioner Mary Ann Silvey seconded and the motion carried 4-0.

NEW BUSINESS:

G. LONGEVITY AND BUDGET PERFORMANCE PAY SUPPLEMENT

Council members reviewed proposed employee longevity and year-end bonuses. Commissioner Stephen Webber explained that employees who have not worked for the Town more than one year would not get a longevity bonus. However, these employees would get a prorated portion of the year-end bonus.

Commissioner Bob Cameron made motion to approve the Longevity Pay Supplement in the amount of \$37,925 and adopt the accompanying budget amendment for the Employee Longevity Compensation Plan and approve the Budget Performance Bonus Pay Plan in the amount of \$34,768 and adopt the accompanying budget amendment for the Performance Bonus Plan.

NEW BUSINESS:

H. BOARD APPOINTMENTS

Council members voted by written ballot to make the following appointments:

Jim Walters, Diane Barrett, and Bill Massey were appointed to the Parks and Recreation Board with terms expiring December 31, 2019.

Don Cason was appointed to serve on the Utility Advisory Board with a term expiring December 31, 2019.

Ronald Erikson appointed to serve as a regular member of the Board of Adjustment and Lake Structure Appeals Board with a term expiring December 31, 2019.

David Lusk and Lynn Weaver were appointed to serve as alternate members of the Board of Adjustment and Lake Structure Appeals Board with terms expiring December 31, 2019.

Linda Samarato was appointed to serve on the ABC Board with a term expiring December 31, 2019.

Jonathan Hinkle, Tom McKay, and Norman McGlohon were appointed to serve on the Zoning and Planning Board with terms expiring December 31, 2019.

Gary Hasenfus, Marks Helms, and Gary Johnson were appointed to serve on the Lake Advisory Board with terms expiring December 31, 2019.

CONSIDERTION OF ATTORNEY CONSULTING SERVICES

Commissioner Bob Cameron made a motion to pay Town Attorney Chris Callahan \$200 per month for one hour of possible consulting services per month for 2017 to aid the transition to new Town Attorney William Morgan. Commissioner John Moore seconded and the motion carried 4-0.

ADJOURN THE MEETING

With no further business, Commissioner Bob Cameron made a motion to adjourn the meeting. Commissioner Mary Ann Silvey seconded and the motion carried 4-0.

ATTEST:

Andrea H. Calvert,
Town Clerk

Mayor Bob Keith

**LAKE LURE TOWN COUNCIL
REQUEST FOR BOARD ACTION**

Meeting Date: January 10, 2016

SUBJECT: Duke Energy Grant – Electric Vehicle Charging Station

AGENDA INFORMATION:

Agenda Location: Unfinished Business
Item Number: A
Department: Community Development
Contact: Shannon Baldwin
Presenter: Shannon Baldwin

BRIEF SUMMARY: The Town received word from Duke Energy regarding the grant to install an electric vehicle charging station near the Visitor Center. There is good news and news somewhat less than good. The good news is that we received notice that the Town has been awarded a \$5,000 grant from Duke Energy for the project. The “somewhat less than good news” is that the Town requested \$20,000. The bullets below describe where we are at present.

- Town applied for \$20,000 from Duke Energy to install one charging station
- Duke Energy approved \$5,000 (only) for the Town to install one charging station
- It is going to cost the Town approximately \$10,000 to order a charging station
- It is going to cost the Town another \$3,000 to \$6,000 to prep the site, construct the pad, and pay an electrician to install the station.
- The total cost is going to be in the \$13,000 to \$16,000 range for the Town.
- With the \$5,000 rebate, Town out-of-pocket-expense is going to be \$8,000 to \$11,000 range.

RECOMMENDED MOTION AND REQUESTED ACTIONS: None at this time pending further Council discussion.

FUNDING SOURCE: Duke Energy Grant Program

ATTACHMENTS: Reimbursement Agreement with Duke Energy and Award Announcement

STAFF’S COMMENTS AND RECOMMENDATIONS: As you know, this is a different cost arrangement from what staff described at a previous Town Council meeting based on the grant award. Options for the Town may now include: 1) Town Council approving additional money in order to fund the project; 2) Requesting that the Rutherford County TDA or some other organization help with the additional expense; or 3) decline the grant altogether and reapply at some point in the future. All the reasons staff gave earlier as to why this is important to the Town still hold true and it is unfortunate that the Town was not successful in securing the full amount of the grant from Duke Energy. If the Board chooses to move forward with the project, the attached Reimbursement Agreement is due back to Duke Energy by January 31st.

REIMBURSEMENT AGREEMENT
FOR
PLUG-IN ELECTRIC VEHICLE CHARGING STATION PROJECTS

This Reimbursement Agreement for Plug-In Electric Vehicle Charging Station Projects (this "Agreement") is made and entered into as of this 22st day of December, 2016 (the "Effective Date"), by and between Duke Energy Carolinas, LLC ("Duke Energy"), and Town of Lake Lure ("Performing Party"). Each of Duke Energy and Performing Party may be referred to herein as a "Party" and collectively as "Parties".

RECITALS:

WHEREAS, as set forth in that certain Consent Decree entered into by Duke Energy on October 20, 2015 (the "Consent Decree"), Duke Energy is required to spend \$3,000,000 to implement environmental mitigation projects in the State of North Carolina designed to reduce air emissions from reduced vehicle emissions or reduced use of fossil-fueled electricity generation;

WHEREAS, of the aggregate amounts required to be spent pursuant to the Consent Decree, Duke Energy has allocated up to \$1,000,000 for the reimbursement of costs incurred by certain Duke Energy customers to purchase and install electric vehicle charging stations;

WHEREAS, this project is designed to provide direct financial support to Duke Energy customers (and, in certain instances, customers of those customers) that wish to install and own electric vehicle charging stations, including, without limitation, the charge ports associated therewith (collectively, the "Charging Stations") and require assistance funding such purchase and installation;

WHEREAS, the Performing Party has expressed a desire to procure and install certain Charging Stations and has requested that Duke Energy reimburse the Performing Party for the costs it incurs to procure, construct and install such Charging Stations; and

WHEREAS, Duke Energy has agreed to reimburse the Performing Party for the costs it incurs to procure, construct and install the Charging Stations in the manner set forth herein;

NOW THEREFORE, in consideration of the recitals, the mutual promises and conditions set forth in this Agreement and other good and valuable consideration, Duke Energy and Performing Party agree as follows:

AGREEMENT

1. **Project.** The Performing Party covenants to Duke Energy that the Performing Party shall, in accordance with the terms and conditions set forth herein, (a) purchase and install all Charging Stations for each Project (as defined below) set forth on Exhibit A and (b) continue own, operate and maintain such Charging Stations after the purchase and installation thereof. The Performing Party shall be responsible for all ongoing costs of ownership associated with each Charging Station, including, but not limited to, associated energy, maintenance, repair and connectivity costs.

2. **Project Descriptions and Requirements.**

a. Project Descriptions. Exhibit A further describes each project to be completed by the Performing Party hereunder and specifically sets forth the general locations at which the Charging Stations are permitted to be installed, the aggregate number of charge ports to be installed at each such location, and the aggregate amount of funds reserved by Duke Energy for such project (collectively, a "**Project**"). Exhibit B contains a map detailing the approved locations for each Project. The Performing Party may only install the Charging Stations at an approved location and shall not change or modify the location of any Project (outside of the approved locations) or the aggregate number of charge ports to be installed at any Project without the prior written consent of Duke Energy.

b. Charging Station Requirements.

(i) All Charging Stations purchased by the Performing Party shall be new and unused and shall be owned by the Performing Party.

(ii) The Performing Party shall install proper signage at each Project location indicating that parking spaces at which any charge port is located are for "Plug-In Electrical Vehicle Use Only."

(iii) The Charging Stations shall be either AC level 1 (provided cord set is hardwired), AC level 2, or DC Fast Charge and shall be installed at locations designed to support charging of plug-in electric vehicles while parked for several hours.

(iv) The location of each Project must be well-lit and safe, shall be in compliance with the Americans with Disabilities Act, and shall meet all requirements of Exhibit C.

(v) Each Project shall be located in an area reasonably accessible to the public and may not be located in a privately owned parking lot or in a Park N Ride lot.

3. Term. This Agreement will commence on the Effective Date and continue until the third (3rd) anniversary of the date the last Reimbursement is made hereunder or until otherwise terminated earlier pursuant to this Agreement. The Performing Party hereby acknowledges that all Projects must be completed in their entirety by no later than December 31, 2017 and that all Reimbursement Requests (as defined below), together with all required supporting information, must be received by no later than March 31, 2018. Any Reimbursement Request received after such date shall not be eligible for reimbursement hereunder without the prior consent of Duke Energy.

4. Award Amount. Subject to the terms and conditions set forth herein, Duke Energy will reimburse the Performing Party for the Eligible Costs (as defined herein) directly incurred by the Performing party to complete each Project; provided, however, that in no event shall the aggregate amount reimbursed by Duke Energy hereunder exceed the "Funds Reserved" amount contained in Exhibit A (such amount, the "**Maximum Reimbursement Amount**"). The payment made by Duke Energy to the Performing Party is sometimes referred to herein as the "**Reimbursement**." The actual amount of the Reimbursement may be less than any component of the Maximum Reimbursement Amount.

5. Use of Funds. The Performing Party shall apply the Reimbursement solely and exclusively towards approved Eligible Costs.

6. Reimbursement Procedures. Subject to the terms and conditions of this Agreement, the Performing Party shall be reimbursed for work completed for each Project in the following manner.

a. Eligible Costs. The Reimbursement may be made to reimburse the Performing Party for Eligible Costs for each Project. For purposes of this Agreement, the term "**Eligible Costs**" shall mean only those costs associated with the procurement, construction, and installation of the Charging Stations, including, but not limited to, reasonable costs associated with placing the Charging Stations in service, including the charging station equipment, installation labor, related materials and supplies, permitting fees, and utility service extension costs, which costs the Performing Party has paid in full as evidenced by cancelled checks, payment confirmations or other similar documentation. For the avoidance of doubt, in no event shall any costs associated with network connectivity or data subscriptions be considered Eligible Costs hereunder and all such costs shall be deemed to be outside of the scope of this Agreement and not subject to reimbursement by Duke Energy. The Performing Party shall review all invoices and evidences of payment prior to requesting reimbursement from Duke Energy and shall ensure the accuracy thereof prior to providing such invoices and evidences of payment to Duke Energy. Duke Energy may reject the request for Reimbursement if it fails to demonstrate that all such costs are Eligible Costs or if it fails to conform to the requirements of this Agreement. The Reimbursement under this Agreement shall be payable only after Eligible Costs are approved by Duke Energy.

b. Reimbursement Request. Promptly, but no more than 90 days following completion of the purchase, installation, and commissioning of the Charging Infrastructure for any Project, the Performing Party shall submit to Duke Energy a reimbursement request with respect to all Eligible Costs incurred and paid by the Performing Party in connection with such Project (a "**Reimbursement Request**"). By submitting the Reimbursement Request, the Performing Party is certifying that the costs are accurate, eligible for reimbursement, have been paid in full by the Performing Party and are consistent with the terms and conditions of the Agreement. At the written request of Duke Energy, the Performing Party shall provide Duke Energy with such other information and materials as Duke Energy may reasonably require to substantiate the Performing Party's right to the Reimbursement.

c. Payments. Subject in all respects to Section 6.d below, Duke Energy shall review and approve the Reimbursement as soon as practicable, but not later than forty-five (45) days after the complete Reimbursement Request has been received, provided that complete and accurate supporting documentation has been submitted to Duke Energy.

d. Maximum Reimbursement Amount. Under no circumstances shall the Reimbursement made by Duke Energy hereunder exceed any component of the Maximum Reimbursement Amount. All costs incurred by the Performing Party in excess of any component of the Maximum Reimbursement Amount shall not be subject to reimbursement hereunder.

7. Performing Party Obligations.

a. Licenses and Permits. The Performing Party hereby certifies that, prior to the commencement of any work for any Project, it has secured, and shall maintain and renew all permits, licenses, approvals and certifications required by any party, including, without limitation, any owner of such Project location or governmental or regulatory agency, for proper execution and completion of such work.

b. Compliance with Laws. The Performing Party shall comply, and shall cause all of its subcontractors to comply, with all applicable state, Federal and local laws relating to each Project and any of the work related thereto.

c. Audit Rights. Performing Party shall, for at least three (3) years after the completion of any Project, keep and maintain such records or accounts of the Performing Party as are necessary to verify and support any and all charges paid for with respect to such Project using the Reimbursement. This includes verification that any and all material, services, labor, and other expenses incurred for such Project have been paid. All books and records shall be maintained in accordance with generally accepted accounting principles. Such books and records shall be made available, on mutually agreeable dates and times, at the Performing Party's facility for verification, copying, audit and inspection by representatives of Duke Energy. Any such audit shall be at Duke Energy's expense and conducted during the Performing Party's normal working hours; provided, however, that the Performing Party shall provide reasonable assistance necessary to enable Duke Energy to conduct such audit and shall not be entitled to charge Duke Energy for any such assistance.

d. Optional Data Collection. From time to time, Duke Energy may contact the Performing Party to participate in Duke Energy's data collection on PEV charging practices in order to better understand the needs of electric vehicle drivers. The Performing Party may elect to participate in such collection process its sole discretion but shall not be required to do so.

8. Representations and Warranties. The Performing Party hereby represents and warrants to Duke Energy that:

a. it is duly organized and validly existing under the laws of its jurisdiction of incorporation or formation and is qualified to do business in all other jurisdictions in which the nature of the business conducted by it makes such qualification necessary;

b. it has all requisite legal power and authority to carry on its business and to execute this Agreement and to perform the terms, conditions and provisions hereof, as evidenced pursuant to N.C. Gen. Stat. 160A-11;

c. the execution, delivery and performance of this Agreement have been duly authorized by all requisite corporate action;

d. this Agreement constitutes the legal, valid and binding obligation of it, enforceable in accordance with the terms hereof;

e. there is no action, suit, proceeding or order now pending or, to its knowledge, threatened against it before any government authority that could reasonably be expected to

materially and adversely affect the ability of the Performing Party to perform its obligations hereunder; and

f. it hereby ratifies, adopts, and agrees to all representations in the approved application and deliverables it has provided to Duke Energy during the proposal process and agrees to give prompt written notice to Duke Energy if there is any material change in these certifications or deliverables.

9. Performing Party Certifications.

a. The Performing Party has not otherwise committed to acquire or install associated electric vehicle charging stations (without project funding support) and is not using and shall not use any portion of the Reimbursement hereunder to satisfy any obligations that it may have under other applicable regulations or requirements of law.

b. The Performing Party is a retail or wholesale customer of Duke Energy or Duke Energy Progress, LLC (or is a customer of a wholesale customer of Duke Energy or Duke Energy Progress, LLC) and is located within the State of North Carolina.

10. Indemnification. To the maximum extent permitted by applicable law, the Performing Party shall indemnify, defend and hold harmless Duke Energy (including its parent, subsidiary and affiliate companies), its officers, employees, agents, and any other party with an ownership interest in the premises, from and against all liability, loss, costs, claims, damages, expenses, judgments, and awards, whether or not covered by insurance, in any way related to or arising or claimed to have arisen in whole or in part from the acts or omissions of the Performing Party, its employees, volunteers, subcontractors, agents or assignees in its performance of, or failure to perform under, this Agreement. This indemnification shall include all costs including attorney's fees reasonably incurred in pursuing indemnity claims under or enforcement of this Agreement. Performing Party waives all rights of recovery, including for contribution, against Duke Energy and its directors, officers, employees, affiliates and subcontractors for any matters to which this Section may apply. The provisions of this Section 10 shall survive the termination of this Agreement.

11. Insurance.

a. Without limiting any obligations or liabilities of the Performing Party under this Agreement, the Performing Party shall provide and maintain, and shall require its subcontractors to provide and maintain, for the term of this Agreement, at its own expense, insurance coverages, to the extent applicable, in forms and amounts no less than the following: (i) Workers' Compensation specific to the applicable statutory requirements for the work to be performed; (ii) Employer's Liability Insurance of not less than \$1,000,000 each accident/employee/disease; (iii) Commercial General Liability Insurance having an available limit of at least \$1,000,000 per occurrence/\$2,000,000 in the aggregate for contractual liability, personal injury, bodily injury to or death of persons, and/or loss of use or damage to property; (iv) Commercial/Business Automobile Liability Insurance (including owned, non-owned or hired autos) having an available limit of at least \$1,000,000 each accident for bodily injury, death, property damage, with any fellow employee exclusion removed, and contractual liability; and (v) Umbrella/Excess Liability insurance with available limits of at least \$1,000,000 per occurrence and follow form of the underlying

Employer's Commercial General and Auto Liability insurance, and provide at least the same scope of coverages thereunder.

b. All insurance policies provided and maintained by the Performing Party and each subcontractor shall: (i) be underwritten by insurers which are rated A.M. Best "A- VII" or higher; (ii) specifically include Duke Energy and its directors, officers, employees, affiliates, and subcontractors as additional insureds, with respect to Performing Party's or its subcontractors' acts, omissions, services, products or operations, whether in whole or in part, excluding, however, for Worker's Compensation/Employer's Liability and E&O; (iii) be endorsed to provide, where permitted by law, waiver of any rights of subrogation against Duke Energy and its directors, officers, employees, affiliates and subcontractors; (iv) provide that such policies and additional insured provisions are primary with respect to the acts, omissions, services, products or operations of Performing Party or its subcontractors, whether in whole or in part, and without right of contribution from any other insurance, self-insurance or coverage available to Duke Energy and its affiliates; and (v) contain a standard cross liability clause and separation of insured and severability of interest provisions except with respect to the limits of the insurer's liability. Evidence of such coverage shall be provided via Performing Party's certificate of insurance furnished to Duke Energy prior to the start of any work, upon any policy replacement or renewal and upon Duke Energy's request. All insurance policies shall provide that the insurer will provide at least thirty (30) days' written notice to the Performing Party, who in turn shall provide at least thirty (30) days' written notice to Duke Energy prior to cancellation or non-renewal of any policy (or ten (10) days' notice in the case of non-payment of premium). Performing Party's compliance with these provisions and the limits of insurance specified herein shall not constitute a limitation of Performing Party's liability or otherwise affect Performing Party's indemnification obligations pursuant to this Agreement.

12. Default and Termination.

a. If Duke Energy determines, in its sole discretion, that the Performing Party has failed to comply with any term or condition in this Agreement, Duke Energy may terminate this Agreement immediately upon written notice by Duke Energy to the Performing Party. If this Agreement is so terminated, the Performing Party shall be liable to repay to Duke Energy all of the Reimbursements distributed to it under this Agreement.

b. If notified by Duke Energy in writing that it is in violation of any of the terms, conditions or provisions of this Agreement, and a default has occurred, and Duke Energy elects not to terminate the Agreement immediately pursuant to Section 12.a above, the Performing Party shall have thirty (30) days from the date of such notification to remedy the default or, if Duke Energy believes the remedy will take in excess of thirty days to complete, the Performing Party shall have thirty days to satisfactorily commence a remedy of the causes preventing its compliance and curing the default situation. Expiration of the thirty days and failure by the Performing Party to remedy, or to satisfactorily commence the remedy of, the default whether payment of funds has been fully or partially made, shall result in Duke Energy at its discretion, declining to make any further payments to the Performing Party, or in the termination of this Agreement by Duke Energy. If this Agreement is terminated, the Performing Party shall be liable to repay to Duke Energy all of the Reimbursements made to it under this Agreement.

c. If Performing Party becomes insolvent, or fails generally to pay its debts as they become due, or admits in writing its inability to pay its debts as they become due, or makes a general assignment for the benefit of creditors; commences any case, proceeding or other action seeking reorganization, arrangement, adjustment, liquidation, dissolution or composition of itself or its debts or assets, or adopts an arrangement with creditors, under any bankruptcy, moratorium, rearrangement, insolvency, reorganization or similar law of the United States or any state thereof for the relief of creditors or affecting the rights or remedies of creditors generally, Duke Energy may terminate this Agreement immediately upon written notice by Duke Energy to the Performing Party.

d. Upon receipt of notice of termination from Duke Energy, the Performing Party shall immediately stop work on the terminated portion of the Agreement unless otherwise directed by Duke Energy. If so requested by Duke Energy, the Performing Party shall provide to Duke Energy a report with supporting information describing the status of any Project as of the date of such termination.

e. No remedy herein conferred upon or reserved by Duke Energy is intended to be exclusive of any other available remedy, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given under this Agreement or now or hereafter existing at law or in equity. No delay or omission to exercise any right or option accruing to Duke Energy upon any default by the Performing Party shall impair any such right or option or shall be construed to be a waiver thereof, but any such right or option may be exercised from time to time and as often as may be deemed expedient by Duke Energy.

13. Miscellaneous.

a. Assignability. Neither this Agreement nor any right, interest or obligation hereunder may be assigned by the Performing party without the prior written consent of Duke Energy, and any attempt to do so shall be null, void and ineffective.

b. Governing Law. The laws of the State of North Carolina shall govern this Agreement, except that the North Carolina conflict of law provisions shall not be invoked in order to apply the laws of any other state or jurisdiction.

c. Disputes. The Parties shall attempt to resolve any claims, disputes and other controversies arising out of or relating to this Agreement (collectively, "Disputes") promptly by negotiation between executives who have authority to settle the Dispute and who are at a higher level of management than the persons with direct responsibility for administration of this Agreement. A Party may give the other Party written notice of a Dispute which has not been resolved in the normal course of business. Executives of both Parties shall meet at a mutually acceptable time and place, and as often as they reasonably deem necessary, to attempt to resolve the Dispute. All negotiations pursuant to this clause are to be deemed confidential and shall be treated as compromise and settlement negotiations for purposes of applicable rules of evidence. If the Dispute has not been resolved by negotiation within sixty (60) Days of the disputing Party's initial notice, then either Party may initiate litigation. Venue for any such action shall lie exclusively in the appropriate state or federal courts in and for the State of North Carolina. Performing Party and Duke Energy agree to relinquish and waive their rights to a trial by jury in any action brought hereunder.

d. Notices. All notices, requests, consents and other communications hereunder shall be in writing and shall be dispatched by nationwide overnight courier service, such as (without limitation) Federal Express, or by United States Certified Mail, Return Receipt Requested, postage prepaid, address to the parties as follows:

If to Duke Energy:

Duke Energy Carolinas, LLC
400 S. Tryon Street
14th Floor
Charlotte, NC 28202
Attn: Stacy Phillips
Email: stacy.phillips@duke-energy.com

With a copy to: (which will not constitute as notice)

Duke Energy Carolinas, LLC
550 S. Tryon Street
45th Floor
Charlotte, NC 28202
Attn: Andre Rose, Deputy General Counsel
Email: andre.rose@duke-energy.com

If to the Performing Party:

Town of Lake Lure
2948 Memorial Highway
P.O. Box 255
Lake Lure, NC 28476
Attn: Ron Nalley, Town Manager
Email: townmgr@townoflakelure.com

Notices under this Agreement shall be deemed given upon the earlier of the date of delivery or the date upon which delivery is refused. Any changes in the names or addresses set out in this Section 13.d, shall be through written notice in conformity with the requirements set forth herein.

e. Section Headings. The headings of the several sections of this Agreement are inserted solely for the convenience of reference and are not a part of and are not intended to govern, limit or aid in the construction of any term or provision of this Agreement.

f. Entire Agreement. This Agreement is the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements between the parties. No claim of waiver, modification, consent or acquiescence with respect to any of the provisions of this Agreement shall be made against either party, except on the basis of a written instrument executed by and on behalf of such parties. The parties acknowledge and agree that the recitals provided above constitute an integral part of this Agreement and shall be given the same force and effect as any other provision in this Agreement.

g. Severability. If any provision of this Agreement or the application thereof to any person or circumstance shall be invalid or unenforceable to any extent, the remainder of this Agreement and the application of such provisions to other persons or circumstances shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

h. Other Parties. Nothing in this Agreement shall be construed as giving any person, firm, corporation or other entity, other than the parties hereto, any rights, remedy or claim under or in respect to this Agreement or any provision thereof.

i. No Waiver. Neither the failure of either party to exercise any power given such party hereunder or to insist upon strict compliance by the other party with its obligations hereunder, nor any custom or practice of the parties at variance with the terms hereof, shall constitute a waiver of either party's right to demand exact compliance with the terms hereof.

j. Survival. All of the warranties, covenants and representations of Performing Party, including, but not limited to Section 8, shall survive the termination of this Agreement.

[Signatures on following page]

IN WITNESS WHEREOF, each of the Parties has caused this Agreement to be executed by its duly authorized representative as of the date first above written.

Town of Lake Lure

Duke Energy Carolinas, LLC

By: _____

Name: _____

Title: _____

By: _____

Name: Melisa Johns _____

Title: Vice President- Business and Product
Development, Distributed Energy Technology

Exhibit A

Project Descriptions

Locations Approved by Duke Energy for Installation of Ports: Lake Lure Visitors Center.

Quantity of Ports Awarded: 1

Funds Reserved: \$5,000

Project Location Maps

Chimney Rock State Park & Chimney Rock Village

Flowering Bridge

Restaurants/Commercial

Municipal Center

Visitor's Center

Proposed Location of PEV Charging Station

Marina

Morse Park

Highway 64/74-A

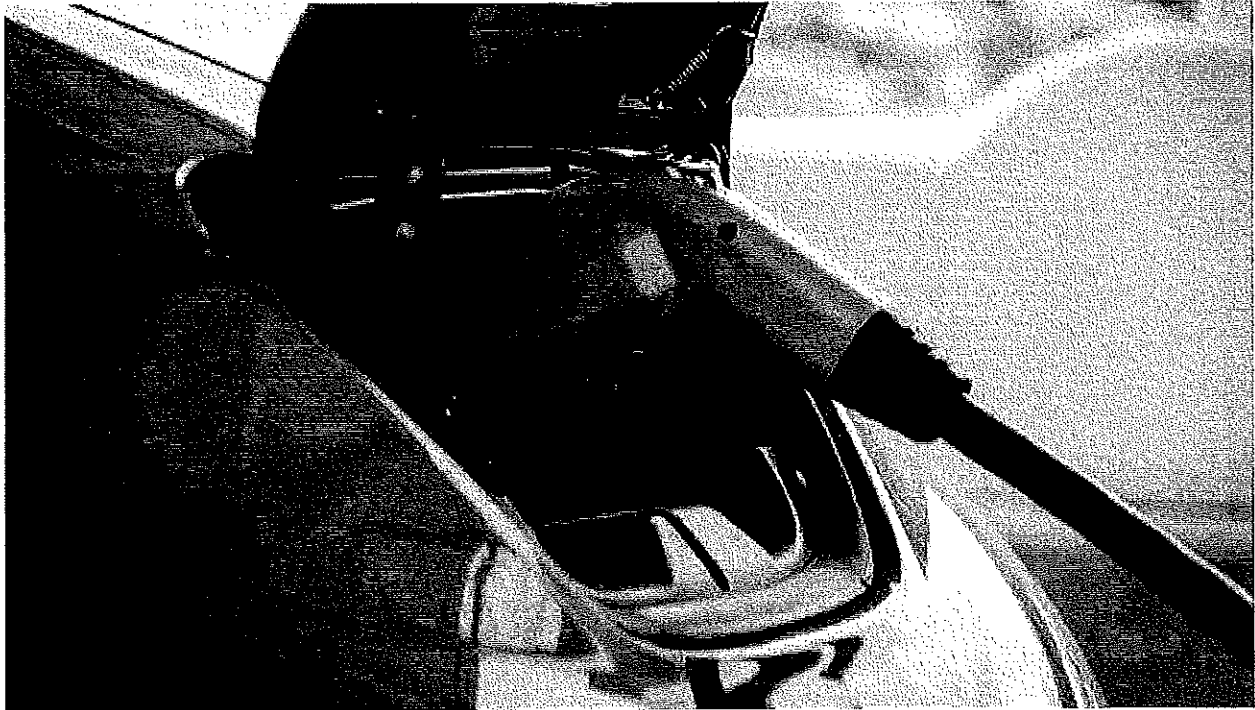
Boardwalk

Lake Lure Beach

Lake Lure Inn

Restaurants/Commercial

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, AeroGRID, IGN, SITA, Imagery, (2012), IGN, SITA, IGN, and The GIS User Community



Duke Energy project to increase public EV charging stations in N.C. by 30 percent

🕒 December 15, 2016

Share This Story

40

11

- **83 cities, counties and organizations to benefit from \$1 million program**
- **Recipients from almost 50 N.C. counties**

CHARLOTTE, N.C. -- More than 200 public electric vehicle (EV) charging stations will be installed soon under Duke Energy's "EV Charging Infrastructure Project."

Today, the company announced recipients under the program, which includes new stations planned for almost 50 counties around the state. See the list of all recipients and the number of stations awarded.

The \$1 million project pays up to \$5,000 for the purchase and installation of each charging port. That should cover the cost of the stations – depending on its proximity to existing electrical infrastructure. The project received overwhelming interest – with more than 500 charging stations requested from around the state.

"The robust interest throughout the state is a positive sign that public EV charging will continue to grow in North Carolina," said David Fountain, Duke Energy's North Carolina president. "Expanding charging infrastructure is critical for more EV adoption in the future."

Duke Energy has been active in building public charging stations at parking decks, libraries and shopping areas. According to Advanced Energy, an independent, non-profit organization established by the North Carolina Utilities Commission, there are about 5,300 registered plug-in EVs and about 700 public charging ports spread out around North Carolina. See the current map of EVs and EV charging in North Carolina.

"We are excited to receive the grant from Duke Energy for two electric vehicle charging stations," said Dr. Carol Spalding, president of Rowan-Cabarrus Community College in Salisbury. "The stations will be located on the North Campus and will be a very visible example of the college's commitment to sustainability."

Recipients have the ability to put the charging stations in a location of their choice – and operate them how they see fit. For recipients who choose not to go forward with the installations – other recipients will be named.

The Duke Energy program was part of a recent settlement with the U.S. Environmental Protection Agency and environmental groups.

About Duke Energy

Headquartered in Charlotte, N.C., Duke Energy is an S&P 100 Stock Index company traded on the New York Stock Exchange under the symbol DUK. More information about the company is available at duke-energy.com.

The Duke Energy News Center serves as a multimedia resource for journalists and features news releases, helpful links, photos and videos. Hosted by Duke Energy, illumination is an online destination for stories about remarkable people, innovations, and community and environmental topics. It also offers glimpses into the past and insights into the future of energy.

Follow Duke Energy on Twitter, LinkedIn, Instagram and Facebook.

Media contact: Randy Wheelless

Office: 704.382.8379

24-Hour: 800.559.3853

Twitter: @DE_RandyW

Related Stories



Duke Energy EV Charging Infrastructure Project Winners

Winners	County	Awarded
1. Archdale, City of	Randolph	4
2. Asheville, City of	Buncombe	2
3. Biscoe, Town of	Montgomery	2
4. Blue Ridge EMC	Caldwell	2
5. Brunswick EMC	Brunswick	2
6. Cape Fear Community College	New Hanover	2
7. CarolinasEast Health System	Craven	4
8. CarolinasEast Physicians	Jones, Craven	2
9. Carrboro, Town of	Orange	2
10. Cary, Town of	Wake	2
11. Chapel Hill, Carrboro City Schools	Orange	2
12. Chapel Hill, Carrboro Chamber of Commerce	Orange	2
13. Chapel Hill, Town of	Orange	2
14. Charlotte, City of	Mecklenburg	2
15. Claremont, City of	Catawba	1
16. Concord, City of	Cabarrus	3
17. Conover, City of	Catawba	4
18. Cornelius, Town of	Mecklenburg	1
19. Dillsboro, Town of	Jackson	1
20. Duke University Parking & Transportation Services	Durham	2
21. Dunn, City of	Harnett	1
22. Durham Sustainability Office	Durham	2
23. Elkin, Town of	Surry	4
24. Flat Rock, Village of	Henderson	2
25. Forsyth County	Forsyth	2
26. Gaston County	Gaston	2
27. Gastonia, City of	Gaston	2
28. Goldsboro, City of	Wayne	2
29. Graham, City of	Alamance	2
30. Granite Falls, Town of	Caldwell	2
31. Greater Asheville Regional Airport Authority	Buncombe	2
32. Greensboro Colliseum Complex	Guilford	2

Duke Energy EV Charging Infrastructure Project Winners

Winners	County	Awarded
33. Greenville Utilities Commission	Pitt	5
34. Guilford Technical Community College	Guilford	2
35. Hamlet, City of	Richmond	3
36. Harrisburg, Town of	Cabarrus	2
37. Henderson, City of	Vance	4
38. Hendersonville, City of	Henderson	1
39. Historic Revolution, LLC	Durham	2
40. Holly Springs, Town of	Wake	2
41. Huntersville, Town of	Mecklenburg	2
42. Jacksonville, City of	Onslow	3
43. Jones County Government	Jones	4
44. Kinston, City of	Lenoir	5
45. Lake Lure, Town of	Rutherford	1
46. Lenoir, City of	Caldwell	1
47. Louisburg, Town of	Franklin	5
48. Marion, City of	McDowell	3
49. Monroe, City of	Union	2
50. Mooresville, Town of	Iredell	3
51. Nashville, Town of	Nash	2
52. N.C. Dept. of Administration State Parking	Wake	2
53. North Carolina State Parks Gaston, Iredell, McDowell or Burke counties		6
54. North Carolina State University	Wake	2
55. Orange County	Orange	2
56. Oriental, Town of	Pamlico	2
57. Pembroke, Town of	Robeson	2
58. Person County	Person	3
59. Piedmont Authority for Regional Transportation	Alamance & Henderson	6
60. Piedmont EMC	Orange	2
61. Pittsboro, Town of	Chatham	4
62. Raleigh, City of	Wake	2
63. Rowan-Cabarrus Community College Foundation	Rowan	2
64. Salisbury, City of	Rowan	3

Duke Energy EV Charging Infrastructure Project Winners

Winners	County	Awarded
65. Sanford, City of	Lee	2
66. Smithfield, Town of	Johnston	5
67. Southport, City of	Brunswick	2
68. Star, Town of-STARworks Center for Creative Enterprise	Montgomery	2
69. Swansboro, Town of	Onslow	2
70. Sylva, Town of	Jackson	2
71. Thomasville, City of	Davidson	5
72. University of North Carolina at Asheville	Buncombe	2
73. University of North Carolina at Pembroke	Robeson	2
74. University of North Carolina at Wilmington	New Hanover	2
75. Valdese, Town of	Burke	2
76. Wake County	Wake	2
77. Wake Forest Baptist Medical Center	Forsyth	2
78. Wake Technical Community College	Wake	2
79. Warrenton, Town of	Warren	3
80. Wayne County	Wayne	3
81. Wilkesboro, Town of	Wilkes	4
82. Wilson, City of	Wilson	5
83. Winston-Salem, City of	Forsyth	2
TOTAL		210



LilyPad EV
9801 W. 100th Terrace
Overland Park, KS 66212
(913) 269-2453
keith.anderson@lilypadev.com
www.lilypadev.com

QUOTE

ADDRESS

Shannon Baldwin
Town of Lake Lure
2948 Memorial Highway
Lake Lure, North Carolina
28747 USA

SHIP TO

Shannon Baldwin
Town of Lake Lure
2948 Memorial Hwy
Lake Lure, NC 28746 US

QUOTE # 767

DATE 01/05/2017

SALES REP

Keith Anderson

DESCRIPTION	QTY	EACH	AMOUNT
ChargePoint:CT4021-GW1 Dual Output Gateway Option USA, Bollard Unit - 208/240V @30A with Cord Management and Power Share	1	6,328.00	6,328.00
Sales Tax Sales Tax calculated by AvaTax on Thu 05 Jan 20:55:16 UTC 2017	1	0.00	0.00

NOTES:

- Thank you for allowing us to submit this proposal.

STANDARD TERMS AND CONDITIONS:

- Standard Invoice Terms are net 30
- Standard manufacturer warranties apply to all hardware purchases
- Standard lead-time is 30-60 days from order acceptance
- Installation cost, if included in this project, does not include unforeseen rock or other obstacles found while trenching or boring
- Customer is responsible for ensuring adequate cellular coverage for networked charging stations
- Returns of unopened packages are subject to restocking charges. Opened packages may not be returned.

SUBTOTAL	6,328.00
SHIPPING	150.00
TOTAL	\$6,478.00

Accepted By

Accepted Date

Thank you for your business.



LilyPad EV
9801 W. 100th Terrace
Overland Park, KS 66212
(913) 269-2453
keith.anderson@lilypadev.com
www.lilypadev.com

QUOTE

ADDRESS

Shannon Baldwin
Town of Lake Lure
2948 Memorial Highway
Lake Lure, North Carolina
28747 USA

SHIP TO

Shannon Baldwin
Town of Lake Lure
2948 Memorial Highway
Lake Lure, North Carolina
28747 USA

QUOTE # 766

DATE 01/05/2017

SALES REP

Keith Anderson

DESCRIPTION	QTY	EACH	AMOUNT
ChargePoint:CT4011-GW1 Single Output Gateway Option USA, Bollard Unit - 208/240V @30A with Cord Management	1	4,288.00	4,288.00
ChargePoint:CT4000 CTSW-SAS-COMM-1 Commercial Cloud Service Plan 1 Year Pre-Pay	1	0.00	0.00
Sales Tax Sales Tax calculated by AvaTax on Thu 05 Jan 20:56:11 UTC 2017	1	0.00	0.00

NOTES:

- Thank you for allowing us to submit this proposal.

STANDARD TERMS AND CONDITIONS:

- Standard Invoice Terms are net 30
- Standard manufacturer warranties apply to all hardware purchases
- Standard lead-time is 30-60 days from order acceptance
- Installation cost, if included in this project, does not include unforeseen rock or other obstacles found while trenching or boring
- Customer is responsible for ensuring adequate cellular coverage for networked charging stations
- Returns of unopened packages are subject to restocking charges. Opened packages may not be returned.

SUBTOTAL	4,288.00
SHIPPING	150.00
TOTAL	\$4,438.00

Accepted By

Accepted Date

Thank you for your business.

CT4000 Family

ChargePoint® Charging Stations

The CT4000 is the latest generation of ChargePoint charging stations. Refined yet rugged, the CT4000 family sets the industry standard for functionality and aesthetics. A robust cord retraction system comes standard on all CT4000 models to eliminate unsightly cords on the ground, and to keep your drivers from having to touch charging cables.

The CT4000 full motion color LCD display instructs drivers while supporting dynamic updates of custom branded videos and advertisements.

The intelligent power sharing feature of the CT4000 doubles the number of parking spaces served by allowing two charging ports to share a single circuit. Sites with single port EV stations can upgrade to dual port stations without requiring additional electrical services.

All CT4000 models offer one or two standard SAE J1772™ Level 2 charging ports with locking holsters, each port supplying up to 7.2kW.

Available in bollard and wall mount configurations, the CT4000 supports easy installation anywhere. To future proof your investment, all stations are fully software upgradeable over the air. All ChargePoint stations are networked and managed through ChargePoint Service Plans¹ and backed by ChargePoint's world class 24/7 driver phone support.

Corporate Branding and Video Advertising

- + Download full motion color videos to your stations²
- + Custom replaceable signage to project your brand
- + Custom "cap" printing available³

Clean Cord Technology™

- + Maintenance-free, light-weight, self-retracting cords come standard on all models
- + Keep charging cords off the ground and out of your and drivers' hands
- + Flexible over entire -22°F to +122°F product temperature range

Intelligent Power Sharing (patent pending)

- + Reduced installation and operating costs
- + Dynamically share one 40A circuit between two parking spaces
- + Double the number of parking spaces for a given site's power capacity
- + Upgrade a single port station to dual port with no electrical upgrade

Driver Friendly User interface

- + Instructional video shows how to use the station
- + Multi-language: English, French, Spanish
- + Touch button interface; works in rain, ice and with gloves
- + Backed by ChargePoint's world class 24/7 driver phone support

Energy Measurement and Management

- + Real-time energy measurement
- + 15 minute interval recording
- + Time of Day (TOD) pricing
- + Load shed by % of running average or to fixed power output

The standard *EV Charging Only* sign is easily replaceable with your branding.

The cap of the CT4000 family is also available for custom branding.

The 5.7" LCD display provides full motion charging instructions in a clear and simple format. It also allows station owners to deliver advertising messaging.

Driver interaction is supported in any weather by five rugged, back-lit buttons with audio feedback.

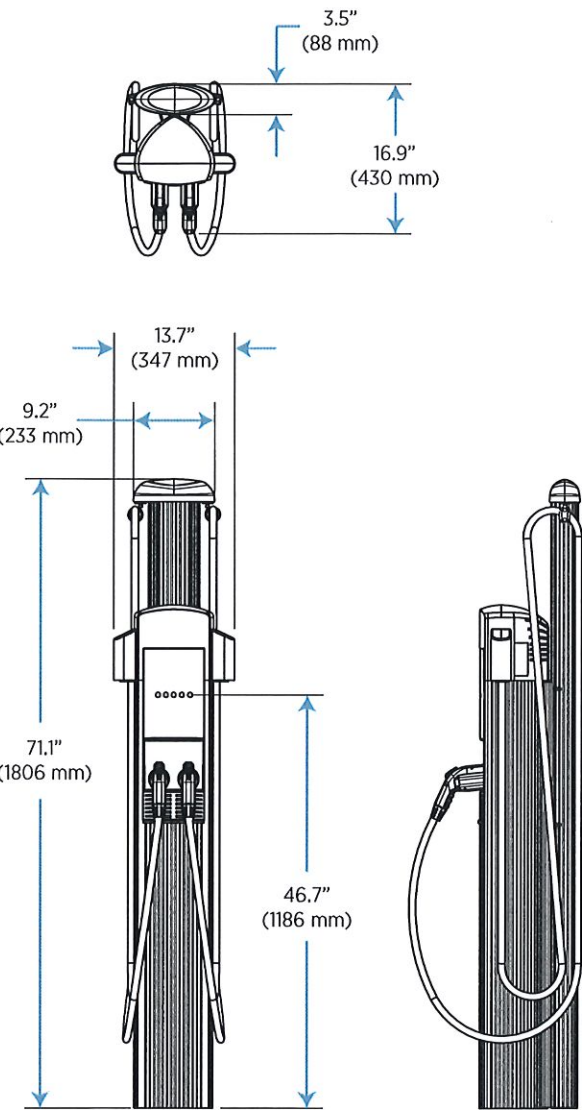


¹ ChargePoint Service Plans are sold separately

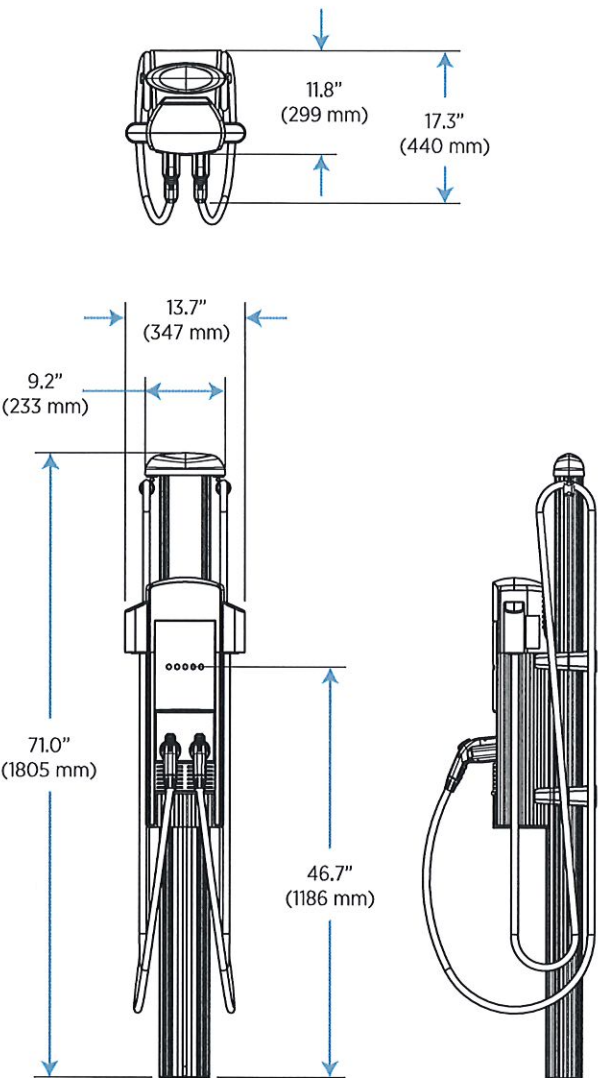
² Download fees apply

³ Minimum order quantities apply

CT4021 Bollard



CT4023 Wall Mount



CT4000 Family Specifications

Electrical Input

	Single Port	Dual Port
AC Power Input Rating – Standard	208/240VAC 60Hz single phase @ 30A	208/240VAC 60Hz single phase @ 30 x 2
AC Power Input Rating – Power Sharing	n/a	208/240 VAC 60Hz single phase @ 32A
Input Power Connections – Standard	One 40A branch circuit	Two independent 40A branch circuits
Input Power Connections – Power Sharing	n/a	One 40A branch circuit
Required Service Panel Breaker – Standard	40A dual pole (non-GFCI type)	40A dual pole (non-GFCI type) x 2
Required Service Panel Breaker – Power Sharing	n/a	40A dual pole (non-GFCI type)
Service Panel GFCI	Do not provide external GFCI as it may conflict with internal GFCI (CCID)	
Wiring – Standard	3-wire (L1, L2, Earth)	5-wire (L1, L1, L2, L2, Earth)
Wiring – Power Sharing	n/a	3-wire (L1, L2, Earth)
Station Power	8W typical (standby), 15W maximum (operation)	

Electrical Output

AC - Standard	7.2kW (240VAC @ 30A)	7.2kW (240VAC @ 30A) x 2
AC - Power Sharing	n/a	7.2kW (240VAC @ 30A) x 1 OR 3.8kW (240VAC @ 16A) x 2

Functional Interfaces

Connector(s) Type	SAE J1772™	SAE J1772™ x 2
Charging Cable Length	18' (5.5 meters)	18' (5.5 meters) x 2
Overhead Cable Management System	Yes	
LCD Display	5.7" full color, 640x480, 30fps full motion video, active matrix, UV protected	
Card Reader	ISO 15693, 14443, NFC	
Locking Holster	Yes	Yes x 2

Safety and Connectivity Features

Ground Fault Detection	20mA CCID with auto retry
Open Safety Ground Detection	Continuously monitors presence of safety (green wire) ground connection
Plug-Out Detection	Power terminated per SAE J1772™ specifications
Power Measurement Accuracy	+/- 2% from 2% to full scale (32A)
Power Report/Store Interval	15 minute, aligned to hour
Local Area Network	2.4 GHz Wi-Fi (802.11 b/g/n)
Wide Area Network	3G GSM, 3G CDMA

Safety and Operational Ratings

Enclosure Rating	Type 3R per UL 50E
Safety Compliance	UL listed for USA and cUL certified for Canada; complies with UL 2594, UL 2231-1, UL 2231-2, and NEC Article 625
Surge Protection	6kV @ 3000A. In geographic areas subject to frequent thunder storms, supplemental surge protection at the service panel is recommended.
EMC Compliance	FCC Part 15 Class A
Operating Temperature	-22°F to 122°F (-30°C to +50°C)
Operating Humidity	up to 85% @ +50°C (122°F) non-condensing
Non-Operating Humidity	up to 95% @ +50°C (122°F) non-condensing
Terminal Block Temperature Rating	221°F (105°C)
Maximum Charging Stations per 802.11 Radio Group	10. Each station must be located within 150 feet "line of sight" of a gateway station.

ChargePoint, Inc. reserves the right to alter product offerings and specifications at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.

CT4021 Bollard charging station



CT4023 Wall Mount charging station



Ordering Information

Specify model number followed by the applicable code(s).

Option		Order Code
Model	Single Port Bollard Mount	CT4011
	Dual Port Bollard Mount	CT4021
	Single Port Wall Mount	CT4013
	Dual Port Wall Mount	CT4023
Options	Integral Gateway Modem - USA	-GW1
	Integral Gateway Modem - Canada	-GW2
Warranty	Single Port Extended Hardware-Only Warranty - 2, 3, 4 or 5 year term	CT4010-EXWn*
	Dual Port Extended Hardware-Only Warranty - 2, 3, 4 or 5 year term	CT4020-EXWn*

* Where *n* is the total number of years in the term

Order Code Examples

If ordering this	the order code is
Dual Port Bollard Mount USA Gateway Station	CT4021-GW1
Single Port Wall Mount Station with 5 Year Warranty	CT4013 CT4010-EXW5
Dual Port Wall Mount Canada Gateway Station with 2 Year Warranty	CT4023-GW2 CT4020-EXW2

For More Information

Visit chargepoint.com

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ChargePoint, Inc.
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+1.408.370.3802 or toll free 877.370.3802
chargepoint.com

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Listed by Underwriters
Laboratories Inc. LISTED

**LAKE LURE TOWN COUNCIL
REQUEST FOR BOARD ACTION**

Meeting Date: January 10, 2017

SUBJECT: Anthroware Contract - Boat Permit Database

AGENDA INFORMATION:

Agenda Location: Unfinished Business
Item Number: B
Department: Administration
Contact: Sam Karr, Finance Director
Presenter: Sam Karr, Finance Director

BRIEF SUMMARY: At the December 1st Town Council Planning Session, the Board requested an update and additional information on the Anthroware Contract. Anthroware is the company hired to provide technical consulting services for building the boat permit software database for the Town.

RECOMMENDED MOTION AND REQUESTED ACTIONS: None at this time pending further Board discussion.

FUNDING SOURCE: Not Applicable

ATTACHMENTS: Expenditure Detail; Anthroware Contract; and Various Staff Emails

STAFF'S COMMENTS AND RECOMMENDATIONS: The attached information summarizes the current status of the project. To date, \$73,261.86 has been spent on the project. Sam Karr will be present at the meeting to answer questions and Linda Ward will be presenting Council with a list of issues or concerns that have been noted since the project went live.

12/30/16
08:36:38

TOWN OF LAKE LURE
Vendor Detail Query
For claims processed from: 1/15 to 12/16

Page: 1 of 1
Report ID: AP200A

Doc #	Invoice #/Description	Claim Date	Check Date	Amount	Inv Date	Acct. Period	PO #	Fund	Org	Acct	Object	Proj
Vendor #/Name: 2083 ANTHROWARE												
CL 27526	1 1020 Boat permit Database	10/07/15	36073	1,099.62	10/02/15	10/15		10		800000	538	
CL 27725	1 1026 Software Architecture	11/03/15	36224	459.00	11/02/15	11/15		10		800000	538	
CL 27725	2 1026 UI/UX Design	11/03/15	36224	972.00	11/02/15	11/15		10		800000	538	
CL 27835	1 1030 UI/UX Design Boat Perm	11/18/15	36302	1,800.00	11/20/15	11/15		10		800000	538	
CL 28019	1 1039 Boat permit software d	12/16/15	36457	3,912.48	12/18/15	12/15		10		800000	538	
CL 28487	1 1042 Boat Permit DB Softwar	02/24/16	36741	7,624.44	01/01/16	2/16		10		800000	538	
CL 28488	1 1045 Boat Permit DB Softwar	02/24/16	36741	2,307.84	01/15/16	2/16		10		800000	538	
CL 28619	1 1034 Boat permit software/w	03/17/16	36869	3,809.34	11/27/15	3/16		10		800000	538	
CL 28655	1 1053 Boat Permit Database S	03/23/16	36869	6,353.55	01/29/16	3/16		10		800000	538	
CL 28872	1 1084 Boat Permit Database S	04/20/16	36997	2,836.80	04/22/16	4/16		10		800000	538	
CL 28960	1 1090 Boat Permit Database	05/04/16	37071	3,417.60	05/06/16	5/16		10		800000	538	
CL 29091	1 1093 SOFTWARE SERVICES	05/20/16	37162	5,473.60	05/20/16	5/16		10		800000	538	
CL 29173	1 1098 SOFTWARE SERVICES	06/01/16	37202	4,646.40	06/03/16	6/16		10		800000	538	
CL 29289	1 1103 SERVICES	06/17/16	37316	2,516.00	06/17/16	6/16		10		800000	538	
CL 29370	1 1110 Boat permit data base	06/29/16	37345	4,209.60	06/28/16	6/16		10		800000	538	
CL 29479	1 1114 Boat Permit Data Base	07/18/16	37457	5,280.00	07/15/16	7/16		10		800000	538	
CL 29582	1 1119 work performed 7-10 th	07/29/16	37525	565.60	07/27/16	7/16		10		800000	538	
CL 29707	1 1123 SERVICES RENDERED	08/15/16	37600	283.20	08/12/16	8/16		10		800000	538	
CL 29886	1 1134 BOAT PERMIT DATA BASE	09/12/16	37727	3,740.00	09/09/16	9/16		10		800000	538	
CL 29971	1 1136 SERVICES RENDERED	09/26/16	37793	8,427.51	09/23/16	9/16		10		800000	538	
CL 30075	1 1056 services 1/24-2/6	10/10/16	37850	3,527.28	02/12/16	10/16		10		800000	538	
Total:				73,261.86								

Grand Total: 73,261.86

MAY 6th, 2:00pm phone meeting
w/ Anthroware - KARR, WEBBERS MOORE
a Keith.



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(828) 403-4749
Sales@Anthroware.com

STATE OF NORTH CAROLINA

CONTRACT

COUNTY OF HENDERSON

THIS CONTRACT, made and entered into on this the 16th day of July, 2015, by and between The Town of Lake Lure (COMPANY A), of Asheville, Carolina, and Anthroware, L.L.C., a North Carolina Corporation (Anthroware).

WITNESSETH:

In consideration of the mutual promises set forth herein and other good and valuable consideration, the sufficiency of which is hereby acknowledged, COMPANY A, and Anthroware hereby agree as follows:

1. Anthroware agrees to provide technical consulting services and other specific services set forth in the Exhibit A, attached hereto (hereinafter referred to as "the Services").
2. In consultation with COMPANY A, Anthroware will determine the method, details and means of performing the Services except as may be specifically reserved and set forth by COMPANY A in the Exhibit A. Anthroware will be solely responsible for the professional performance of the Services.
3. COMPANY A agrees to pay Anthroware for the provision of the Services in accordance with terms set forth in Exhibit B, attached hereto.
4. OWNERSHIP OF INTELLECTUAL PROPERTY AND PROTECTION OF PROPRIETY INFORMATION. EXCEPT as specifically set forth in Exhibit C (Exceptions to Property Ownership) Anthroware agrees that all designs, programs, reports, specifications, drawings, schematics, prototypes, models, inventions and all other information and items made during the course of this Contract and relating directly to the scope of the Services shall become the property of COMPANY A upon completion of each project listed in the Scope of Work and after full payment is made. In the event that this contract is terminated, the aforementioned property shall become that of COMPANY A after full payment of final invoices is made.

Unless specifically agreed upon by Anthroware and set forth in Exhibit C, COMPANY A does not acquire ownership of source code created, used and adapted by Anthroware in



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its provision of the Services including, but not limited to Anthroware's re-usable libraries, new libraries created during the course of the project, all custom code, scripts, databases/data structures, architectural designs of software and any of Anthroware's proprietary documentation templates to implement these services.

At the request of COMPANY A, Anthroware agrees to assist COMPANY A, at COMPANY A's expense, to obtain patents, copyrights, trademarks, trade names or similar protection for the Services. This assistance includes Anthroware's disclosure of all pertinent information and data, execution of all applications, specifications, oaths and assignments and all other instruments and papers necessary for COMPANY A to apply for and Anthroware further agrees to assign and convey to COMPANY A, its successors and assigns or nominees, the sole and exclusive rights, title and interest in the Services.

All oral, written, printed, graphic or electronically recorded information and/or materials furnished by COMPANY A for use by Anthroware (hereinafter referred to as "Proprietary Information") are the property of COMPANY A. Such Propriety Information also includes, but is not limited to, business concepts and information concerning COMPANY A.

5. EXCEPT as otherwise specifically directed by COMPANY A, Anthroware shall maintain in confidence and will not disclose or use, either during or after the term of this Contract, any Propriety Information or other confidential information or know-how belonging to COMPANY A, whether or not it is in written or permanent form, except to the extent necessary to perform the Services. The obligations concerning Propriety Information extend to information belonging to customers and suppliers of COMPANY A about whom Anthroware may have gained knowledge as a result of performing the Services. On termination of Anthroware's services to COMPANY A, or at the request of COMPANY A before the termination, Anthroware shall deliver to COMPANY A all Proprietary Information of COMPANY A in the possession of Anthroware.
6. RESPONSE TIME. Anthroware works with full time employees and Independent Contractors. The benefit of a flexible team is rapid scalability and a diverse set of services. Due to the nature of the business model, Anthroware is not set up to support on call services. Within the duration of this Contract, Anthroware will make every effort to reply to inquiries within 24 hours except where COMPANY A has been previously notified of a period of limited availability. Anthroware will respond in good faith but cannot guarantee any specific action within a given time frame.
7. HOSTING. Anthroware does not provide Hosting services beyond temporary internal



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development environments. COMPANY A is responsible for choosing, paying for, and maintaining any required Hosting solutions and associated services. As a courtesy, Anthroware may offer suggestions, however, Anthroware is NOT responsible for down time, poor performance, or loss of data caused by the Hosting Provider. Additionally, Anthroware is not responsible for any bug caused by changes on the Host after the Acceptance of this Contract, including but not limited to updates to operating system, compile systems, code libraries and languages, or any changes resulting from security violations.

8. BACKUPS. Anthroware maintains internal backups of active project code and design files. This backup system is not intended as a solution for COMPANY A, rather as a code archive through the duration of this Contract. While the Anthroware backup system is fully redundant, it is not guaranteed and does not support any content produced by COMPANY A. COMPANY A is solely responsible for the Backup and Restoration of the Finished Product(s) and any associated data.
9. SECURITY. Although Anthroware makes every effort to provide secure Finished Product(s), due to the nature of rapidly advancing technology, Anthroware can in no way guaranty that the Finished Product(s) will not be subject security breaches. Anthroware recommends the use of strong passwords and the observance of standard security practices. In order to minimize the chances of security violations, systems should be updated often. COMPANY A is solely responsible for tracking software updates. Any updates during the life of or after the expiration of the Contract can be negotiated as an addendum to this Contract or as an additional Contract.
10. LIMITED LIABILITY. COMPANY A alone shall be responsible for: (a) the accuracy and adequacy of information and data furnished for processing; (b) any use made by COMPANY A of the output of the Software or any reliance thereon; and (c) obtaining the required licenses and respect copyright for any and all third part assets including but not limited to fonts, media, and software. COMPANY A shall also be responsible for the continued operation and maintenance of the computer equipment and third party software used with the Finished Product(s), and shall comply with all operational, environmental and maintenance recommendations and requirements of the applicable licensors, vendors and manufacturers. COMPANY A agrees that any liability of Anthroware relating to this agreement and the services performed shall be limited to the amount of fees actually received by Anthroware, from COMPANY A under this agreement regarding the services in question. In no event shall Anthroware be liable for any special, incidental, indirect, cover, consequential, exemplary or punitive damages; any damages based on injury to person or property; or any lost sales, profits or data, even if COMPANY A is told that



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any such damages may occur.

11. WARRANTY Anthroware will provide patches and bug fixes for any bugs or issues (defined in "Maintenance and Warranty" document) included in the scope of this contract reported by May 31st, 2016. All features outside the project scope or any bug that is reported after the above date are the responsibility of COMPANY A. Hourly projects are NOT subject to warranty. Design and the placement, editing and arrangement of editorial content are NOT subject to warranty. Should further support be necessary, a support contract may be negotiated.
12. CREDIT. Anthroware retains the right to use COMPANY A within its roster of clients. A link to the COMPANY A's public facing website and a current logo for COMPANY A may be placed on the Anthroware web site as part of its business portfolio. Anthroware reserves the right to positively promote the relationship between COMPANY A and Anthroware in blog posts and other social media.
13. REVIEW, EXPIRATION OR CANCELATION. This Contract is valid until terminated (by either party). This Contract may be terminated by either party with a full 30 day written notice. All payments will be due and all work will be submitted upon the termination of Contract.
14. CANCELLATION FEES. If this contract is terminated at the request of COMPANY A prior to the completion of work as outlined in the Scope of Work in addition to the final invoice for work performed, a cancellation fee shall be assessed for an amount equal to twice that of the final invoice.
15. MODIFICATIONS, WAIVER OF BREACH. Any waiver, additions, amendments or modifications of this Contract shall be effective only if in writing and signed by the parties hereto; any waiver of a breach of any provision of this contract shall not operate as or be construed as a waiver of any subsequent breach of the same provision or any other provision hereof. Such written waivers, additions, amendments or modifications of this Contract should be designated as further Exhibits to this Contract and signed and dated by authorized representatives of both parties.
16. This Contract shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors, assigns, heirs and personal representatives.
17. APPLICABLE LAW. This Contract shall be governed in all respects, whether as to its validity, construction, capacity, performance or otherwise, by the laws of the State of



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North Carolina.

18. SEVERABILITY. In the event any provision or portion of a provision of this Contract is held to be invalid, void or unenforceable, the rest of the Contract shall, nonetheless, remain in full force and effect and shall in no way be affected, impaired or invalidated.
19. ENTIRE AGREEMENT. The terms of this Contract set forth herein including the Exhibits attached hereto and written modifications and amendments pursuant to provision 5 above of this Contract constitute the entire agreement between the parties and supersedes all prior understandings or agreements, previous negotiations and/or any letters, memos and/or memorandum of understanding with respect to the subject matter of the Contract.
20. ATTORNEY FEES. The prevailing party in any litigation to enforce this Contract or for a breach of this Contract shall be entitled to recover reasonable costs and attorney's fees incurred.
21. NOTICES. All notices given or required to be given any party hereto shall be given by prepaid first class mail or otherwise delivered to the address specified below (or other such address as may be subsequently notified).
22. PAYMENT TERMS AND FEES. EXCEPT as otherwise specifically stated in writing herein, payments due for performance of the Services shall become due upon receipt of invoice. Payments not remitted within 15 days shall be subjected to a penalty amounting to 5% of the invoiced amount. Additional penalties of 5% shall be assessed at each of the following invoice ages: 30 days, 45 days, and 60 days.



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IN WITNESS WHEREOF, this Contract is executed effective as of the day and year first above written.

TOWN of LAKE LURE
FULL NAME OF COMPANY A
PO BOX 255
ADDRESS OF COMPANY A
LAKE LURE, NC 28746
CITY, STATE, ZIP
By: CHRIS BRAUN
Title: TOWN MANAGER

Anthroware, L.L.C.
ADDRESS OF Anthroware
161 Rugby Hollow
Hendersonville NC 28791
CITY, STATE, ZIP
By: Justin Marshall Davis
Title: President.

* [NOTE: ADDITIONS, AMENDMENTS, MODIFICATIONS to these terms (and attached Exhibits, Services Specifications, Software Specifications and Scope of Work) must be in written and designated as further Exhibits to the Contract herein and signed by authorized representations of the parties to be valid. SIGN OR INITIAL EACH PAGE OF CONTRACT AND ATTACHMENTS.]



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ToLL Boat Permit System

[Contract between COMPANY A and AnthroWare]

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Jon Jones	6/11/15	JMS	6/11/15	Create Document

SPECIFICATION OF SERVICES TO BE PROVIDED (the Services):

1.1 Objectives:

The main objective is to provide a high level of professional service with regards to software development, software development management, and technical direction consultation. This work will include creating a technical requirements document, software design, software development management, development, and delivery.

1.2 Scope of Work:

AnthroWare will provide software development and consulting services. Services will include, but may not be limited to:

1. Work with designer(s) and stakeholders to gather requirements, define use cases and test cases, determine requirements for minimum viable product (MVP)
2. Provide technical documentation describing functionality and requirements for MVP – this document will be added as an attachment to this contract.
3. Develop the MVP using safe deployment practices and agile project management.
4. Create a 'staging' service to publish incremental updates for testing/customer acceptance.
5. Deployment to live production environment.

1.3 Known Requirements/Direction:

These basic requirements are for the design, implementation, and delivery of a web-based boat permit system that will replace the existing Access Database system that is currently in use.



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The proposed web-application solution will be an ASP.NET MVC application hosted in the cloud (AnthroWare will not provide hosting, but can give counsel for various options) with a Microsoft SQL Server database backend. The application will allow users to log in, apply for, or renew a permit, and approve a credit card transaction (transaction happens upon Town of Lake Lure approval). The application will include a section for staff members where they can easily search for records, and see any pending permits. Other features include

- Email system to send messages to permit holders reminding them their permit is coming due, or if there are any reasons their permit was rejected.
- Ability to upload documents such as proof of ownership, insurance, and training certificates and view them digitally.
- Ability to quickly see a list of properties and permits by owner.
- Ability for users to save their work and come back to it
- Ability to validate user input before submission, to ensure that all required fields are filled out and all required documents have been uploaded.
- Staff members will log in to see a list of pending permit applications, review them, and approve/reject them with the click of a button (will send email to permit holder)
- Staff members will be able to use the system to create a permit for a user that does not wish to use the web-site (a walk in).
- Searching for permits will be filterable by certain key words, searchable, and sortable so finding a record will be painless.



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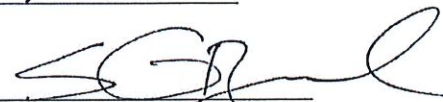
1.4 Other Exceptions:

Anthroware will bill for this project on a 'time and materials' basis. Will communicate burn rate with client as we go to avoid surprises, and we roughly estimate \$15,000 to \$25,000 for the project- this is an estimate only.

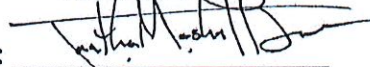
Client will receive a 10% discount on hourly rates as a new client incentive.

* Maximum phase 1 Budget = \$15,000
SES
JRS

DATE: 7/16/15

Signature: 

COMPANY A

Signature: 
AnthroWare

* [NOTE: ADDITIONS, AMENDMENTS, MODIFICATIONS to these terms (and attached Services Specifications, Software Specifications and Scope of Work) must be in written and designated as further Exhibits to the Contract herein and signed by authorized representations of the parties to be valid. SIGN OR INITIAL EACH PAGE OF CONTRACT AND ATTACHMENTS.]



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EXHIBIT C

[Contract between COMPANY A and AnthroWare]

EXCEPTIONS TO PROPERTY OWNERSHIP:

None

DATE: 7/16/15

INITIALS: SCB
COMPANY A

INITIALS: JMS
AnthroWare

*** [NOTE: ADDITIONS, AMENDMENTS, MODIFICATIONS to these terms (and attached Services Specifications, Software Specifications and Scope of Work) must be in written and designated as further Exhibits to the Contract herein and signed by authorized representations of the parties to be valid. SIGN OR INITIAL EACH PAGE OF CONTRACT AND ATTACHMENTS.]**



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EXHIBIT B

[Contract between COMPANY A and AnthroWare]

TABLE OF GENERAL COMPENSATION RATES FOR PROVISION OF THE SERVICES:

Resource	Project Hours	Rate	Cost
Art Director	0	\$125.00	\$-
Graphic Design	0	\$80.00	\$-
DBA	0	\$150.00	\$-
Software Architect	0	\$150.00	\$-
Web Development	0	\$80.00	\$-
Sr. Web Development	0	\$100.00	\$-
Software Engineering	0	\$100.00	\$-
PM/Consultant	0	\$150.00	\$-
QA	0	\$80.00	\$-
Total	0		\$-

PAYMENT OF SPECIFIED RATE(S). As full compensation for provision of the Services, COMPANY A shall pay to AnthroWare the sums set forth ABOVE based upon the type(s) of Services provided. Charges for work in excess of designated "Not to Exceed" or "Firm Bid" amounts specified in this Contract will not be due, payable or billable without prior written authorization and agreement of both parties. Additional work found necessary and agreed upon by both parties beyond the original scope of the Services set forth in Exhibit A will be considered separately and paid in accordance with such separate written agreement.

These rates are subject to periodic review. Rate changes will be negotiated between COMPANY A and AnthroWare if changes are necessary. Individual contractor rates may differ from this list and are specified on the contractor scope of work document listed in Exhibit A. All rate changes, discounts, and adjustments are subject to this negotiation process.

Emergency services, defined as being unscheduled or after-hours (unscheduled), shall be subject to a 50% markup.

Such additions, amendments shall be in writing and signed by authorized representatives of the parties and designated as Exhibits to the Contract.

EXCEPT as otherwise specifically stated in writing herein, payments due for performance of the Services herein shall become due and payable upon completion of the project.



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EXCEPTIONS:

• **PAYMENTS DUE FOR TIME AND MATERIALS:**

Client will be billed every two weeks, payable upon receipt.

INITIALS: SCB
COMPANY A

INITIALS: SMS
AnthroWare

DATE: 7/16/15

* [NOTE: ADDITIONS, AMENDMENTS, MODIFICATIONS to these terms (and attached Services Specifications, Software Specifications and Scope of Work) must be in written and designated as further Exhibits to the Contract herein and signed by authorized representations of the parties to be valid. **SIGN OR INITIAL EACH PAGE OF CONTRACT AND ATTACHMENTS.**]



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EXHIBIT A
Contract between COMPANY A and Anthroware

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Jon Jones	6/11/15	<i>[Signature]</i>	6/11/15	Created Document.

* SPECIFICATION OF SERVICES TO BE PROVIDED (the Services):

Anthroware will provide professional services to COMPANY A. This work will be completed as either hourly (time and materials) work, or firm bid- as designated in the scope of work documentation.

Scope of this work is defined in the following documents:

Document Name	Version #	Implemented By	Revision Date	Approved By	Approval Date
ToLL Boat Permil System 1.0	1.0	Jon Jones	6/11/15	<i>[Signature]</i>	6/11/15

DATE: 7/16/15

INITIALS: *SCB*
COMPANY A

INITIALS: *JMS*
Anthroware

* [NOTE: ADDITIONS, AMENDMENTS, MODIFICATIONS to these terms (and attached Services Specifications, Software Specifications and Scope of Work) must be in written and designated as further Exhibits to the Contract herein and signed by authorized representations of the parties to be valid. SIGN OR INITIAL EACH PAGE OF CONTRACT AND ATTACHMENTS.]



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MAINTENANCE AND WARRANTY POLICY

ANTHROWARE POLICY DOCUMENT

Prepared by AnthroWare L.L.C.

MAINTENANCE AND WARRANTY POLICY – PREPARED BY ANTHROWARE, LLC

VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Jon Jones/	12/29/13	JJ	12/29/13	Initial policy draft
1.1	Jon Jones	7/16/15	JJ	7/16/15	Updated policy definition.

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"Feature"	5
"Small Feature"	5
"Ongoing Cost"	5
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MAINTENANCE AND WARRANTY POLICY APPROVAL.....	6

Introduction

Purpose of The Maintenance and Warranty Policy Document

The **Maintenance and Warranty Policy** document documents and tracks the necessary information required to effectively define our policies with what Anthroware is responsible for in terms of a warranty and how our maintenance plans work. This will include the definition of what counts as a "Bug" and what counts as a "Feature". Bugs are covered under warranty until the warranty expires, and features are billable.

General Policy Overview

This section describes the principles and strategies to be used as guidelines when dealing with warranty issues or applicable maintenance plan hours.

Warranty

We will provide a warranty to our clients who have received software development work. Initially we offer a 30-day warranty, which should be adequate time to figure out what deliverables are not functioning properly. Some clients may wish to extend this warranty period, which is negotiated in the service agreement or master service agreement; applicable fees may apply.

Once the project has gained customer acceptance, and the warranty period has expired, Anthroware has no responsibility to fix or modify the project in any way unless payment for additional services is rendered.

Maintenance Package

The Customer may wish to purchase a maintenance package from AnthroWare for long-term support of their product. Purchasing maintenance hours per month ensures that a specific amount of work can be scheduled each month without rush fees.

- Can be applied to bugs that are beyond warranty
- Can be applied to small changes (such as: text changes, or color changes)
- Can be applied to small features
- Customer to receive up to 10% discount on hours purchased on a maintenance plan (based on size of maintenance contract and scheduling effort. Larger maintenance contracts are easier to schedule, therefore have larger discounts for ongoing work)
- Maintenance hour balance will roll over for up to three months
- Maintenance plans will be billed monthly
- Rush fees may apply if more work than purchased in a maintenance plan is required.

Detail of Terms

This section goes into detail about each term.

“Bug”

A “Bug” is where a specific feature or function has been detailed in the scope of work or specification document, and it does not perform as written in the specification. Bugs can be major, or minor depending on the project. Bugs are fixable under warranty, if warranty period has not expired.

“Feature”

Feature is an addition OR change requested by the customer that is beyond the scope of any existing, active, specification documents for the project. Features generally required a new specification document to fully outline the feature and how it will interact with the software. Once a new feature has gained customer acceptance it is treated like an additional piece of software, and has it's own warranty.

Maintenance plans generally DO NOT cover the addition of features to a software project. Features will need to be scheduled based on bandwidth, and if they are required sooner than AnthroWare can schedule it normally, rush fees may apply.

“Small Feature”

Small features are an addition OR change requested by the customer that can be handled within the monthly maintenance hours. For example, if the customer has purchased 10 hours a month in a maintenance plan, and they wish to make a change that will take 5 hours (assuming the client has at least 5 unused hours that month on their maintenance plan), it is an appropriate use of maintenance hours. If that same customer wishes to make a change that will take 12 hours, it is no longer a “small feature” and will be treated as a “feature” with a separate scope document and separate purchase order.

“Ongoing Cost”

Ongoing costs are great things to plan for with a maintenance plan. These are things like monthly upgrades to the framework, monthly hours towards data import processes, or other ongoing engineering or developer hours needed to maintain your software. An ‘ongoing cost’ is defined as engineering hours needed to upkeep the software, no new functionality or features are being added.

Other Considerations

- If immediate work is required and takes longer than purchased maintenance package, then rush fees may apply.
- Maintenance packages require a yearly contract. Changes to the number of hours require an update to the contract, and must be agreed upon by both parties.

MAINTENANCE AND WARRANTY POLICY – PREPARED BY ANTHROWARE, LLC

Maintenance and Warranty Policy Approval

The undersigned acknowledge they have reviewed the Maintenance and Warranty Policy document and agree with the approach it presents. Any changes to this requirements definition will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	<u>SGB</u>	Date:	<u>7/16/15</u>
Print Name:	<u>CHARS BRAUN</u>		
Title:	<u>TOWN MANAGER</u>		
Role:	<u></u>		
Signature:	<u>Jonathan Marshall Jones</u>	Date:	<u>7/16/15</u>
Print Name:	<u>Jonathan Marshall Jones</u>		
Title:	<u>President</u>		
Role:	<u></u>		

Sam Karr

From: Sam Karr
Sent: Wednesday, May 4, 2016 2:10 PM
To: Bob Cameron; Bob Keith; Mary Ann Silvey; Stephen Webber; John Moore
Subject: FW: Invoice 1020 from Anthroware

Council:

Attached is what Chris had provided me from last month when I inquired about Anthroware (Boat Permit Database). I talked with Chris Filipiak with Anthroware yesterday and he will send us a copy of their contract. I also mentioned that Council had a few questions and to see if he could attend our town meeting on Tuesday? We do have another update on Thursday May 12th at 2:00 here at Town Hall. So maybe at that time we could ask about the project. Thanks,

Sam

From: Chris Braund
Sent: Wednesday, March 23, 2016 5:15 PM
To: Sam Karr <findir@townoflakelure.com>
Subject: RE: Invoice 1020 from Anthroware

We're nearing completion of the programming, but we're going to be over budget. It's a time-and-materials contract and they've run into some harder-than-expected pieces. They're not only re-writing the existing functionality (of the MS-Access boat permit database), but they are enhancing the functionality to be web-based and utilize self-serve kiosks in town hall and the marina. It will also position us to be able to add online renewal functionality in the next phase.

I should have a better idea of the final budget estimate in the next two weeks.

Thanks –

From: Sam Karr
Sent: Wednesday, March 23, 2016 4:58 PM
To: Chris Braund
Subject: RE: Invoice 1020 from Anthroware

Chris:

Do you happen to know where are we at with this project?; we budgeted \$28k, and presently (to date), we've spent out \$28,338.27.

Thanks-
Sam

From: Chris Braund
Sent: Saturday, October 3, 2015 12:51 PM

Town of Lake Lure – Definition of Done

Residential Permits – 20 hours + QA + PM

The residential permits module is the key feature for this software and will include the functionality below. Residential Permits is phase one of the project. Development is wrapping up for this module and will be demoed on 6/2/2016. After the Demo is no changes are requested the application will enter into User Acceptance Testing. Once the application passes UAT a deployment date will be decided on.

- Townhall & Marina locations – same functionality different site
 - Buy Non Residential permits
 - Buy Residential permits
 - Must be logged in with parcels that have houses. You can only purchase a residential permit if an admin has created a user account for you and you are logged in. Then you must also own property (Parcel) with a house on it. Setting up the property will occur only at Town Hall.
 - Must have admin create account.
 - Required permit fields & create account – page 1
 - Add contact information – page 2. Only if not logged in.
 - Reset password
 - Pay and pick up permits at counter.
- Login
 - Can purchase residential permits
 - Admin must create accounts for permit buyers.
 - Buy permits only
 - No account management for permits
- Admin
 - Login
 - User search
 - Add parcels and
 - Reset passwords
 - Set admin roles
 - Edit account information

131.70
131.14
140.33
50.46
1.738

- Action items view
- All permits view
- Type of users
 - Super Admin – All features
 - Town hall Admins – No setting of permit types, restricted role assignment
 - Marina Admins – No setting of permit types, restricted role assignment, no user editing, no permit editing once approved or denied. Can add notes.
 - Law Enforcement – View permits, view users, add notes.
 - Permit buyers – Buy permits, create account, reset password

Commercial Permits – 148 Hours + QA + PM

Commercial permits are partially developed and have been exclude from phase one of the project. ToLL will consider moving forward with commercial permits at a later date.

- Company applies to be a commercial entity at the town hall via current process.
- Admins creates commercial company. This is currently developed, but needs to be wired up and tested. Are their restrictions on types of companies and types of permits? 20 hours.
- Admins associate system users with the company. User will be created on manage user page. 4 hours
- Associated users can buy permits for the commercial entity. This is not developed. 60 hours
- Associated users can add boat operators – Name, Phone, & Type of Boats. This is not developed. 24 hours
- Commercial permits will flow into the permit process above. Need to select different companies. 24 hours
- Business logic and rules for commercial permits. This is not developed. 16 hours

Hardware ADN - \$1,429.05

Advanced Data Networks will be providing Hardware at the Town Hall and the Marina. Hardware will need to be in place before the go live date for the application.

- Advanced Data Networks

- MS Azure Hosting - \$20/\$30 per month
- Domain Name - \$15/year
- SSL certificates - \$80/year

Training – 4 hours + Expenses

- Chris Fillipiak & Matt Solle will provide a two-hour onsite training about how the software will work and answer any user questions.

Implementation and Deployment – 36 hours + PM + QA

A deployment and go live date will be coordinated with ToLL.

- Database Imports – Permits and Boats
- Wire up existing boats
- Configure Application for server
- Configure Domain & SSL

Sam Karr

From: Chris Filipiak <chris.filipiak@anthroware.com>
Sent: Thursday, March 31, 2016 3:48 PM
To: Chris Braund
Cc: Sam Karr; Linda Ward; Michelle Jolley; Jon Jones; Matt Solle
Subject: Boat Permits, ToLL, & Bikes

Dear Chris,

It was great meeting with you today to learn about the ToLL Boat Permit Project. As we discussed we will work on the following tasks:

1. Finish up the last bit of development.
2. Reach out to Mike at Advanced Data to coordinate the hosting and hardware.
3. Work with Sam, Linda, & Michelle to complete UAT, develop an Implementation plan, and determine a cut over date.

I enjoyed hearing about your cycling adventures and learning more about the Town of Lake Lure. If I can help you in the future especially for custom software please get in touch.

In the meantime let's connect on LinkedIn and good luck in whatever Charlotte holds for you!

Here to help,

Christopher P. Filipiak
chris.filipiak@anthroware.com
anthroware.com
828.747.7865

All contents of this message are considered confidential, do not distribute unless otherwise instructed. If you received this message in error please delete immediately.

Sam Karr

From: Chris Filiplak <chris.filiplak@anthroware.com>
Sent: Monday, May 2, 2016 3:36 PM
To: Sam Karr
Subject: Re: ToLL 14-15 Sprint Demo

Dear Sam,

We do and I will get the copy we have sent your way.

Here to help,

Christopher P. Filiplak
chris.filiplak@anthroware.com
anthroware.com
828.747.7865

All contents of this message are considered confidential, do not distribute unless otherwise instructed. If you received this message in error please delete immediately.

From: Sam Karr <fndlr@townoflakelure.com>
Date: Monday, May 2, 2016 at 3:31 PM
To: Christopher Filiplak <chris.filiplak@anthroware.com>
Subject: RE: ToLL 14-15 Sprint Demo

Chris:
Do we have a contract? I am just checking?
Thanks
Sam

From: Chris Filiplak [<mailto:chris.filiplak@anthroware.com>]
Sent: Monday, May 2, 2016 3:30 PM
To: Sam Karr <fndlr@townoflakelure.com>; Dean Givens <loga@townoflakelure.com>; Linda Ward <cs@townoflakelure.com>; Chris Braund <braundcb@gmail.com>; Michelle Jolley <receptionist@townoflakelure.com>; Matt Solle <matt.solle@anthroware.com>
Subject: ToLL 14-15 Sprint Demo

Dear Sam,

I hope your week is starting off well and we have had a good week working on the boat permit website. We won't be able to

Sam Karr

From: Chris Filiplak <chris.filiplak@anthroware.com>
Sent: Thursday, May 5, 2016 9:21 AM
To: Sam Karr
Cc: Jon Jones
Subject: Re: ToLL 14-15 Sprint Demo
Attachments: ToLL Contract.pdf

Dear Sam,

Please see the current contract attached. Let me know what questions you or the council may have. We have recently made changes to our contracts to better protect our clients. If you would like to use the new updated contract we can and I will get you a copy to review. Just let me know.

Here to help,

Christopher P. Filiplak
chris.filiplak@anthroware.com
anthroware.com
828.747.7866

All contents of this message are considered confidential, do not distribute unless otherwise instructed. If you received this message in error please delete immediately.

From: Sam Karr <findir@townoflakelure.com>
Date: Tuesday, May 3, 2016 at 4:58 PM
To: Christopher Filiplak <chris.filiplak@anthroware.com>
Subject: RE: ToLL 14-15 Sprint Demo

Thanks Chris...I am really not sure, but the contract would be helpful. Maybe we can have a phone conference or one can show up at on the May 12th presentation.
Sam

From: Chris Filiplak [<mailto:chris.filiplak@anthroware.com>]
Sent: Tuesday, May 3, 2016 4:54 PM
To: Sam Karr <findir@townoflakelure.com>
Subject: Re: ToLL 14-15 Sprint Demo

Hi Sam,

Sam Karr

From: Chris Filliak <chris.filliak@anthroware.com>
Sent: Thursday, May 5, 2016 1:50 PM
To: Sam Karr
Subject: Re: ToLL 14-15 Sprint Demo

Hi Sam,

Yes I set us up for 2:00pm.

Here to help,

Christopher P. Filliak
chris.filliak@anthroware.com
anthroware.com
828.747.7866

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From: Sam Karr <findlr@townoflakelure.com>
Date: Thursday, May 5, 2016 at 1:24 PM
To: Christopher Filliak <chris.filliak@anthroware.com>
Subject: RE: ToLL 14-15 Sprint Demo

Chris:
Can we make it tomorrow? Set a time.
Thanks-
Sam

From: Chris Filliak [<mailto:chris.filliak@anthroware.com>]
Sent: Thursday, May 5, 2016 11:23 AM
To: Sam Karr <findlr@townoflakelure.com>
Cc: Jon Jones <jon@anthroware.com>
Subject: Re: ToLL 14-15 Sprint Demo

Hi Sam,

Would you like to get together with Jon and I today or tomorrow afternoon to discuss the contract along with any other questions you may have? Let me know what works for you - 2:00pm today or before 3:00pm tomorrow afternoon is best for

From: Sam Karr <findlr@townoflakelure.com>
Date: Tuesday, May 3, 2016 at 4:58 PM
To: Christopher Filliak <chris.filliak@anthroware.com>
Subject: RE: ToLL 14-15 Sprint Demo

Thanks Chris...I am really not sure, but the contract would be helpful. Maybe we can have a phone conference or one can show up at on the May 12th presentation.
Sam

From: Chris Filliak (<mailto:chris.filliak@anthroware.com>)
Sent: Tuesday, May 3, 2016 4:54 PM
To: Sam Karr <findlr@townoflakelure.com>
Subject: Re: ToLL 14-15 Sprint Demo

Hi Sam,

Yeah I have a paper copy of the contract so I just need to scan it then send your way. Let me know a bit more on what the Town Council is looking for and I will think about the best way to answer their questions. What are the details of the meeting on the 10th.

Here to help,

Christopher P. Filliak
chris.filliak@anthroware.com
anthroware.com
828.747.7865

All contents of this message are considered confidential, do not distribute unless otherwise instructed. If you received this message in error please delete immediately.

From: Sam Karr <findlr@townoflakelure.com>
Date: Tuesday, May 3, 2016 at 4:44 PM
To: Christopher Filliak <chris.filliak@anthroware.com>
Subject: RE: ToLL 14-15 Sprint Demo

Hi Chris:

Thanks...the contract would be very helpful. Is there any way you could meet with council on May, 10th? This is their Town Meeting night; they had some questions about the program you guys are writing and cost involved. I know it is a fluid contract with a custom component, but they would like to control some of the cost.
Thanks again,

Sam Karr

From: Chris Filipiak <chris.filipiak@anthroware.com>
Sent: Tuesday, May 24, 2016 2:26 PM
To: Sam Karr
Cc: Jon Jones
Subject: ToLL Boat Permit Definition of Done
Attachments: Town of Lake Lure – Definition of Done.docx

Dear Sam,

I've worked on explaining all outstanding work and what is required for deployment. I'm calling this our Definition of Done. It includes and explains all functionality that is being provided with the software. It also outlines what is needed to complete Commercial Permits when you are ready to move forward. We are not currently working on commercial permits.

The 20 hours of work indicated for residential permits is what we are currently working on. Once we finish that there is no new development needed unless something comes out of the next demo or UAT. There is a little bit of work needed to deploy the application and I've included an hours estimate for that along with any other costs I could think of.

Check it out and let me know if you have any questions. We are wrapping up the work from the last Demo and look forward to showing it to you on June 2nd.

Here to help,

Christopher P. Filipiak
chris.filipiak@anthroware.com
cocoapp.com
anthroware.com
828.747.7865

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**LAKE LURE TOWN COUNCIL
REQUEST FOR BOARD ACTION
Meeting Date: January 10, 2017**

SUBJECT: Buffalo Creek Park Trail Damage Assessment and Recommendations

AGENDA INFORMATION:

Agenda Location: New Business
Item Number: A
Department: Parks & Recreation
Contact: Clint Calhoun and Melodie Potter
Presenter: Larry Czajkoski

BRIEF SUMMARY: During the Party Rock Fire, the North Carolina Forest Service constructed a dozer line that extended from Buffalo Creek Road, up the northern ridge into the Grey Rock Subdivision. Along this northern ridge lies the steepest portion of the Buffalo Creek Park loop trail which includes thirteen switchbacks. The dozer line follows the ridge line and cuts through the thirteen switchbacks. Due to the steep topography, the highly erodible soils, and the lack of suitable area to divert water, the trail is now in danger of water erosion and further destruction of the trail facility. The Town of Lake Lure along with Carolina Mountain Land Conservancy has completed their damage assessments and have made recommendations for repairing the trail. The Parks and Recreation Board agrees with the recommendations made during the assessment and is recommending that the Town Council move forward with repairing the trail as quickly as possible.

RECOMMENDED MOTION AND REQUESTED ACTIONS:

- 1) To Approve the Buffalo Creek Park Repair Contract with Trail Dynamics in an Amount Not to Exceed \$19,000 and to Authorize the Town Manager to Execute the Necessary Documents.
- 2) To Approve the Transfer of \$19,000 from the General Fund Balance (#10-398604) to the Capital Outlay "Trail Construction" (#10-80000.566) Line Item.

FUNDING SOURCE: The Town's intent is to fund the repair through insurance proceeds with additional assistance from the Clean Water Management Trust Fund. However, please note that if the Town is not successful in securing these funds, it is recommended that the repairs still be made from the General Fund Balance due to the urgency of the matter.

ATTACHMENTS: Buffalo Creek Park Trail Damage Assessment & Recommendations by Peter Barr, CMLC, December 2016; Summary of Damage Assessment and Suggested Remediation Measures for Buffalo Creek Park by Clint Calhoun, December 2016 and Trail Dynamics Contract

STAFF'S COMMENTS AND RECOMMENDATIONS: The Town of Lake Lure Parks and Recreation Board is asking for funds to repair the damaged portion of Buffalo Creek Park Trail. The Board is recommending awarding the contract to Trail Dynamics and Ed Sutton who was the original contractor used to build the trail system. Trail Dynamics has the technical knowledge to repair the banked switchbacks and the equipment needed to accomplish the job. Time is of the essence due to the high probability of water erosion.

General Summary of Damage Assessment and Suggested Remediation Measures for Buffalo Creek Park

On December 8, Clint Calhoun, Hallie Zeedik, and Dana Bradley hiked the damaged section of the Buffalo Creek Park Trail. The trail has been heavily impacted due to the NC Forest Service's efforts to contain the Party Rock Fire. A dozer line was put in that extended from Buffalo Creek Road up the northern ridge that lies along the boundary line of the Buffalo Creek Park property, all the way to the top of the mountain into the Grey Rock Subdivision.

Along this northern ridge lies the steepest portion of the Buffalo Creek Park loop trail which includes 13 switchbacks. The area has been identified as the most problematic section of the trail in terms of water distribution and erosion issues. This is due to the steep topography, highly erodible soils, and the lack of suitable areas to divert water based on the current trail design.

Because of the emergency nature of the Party Rock Fire and the high probability for containment breach that existed throughout the course of the fire, the dozer line that was constructed through the BCP trail was obviously put in very quickly and did not follow the recommended guidelines cited in the *NC Forestry BMP Manual* at least not from an objective standpoint. Generally, most BMPs are constructed post-fire or shortly after the state of emergency has alleviated, but there are no obvious signs of BMP construction along the installed dozer line, at least not that meet the specifications of the manual. The following is excerpted from the *NC Forestry BMP Manual*:

BMPs for Fireline Construction

Construct firelines only as deep and/or wide as necessary to contain the prescribed fire.

Minimize using soil disturbing tractor-plow firelines if conditions allow.

Construct firelines in a way that minimizes erosion and prevents runoff from directly entering waterbodies by installing and maintaining water bars, sediment traps, turnouts, or using other appropriate methods.

When site conditions or burning techniques are suitable, construct firelines along the contour and avoid straight uphill/downhill placement.

Fireline slope should be kept to 25 percent or less if possible.

Try to keep constructed firelines out of SMZs, marshes or other environmentally sensitive areas. If a constructed fireline is needed in these areas, avoid using heavy equipment.

BMPs for Fireline Maintenance

Maintain erosion control structures to control runoff on firelines. Provide adequate cross-drainage where needed to avoid damming surface runoff.

Minimize accelerated erosion into waterbodies and stabilize those areas that pose a risk to water quality.

Clear streams and ditches of debris that was pushed in by fire equipment.

Revegetate and/or stabilize firelines that pose a risk of accelerated erosion to waterbodies.

It can very easily be argued that implementation of BMPs may be particularly subjective, considering that it may be the opinion of the operator that he/she did all they were required to do under the circumstances. However, the present site conditions seem to dictate that no effort has been made to go back after the fire to repair and mitigate erosion and sediment issues which is typically a standard operating procedure.

The entire dozer cut is entirely below grade on an average slope that is approximately 30 percent over a distance greater than 2500 feet. There is nowhere over the course of the entire cut where recommended BMPs have been installed that follow the guidelines of the referenced manual. For example, the entire dozer line has not been "constructed in a way that minimizes erosion and prevents runoff from directly entering waterbodies by installing and maintaining water bars, sediment traps, turnouts, or using other appropriate methods." There are no erosion control measures installed over the entire course of the cut. There was an apparent attempt to install "hand dug" water bars which are at best only three inches deep, 4 inches wide, with no substantial berm downslope. These "water bars" are neither substantial nor do they meet the standards described in the manual for water bars. There are no outlets for any water to get off the cut which ranges anywhere from one inch to 24 inches below grade over the entire distance. At the bottom of this dozer line is a high quality stream that has a Clean Water Management Trust Fund conservation easement on it. No substantial measures have been taken to protect water quality under the current conditions.

A positive sign that was noticed is that leaf fall has provided somewhat substantial ground cover in many places, particularly on the lower end of the cut which will aid in reducing erosion in some areas, but additional ground cover will be needed to properly stabilize the entire length of the cut.

One aspect that further complicates establishment of BMPs in the area of this dozer line is the fact that we have a trail that does not properly divert water. Because of the switchbacks and the choices that were made to remove water from the trail surface, much of the trail surface water runs between the switchback areas and there are no suitable locations to divert water other than back onto the trail. When BMPs are implemented as the trail is being repaired, a great deal of thought will need to go into how to properly manage water and what BMPs will be most appropriate in conjunction with the trail. Much of this will not be able to be effectively determined until actual work begins, based on what is needed to restore the trail to its original condition. The Town will be working closely with Peter Barr who will be overseeing the trail repair. Most likely trail repair and erosion control efforts will be done in conjunction with each other.

In terms of erosion and sediment control measures, the following BMPs are recommended:

- Where possible, install properly constructed water bars across the dozer line, built according to Forest Service specifications and should be located every 30 feet unless the distance between two other BMPs is less than 30 feet. See Appendix for specifications.
- Where water bars can be installed, turnouts should be installed to the low side of the water bar so that water is diverted from the dozer cut and onto the undisturbed ground. See Appendix for specifications.
- In some places due to grade and possible topographic constraints, sediment traps may be required. This will be determined on-site with grading contractor. See Appendix for specifications.
- At the beginning of the dozer line before the line starts up the ridge, a filter area or substantial sediment trap should be established to prevent sediment from getting to Buffalo Creek. See Appendix for specifications.
- In some places water bars may be impractical so BMPs such as brush barriers may serve as better measures, particularly given the amount of woody debris that now exists. Brush barriers work well as check dams and have great filtering ability when properly constructed. These would be appropriate immediately below trail edges where water has to be diverted. See Appendix for specifications.
- In many locations the dozer plowed up large mats of duff. These mats should be salvaged where possible and replaced in the dozer cut and along trail edges to act as filters.
- The area at the top of the switchbacks, near where the dozer line leaves the trail was the most heavily impacted with deep cuts that lack proper backslopes. Remediation in these areas will totally depend on what happens with trail repair. Slope remediation will be necessary once the trail path is established. This particular area will be the most vulnerable to invasive species establishment and will require mass re-vegetation. Recommend use of native species, particularly tree seedlings obtained from the NC Forest Service suited for upland sites. A combination of pine, oak, and maple species would be suitable, as well as establishment of some native grasses. This area also presents a new opportunity for the Town as a possible picnic spot due to the loss of some significant trees that obstructed much of the view.
- It is strongly recommended that fallen leaves from the trail be collected and bagged to be used as ground cover to protect the cut area until after the damage has been repaired. Leaves are the natural ground cover in the woodland surface and will do the most good in terms of reducing erosion potential. Enough leaves should be collected to both serve as temporary ground cover pre-construction and as more permanent cover post-construction.

Appendix

Appendix includes excerpts from the *NC Forestry BMP Manual*. These are recommended techniques for establishing proper erosion and sediment control in forest settings and designed for protection of water quality and sensitive natural areas.

Chapter 5

Runoff Control and Forestland Access

Chapter 5 Layout:

Part 1 - Page 51
BMP Tools to Control Runoff

Part 2 - Page 60
BMP Tools to Capture Sediment

Part 3 - Page 68
Stream Crossings

Part 4 - Page 78
Forest Roads

Part 5 - Page 84
Skid Trails

Part 6 - Page 86
Decks & Landings
-- -- -- --

Take note of how this chapter is organized:

Part 1 describes methods to control runoff, while Part 2 includes practices to capture sediment. These two topics are explained first because implementing these types of 'BMP tools' are essential for properly built stream crossings, roads, skid trails and decks.

Also note in this Chapter (and throughout this manual), that the term 'runoff' refers to surface runoff that flows atop the ground surface. This term should not be confused with below-surface or groundwater flow.

Water Quality Link

The BMPs in this chapter can help you plan, put into place, and maintain good access in a way that should protect water quality:

- ☐ Roads, skid trails, stream crossings and decks are widely considered the most likely source of potential erosion and nonpoint source pollution on a forestry operation.
- ☐ Having BMPs correctly implemented can add value to the forestland for its owner and to those who benefit from the land or its resources.
- ☐ Not having these features done the right way may lead to prolonged and substantial erosion and water quality problems that will likely cost much more to repair than it would have taken to prevent them in the first place.

Helpful Hints:

Remember the four key elements for controlling runoff:
1 - Prevent It
2 - Slow it down
3 - Spread it out
4 - Capture it

'Getting the Job Done ...'

Your ultimate goal is to protect water quality when working with roads, skid trails, stream crossings, or decks. Preventing runoff, controlling runoff and/or capturing sediment can go a long way towards accomplishing this goal.

Whether it is accomplished by using the BMPs in this manual, or by some other methods, the result must be the same: protecting the water.

Text Box for Rules References

Under each part of this chapter, a text box similar to this one contains references to those rules that may apply to that topic.

- ☐ There are several state and/or federal rules that apply to the features discussed in this chapter, including most of the North Carolina FPGs.
- ☐ Specific requirements about forest roads in wetlands are briefly discussed in this chapter. Refer to Chapter 6 for detailed information.

FPG

Refer to the FPGs
in the Appendix

Part 1 -- BMP Tools to Control Runoff

Did You Know?

The type of BMP tools in Parts 1 and 2 have many common names:

- ☐ Water control structures
- ☐ Erosion control structures
- ☐ Water diversions
- ☐ Runoff diversions
- ☐ Drainage structures
- ☐ Drainage diversions

No matter what you call them, they serve the same purpose of controlling runoff and capturing sediment.

Controlling runoff reduces its speed and volume before it can get out of hand, thereby reducing the likelihood of accelerated erosion.

The BMP tools covered in Part 1 are:

- Broad-based dip
- Turnouts
- Cross-drains
- Waterbars
- Inside ditchlines
- Insloping, outslloping and crowning

These different methods of controlling runoff can be used for nearly any suitable forestry application. These may include permanent or temporary roads, skid trails, stream crossings, firelines, access trails and log decks.

Installing these BMP tools usually is best during initial construction. However, they can be successfully retrofitted with proper equipment and techniques.

Locations where these BMP tools are especially useful include:

- ☐ Steep slopes or slopes with soil of high erosion and runoff risk.
- ☐ Top of slopes or grades to control runoff before it can pick up speed.
- ☐ Approaches to stream crossings.

Some Benefits of Controlling Runoff

- ☐ Protection of water quality from pollution potential by reducing erosion risk and allowing better water absorption.
- ☐ Improved access on your forestland.
- ☐ Protection of your financial investment in sustaining forestland access.

Helpful Hints:

Table 5-1 is arranged to focus first on the steeper grades, then recognize their correspondingly shorter spacing ranges, as the slope grade increases.

The layout of this table emphasizes the point that steeper slopes often require more BMPs to control runoff.

Distance Spacing for Runoff Control BMPs

Table 5-1 below provides a range of suggested spacings for installing the different BMP tools used for controlling runoff. See 'Helpful Hints' to left.

The spacing ranges are only general guidelines and should be adjusted according to your specific site, soil, groundcover, equipment or other conditions.

Table 5-1: Suggested Spacing Ranges for BMP Tools to Control Runoff

Slope Grade (percent)	Broad-based dips, Turnouts, Cross-drains (feet)	Waterbars (feet)
20 +	60 to 40	40 to 30
16 to 20	100 to 60	60 to 40
11 to 15	140 to 100	80 to 60
6 to 10	180 to 140	100 to 80
0 to 5	250+ to 180	120+ to 100

Helpful Hints:

Broad-based dips are not suitable to provide drainage for Inside Ditchlines or groundwater seeps. Cross-drains should be used instead.

Broad-Based Dip

A broad-based dip is a combination of a shallow depression (dip) excavated into the road surface with a slight hump at a reversed grade, formed immediately on the downhill edge of this dip. An outlet area is provided for the runoff to leave the road surface.

The dip works by diverting runoff away from the roadbed and through the outlet. The hump acts as a barrier to continued runoff flow downhill along the road surface.

BMPs for Broad-Based Dip

- ☐ Lay out and construct the broad-based dip at right angle to the travel surface and across the full width of the road.
- ☐ Excavate a shallow dip approximately 15 to 20 feet long into the uphill travel surface.
- ☐ Construct and compact a slight hump across the downhill edge of the dip. The reverse grade of the hump should not exceed 2 to 3 percent slope down toward the base of the dip.
- ☐ Outslope the bottom of the dip at enough of an angle to turn away water and runoff, but generally no more than a 2 to 3 percent outslope angle.
- ☐ On slopes greater than 8 percent, or when needed, hardening the travel surface of the broad-based dip with stone or other materials can prevent erosion and improve vehicle traction.
- ☐ Situate the broad-based dip outlet in a manner that prevents runoff from flowing directly into streams or waterbodies. Take measures to capture the sediment from the outlet as needed.
- ☐ Avoid siting the outlet onto soft soil or fill material, unless measures are implemented to prevent accelerated erosion from the outlet.

Helpful Hints:

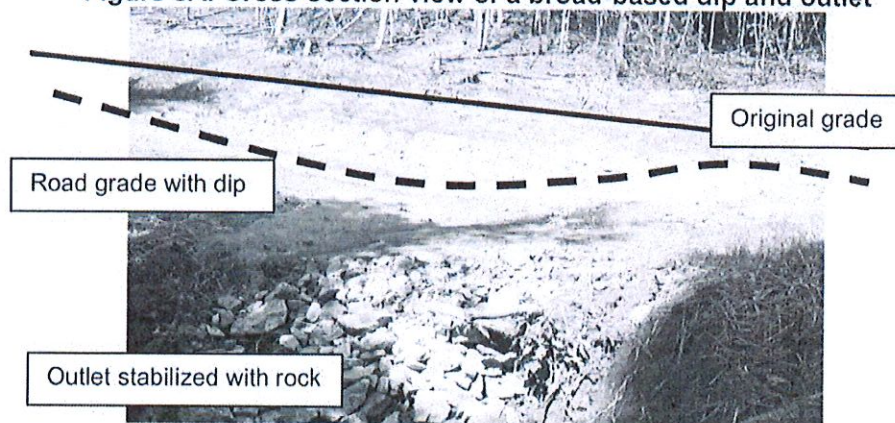
Try to use the native soil from the site, and compact it when forming the reverse-grade hump.

Figure 5A: Cross-section view of a broad-based dip and outlet

Caption:

In this photo, you can see the dip in the road, and the outlet created for carrying runoff.

It is recommended to only create enough outslope angle within the dip to turn the runoff without creating a hazardous driving condition for vehicles.



Helpful Hints:

Waterbars are usually used when closing off, or 'retiring' skid trails and roads.

It is not recommended to drive over waterbars, since this will wear down the hump and alter the drainage function of the trench.

Watch Out!

Remember: Waterbars are excavated and constructed.

Simply piling soil on the trail or road surface IS NOT the same as installing a waterbar.

Also Refer To...

Table 5-1 provides spacing ranges for waterbars.

Helpful Hints:

Don't set the waterbar backwards, which diverts water into the side / cut slope, unless there is an Inside Ditchline to collect the runoff.

Waterbars

A waterbar can be thought of as an angled 'speed bump' with a shallow trench along the uphill edge that diverts runoff. There are two key points to remember for functional waterbars:

1. **A waterbar must be constructed to extend completely across the trail or road surface to be fully functional:**
 - Doing so reduces the likelihood of runoff finding its way around the ends of the waterbar and flowing past it.
 - This may require 'tying-in' the waterbar with adjacent side / cut slopes.
 - This may require extending the waterbar well beyond the width of the road or trail travel surface.
2. **The waterbar is not intended as a trap to block or pool runoff. It should be angled and have a suitable outlet for diverting runoff into an area where sediment will settle and/or filter out:**
 - Proper angling is needed to allow the runoff to drain and not backup.
 - Excavation of a shallow trench along the uphill edge of the waterbar hump is helps collect and drain off the diverted water.

BMPs for Waterbars

- ☐ Waterbars should be excavated and constructed using equipment and/or techniques that assure proper angles and a firm waterbar hump.
- ☐ When building waterbars next to a side / cut slope, tie the uphill end of the waterbar into the side / cut slope, and angle the waterbar downhill towards the outfall edge of the road or skid trail.
- ☐ Use an angle ranging from 15 to 30 degrees (downslope) for the waterbar to properly drain while preventing pooling of runoff behind it.
- ☐ Excavate the trench with enough gradient to allow adequate flow of water runoff, but generally not to exceed 2 to 3 percent.
- ☐ Situate the waterbar outlet in a manner that prevents runoff from flowing directly into streams or waterbodies. Take measures to capture the sediment from the outlet as needed.
- ☐ Avoid siting the outlet onto soft soil or fill material, unless measures are implemented to prevent accelerated erosion from the outlet.
- ☐ Establish groundcover or harden the waterbar with stone or other material, if needed to maintain long-term function.

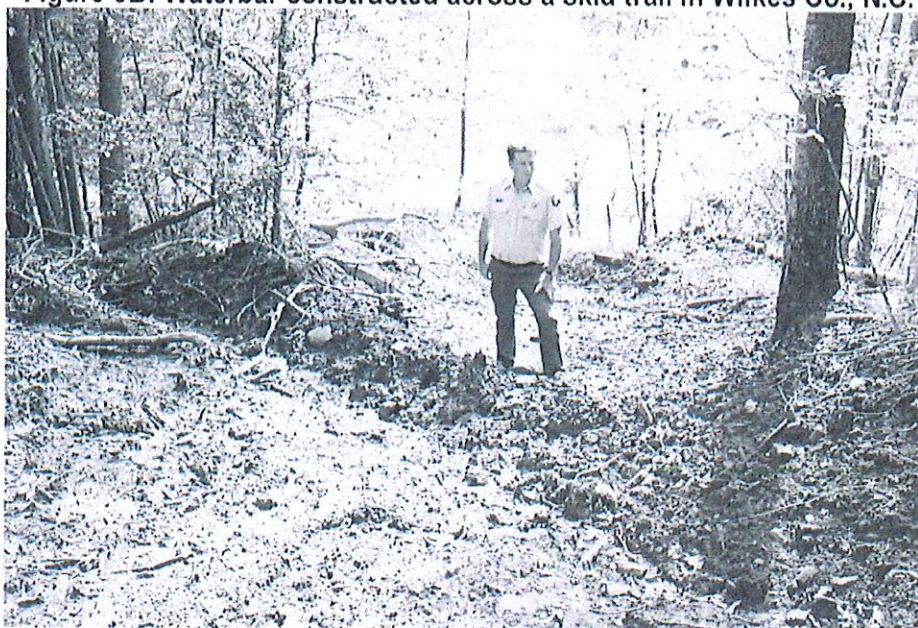
Caption:

The waterbar shown here is properly angled diagonally across the skid trail, to allow runoff to flow off the surface.

A shallow trench can carry the runoff.

The waterbar and trench extends past the edge of the skid trail to prevent passage of runoff around the waterbar mound.

Figure 5B: Waterbar constructed across a skid trail in Wilkes Co., N.C.



Caption:

The trench that is excavated along the uphill face of the waterbar allows water to flow off the trail surface and through the outlet.

This outlet extends into a well-vegetated area that provides good infiltration and sediment capturing effectiveness.

NOTE -- Be sure to minimize any curvature of the waterbar across the road or trail. The waterbar shown here would be best if it were a little less curved, but it appears that it should function satisfactorily.

Figure 5C: View of the trench along the uphill face of the waterbar



Caption:

The waterbar in this photo demonstrates some good BMPs to remember:

- Angled across the path
- Mounded soil waterbar
- Tied into side / cut bank (right side of photo)
- Outlet onto stable soil

NOTE -- A trench should be excavated along the uphill base of the waterbar, to carry runoff and keep the soil mound from getting 'blown out.'

Figure 5D: A waterbar tied in to the adjoining side / cut bank



Did You Know?

The word **turnout** can also be used to describe a wide section of forest road that allows vehicles to pass each other.

Turnouts

A turnout is a type of shallow trench or pathway that diverts runoff from the surface of a road, skid trail or fireline.

A wing-ditch or lead-off ditch is a specific type of turnout used for controlling runoff within roadside ditches.

In both cases, the turnout should be constructed as a continuous offshoot of the road, skid trail, fireline or roadside ditch. This helps maintain an uninterrupted connection for runoff to flow.

Also Refer To...

Table 5-1 provides spacing ranges for turnouts.

BMPs for Turnouts

- ☐ Begin the inflow of the turnout at the same grade level as the road, skid trail, fireline or ditch so runoff can flow easily without being interrupted.
- ☐ Excavate the turnout with enough outlet gradient angle so runoff can drain in a controlled manner, generally from 1 to 3 percent is adequate.
- ☐ Construct using a turnout angle between 15 to 30 degrees downslope.
- ☐ Situate the end of the turnout outlet in a manner that prevents runoff from flowing directly into streams or waterbodies. Take measures to capture the sediment from the outlet as needed.
- ☐ Avoid siting the outlet onto soft soil or fill material, unless measures are implemented to prevent accelerated erosion from the outlet.
- ☐ For use in roadside ditches, take action to minimize erosion within that ditch so the inflow of the turnout does not create a gully.

Helpful Hints:

Remember, there are two angles on a turnout:

- ☐ The **outlet gradient angle** is the slope needed to drain runoff from the road surface.
- ☐ The **turnout angle** describes how wide apart the turnout veers away from the roadside or trail.

Figure 5E: A turnout used together with a waterbar on a skid trail

Caption:

This turnout was pushed out into a vegetated area so water can soak into the ground and sediment will settle out.

Note the use of additional waterbars further down the skid trail.



Figure 5F: A turnout, used as a wing ditch alongside a forest access road in Henderson County, N.C.

Caption:

The turnout in this photo is used as a wing ditch, which carries surface runoff from the roadside inside ditchline (see next section for explanation).

The wing ditch or turnout outlets to a well-vegetated area.

Also note the slight hump in the road surface, which helps divert runoff into the wing ditch or turnout.



Did You Know?

Other names for this:

- ☐ Inside ditch
- ☐ Grader ditch
- ☐ Shoulder ditch

Inside Ditchlines

An inside ditchline provides a place to collect runoff that comes off the surface of an insloped or crowned road. The ditchline carries this runoff for a short distance until a cross-drainage technique is used to move the runoff from the inside edge of the road to the outside edge of the road, where the runoff drains.

Inside ditchlines can be difficult to correctly construct and maintain. While BMPs are provided below, you are encouraged to consider the alternative of installing an outsloped road surface, which does not need inside ditchlines.

Helpful Hints:

Ditchlines are most often needed in sloping terrain where roads have a side / cut slope.

Additional BMP tools are often needed so the ditchlines don't become deep gullies or constant sources of potential erosion or pollution.

Ditchlines can be useful, though, when managing groundwater seeps along side / cut banks.

Watch Out!

The further apart you set turnouts or cross-drains, the more volume and speed you will have to handle within each section of ditchline.

BMPs for Inside Ditchlines

- ☐ Excavate the ditchline to the minimum depth and width needed to carry the expected runoff from the road surface drainage area:
 - The cross-sectional area within the ditchline should be matched to the cross-sectional area of the pipe to be used for cross-drainage.
 - A conservative rule of thumb is to approximately match the ditchline cross sectional area to the same cross sectional area as a 15-inch diameter pipe (1.25 square feet).
- ☐ Control runoff speed and volume to reduce the likelihood of creating a high-risk and long-term erosion hazard.
- ☐ Avoid allowing the ditchline to down-cut or become an erosion gully. Where appropriate, install geotextiles, matting, stone or other suitable material to reduce the potential for accelerated erosion.
- ☐ Install turnouts or cross-drains at intervals adequate to carry the expected runoff from each uphill section of ditchline and/or road surface.
- ☐ Situate the ditchline outlet or cross-drainage outlet in a manner that prevents runoff from flowing directly into streams or waterbodies. Take measures to capture the sediment from the outlet as needed.
- ☐ Avoid siting the outlet on soft soil or fill material, unless measures are taken to prevent accelerated erosion from the outlet.

Caption:

In this photo, the inside ditchline is located at the base of the hill slope, at the left edge of the roadbed.

The inside ditchline appears to be stabilized, with no accelerated erosion or down-cutting within the ditchline.

Figure 5G: A forest road with an inside ditchline in Ashe County, N.C.



Helpful Hints:

Cross-drains should use culvert pipes. The pipe must be large enough to carry the runoff, but small enough to fit within the roadbed.

Open-top drains or trenches are not suitable for forestry applications.

Also Refer To...

Table 5-1 provides spacing ranges for cross-drains.

Watch Out!

Smaller pipe sizes can easily get clogged with debris and/or sediment.

If smaller pipes must be used, perform more frequent regular inspection and maintenance to remove blockages.

If plastic culverts are used you may need more substantial fill material atop the pipe to provide vehicle support.

Cross-Drains

Cross-drains move water and runoff from one side of a road or trail to the other, usually under or through the roadbed.

Cross-drains can be used to:

- ☐ Carry runoff out of an inside ditchline.
- ☐ Drain water and runoff along grades.
- ☐ Provide drainage for groundwater seeps or springs.
- ☐ Direct runoff away from log decks.

BMPs for Cross-Drains

- ☐ Set cross-drains on a 2 to 4 percent downslope angle to provide good drainage and help prevent debris from clogging the drain.
- ☐ Install cross-drains at an approach angle suitable to allow free flow of runoff into and through the cross-drain.
- ☐ Match the base level of the cross-drain inflow to the base elevation of the ditchline so runoff can flow into and through the cross-drain uninterrupted.
 - A drop-inlet can improve inflow at places where the elevation of the cross-drain inlet is lower than the ditchline.
- ☐ If culvert pipe is used, cover the pipe with at least one foot of fill and harden the crossing location as needed to protect the pipe from traffic:
 - Use at least a 15-inch diameter pipe on heavy flow areas.
 - Use at least a 12-inch diameter pipe if only needed for groundwater seeps or for locations where minimal runoff volume and/or debris is expected.
 - The cross-sectional area of the pipe should be matched to the cross-sectional area of the ditchline being drained.
- ☐ Minimize erosion on both ends of the cross-drain so the ditchline does not down-cut and create a gully or produce accelerated erosion.
- ☐ Where needed, harden the inflow headwall of the cross-drain with stone, sandbags, geotextiles, vegetation, drop-inlet, or other suitable materials to avoid headcutting or accelerated erosion.
- ☐ Situate the cross-drain outlet in a manner that prevents runoff from flowing directly into streams or waterbodies. Take action to capture the sediment below the outlet as needed.
- ☐ Avoid siting the outlet onto soft soil or fill material, unless measures are implemented to prevent accelerated erosion from the outlet.

Figure 5H: View of the outlet end of a cross-drain installed underneath a permanent forest road in Wilkes County, N.C.

Caption:

This cross-drain provides drainage of runoff that flows within the inside ditchline (which is located at the base of the slope in background, alongside road edge).

Note that the cross-drain is installed diagonally through the roadbed, to provide improved flow of the water.

Also note that the culvert pipe extends well past the travel surface of the road, to protect it from being damaged by vehicles.



For Forest Owners:

Insloped roads may be suitable on steep grades with slick soils and/or sharp curves, but require the excavation and maintenance of an inside ditchline, with cross-drains.

Outsloped roads, with appropriate water control measures, are the preferred road design in steep terrain. This design eliminates the need for an inside ditchline and allows for better control of runoff.

Watch Out!

Use whatever surface drainage method is best to meet your safety needs for slick soils, steep grades, sharp curves, vehicle type(s) and traffic frequency.

Insloping, Outsloping and Crowning

The degree to which a road surface is tilted or angled can determine a lot about runoff flow. By insloping, outsloping or crowning a road surface, you are creating a tilt or angle that naturally moves water and runoff from the surface.

Insloping allows runoff to drain into an inside ditchline. Because the ditchline is between the uphill side / cut bank and the roadbed, the ditchline must be drained with a turnout or cross-drain.

Outsloping allows runoff to drain from the road surface towards the outside (downslope) edge of the road, where the runoff can be controlled or allowed to absorb into the ground. This method generally requires less maintenance than insloped roads because there are no, or very few, ditchlines or cross-drains.

Crowning creates a slight hump across the road's cross section, by having the centerline of the road higher than both roadside edges. If a road is to be crowned, other BMPs tools to collect and/or capture runoff may be needed. Crowning is usually used on wider, permanent access roads or in flat lands with a ditch on at least one side to collect runoff.

BMPs for Insloping, Outsloping and Crowning

☐ On insloped roads, excavate and maintain inside ditchlines and cross-drains in order to carry runoff. Refer to the BMPs for inside ditchlines.

- For freshly graded outsloped or crowned roads, a temporary low berm along the outside (downslope side) edge of the road may prevent washing away of the soft soil and fill material:
 - If a temporary berm is installed, provide outlets or gaps so runoff can move away from the road surface in a controlled manner.
- Maintain the road surface as needed to minimize or repair ruts, holes, or depressions that hold water, which can weaken the roadbed or create concentrated runoff with sediment transport.

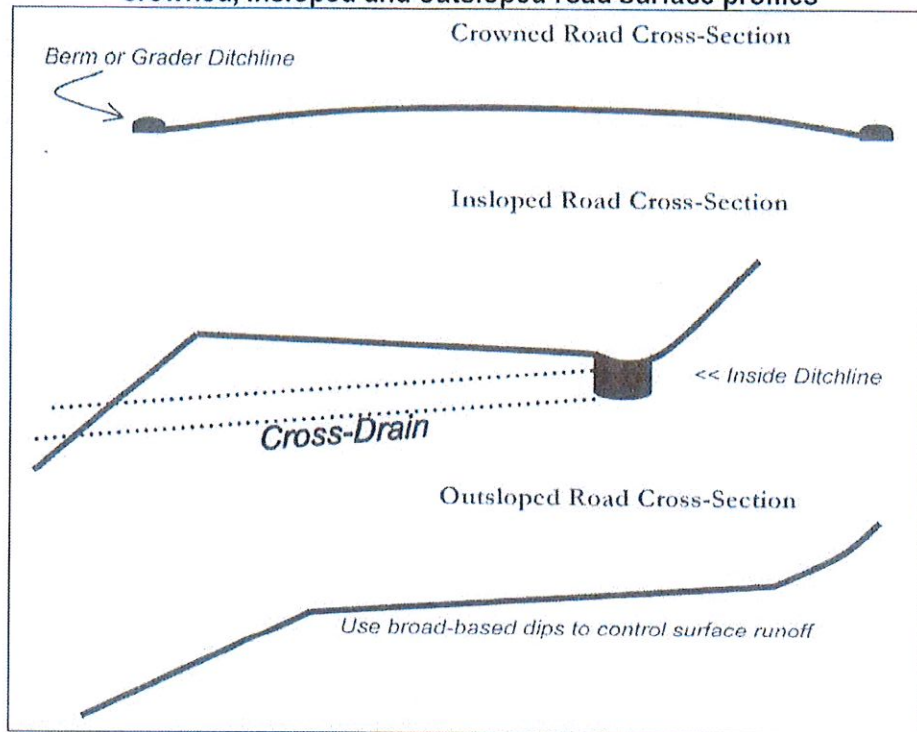
Figure 5I: Schematic cross-sectional sketch of crowned, insloped and outsloped road surface profiles

Caption:

A crowned road may need slight berms and/or grader ditchlines alongside either edge to control runoff.

An insloped road needs appropriate inside ditchlines to collect runoff. A cross-drain (dotted line) is also needed to drain the inside ditchline.

An outsloped road can effectively use broad-based dips to manage surface water runoff.



Part 2 -- BMP Tools to Capture Sediment

Capturing or containing sediment is the second part of using BMPs related to roads, skid trails, stream crossings and decks.

Your first goal should be to prevent or halt accelerated erosion once you have controlled the runoff. When those efforts are not adequate, capturing the sediment before it reaches a stream is the last option you have:

- Stop or prevent sediment transport at its source.
- If that doesn't work, keep the sediment on site.
- Above all else, keep the sediment out of the streams and waterbodies.

The BMP tools discussed in Part 2 are:

- Filter Areas
- Silt Fences
- Brush Barriers
- Sediment Traps / Pits
- Straw Bales
- Check Dams

Consider the long-term potential for effectiveness and maintenance when deciding which BMP tools to use when capturing sediment.

Locations where these BMP tools are especially useful include:

- Disturbed soil areas near streams or other waterbodies.
- Approaches to stream crossings.
- Steep slopes or slopes with soil of high erosion and runoff risk.
- Along slopes or grades to periodically capture sediment in runoff.
- As a catchment for collected or diverted surface runoff.

Some Benefits of Capturing Sediment

- Protection of water quality from pollution potential by containing sediment in runoff before flow picks up speed and volume or enters a waterbody.
- Improved access on your forestland.
- Added value of your financial investment in sustaining forestland access.

Figure 5J: Temporary sediment capture alongside a forest road

Caption:

This temporary holding area, reinforced with stone, is successfully capturing runoff and sediment.

The stone provides good support and backing.



Filter Areas

Filter areas are usually a long-term, low-cost option to capture, slow, and contain runoff so sediment and other potential pollution can settle out before reaching a waterbody.

Filter areas can be differently shaped or sized, depending upon the application and needs of the soil and site.

FPG

Refer to FPG .0201 as it relates to SMZs, which are a type of required filter area.

The DWQ riparian buffer rules are also a type of **mandatory** filter area that must be applied in certain parts of North Carolina.

BMPs for Filter Areas

- Permanent groundcover should be retained or established that allows runoff to slow down and soak into the soil:
 - Natural, relatively undisturbed groundcover and/or vegetation is usually the best choice for a filter area.
 - Established groundcover can also be effective, but may require additional BMPs and/or maintenance.
- Intensive soil disturbance should be minimized.
- Use stable, well-drained soils for filter areas when available.
 - If unstable soils must be used for a filter area, install treatments such as erosion matting or other methods to stabilize the soil.

Did You Know?

Other names for these include:

- Sediment basins
- Settling pit
- Silt trap or silt pit
- Tank traps

Sediment Traps or Pits

Sediment traps are excavated holes that trap and store runoff, and are usually installed where runoff is concentrated nearby streams and other waterbodies.

Traps or pits can be used for either temporary runoff control, or long-term installation. Permanent use of traps / pits will require more substantial construction and periodic maintenance.

Helpful Hints:

Traps or pits are effective to collect runoff that is diverted by a broad-based dip, waterbar, cross-drain, turnout or ditchline.

BMPs for Sediment Traps or Pits

- Excavate the pit with a suitable opening and depth to capture the expected sediment runoff while minimizing soil disturbance to the adjacent area. Refer to Appendix 14 for suggested sediment pit sizing dimensions.
- Locate the pit within stable, well-drained soils when available.
 - If the pit must be situated within unstable soils, install additional measures to provide soil stabilization around the pit.
- Dispose or stabilize the excavated spoil material to keep it from washing away. Avoid using the spoil to build up the sides of the pit, since this loose spoil material can easily wash away or fall back into the pit.
- For sediment pit installations intended to be permanently functional:
 - Create a reinforced outlet for overflow capacity that will reduce the likelihood of the pit walls being washed away or 'blown out'.
 - Harden the walls of the pit to minimize the risk of structural failure.
 - Revegetate exposed soil around the perimeter of the pit.
 - Periodically clean out accumulated sediment. A useful rule is whenever the pit is half full, remove and stabilize the accumulated sediment.

Caption:

This sediment pit is located in a good position to capture sediment that flows off of this graveled, outsloped forest road.

The pit is positioned well away from the stream (in background).

NOTE -- The headwall on this pit may need reinforcement, or have to be sloped back, to keep soil from falling into the pit after being saturated from precipitation.

Figure 5K: A functioning sediment pit excavated alongside a forest road



Silt Fence

Silt fence is a geotextile or fabric that is supported with stakes, with the bottom partially buried into the ground and is for temporarily capturing runoff.

Helpful Hints:

Silt fences are usually man-made materials.

Think of a silt fence as similar to a coffee filter -- the idea is to capture the sediment in the runoff, while allowing the water to still trickle through.

A silt fence is most effective for temporarily capturing sediment and delaying runoff that occurs across the ground surface, before reaching a channel or forming gullies and erosion trenches in the land.

Silt fence cannot effectively capture mass movement of sediment or capture runoff for an extended period of time.

Silt fencing may be useful to capture sediment in areas of exposed bare soil until vegetation can be established. Due to the natural roughness and uneven terrain on forestry job sites, a silt fence can be very difficult to correctly install and still remain effective.

BMPs for Silt Fence

- Additional measures upslope and downslope of the silt fence may be required to slow, control and capture sediment.
 - If there is considerable sediment build-up along the silt fence, determine the sediment source and adjust or add BMPs accordingly.
- The suggested drainage area limit is 100 feet of fence for every one-quarter acre of land. Refer to Table 5-2 below for further reference.
- Set fencing along the land contours and extend the fencing far beyond the expected pathway(s) of runoff flow. The ends of the fencing should be gently turned like a sideways 'J', with the hook facing uphill.

Watch Out!

Silt fence should never be used as the only BMP tool on the job site.

Additional BMPs are needed to control runoff and capture sediment.

You should expect silt fencing to fail during heavy precipitation -- plan accordingly.

If you observe a heavy sediment accumulation, look up-slope and re-evaluate your BMPs.

Table 5-2 was adapted from N.C. Division of Land Resources' Erosion and Sediment Control Handbook "Practice Standards and Specifications."

- Bury the bottom 4 to 6 inches of silt fence securely into the ground to keep runoff from flowing underneath:
 - Install the fence so that the buried portion is along the upslope face of the fence, to prevent the fence from getting washed over by sediment.
- Adequately reinforce the silt fencing from being knocked over or blown out. Wire fencing backer or additional staking can be used.
- Frequently monitor the silt fence after installation. Promptly take action to maintain or improve the filtering effectiveness.

Table 5-2: Recommended Applications for Every 100 Feet of Silt Fence

Slope	Maximum Slope Length Between Fence-rows (feet)	Maximum Drainage Area (acres)
0 to 2%	100	0.23
2% to 5%	75	0.17
5% to 10%	50	0.11
10% to 20%	25	0.06
20% +	15	0.03

Caption:

This sketch depicts the proper installation of silt fence.

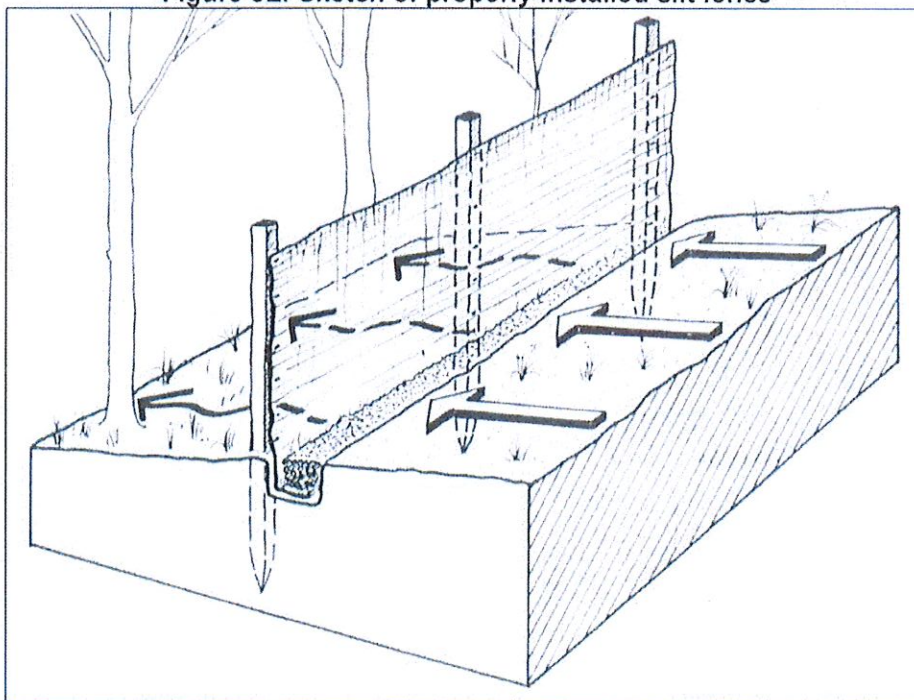
Note the bottom of the silt fence along the upslope side is buried into the soil, and the fence is securely staked.

Consider setting multiple rows of fencing to provide additional protection.

Avoid using silt fence to divert water -- it should be used only as a temporary sediment filter.

(Illustration provided with permission and courtesy of Maine Forest Service).

Figure 5L: Sketch of properly installed silt fence



Helpful Hints:

Places where bales may be helpful:

- Outlets of water diversion tools described in Part 1
- Stream crossing approachways
- Alongside freshly graded outsloped roads
- Around edges of log decks
- Supporting or supplementing silt fence installations

Straw Bales

Straw bales, or a bale of other natural fibers, can be a low-cost and effective tool to slow runoff and capture sediment. Bales often are better than silt fence or brush barriers since they can conform better to the ground surface.

Bales can be placed around the perimeter of an area with exposed soil, or across the pathway of runoff flow. The bales will help control the runoff, and act as a sediment filter.

However, since they are natural fibers, the bales will eventually decompose and breakdown. As a result, they should be used for temporary runoff capture and control.

BMPs for Straw Bales

- Additional measures upslope and downslope of the bales may be needed to slow, control and/or capture sediment.
 - If there is considerable sediment build-up along the bales, determine the sediment source and adjust your BMPs accordingly.
- Set bales tightly against the ground surface and anchor the bales firmly into the soil if the bales are likely to wash away.
- If square bales must be stacked, stagger the joints between bales so they do not line up over the joints in the previous layer, similar to brick laying.
- Frequently monitor bales after installation. Promptly take action to maintain or improve effectiveness.

Caption:

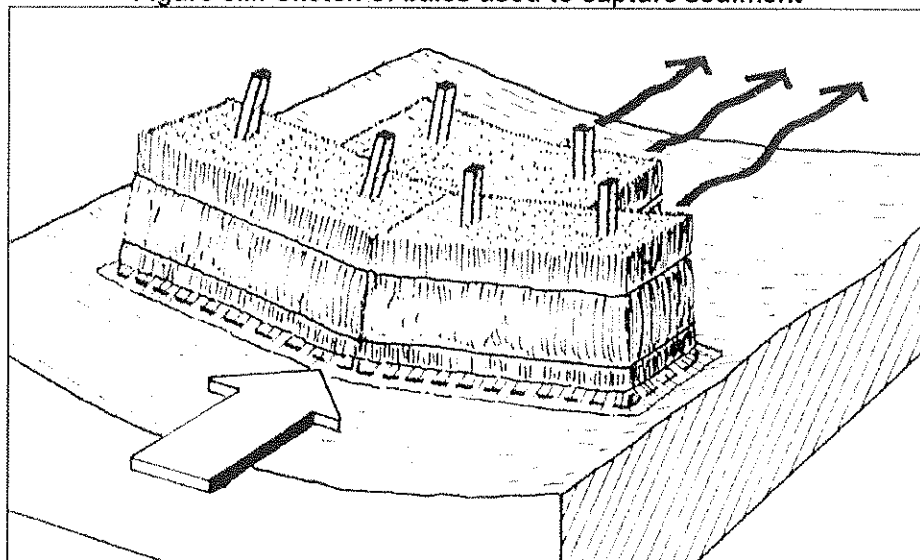
When bales are used to capture sediment, you should make sure that:
-- Bottom of the bales conforms to the ground surface to prevent leakage.

-- Bales are secured if needed to prevent them from being washed away.

-- Joints between successive bales are staggered like bricks.

(Illustration provided with permission and courtesy of Maine Forest Service)

Figure 5M: Sketch of bales used to capture sediment



Helpful Hints:

Places where brush barriers may be helpful:

- Alongside newly constructed or graded roads
- Alongside and on top of skid trails
- Around edges of log decks
- Stream crossing approachways

Brush Barriers

Brush barriers are piles of leftover, unusable tree and vegetation debris that is carefully piled and packed down to act as a temporary filter barrier to slow runoff and capture sediment.

Creating brush barriers is a productive use and disposal for debris that is generated by road or skid trail construction and can be a low-cost method of temporary sediment capture.

BMPs for Brush Barriers

- Pile and pack down brush to achieve close contact with the ground surface.
 - This may require breaking or cutting large pieces of material into smaller chunks that more easily conform to the surface of the ground.
- Use additional BMP tools such as silt fences, bales, filter areas or other methods to improve trapping effectiveness where brush barriers fail to capture enough sediment because of their loose configuration.
- Avoid removing the brush barrier once it is established.

Caption:

The brush barrier installed along the right edge of this stabilized forest road will help capture sediment before it can move downslope.

Figure 5N: A brush barrier alongside a closed road in Caldwell Co., N.C.



Figure 5O: A brush barrier at the base of an active road



Caption:

Brush has been laid down at the base of the roadbed, in the center of the photo. Also note the well-vegetated roadbed and side / cut bank.

(Photo figure 5O provided courtesy of Coweeta Hydrologic Laboratory, Southern Research Station, USDA-Forest Service.)

Helpful Hints:

While usually constructed of stone rip-rap, check dams can also be built from sandbags, sacks of concrete, logs or other suitable hardened materials.

Watch Out!

Check dams are not appropriate for installation within streams.

Check Dams

Check dams are short, hardened barriers established within inside ditchlines to slow the speed of runoff and capture sediment. Check dams can also be useful to control the runoff that comes from the outlets of water diversions (such as those described in Part 1 of this chapter.)

BMPs for Check Dams

- Consider laying down geotextile fabric before placing the check dam's construction material. This keeps material from sinking into the ground.
- Provide ample support at the base of the check dam in order to hold back and contain the sediment.
- Tie-in the base of the check dams with the soil to keep runoff from seeping under or 'blowing out' around sides of the the dam location.
- The center of the check dam should be lower than each outer edge to provide overflow capacity of water during heavy flows.
- The total height of the check dam should not exceed 3 feet. Taller structures are more prone to failure.
- Space the check dams within the channel so the top of each downslope check dam matches the same elevation as the base of the next higher dam.
- If check dam effectiveness is compromised by sediment buildup, periodically remove built-up sediment from behind the dams. Dispose of or stabilize this material to keep it from washing into waterbodies.

Caption:

These small check dams provide sediment capture within a turnout that drains a graveled forest road.

Note the sediment accumulation captured by the front two check dams.

The rear two check dams appear to not have any sediment accumulation yet, but provide good reinforcements.

The area is well vegetated and stabilized.

Figure 5P: Check dams installed within a turnout from a forest road





Buffalo Creek Park Trail Damage Assessment & Recommendations

Prepared December 2016 by Peter Barr, CMLC Trails & Recreational Lands Coordinator

Overview

The Party Rock Fire burned 7,142 acres in Lake Lure, Chimney Rock, and Bat Cave in November 2016. Efforts to fight and contain the fire near its northeastern range prompted the creation of two bulldozer cuts/lines within the Town of Lake Lure's Buffalo Creek Park. These dozer lines resulted in the destruction of a section of trail facility within the Park as well as significant erosion concerns that are likely to negatively impact water quality and natural resources on the property that is protected by a conservation easement.

This report will assess the damage specific to the trail facility within Buffalo Creek Park and make recommendation for action leading to its reconstruction and rehabilitation. Because the destruction of the trail facility and erosion concerns are interconnected, both will be addressed in this report. Due to the complicated nature of access and scope of rehabilitation, assessment and recommendation of the second dozer line—in western Buffalo Creek Park that did not lead to destruction of specific trail facility—will be addressed in a separate, future report.

Background

Buffalo Creek Park is composed of 200 acres that was purchased from the Carolina Mountain Land Conservancy (CMLC) by the Town of Lake Lure through funding from the NC Parks and Recreation Trust Fund (PARTF). This land is under conservation easement held by the state of North Carolina through the Clean Water Management Trust Fund and monitored by CMLC.

A 3.5-mile loop trail and additional 0.7 mi. spur trail—multi-use trails that accommodate hiking and mountain biking—were constructed within Buffalo Creek Park utilizing funding from PARTF as well as the Recreational Trails Program. Buffalo Creek Park and its trail facilities were funded entirely by public funds from the state of North Carolina.

The 4.2 total miles of multi-use trail facilities—which currently comprise the entirety of Buffalo Creek Park's recreational facilities—were constructed by a Professional Trail Builders Association (PTBA) certified contractor. Professional construction of this trail exceeded \$100,000 in expense.

Summary of Roles for Assessment & Mitigation Action

CMLC and the Town of Lake Lure have been partners seeking to conserve natural lands and create public recreational facilities (trails) at Buffalo Creek Park and Weed Patch Mountain since 2012. CMLC is currently project managing the construction an additional 7-mile multi-use trail extension that will link Buffalo Creek Park, across CMLC's Weed Patch Mountain tract, to Eagle Rock within Chimney Rock State Park. CMLC employs a Trails & Recreational Lands Coordinator who is experienced in design, management, and construction of sustainable outdoor recreational trails.

CMLC's Trails & Recreational Lands Coordinator will provide assessment and project management of trail reconstruction and rehabilitation of the damaged trail within Buffalo Creek Park resulting from the Party Rock Fire containment line. The Town of Lake Lure Environmental Management Officer will provide assessment of erosion impact and recommendation for mitigation/rehabilitation measures, with support from CMLC's Natural Resources Manager.

Summary of Trail Damage

A steep (>25% grade), 8-foot wide, below grade dozer line was established for fire containment purposes in the northeast corner of Buffalo Creek Park. This line extends 2,000 feet from Buffalo Creek at an elevation of 1,180 feet west and upslope to an elevation of near 1,700 feet. This dozer line ascended a narrow ridge that hosts a section of the Buffalo Creek Park Trail which utilizes multiple switchbacks in short succession to traverse the significant elevation change.

The dozer line resulted in maximal destruction and/or negative impact of this trail section—measuring more than 2,100 feet of trail—by ascending through the center of 13 switchbacks. Several highly-developed banked turns—which when originally implemented required a higher level of design and construction and subsequent higher cost—were destroyed entirely or orphaned/disconnected from the contiguous trail route. Additionally, 500 feet of trail tread itself was bulldozed above the series of switchbacks.

Exclusive of the trail, the dozer line now poses significant erosion problems because of its considerable steepness and that it was cut deeply below grade of the existing ground surface. The line is predisposed to become a funnel for rapidly moving water traveling downhill which will become particularly erosive as the exposed loose soil is picked up by the flow. Fast moving water with this exponentially expanding sediment load will carve deep channels into the slope and later deposit it into Buffalo Creek below. Water and sediment flow will be exacerbated by the orphaned segments of trail that will receive some of the run-off from the dozer line.

Inclusive of the trail, the resulting dozer line now poses a problematic recreational user management issue. This wide and open path without resistance instantly becomes the preferred route for users seeking to get from one destination in the park to another as quickly as possible. Utilization of the dozer line by users will result in significant degradation to the facility through accelerated erosion and soil loss. The wide swath will be a desirable route among downhill mountain bikers seeking a ride that offers elevated speed. Unfortunately, higher speed by the user will cause increased erosion impact to the soil as well as reduce safety when encountering other trail users also utilizing or criss-crossing the dozer line.

Specific assessment of erosion susceptibility and mitigation recommendations will be addressed in a report by Clint Calhoun, Town of Lake Lure Environmental Management Officer.

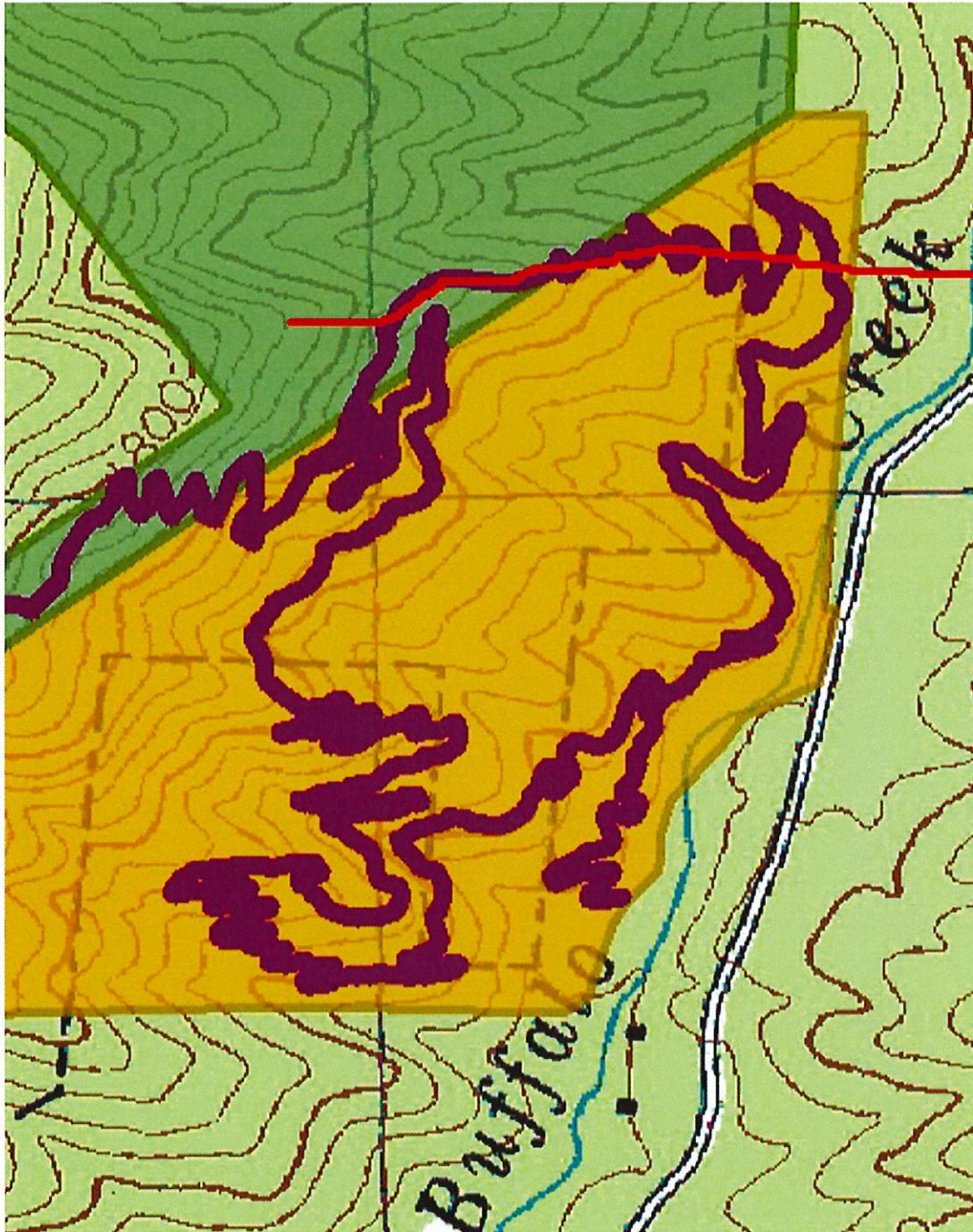


Figure 1. Buffalo Creek Park Trail Map: Buffalo Creek Park Trail loop represented in purple. Dozer Line represented in red. Dozer line is perpendicular to switched back trail and crosses trail 13 times resulting in significant tread and developed turn destruction and orphaned trail segments. Buffalo Creek Park tract represented in orange, CMLC's Weed Patch Mountain tract represented in green.

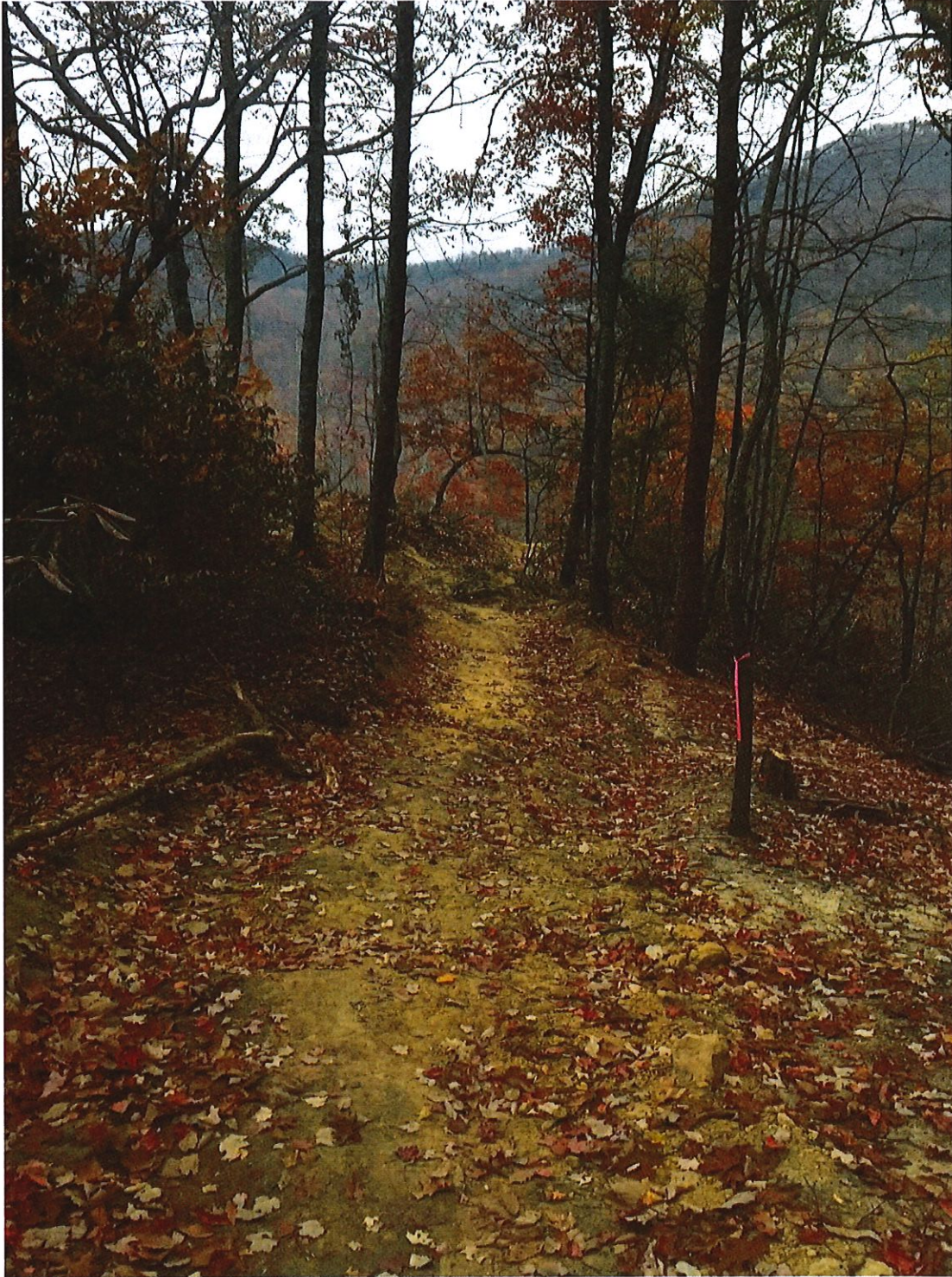


Figure 2. Upper section. Trail bulldozed. Trail was 3 feet wide, at grade, and sustainably outsloped. Path is now 8 feet wide, below grade, and cannot shed water. Vegetative corridor widened significantly.



Figure 3. Upper section of trail widened to 8 feet, below grade for >500 feet of trail tread.



Figure 4. Dozer line (left) diverges from trail (right) and become parallel; open vegetation corridor >35 feet.



Figure 5. Vegetation destruction and widening of corridor; dozer line (center), trail (right) rejoins dozer line (top center).



Figure 6. Open ridgeline already had minimal vegetation; additional vegetation destruction dramatically widened trail corridor. Dozer line and trail merge.



Figure 7. Trail (left), dozer line (right) diverge.



Figure 8. Dozer line (center) is significantly below grade (several inches to several feet), cut deeply into surface of slope. Trail diverges (top left).



Figure 9. Developed (banked) mountain bike turn (center) orphaned from trail by dozer line (bottom center).



Figure 10. Dozer line (left) intersects trail multiple times in short succession. Several orphaned and partially destroyed developed/banked turns (right bottom and right center).



Figure 11. Dozer Line (center). Orphaned switchback (left).



Figure 12. Trail approaches dozer line (left center). Multiple disconnected trail segments (center, right center).



Figure 13. Below grade dozer cut junctions with trail three times, disconnecting turns.



Figure 14. Steep dozer line has widened trail corridor considerably. Because 3-foot trail was perpendicular to dozer line, unvegetated corridor is up to 40 feet wide.



Figure 15. Debris berms block segments of trail at dozer line intersections



Figure 16. Dozer line (right center) at $>30\%$ grade up fall line of ridge; Trail turn orphaned (left).



Figure 17. Dozer line significant below grade of natural ground will focus and accelerate water and sediment run-off. Wide corridor will entice trial users to follow open route.

Necessary Repairs & Rehabilitation

Because of the significant scope and scale of the damage to the trail facility, significant earth moving needs undertaken to rebuild the trail tread and its turns as well as accomplish the heavy lifting of amassing natural debris within the dozer line and restoring its grade. Therefore, repair and rehabilitation can only be accomplished sufficiently with the use of mechanized equipment. Additionally, CMLC requests that trail reconstruction be accomplished by a certified Professional Trail Builder Association contractor familiar with mechanically-implemented sustainable trail design concepts and one that is experienced in constructing developed mountain bike turns.

Since necessary erosion control measures needed on the dozer line are interconnected with the trail—they must be accomplished to ensure sustainability of the trail itself—repairs of the trail AND the dozer line must be accomplished at the same time.

The following repairs are necessary to both restore the trail and mitigate erosion issues:

- Professional reconstruction of all trail tread subject to sustainable trail principles
- Professional reconstruction of developed mountain bike turns, with addition of water outlet ditches or culverts uphill of apex
- Installation of frequent check dams to slow water and allow for sediment settling (water diversion ditches in most areas will be insufficient since diverting water off of the dozer line will result in it returning to the trail tread; directional ditches may be utilized only when water can be successfully shed beyond trail corridor that lies downhill)
- Salvage and restoration of the mat of organic ground cover/duff layer, when available, to restore grade of dozer line
- Heavy obstruction of dozer line with large woody and earthen debris to physically prevent user utilization and visibly minimize its former presence
- Restore natural ground cover—leaves and brush—on the dozer line that will slow water and stimulate revegetation
- Implementation of all other erosion control BMPs (Best Management Practices) as specified in Clint Calhoun's report

Prior to this permanent repair and rehabilitation, *short-term* erosion control measure can be accomplished at both dozer lines by covering the exposed soil with leaf litter and natural debris. This will slow water flow, catch and better disperse some sediment, and dampen splatter impact from rainfall and vegetation drip. This measure can be accomplished by hand or with gas-powered leaf blowers, and should be undertaken as soon as possible.



Figure 17. Example of wooden check dams; barriers can be constructed out of earth with machinery



Figure 18. Example of wooden check dams; barriers can be constructed out of earth with machinery

Recommendations for Trail Repair

CMLC sought two quotes from certified Professional Trail Builder Association contractors for the aforementioned trail repair and erosion control measures:

Trail Dynamics/Ed Sutton: \$15,000

Headwaters Environmental/Chris Khare: \$12,000

These quotes are inclusive of ALL erosion control AND trail repair actions on the eastern dozer line at Buffalo Creek Park.

Trail Dynamics is the original contractor who constructed Buffalo Creek Park's initial trail system.

Headwaters Environmental/Chris "Shrimper" Khare is currently constructing the BCP Extension/Weed Patch Mountain Trail and has built more than 5 miles of sustainable trail to-date for the Town of Lake Lure.

In spite of the higher cost, it is the recommendation of CMLC to utilize Trail Dynamics (TD)/Ed Sutton for this project because this contractor is better suited for the repair and has the most intimate familiarity with the facility. The entity that constructed the trail originally is most likely to return the facility to its former character. Additionally, TD has access to a greater variety of mechanized equipment as well as possesses a crew of wider manpower—both qualities from which this specific project would benefit.

Ultimately, because of the urgency of the needed repair and rehabilitation, contractor availability (see variables below) will dictate selection. Trail Dynamics is recommended as the first choice if available. If availability is not timely, Headwaters Environmental is recommended to perform the work. Both contractors are trusted to perform a high quality of work that will be fully sufficient at accomplishing the desired goals of this project.

CMLC recommends a 20% contingency—\$2,400 to \$3,000—be incorporated into the budget for this project. Additionally, the Town of Lake Lure has agreed to compensate CMLC a fee of \$1,000 for assessment and project management of the trail repair.

Timeline & Variables

Contractor Availability: Trail Dynamics/Ed Sutton frequently possess a backlog of contract trail projects elsewhere in the region, so availability may not exist until late Spring or Summer. Headwaters Environmental/Chris "Shrimper" Khare is currently under contract by CMLC/ToLL on the Buffalo Creek Park Extension/Weed Patch Mountain Trail project which possesses a pending deadline. With that project now scheduled for completion in March, he will likely have availability in early Spring but not before.

Funding: Funding for this repair is not present and a source for it is not yet known. CMLC and the Town of Lake Lure are exploring potential funding sources, but its availability and timeframe for receipt are unknown. Possible external sources include NCFS tort claim, state disaster relief funding, and Clean Water Management Trust Fund.

Additional Project Scope: While this report encompasses the easternmost dozer line in Buffalo Creek Park and its subsequent damage to the trail facility, the western dozer line which does not involve the

trail facility but poses greater erosion susceptibility has not yet been comprehensively assessed. While not yet determined, a minimum estimate of \$10,000 for sufficient mechanized erosion control measures is anticipated on the western dozer line.

Funding sought for comprehensive trail repair and erosion control in Buffalo Creek Park that includes both locations of damages should be targeted at a minimum of \$30,000.

Action Items:

The following recommended action items will be led by CMLC's Trails & Recreational Lands Coordinator in close coordination with Town of Lake Lure (Clint Calhoun, Ron Nalley, Larry Czajkoski & Town Parks & Recreation Board) unless otherwise noted:

- Explore sources of funding for trail repair and erosion control of \$30,000; *ASAP*
- Schedule assessment and develop report for western BCP dozer line; *early January*
- Meet with NC Forest Service to share assessment reports on Buffalo Creek Park trail damage and erosion control; *mid-January*
- Schedule repair and rehabilitation work with contractor at Buffalo Creek Park to get "on the docket"; *ASAP once funding is identified*
- ToLL/Clint Calhoun to coordinate short-term erosion control measures (covering of exposed soil with leaf litter) on both dozer lines; *December & January*

**LAKE LURE TOWN COUNCIL
REQUEST FOR BOARD ACTION
Meeting Date: January 10, 2016**

SUBJECT: Hickory Nut Gorge Community Covenant

AGENDA INFORMATION:

Agenda Location: New Business
Item Number: ~~A~~B
Department: Community Development
Contact: Tommy Hartzog, Chamber of Commerce
Presenter: Tommy Hartzog, Chamber of Commerce

BRIEF SUMMARY: In spring and summer of 2016 the Chamber of the Hickory Nut Gorge held a series of community public forums to develop a Community Covenant for the region. The stated purpose of the Covenant is to serve as a guide and reminder that a strong and healthy community is built on strong and healthy relationships and lays out the responsibility of all citizens to engage in only civil and respectful public discourse that genuinely seeks the truth and best outcomes for the Community.

RECOMMENDED MOTION AND REQUESTED ACTIONS: Adopt the Hickory Nut Gorge Community Covenant.

FUNDING SOURCE: Not Applicable

ATTACHMENTS: Hickory Nut Gorge Community Covenant Dated July 25, 2016

STAFF'S COMMENTS AND RECOMMENDATIONS: As stated in the handout, the Covenant is meant to promote a united community spirit, whether your organization is governmental, business-related, religious or educational. The four covenant statements are certainly points that we all can agree on and as a community, should all agree to uphold. Mr. Hartzog will be present at your meeting to discuss the proposed Hickory Nut Gorge Community Covenant and be available to answer any questions you may have.

Hickory Nut Gorge Community Covenant

Final as of 7-25-16

In the Spring and Summer of 2016, the Chamber of Hickory Nut Gorge and the Hickory Nut Gorge Foundation invited all community members to participate in a series of public forums to develop a Community Covenant for the Hickory Nut Gorge region.

The purpose of the Hickory Nut Gorge Community Covenant is to serve as a guide and reminder that a strong and healthy community is built on strong and healthy relationships. Strong and healthy relationships depend on the ability to listen to one another in a respectful way and for leaders and citizens to be honest about their intentions.

Our community leaders, whether in government, organizational, business, religious or educational roles, are responsible for making decisions that are in the best interest of all concerned. Making decisions for a community is not always easy, especially when opinions differ.

We recognize that with the rights we possess as citizens of this mightily endowed region, come responsibilities. Certainly one of those responsibilities is to engage in only civil and respectful public discourse that genuinely seeks the truth and best outcomes for our Community.

This Covenant is meant to promote a united community spirit.

We, the citizens of Hickory Nut Gorge, thereby resolve to:

- Honor and abide by each organization's meeting guidelines
- Focus on the issue at hand
- Use facts to make the point
- Be polite, objective, and respectful.

**LAKE LURE TOWN COUNCIL
REQUEST FOR BOARD ACTION
Meeting Date: January 10, 2017**

SUBJECT: Ordinance 17-01-10 Amending Lake Lure General Ordinance Chapter 51 – Sewer System Ordinance, Section 51.05: Connection to Sewer System Required

AGENDA INFORMATION:

Agenda Location: New Business
Item Number: D
Department: Public Works - Sewer
Contact: Ron Nalley, Town Manager
Presenter: Ron Nalley, Town Manager

BRIEF SUMMARY: The Sewer System Ordinance was last amended in September of 2014. Since that time, the Town was awarded funding through the Clean Water State Revolving Fund program for the Greenline Project. This award was based on the information provided during the State loan application process, which included a dedicated number of sewer accounts and a required sewer rate increase. Due to the rate increase, the Town has been asked on a number of occasions if it was permissible to disconnect from public sewer and install a private septic system. In November, the Utilities Advisory Board discussed this matter and recommended unanimously that public sewer connections be required to stay connected. The proposed Ordinance amendment clarifies that if improved property is connected to a Town owned sewer line, or to a privately owned line that has access to the public sewer system, it shall be unlawful to disconnect from public sewer.

RECOMMENDED MOTION AND REQUESTED ACTIONS: To Adopt Ordinance 17-01-10 Amending Lake Lure General Ordinance Chapter 51 – Sewer System Ordinance, Section 51.05: Connection to Sewer System Required.

FUNDING SOURCE: Not Applicable

ATTACHMENTS: Proposed Ordinance 17-01-10 Amending Lake Lure General Ordinance Chapter 51 – Sewer System Ordinance, Section 51.05: Connection to Sewer System Required.

STAFF'S COMMENTS AND RECOMMENDATIONS: Based on the recommendation by the Utilities Advisory Board, staff along with Harlow Brown, the Town's Engineer, is recommending adoption of the attached proposed ordinance change to clarify that it is unlawful to disconnect from public sewer except as allowed for in Section 51.14. Section 51.14 allows for disconnection by the Town for non-payment, fraud, willful disregard of the Town's rules and regulations, and emergency repairs.

ORDINANCE 17-01-10 AMENDING LAKE LURE GENERAL ORDINANCE
CHAPTER 51 – SEWER SYSTEM ORDINANCE, SECTION 51.05: CONNECTION TO SEWER SYSTEM REQUIRED

WHEREAS, the Town of Lake Lure General Ordinances regulating the Sewer System was adopted by the Board of Commissioners of the Town of Lake Lure, North Carolina on April 8, 1988 and amended on several occasions since the date of their adoption; and

WHEREAS, Lake Lure General Ordinance Chapter 51 – Sewer System Ordinance, Section 51.05 Connection to Sewer System Required was amended and adopted by the Board of Commissioners on September 8, 2014; and

WHEREAS, in following with the current procedures, regulations and policies, changes within the Ordinances have been recommended;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COMMISSIONERS OF THE TOWN OF LAKE LURE, that the Lake Lure General Ordinances be amended as follows:

Chapter 51: Sewer System Ordinance

51.05 Connection to Sewer System Required

- All Improved property within the town limits with a structure that generates wastewater, and such structure is located within 200 feet of a town owned sewer line, shall be connected therewith, and the property owner shall be charged the prescribed connection fee for all such connections. Such connection shall be made in accordance with the provisions of this section within 90 days after the date of official notice to connect.
- Improved property served by wells and annexed by the town shall be connected to the sewer systems, if within 200 feet, within two (2) years of the effective date of annexation; provided, however, that no connection to the sewer system shall be permitted without also connecting to the town's water system.
- The Manager or Town Council may delay or waive the requirement for connection where a determination is made that it is impractical to connect due to topography or other just causes. New construction shall be required to connect to an existing sewer line prior to receiving a certificate of occupancy.
- Except as provided in this ordinance, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, cesspool or other facility intended or used for the disposal of sewage.
- *If improved property is connected to a Town owned sewer line, or to a privately owned line that has access to the public sewer system, it shall be unlawful to disconnect from public sewer except as allowed for in Section 51.14.*

READ, APPROVED, AND ADOPTED, this the 10th day of January, 2016.

Bob Keith, Mayor

ATTEST:

I hereby certify this is a true and correct copy of this Ordinance, duly adopted by the Town of Lake Lure on the 10th day of January, 2017 as it appears of record in the official minutes.

Andi Calvert
Town Clerk

**LAKE LURE TOWN COUNCIL
REQUEST FOR BOARD ACTION
Meeting Date: January 10, 2017**

SUBJECT: Sewer Manhole Inspection Services Agreement – Brown Consultants and Byers Environmental

AGENDA INFORMATION:

Agenda Location: New Business
Item Number: C
Department: Public Works
Contact: Donnie McCraw and David Arrowood
Presenter: Donnie McCraw and David Arrowood

BRIEF SUMMARY: The Utilities Advisory Board recommended at their November meeting that while the Lake was lowered, the Town proceed with an inspection of the lake perimeter manholes, sewer laterals and force mains. From these inspections, deficiencies will be recorded and noted and recommendations for repairs will be made. In order to fund the inspections, it is recommended that the Town use retained earnings from the Water and Sewer Fund.

RECOMMENDED MOTION AND REQUESTED ACTIONS:

- 1) To approve the Proposal for Services with Brown Consultants and Byers Environmental Inc. in an amount not to exceed \$18,125 and to authorize the Town Manager to execute the necessary documents.
- 2) To approve the transfer of \$18,125 from Water and Sewer Fund retained earnings to the 53-714000-691 Contractual Services line item.

FUNDING SOURCE: Water and Sewer Fund Retained Earnings

ATTACHMENTS: Proposal for Services with Brown Consultants; Proposal for Services with Byers Environmental Inc. and Technical Memorandum from Harlow Brown dated December 29, 2016.

STAFF'S COMMENTS AND RECOMMENDATIONS: The lake lowering this year has provided the Town with a unique opportunity to consider recent flow data from the waste water treatment plant in light of the future Greenline project. Data taken before and after the lake draw down indicates that most lake inflow and infiltration is generated in the top eight feet of the lake. According to Mr. Brown, this most likely indicates that there are leaky manholes and poor pipe connections. The good news from this data is that the pipe wrap performed in 2009-2010 is for the most part watertight. By concentrating on a good manhole inspection and connection program, system savings could be realized by the Town. As mentioned above, the Town returned approximately \$25,000 to retained earnings last fiscal year in the water and sewer fund, and it is recommended that a portion of this money be reallocated for the project.



December 28, 2016

Mr. Ron Nalley, Manager
Town of Lake Lure
PO Box 255
Lake Lure, NC 28746

RE: Proposal for Services
Lake Perimeter Sewer Manhole Inspection and Training Project
Town of Lake Lure

Dear Mr. Nalley:

Brown Consultants, PA is pleased to provide you with this Proposal for Services for the Town of Lake Lure's **Lake Perimeter Sewer Manhole Inspection and Training Project**. Brown Consultants continues to share in Lake Lure's Vision of a... *"Harmonious balance of the interests of our citizens, businesses and visitors achieved through managed growth, fiscal responsibility, open communication, and stewardship of our natural beauty and environment."* Through this proposal, we intend to provide Lake Lure with the assistance and tools necessary to invest in the continued lake management of Lake Lure, through its program of ongoing I & I reduction by way of the lake perimeter sewer manhole inspections.

Based upon prior knowledge and work experience, knowledge and understanding of the project, please find the following Scope of Services.

I. Scope of Services:

The Scope of Services includes the following items:

1. Lake Perimeter Manhole Inspections will be performed under a team concept involving three (3) team members as follows:
 - ✓ Robert Smith, Brown Consultants
 - ✓ Don Byers, Byers Environmental
 - ✓ David Arrowood, Lake Lure Public Works Director

Robert will be the team leader and responsible for actual inspection scheduling, recording field data, compiling all field data and producing a final report.

Don, as Lake Lake's WWTP ORC, will co-inspect all manholes with Robert, assist in the gathering of field data and produce Lake Lure Work Orders to correct deficiencies found during the inspections. Work orders will be provided to Linda Ward for processing, unless otherwise directed.

David, Lake Lure's new Public Works Director, will be trained on the location and access of all the lake perimeter manholes, and assist with gathering field data. His experience on sewer systems will prove valuable as decisions are made on correcting deficiencies.

2. Once inspections are completed, Brown Consultants will prepare a final report on the condition of each manhole and recommendations for correcting deficiencies. As these deficiencies are found, work orders will be produced on an on-going basis and provided to Customer Service for action.
3. During the course of the inspections, if unusual conditions or deficiencies are found that require immediate remediation, these will be turned over to David Arrowood for immediate action.
4. This scope of services does **not** include re-inspection of deficiencies repairs. That will be a Town responsibility.

II. Schedule:

Work will begin upon approval of this proposal and continue until completed.

It is anticipated that the sixty-five (65) manholes can be inspected in eleven (11) days and the following schedule is proposed based upon the fact that each of the team members have other job responsibilities that must continue.

The goal is to perform field inspections two (2) or three (3) days per week, depending upon each of the team member's schedule for that week; beginning the week of January 16, 2017, and continuing until finished, which is anticipated as the week of February 20, 2016.

II. Deliverables:

The deliverables for this project are as follows:

1. Two paper (2) copies and one (1) electronic copy of a complete report of inspection field data, recommendations, and generated work orders.
2. A summary project meeting to discuss the project and discuss future recommendations.

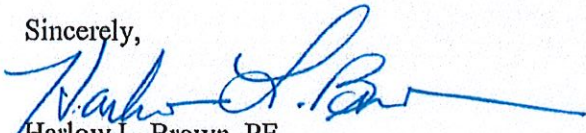
III. Project Cost

The cost of the services shall be based upon a time and materials fee not to exceed a budget of \$14,000.

We appreciate the continued confidence in our company, and the opportunity to provide engineering services to the Town of Lake Lure.

If you have any questions, please do not hesitate to call me.

Sincerely,



Harlow L. Brown, PE
Chief Engineer

Acceptance: By signing below, the Town of Lake Lure accepts this proposal.

Signed

Mr. Ron Nalley, Manager

Date



December 29, 2016

Technical Memorandum

To: Ron Nalley, Town Manager
Town of Lake Lure

From: Harlow L. Brown, PE
Chief Engineer

Cc: Don Byers
WWTP Operator

Re: **Recent Flow Data from WWTP**



As Lake Lure enters a new era of transporting its wastewater to Spindale for treatment, control of I&I becomes more fiscally important. The recent flow data from the WWTP, (attached), was taken before and after the lake has been drawn down. The results of the flow data at the WWTP were quite revealing as follows:

Average flow for 12/1 to 12/4, when the lake was up:	385,700 GPD (gallons per day)
Average flow for 12/18 to 12/21, after lake was down:	188,700 GPD
Average flow reduction	197,000 GPD (51% reduction)

The conclusions from this data is that most lake I&I is generated in the top eight (8) feet of the lake. It is my opinion that we have a lot of leaky manholes and poor pipe connections below the surface of the lake that are not water tight.

The good news from this data is that the pipe wrap of the under-lake sewer system for the most part is watertight. The pipe wrap project was performed in 2009-2010, so it is already six (6) years old.

The financial impact of lake water I&I if we were now connected to the Spindale WWTP would be as follows:

- ✓ $197,000 \text{ GPD} \times 30 = 5,910,000 \text{ GPM}$ (gallons per month)
- ✓ Spindale's treatment cost is \$1.97/1000 gallons
- ✓ Monthly cost to treat lake I&I would be $5,910 \times \$1.97 = \$11,643$
- ✓ Annual cost would be \$139,712
- ✓ Pumping electrical costs would decrease 51%

This analysis clearly shows that a good manhole inspection program and overseeing connections to the system is of vital importance.

DECEMBER 2016

DATE	Operator Arrival Time: 2400 Clock	Operator Time On Site	ORC On Site?*	FLOW EFF ☒ INF ☐	TEMPERATURE CELSUS	pH	CHLORINE RESIDU
	HRS	HRS	Y/N	DAILY RATE MGD			
1	900	3	B	.3941			
2	900	3	B	.3923			
3	1445	1	N	.3918			
4	1700	1	N	.3645			
5	845	3	Y	.1884			
6	900	2	B	.2621			
7	845	2	Y	.2357			
8	845	3	Y	.2337			
9	915	2	Y	.2258			
10	1330	1	N	.2457			
11	1530	1	N	.2551			
12	845	3	Y	.1916			
13	900	2	B	.2001			
14	915	2	Y	.1999			
15	0830	2	B	.18923			
16	0400	2	B	.1911			
17	1300	1	N	.2148			
18	1700	1	N	.2534			
19	900	3	Y	.1368			
20	0900	1.5	B	.1711			
21	0900	2	Y	.1934			
22							
23							



December 31, 2016

Mr. Ron Nalley, Manager
Town of Lake Lure
PO Box 255
Lake Lure, NC 28746

RE: Proposal for Services
**Lakeside Manhole, Submerged Sewer Laterals, and Private Force Main
Inspection**

Dear Mr. Nalley,

Per our conversation, and based on my understanding of your wastewater collection system project, I am pleased to provide you with this proposal for manhole, sewer lateral, and force main inspection operations.

Scope of Services:

1. Co-inspect lakeside manhole, sewer laterals, and force mains with Brown Consultants
2. Record and report found sources of inflow and infiltration of lake water into the wastewater collections system to Brown Consultants for inclusion into the final report and Repair Work Orders
3. Assist the Public Works Director and Utility Contractor in coordination and methods of collection system repairs.

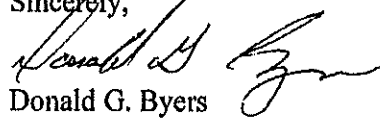
Project Cost:

The cost of the services described above shall not exceed a budget of \$4,125.

We appreciate the opportunity to provide environmental operation services to the Town of Lake Lure.

Please let me know if you have any questions.

Sincerely,



Donald G. Byers

Byers Environmental, Inc.

By signing below the Town of Lake Lure accepts this proposal.

Signed _____

Mr. Ron Nalley, Manager

Date

