

PROPOSED AGENDA

Meeting of the Town of Biltmore Forest Board of Commissioners

To be held Tuesday, November 12, 2019 at 4:30 p.m.

A. Roll Call by the Clerk

Mayor George F. Goosmann, III
Commissioner Fran G. Cogburn
Commissioner E. Glenn Kelly
Commissioner Doris P. Loomis

B. Approval of the Minutes

1. The minutes of the Regular meeting held on October 15, 2019 will be considered for approval.

C. Public Hearing – Public Hearing Regarding ZTA 2019-01

D. New Business

1. Storm Water Master Plan Presentation – WithersRavenel Engineers
2. Consideration of Resolution 2019-09 – A Resolution Awarding Badge & Service Sidarm to Retiring Sergeant Keith Mackey
3. Request of Qualification Submissions for Stormwater On-Demand Engineering Services – Update
4. Greenwood Park Improvements Proposal

E. Reports of Officers

1. Chief of Skyland Fire and Rescue
2. Police Department
3. Public Works Director
4. Town Manager

F. Petitions, Motions, and Other Business

G. Public Comment

H. Adjourn

MINUTES OF THE MEETING OF THE MAYOR AND THE TOWN COMMISSIONERS OF
BILTMORE FOREST HELD OCTOBER 15, 2019.

Be it remembered by those that follow these proceedings that the Governing Board of the Town of Biltmore Forest met and conducted the following business:

Roll call by the Clerk:

Mayor George F. Goosmann, III, present

Commissioner Doris P. Loomis, present

Commissioner E. Glenn Kelly, present

Commissioner Fran Cogburn, present

Mr. Jonathan Kanipe, the Town Manager was also present. Mr. William Clarke, the Town Attorney was also present.

Mayor Goosmann called the meeting to order at 4:30 pm.

Mayor Goosmann asked for a motion to approve the September 17, 2019 minutes. A motion was made by Commissioner Loomis. The motion was seconded by Commissioner Kelly and unanimously approved.

Chief Chris Beddingfield gave the monthly report for the Police Department. Chief Beddingfield said they have increased patrol with speeding motorists. There are several potential new hires for the Police Department and they hope to be back to full staff soon.

Commissioner Kelly asked if anyone has complained about not seeing the stop sign at the all-way stop at the intersection of Vanderbilt and Cedarcliff Roads. Chief Beddingfield said no one has complained about that. Mr. Jonathan Kanipe reviewed with the Board the advisory signs on the road before reaching the stop sign.

Commissioner Kelly asked about the bear sightings. Chief Beddingfield said there were a total of 17 bear calls. Commissioner Kelly asked if any of them were aggressive. Chief Beddingfield said there were no calls regarding aggressive bears.

Mr. Terry Crouch issued the report for the Public Works Department. Commissioner Loomis inquired about the calls for the removal of trees and Mr. Crouch said Charles Tesner, the Town Arborist, has been on multiple sites discussing removal of trees in the past month.

There were no requests for a Board of Adjustment meeting in October. Ms. Isenhower issued the Planning Report to the Board. There were no additional questions.

Mr. Kanipe reviewed the background of a construction traffic ordinance. Construction parking was also discussed. Mr. Kanipe asked the Board to look at possible solutions for parking and bring back comments to the November meeting.

Mr. Billy Clarke provided a few edits to the Town Code. 160(a) 296 requires the streets to be kept open during construction. Commissioner Kelly suggested the sign state “no construction or commercial traffic.” Mr. Clarke said if it were to say “no commercial traffic,” that would work; however, that would include some vehicles that are not construction, landscape, or property maintenance. Mr. Clarke suggested they discuss the gross vehicle weight as well. Mayor Goosmann suggested coming back and attempt to implement something by January 1st, 2020.

The next topic discussed was Consideration of a Fiscal Control Policy Pursuant to N.C.G.S. 159-28 (Pre-Audit Authorization of Expenditures). The department heads will be designated Deputy Finance Officers for their respective department. Department heads will be check and see if sufficient funds remain in the appropriation to pay for expenditures and affix the pre-audit certificate for documentation purposes. Commissioner Cogburn moved to adopt the Pre-Audit Authorization Policy. Commissioner Kelly seconded the motion. The motion was unanimously approved.

Commissioner Loomis asked Mr. Kanipe about recognizing Ms. Helen Stephens for the Distinguished Budget Award. Mr. Kanipe indicated they would work on a time to properly recognize Ms. Stephens.

Chief Ryan Cole elaborated on the monthly report for the Skyland Fire Department and discussed electrical lines. Chief Cole said there is a significant deficit of rain in Biltmore Forest and to be aware of fires. If you spot a fire, please call the Fire Department. Mayor Goosmann thanked Chief Cole for all of their hard work.

Mr. Kanipe discussed a heavy duty truck purchase with the Board. A heavy duty truck is needed at Public Works since the chassis on one of the two existing trucks rusted off due to excessive salt corrosion. Mr. Kanipe did apply for the Volkswagen grant to replace one of these vehicles. Mr. Kanipe asked the Board if they could reallocate those funds within the Public Works department in order to buy a new heavy duty truck. Mayor Goosmann asked Mr. Kanipe about the three quotes and if it was all regarding the same vehicle. Mr. Kanipe said yes. Commissioner Kelly moved to authorize Mr. Kanipe to purchase the vehicle at Capital Ford in Charlotte for \$81,996. Commissioner Loomis seconded the motion. The motion was unanimously approved.

Mr. Kanipe discussed the Accessory Structure Ordinance. Mr. Kanipe asked the board to consider how to move forward regarding any potential amendments to fences, walls, and gates. Commissioner Loomis said residents need to be notified and suggested a Public Hearing to discuss this Ordinance. Commissioner Cogburn agreed with Commissioner Loomis and said neighbors need to be notified and given the opportunity to speak about this. Mr. Kanipe said a mailing could be sent but it will be costly. Mr. Kanipe said it can also be posted on the Town's website. A CodeRed message will also be sent out. A Public Hearing will be set at next month's Board of Commissioners meeting.

Mr. Kanipe updated the Board about the Greenwood Park grant update. The Town did not receive the grant. The Town is still moving forward with the stream restoration project. Without the grant funding, the Town still has \$80,000 cash and Mr. Kanipe is working on the land donation from Biltmore Farms. Mr. Kanipe asked the Board what they would like to see done with the park.

Commissioner Cogburn said safety and aesthetic improvements should definitely be made. Commissioner Cogburn also suggested residents could donate a bench or table which would help fund improvements. Commissioner Cogburn suggested a commemorative bench and picnic table project in which residents could donate or fund a bench or table to commemorate someone special. Depending on the donations, this project could help fund improvements. Currently, there is one bench and one table in the park, both are very old. Commissioner Cogburn will take this suggestion to the next Community Committee meeting for discussion. Commissioner Cogburn said the stairs, the parking, and the bridge are unsafe at the park and need to be improved. Commissioner Cogburn also suggested a guard rail in at the curve on Stuyvesant Road to improve safety.

Mr. Kanipe said the safety and accessibility portions should be addressed and agreed with Commissioner Cogburn. Commissioner Loomis asked what would be needed to keep the park safe. Commissioner Loomis asked Mr. Crouch if the playground equipment is safe. Mr. Crouch said yes but the equipment is old. Commissioner Loomis asked for Mr. Kanipe to bring back a proposal next month. Mr. Kanipe agreed.

Mr. Kanipe discussed the Stormwater Engineering Request Qualification. Mr. Kanipe submitted a draft qualifications request document that will be issued later this week. An engineering firm will be selected and then a price will be negotiated.

Mr. Kanipe updated the Board about the State Land Use, Planning, and Zoning changes. David Owens from the University Of North Carolina School Of Government will be teaching the updates to the Board next week. There will be changes with Regulations with Planning and Zoning. There will not a lot of changes to the zoning regulations themselves, it creates a lot more opportunity for people to challenge zoning regulations. Many of the changes had been discussed at length from about 2016 to the present. The Zoning Ordinance will need to be revised as a result of these state law changes.

Mr. Kanipe gave the Manager's report. The Public Works open house went well. The Buncombe/Madison County Hazard Mitigation program is being updated. Surveys will be going

out at a later date. The Stream Restoration program is currently being worked on and completed by late spring.

The history lecture had approximately 72 attendees. Paul and Diane Zimmerman were recognized for their service to the Town. Diane did a wonderful job with her lecture, and Paul restored the Bourne Lane columns and did a beautiful job.

The Volkswagen grant has been submitted. Mr. Kanipe hopes to hear something by mid-January.

The Potluck in the park was well and many families attended.

Mr. Kanipe asked the Board to review at the enclosed Budget 2020 booklet, as this is the document the Town will submit to the Governor's Finance Officer Association for the Distinguished Budget Award designation.

Public Comment

There was no Public Comment.

Mayor Goosmann adjourned the meeting at 5:27pm.

The next Board of Commissioners meeting is scheduled for Tuesday, November 12, 2019
at 4:30 p.m.

ATTEST:

Jonathan B. Kanipe
Town Manager

George F. Goosmann, III
Mayor

BILTMORE FOREST POLICE DEPARTMENT

Department Head Report

November 12th, 2019 Board of Commissioners Meeting

Chris Beddingfield, Police Chief

Police Dept. Monthly Report 10/01/19-10/31/19

Calls for Service:732

Officers responded to the following calls for service:

| | |
|--------------------------|--------------------------|
| Accident - 1 | Accident - PI - 1 |
| Alarm - 27 | Animal Carcass - 2 |
| Assist EOC -4 | Assist Motorist - 4 |
| Assist Other Agency - 11 | Assist Resident - 9 |
| Bear Report - 11 | Business Check - 78 |
| Busy - 4 | Crime Prev. - 26 |
| Chase- 1 | Direct Traffic - 4 |
| Distressed Animal - 0 | Disturbance - 6 |
| Dog Complaint - 11 | Domestic disturbance- 1 |
| Fire - 2 | Fight- 0 |
| Hit and Run - 0 | House Check - 108 |
| Improper Parking- 2 | Incomplete 911- 1 |
| Investigation - 4 | Intoxicated Driver- 0 |
| Mental Patient - 2 | Missing Person - 1 |
| Noise Disturbance - 1 | Ordinance Violation - 13 |
| Out of Service - 0 | Out of Town - 0 |
| Person Down - 0 | Power Outage - 1 |
| Radar Operation - 56 | Road Blocked - 9 |

| | |
|---------------------------|------------------------|
| Service of Car - 1 | Sign Ord Violation - 3 |
| Special Assignment – 2 | Special Check - 37 |
| Speed/Reckless Driving- 0 | Suspicious Person - 16 |
| Suspicious Vehicle – 34 | Vandalism - 1 |
| Vehicle Stop – 145 | Well-being Check – 5 |

Total Number Of Calls:732

Arrests:

0-Felony Arrests

3-Misdemeanor Arrests-6 Charges- 1 DWI, 1 Driving While License Revoked, 1 Driving After Consuming Under 21, 1 Second Degree Trespass 1 Fictitious Tag, 1 No Operators License

Time Consumption Summary:

Approximations

Business Checks-5 hours

House Checks-9 hours

Radar Operation-45 hours

Vehicle Crash Investigation-2 hours

Notable Calls and Projects:

Recognition of Shane Burrell for Graduation of N.C. State Administrative Officers Management Program (AOMP)

Successful Halloween Community Event-Very cold and rainy, same community turn out. Great crowd despite the weather

Traffic/Speed enforcement project:

Numerous citizen complaints and emails about speeding, near collisions and pedestrians hit by both residents and non-residents.

October data: 145 cars stopped, 67 Verbal warnings issued, 53 written warnings, and 23 citations.

September data: 50 cars stopped, 39 verbal warnings issued, 0 written warnings, 9 citations.



Biltmore Forest Public Works Department

Terry Crouch
Director Of Public Works
355 Vanderbilt Road
Biltmore Forest NC, 28803

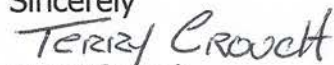
Phone: 274-3919
Fax: 274-3921
Mobile: 777-4466
Email: tcrouch@biltmoreforest.org

PUBLIC WORKS MONTHLY REPORT **OCTOBER 16, 2019 TO NOVEMBER 12, 2019**

- Completed all of the normal routine services to the residents on schedule, garbage collection, recycling and brush removal.
- Dug out a sunk in area in front of 107 Stuyvesant could not find any broke pipe had MSD come out and camera both the storm drain line and the sewer line in both directions 50 feet and everything looked good. We backfilled the area and will keep an eye on it.
- We dug out and repaired a drain pipe at 107 Stuyvesant that was crossing the road and was broke were it came in to the box at 107 Stuyvesant.
- We have collected a total of 21 loads of brush and 10 loads of leaves for the residents and transported them to Asheville Stump and Dump.
- We removed 2 trees that had fallen across the roadway.
- Dug out and installed 150 feet of conduit and new wiring for the streetlight at Ridgefield and Hendersonville road due to the contractors cutting our electric line several times while they were installing the red lights at Eastwood road.
- Completed 58 special requests from the residents, extra garbage collection, meter rereads, house no. signs, recycling request, etc and completed 36 utility locate request.
- Completed the 2 monthly bacteriological water samples for October 2019 and both were in compliance with the state.

- We have got all of the storage containers emptied except for 1 that we keep and placed everything in it that we won't to sell or get rid of.
- Charles has inspected 40 trees for the residents.
- Completed repairs to several pieces of Public Works equipment.
- We collected a total of 25.53 tons of garbage and 13.50 tons of recycling for the month of October.
- We are still working on getting everything organized and sorted out in our new building.
- We are still working on the annual inspections of the residents RPZ devices (backflow). Charles inspected 50 devices during this period.
- A total of 543 hours were spent maintaining the Towns roads and road shoulders.
- 68 hours were spent maintaining the Town's parks and pond.
- Repaired 3 streetlights (general repairs).
- We are continuing to repair road shoulder ruts and road shoulders all over the Town due to vehicles.
- We are continuing to clean up the fallen debris out of the woods off Brookside road when time allows.
- Completed all of the daily chlorine samples for the month of October and sent to the state as required.
- Mowed all of the road shoulders and parks as needed.
- We are continuing to check residents meters for leaks every week.
- Installed a Reduced Speed Ahead sign below the Country Club parking lot Going north towards the speed humps.

Sincerely



Terry Crutch
Director of Public Works

355 Vanderbilt Rd | Biltmore Forest, NC
Po Box 5352 | Biltmore Forest, NC 28803
P (828) 274-0824 | F (828) 274-8131
www.biltmoreforest.org



George F. Goosmann, III, Mayor
Fran G. Cogburn, Mayor-Pro Tem
E. Glenn Kelly, Commissioner
Doris P. Loomis, Commissioner

Jonathan B. Kanipe,
Town Manager

MEMORANDUM

To: Mayor and Board of Commissioners

From: Jonathan Kanipe, Town Manager

Re: Town Manager's Report

Date: November 7, 2019

Asheville Water System Improvements

As noted in the message sent to residents, the Town purchases water from the City of Asheville. The City is making substantial improvements to the water line intake infrastructure near the Bee Tree Reservoir. This work is likely to have an impact on the Town over the weekend of November 8-10. Because of these potential impacts, the Town sent out notices via CodeRED and posted information to our website regarding this work. The City is planning additional work the weekend of November 22-24 and we have yet to receive word regarding the impact to the Town during this time. If this work affects the Town, staff will send out another advisory regarding this work.

Heavy Duty Truck Purchase

During last month's meeting, the Board approved a purchase of a new heavy duty truck for the Town. This purchase was made in order to provide necessary salt/sand operations for the coming winter (and for many winters in the future). We did receive this vehicle from Capital Ford and it is operational.

Eastwood Road Traffic Light

Staff is aware of the concern from residents regarding the prolonged "red arrow" from the northbound lane onto Eastwood Road. We have contacted NCDOT regarding this concern and are awaiting more information from them to see if this can be remedied.

Town Hall Social Room Architectural Services

The architects continue to await audio/visual recommendations before preparing their final proposal for the Town's social room improvements. I hope to have information regarding this work within the next week or two.

355 Vanderbilt Rd | Asheville, NC 28803
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George F. Goosmann, III, Mayor
Fran G. Cogburn, Mayor-Pro Tem
E. Glenn Kelly, Commissioner
Doris P. Loomis, Commissioner

Jonathan B. Kanipe,
Town Administrator

PLANNING AND CODE ENFORCEMENT OCTOBER 2019

Staff completed 30 site inspections for potential ordinance violations or for active zoning permits.

Two Zoning Clearance Letters were issued to 2 Arboretum Road for roof replacement and 412 Vanderbilt Road for garage door replacement and generator installation.

The Board of Adjustment did not meet in the month of October. The next scheduled Board of Adjustment meeting is November 18th and the agenda includes two requests for Conditional Use Permits.

101 Chauncey Circle – A Conditional Use Permit is requested for construction of a 20'x40' in-ground swimming pool with a 4' safety fence.

3 Eastwood Road – A Conditional Use Permit is requested for construction of a stone column mailbox.

The Design Review Board met on October 17th and approved three zoning permits. The permits were issued on October 21st.

1 Hilltop Road – Replacement of existing double hung and storm windows with casement windows.

17 Buena Vista Road – Full renovation of existing home.

101 Chauncey Circle – Construction of a new single family home. *(The permit will be issued after review of the swimming pool by the Board of Adjustment.)*



Monthly Financial Report OCTOBER 2019

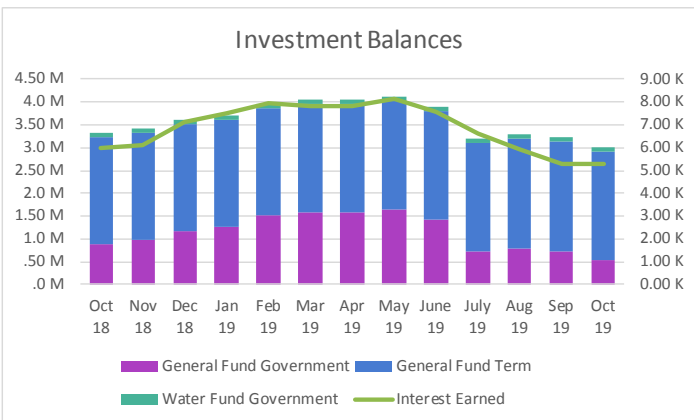
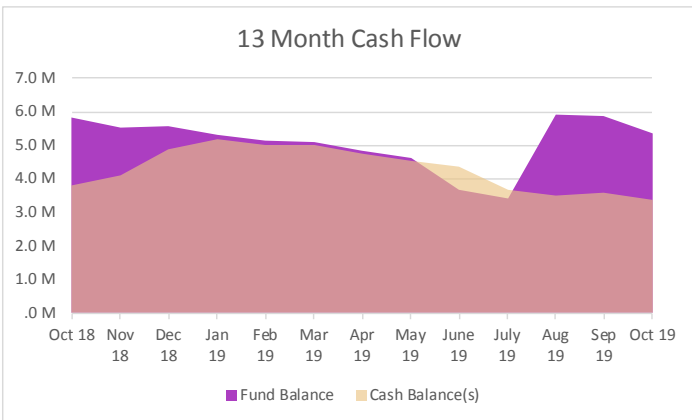
| CASH ACCOUNTS | |
|--------------------------------------|---------------------|
| First Citizens Money Market Checking | 313,782.48 |
| NCCMT General Fund Term | 2,397,136.16 |
| NCCMT General Fund Government | 523,484.68 |
| NCCMT Water Fund Government | 96,906.13 |
| TOTAL | 3,331,309.45 |

| 2019 PROPERTY TAXES | |
|--|------------------|
| Real Property | 761,692,752 |
| Personal Property (Including BUS & IND) | 6,641,166 |
| Personal Property (Public Service Companies) | 4,966,746 |
| Exemptions | (494,050) |
| Deferrals | (8,875,692) |
| Releases | (10,433) |
| Total Assessed | 763,920,489 |
| Total Levy | 2,635,526 |
| Budgeted Levy | 2,593,341 |

| Tax Collection To Date | Percent Collected | Budgeted Levy | Amount Collected* |
|------------------------|-------------------|---------------|-------------------|
| Ad Valorem (2019) | 20.90% | 2,593,341 | 542,103 |
| 11/4/2019 | 20.57% | 2,635,526 | |
| DMV Ad Valorem | 6.96% | 101,548 | 7,067 * |

| FIRST CITIZENS CHECKING (Monthly Transaction Report) | |
|--|--------------------|
| Beginning Balance | 388,733.48 |
| Cleared Checks | (172,593.49) |
| Cleared Deposits | 277,650.26 |
| Cleared Credits | 310,461.73 |
| Cleared Debits | (129,350.60) |
| Cleared E-payments | (317,572.63) |
| Change in Account Balance | (31,404.73) |
| Prelim balance | 357,328.75 |
| Outstanding Items | (43,546.27) |
| Ending Balance (F/L Balance) | 313,782.48 |

| NORTH CAROLINA CASH MANAGEMENT TRUST | |
|--------------------------------------|---------------------|
| GENERAL FUND Government | |
| Beginning Balance | 732,053.75 |
| Local Gov't Distribution (NCDOR) | 90,287.71 |
| Transfer to First Citizens Checking | (300,000.00) |
| Interest Earned | 1,143.22 |
| Ending Balance | 523,484.68 |
| GENERAL FUND Term | |
| Beginning Balance | 2,393,226.48 |
| Interest Earned | 3,909.68 |
| Ending Balance | 2,397,136.16 |
| WATER FUND Government | |
| Beginning Balance | 96,759.29 |
| Interest Earned | 146.84 |
| Ending Balance | 96,906.13 |



REVENUE & EXPENDITURE STATEMENT FOR 10 GENERAL FUND

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used | |
|---|--------------------------------|----------------|------------------|----------------|---------------|------|
| 10 General Fund | | | | | | |
| Revenue | | | | | | |
| 3010 Ad Valorem Tax Subtotal | \$7,066.93 | \$2,678,069.56 | \$0.00 | \$2,697,389.00 | 99 | |
| 3020 Unrestricted Intergovernm Subtotal | \$90,287.71 | \$423,969.43 | \$0.00 | \$1,367,252.00 | 31 | |
| 3030 Restricted Intergovernmen Subtotal | \$0.00 | \$31,007.89 | \$0.00 | \$63,450.00 | 49 | |
| 3040 Permits & Fees Subtotal | \$71.00 | \$7,290.00 | \$0.00 | \$26,500.00 | 28 | |
| 3050 Investment Earnings Subtotal | \$5,064.70 | \$22,491.96 | \$0.00 | \$59,953.00 | 38 | |
| 3060 Miscellaneous Subtotal | \$986.10 | \$6,060.84 | \$0.00 | \$43,000.00 | 14 | |
| Revenue Subtotal | \$103,476.44 | \$3,168,889.68 | \$0.00 | \$4,257,544.00 | 74 | |
| Expenditure | | | | | | |
| 4200 Administration Subtotal | \$52,036.38 | \$160,915.24 | \$0.00 | \$428,816.00 | 38 | |
| 4300 Subtotal | \$3,450.00 | \$12,770.75 | \$0.00 | \$36,728.00 | 35 | |
| 5100 Police Department Subtotal | \$199,208.76 | \$528,685.58 | \$12,633.41 | \$1,539,625.00 | 35 | |
| 5200 Fire Services Subtotal | \$106,250.00 | \$212,500.00 | \$0.00 | \$425,000.00 | 50 | |
| 5600 Public Works Subtotal | \$143,791.10 | \$249,340.20 | \$15,698.56 | \$914,157.00 | 29 | |
| 5700 Streets & Transportation Subtotal | \$13,349.54 | \$69,489.30 | \$19,732.67 | \$351,678.00 | 25 | |
| 5800 Sanitation & Recycling Subtotal | \$24,817.52 | \$69,886.84 | \$10,165.00 | \$292,704.00 | 27 | |
| 6600 General Government Subtotal | \$12,094.71 | \$128,535.65 | \$350.00 | \$349,400.00 | 37 | |
| 6700 Debt Service Subtotal | \$78,215.92 | \$87,144.67 | \$0.00 | \$195,436.00 | 45 | |
| Expenditure Subtotal | \$633,213.93 | \$1,519,268.23 | \$58,579.64 | \$4,533,544.00 | 35 | |
| Before Transfers | Deficiency Of Revenue Subtotal | -\$529,737.49 | \$1,649,621.45 | -\$58,579.64 | -\$276,000.00 | -576 |
| Other Financing Source | | | | | | |
| 3500 Other Financing Subtotal | \$3,383.00 | \$6,268.90 | \$0.00 | \$276,000.00 | 2 | |
| Other Financing Source Subtotal | \$3,383.00 | \$6,268.90 | \$0.00 | \$276,000.00 | 2 | |
| After Transfers | Deficiency Of Revenue Subtotal | -\$526,354.49 | \$1,655,890.35 | -\$58,579.64 | \$0.00 | 0 |

REVENUE & EXPENDITURE STATEMENT FOR 30 WATER & SEWER

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used | |
|--|----------------------------|--------------|---------------------|--------------|--------|---|
| 30 Water & Sewer Fund | | | | | | |
| Revenue | | | | | | |
| 3290 Subtotal | \$146.84 | \$652.92 | \$0.00 | \$1,500.00 | 44 | |
| 3350 Commissions, Sw Chg Coll Subtotal | \$1,636.60 | \$3,298.80 | \$0.00 | \$8,000.00 | 41 | |
| 3710 Water Sales Subtotal | \$130,705.14 | \$293,289.85 | \$0.00 | \$698,904.00 | 42 | |
| 3730 Water Tap & Connect Fees Subtotal | \$60.00 | \$8,270.00 | \$0.00 | \$6,000.00 | 138 | |
| Revenue Subtotal | \$132,548.58 | \$305,511.57 | \$0.00 | \$714,404.00 | 43 | |
| Expenditure | | | | | | |
| 8100 Water Dept. Subtotal | \$23,387.58 | \$168,925.36 | \$1,768.19 | \$714,404.00 | 24 | |
| Expenditure Subtotal | \$23,387.58 | \$168,925.36 | \$1,768.19 | \$714,404.00 | 24 | |
| Before Transfers | Excess Of Revenue Subtotal | \$109,161.00 | \$136,586.21 | -\$1,768.19 | \$0.00 | 0 |
| After Transfers | Excess Of Revenue Subtotal | \$109,161.00 | \$136,586.21 | -\$1,768.19 | \$0.00 | 0 |

REVENUE & EXPENDITURE STATEMENT FOR 40 CAPITAL PROJECT

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used |
|--------------------------------|--------------------------------|--------------|---------------------|--------------|--------|
| 40 Capital Project Fund | | | | | |
| Revenue | | | | | |
| 4000 Subtotal | \$0.00 | \$0.00 | \$0.00 | \$961,857.00 | 0 |
| Revenue Subtotal | \$0.00 | \$0.00 | \$0.00 | \$961,857.00 | 0 |
| Expenditure | | | | | |
| 5600 Public Works Subtotal | \$545.70 | \$132,764.04 | \$0.00 | \$961,857.00 | 14 |
| Expenditure Subtotal | \$545.70 | \$132,764.04 | \$0.00 | \$961,857.00 | 14 |
| Before Transfers | Deficiency Of Revenue Subtotal | -\$545.70 | -\$132,764.04 | \$0.00 | 0 |
| After Transfers | Deficiency Of Revenue Subtotal | -\$545.70 | -\$132,764.04 | \$0.00 | 0 |

REVENUE & EXPENDITURE STATEMENT FOR 10 GENERAL FUND

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| Account | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used |
|--|---------------------|-----------------------|------------------|-----------------------|-----------|
| 10 General Fund | | | | | |
| Revenue | | | | | |
| 3010 Ad Valorem Tax | | | | | |
| 10-3010-0000 AD VALOREM TAXES (PROPERTY) | 0.00 | 2,635,528.89 | 0.00 | 2,593,341.00 | 102 |
| 10-3010-0100 AD VALOREM TAXES (DMV) | 7,066.93 | 42,529.01 | 0.00 | 101,548.00 | 42 |
| 10-3010-0200 TAX INTEREST & PENALTIES | 0.00 | 11.66 | 0.00 | 2,500.00 | 0 |
| 3010 Ad Valorem Tax Subtotal | \$7,066.93 | \$2,678,069.56 | \$0.00 | \$2,697,389.00 | 99 |
| 3020 Unrestricted Intergovernm | | | | | |
| 10-3020-0000 FRANCHISE & UTILITIES TAX DIST. | 0.00 | 46,501.70 | 0.00 | 215,488.00 | 22 |
| 10-3020-0100 ALCOHOL BEVERAGE TAX | 0.00 | 0.00 | 0.00 | 6,000.00 | 0 |
| 10-3020-0200 BUNCOMBE COUNTY 1% TAX | 46,135.32 | 192,297.51 | 0.00 | 597,047.00 | 32 |
| 10-3020-0300 1/2 CENT SALES TAX A.40 | 19,735.03 | 79,876.87 | 0.00 | 232,530.00 | 34 |
| 10-3020-0400 1/2 CENT SALES TAX A.42 | 24,417.36 | 101,402.33 | 0.00 | 312,187.00 | 32 |
| 10-3020-0700 GASOLINE TAX REFUND | 0.00 | 3,891.02 | 0.00 | 4,000.00 | 97 |
| 3020 Unrestricted Intergovernm Subtotal | \$90,287.71 | \$423,969.43 | \$0.00 | \$1,367,252.00 | 31 |
| 3030 Restricted Intergovernmen | | | | | |
| 10-3030-0000 SOLID WASTE DISPOSAL TAX | 0.00 | 257.43 | 0.00 | 950.00 | 27 |
| 10-3030-0100 POWELL BILL | 0.00 | 30,750.46 | 0.00 | 62,500.00 | 49 |
| 3030 Restricted Intergovernmen Subtotal | \$0.00 | \$31,007.89 | \$0.00 | \$63,450.00 | 49 |
| 3040 Permits & Fees | | | | | |
| 10-3040-0000 BUILDING PERMITS | 61.00 | 7,240.00 | 0.00 | 25,000.00 | 29 |
| 10-3040-0100 DOG LICENSE FEE | 10.00 | 50.00 | 0.00 | 1,500.00 | 3 |
| 3040 Permits & Fees Subtotal | \$71.00 | \$7,290.00 | \$0.00 | \$26,500.00 | 28 |
| 3050 Investment Earnings | | | | | |
| 10-3050-0000 INTEREST EARNED | 5,064.70 | 22,491.96 | 0.00 | 59,953.00 | 38 |
| 3050 Investment Earnings Subtotal | \$5,064.70 | \$22,491.96 | \$0.00 | \$59,953.00 | 38 |
| 3060 Miscellaneous | | | | | |
| 10-3060-0100 AMERICAN TOWER AGREEMENT | 400.00 | 1,600.00 | 0.00 | 28,000.00 | 6 |
| 10-3060-0200 MISCELLANEOUS | 586.10 | 4,460.84 | 0.00 | 15,000.00 | 30 |
| 3060 Miscellaneous Subtotal | \$986.10 | \$6,060.84 | \$0.00 | \$43,000.00 | 14 |
| Revenue Subtotal | \$103,476.44 | \$3,168,889.68 | \$0.00 | \$4,257,544.00 | 74 |
| Expenditure | | | | | |
| 4200 Administration | | | | | |
| 10-4200-0200 SALARIES | 27,414.53 | 83,704.11 | 0.00 | 215,249.00 | 39 |
| 10-4200-0300 OVERTIME | 1,028.35 | 1,994.76 | 0.00 | 1,000.00 | 199 |
| 10-4200-0500 FICA | 2,092.19 | 6,304.91 | 0.00 | 16,543.00 | 38 |
| 10-4200-0600 HEALTH INSURANCE (MEDICAL) | 2,503.42 | 10,013.68 | 0.00 | 25,852.00 | 39 |
| 10-4200-0650 DENTAL, VISION, LIFE INSURANCE | 428.52 | 1,698.12 | 0.00 | 4,361.00 | 39 |
| 10-4200-0675 HEALTH REIMBURSEMENT ACC | 375.00 | 1,500.00 | 0.00 | 3,750.00 | 40 |
| 10-4200-0700 LGERS RETIREMENT | 4,454.64 | 13,424.54 | 0.00 | 33,299.00 | 40 |
| 10-4200-0800 401K SUPP RETIREMENT | 1,422.66 | 4,286.46 | 0.00 | 10,762.00 | 40 |
| 10-4200-1000 ACCOUNTING & TAXES | 0.00 | 14,063.40 | 0.00 | 45,000.00 | 31 |
| 10-4200-1200 POSTAGE, PRINTING, STATIONARY | 0.00 | 958.37 | 0.00 | 5,000.00 | 19 |

REVENUE & EXPENDITURE STATEMENT FOR 10 GENERAL FUND

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| Account | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used |
|---|---------------------|---------------------|--------------------|-----------------------|-----------|
| 10-4200-1400 MILEAGE & BOARD SALARY | 3,600.00 | 9,000.00 | 0.00 | 22,000.00 | 41 |
| 10-4200-3300 SUPPLIES AND EQUIPMENT | 625.48 | 2,100.77 | 0.00 | 5,000.00 | 42 |
| 10-4200-5300 DUES & FEES | 2,394.75 | 3,558.25 | 0.00 | 5,000.00 | 71 |
| 10-4200-5700 MISCELLANEOUS | 77.56 | 179.11 | 0.00 | 1,000.00 | 18 |
| 10-4200-6500 STAFF DEVELOPMENT | 1,619.28 | 4,128.76 | 0.00 | 15,000.00 | 28 |
| 10-4200-6600 CAPITAL IMPROVEMENT & AMORT | 4,000.00 | 4,000.00 | 0.00 | 20,000.00 | 20 |
| 4200 Administration Subtotal | \$52,036.38 | \$160,915.24 | \$0.00 | \$428,816.00 | 38 |
| 4300 | | | | | |
| 10-4300-1000 CONTRACT | 3,045.00 | 12,180.00 | 0.00 | 34,128.00 | 36 |
| 10-4300-1200 POSTAGE, PRINTING & STATIONARY | 0.00 | 185.75 | 0.00 | 1,500.00 | 12 |
| 10-4300-3300 SUPPLIES & EQUIPMENT | 0.00 | 0.00 | 0.00 | 500.00 | 0 |
| 10-4300-5300 DUES & FEES | 0.00 | 0.00 | 0.00 | 100.00 | 0 |
| 10-4300-6500 STAFF DEVELOPMENT | 405.00 | 405.00 | 0.00 | 500.00 | 81 |
| 4300 Subtotal | \$3,450.00 | \$12,770.75 | \$0.00 | \$36,728.00 | 35 |
| 5100 Police Department | | | | | |
| 10-5100-0200 SALARIES | 87,646.22 | 263,327.10 | 0.00 | 861,265.00 | 31 |
| 10-5100-0300 OVERTIME | 9,690.72 | 30,068.09 | 0.00 | 42,000.00 | 72 |
| 10-5100-0400 SEPARATION ALLOWANCE | 3,532.77 | 10,598.31 | 0.00 | 40,022.00 | 26 |
| 10-5100-0500 FICA | 7,481.61 | 22,550.72 | 0.00 | 69,100.00 | 33 |
| 10-5100-0550 UNEMPLOYMENT INSURANCE | 0.00 | 0.00 | 0.00 | 500.00 | 0 |
| 10-5100-0600 HEALTH INSURANCE (MEDICAL) | 10,111.46 | 40,445.84 | 0.00 | 139,380.00 | 29 |
| 10-5100-0650 DENTAL, VISION, LIFE INSURANCE | 1,395.08 | 5,327.80 | 0.00 | 19,358.00 | 28 |
| 10-5100-0675 HRA HEALTH REIMB ACCT | 1,750.00 | 7,000.00 | 0.00 | 24,000.00 | 29 |
| 10-5100-0700 LGERS RETIREMENT | 15,246.77 | 45,824.41 | 0.00 | 141,112.00 | 32 |
| 10-5100-0800 401K SUPP RETIREMENT | 4,749.02 | 14,277.72 | 0.00 | 43,888.00 | 33 |
| 10-5100-1500 MAINT/REPAIR - BLDG/GROUNDS | 13,658.62 | 15,966.22 | 0.00 | 10,000.00 | 160 |
| 10-5100-1600 MAINT/REPAIR - EQUIPMENT | 184.25 | 537.25 | 7,186.12 | 15,000.00 | 51 |
| 10-5100-1700 MAINT/REPAIR - VEHICLES | 2,238.97 | 3,803.55 | 1,212.67 | 20,000.00 | 25 |
| 10-5100-3100 MOTOR FUELS | 1,907.06 | 4,530.10 | 0.00 | 18,000.00 | 25 |
| 10-5100-3300 SUPPLIES | 1,016.89 | 2,769.41 | 0.00 | 10,000.00 | 28 |
| 10-5100-3600 UNIFORMS | 5,430.51 | 5,602.80 | 1,446.48 | 12,500.00 | 56 |
| 10-5100-3700 SOFTWARE | 3,871.38 | 10,548.85 | 0.00 | 15,000.00 | 70 |
| 10-5100-3800 TECHNOLOGY | 655.24 | 704.36 | 0.00 | 0.00 | 0 |
| 10-5100-5700 MISCELLANEOUS | 47.39 | 6,595.35 | 0.00 | 7,000.00 | 94 |
| 10-5100-5800 PHYSICAL EXAMS | 0.00 | 0.00 | 1,498.00 | 1,500.00 | 100 |
| 10-5100-6500 STAFF DEVELOPMENT | 1,067.00 | 9,162.82 | 428.00 | 15,000.00 | 64 |
| 10-5100-7400 EQUIPMENT PURCHASES | 27,527.80 | 29,044.88 | 862.14 | 35,000.00 | 85 |
| 5100 Police Department Subtotal | \$199,208.76 | \$528,685.58 | \$12,633.41 | \$1,539,625.00 | 35 |
| 5200 Fire Services | | | | | |
| 10-5200-0000 FIRE CONTRACT | 106,250.00 | 212,500.00 | 0.00 | 425,000.00 | 50 |
| 5200 Fire Services Subtotal | \$106,250.00 | \$212,500.00 | \$0.00 | \$425,000.00 | 50 |
| 5600 Public Works | | | | | |
| 10-5600-0200 SALARIES | 32,358.40 | 94,204.32 | 0.00 | 293,310.00 | 32 |

REVENUE & EXPENDITURE STATEMENT FOR 10 GENERAL FUND

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| Account | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used |
|---|---------------------|---------------------|--------------------|---------------------|-----------|
| 10-5600-0300 OVERTIME | 2,033.99 | 7,300.29 | 0.00 | 10,000.00 | 73 |
| 10-5600-0500 FICA | 2,597.67 | 7,687.93 | 0.00 | 23,203.00 | 33 |
| 10-5600-0600 HOSPITAL INSURANCE (MEDICAL) | 3,168.20 | 12,104.16 | 0.00 | 39,628.00 | 31 |
| 10-5600-0650 DENTAL, VISION, LIFE INSURANCE | 352.58 | 1,395.24 | 0.00 | 5,479.00 | 25 |
| 10-5600-0675 HRA HEALTH REIMB ACCT | 625.00 | 2,375.00 | 0.00 | 7,500.00 | 32 |
| 10-5600-0700 LGERS RETIREMENT | 5,303.38 | 15,652.08 | 0.00 | 46,922.00 | 33 |
| 10-5600-0800 401K SUPP RETIREMENT | 1,720.25 | 5,077.14 | 0.00 | 15,165.00 | 33 |
| 10-5600-1000 OUTSIDE SERVICES | 190.00 | 225.00 | 0.00 | 10,000.00 | 2 |
| 10-5600-1300 STREETLIGHTS ELECTRIC | 654.62 | 2,375.39 | 0.00 | 7,000.00 | 34 |
| 10-5600-1500 MAINT/REPAIR - BLDG/GROUNDS | 896.50 | 1,020.66 | 0.00 | 5,000.00 | 20 |
| 10-5600-1600 MAINT/REPAIR- STREETLIGHTS | 230.00 | 1,354.78 | 464.70 | 10,000.00 | 18 |
| 10-5600-1700 MAINT/REPAIR - VEHICLES | 3,553.38 | 3,903.74 | 10,165.00 | 20,000.00 | 70 |
| 10-5600-3100 MOTOR FUELS | 1,525.62 | 3,624.05 | 0.00 | 15,000.00 | 24 |
| 10-5600-3300 SUPPLIES | 1,957.46 | 3,049.79 | 0.00 | 10,000.00 | 30 |
| 10-5600-3400 STREET SIGNS & NUMBERS | 180.14 | 202.50 | 0.00 | 1,000.00 | 20 |
| 10-5600-3600 UNIFORMS | 3,404.86 | 4,433.61 | 149.10 | 10,000.00 | 46 |
| 10-5600-3800 TECHNOLOGY | 355.66 | 411.02 | 0.00 | 0.00 | 0 |
| 10-5600-5200 PARKS | 475.00 | 475.00 | 0.00 | 30,000.00 | 2 |
| 10-5600-5201 GREENWOOD PARK | 0.00 | 0.00 | 0.00 | 324,950.00 | 0 |
| 10-5600-5900 MISCELLANEOUS | 47.39 | 307.50 | 0.00 | 5,000.00 | 6 |
| 10-5600-6000 CAPITAL OUTLAY | 81,996.00 | 81,996.00 | 4,919.76 | 20,000.00 | 435 |
| 10-5600-6500 STAFF DEVELOPMENT | 165.00 | 165.00 | 0.00 | 5,000.00 | 3 |
| 5600 Public Works Subtotal | \$143,791.10 | \$249,340.20 | \$15,698.56 | \$914,157.00 | 29 |
| 5700 Streets & Transportation | | | | | |
| 10-5700-0200 SALARIES | 5,041.02 | 15,060.20 | 0.00 | 49,898.00 | 30 |
| 10-5700-0300 OVERTIME | 0.00 | 0.00 | 0.00 | 5,000.00 | 0 |
| 10-5700-0500 FICA | 385.65 | 1,152.15 | 0.00 | 3,817.00 | 30 |
| 10-5700-0600 HEALTH INSURANCE (MEDICAL) | 568.64 | 2,274.56 | 0.00 | 7,086.00 | 32 |
| 10-5700-0650 DENTAL, VISION, LIFE INSURANCE | 54.04 | 214.54 | 0.00 | 664.00 | 32 |
| 10-5700-0675 HRA HEALTH REIMB ACCT | 125.00 | 500.00 | 0.00 | 1,500.00 | 33 |
| 10-5700-0700 LGERS RETIREMENT | 777.34 | 2,322.30 | 0.00 | 7,718.00 | 30 |
| 10-5700-0800 401K SUPP RETIREMENT | 252.06 | 753.03 | 0.00 | 2,495.00 | 30 |
| 10-5700-1700 VEHICLE REPAIRS - STREET DEPT. | 0.00 | 1,783.13 | 0.00 | 10,000.00 | 18 |
| 10-5700-2200 CONTRACTS- PAVING & STRIPING | 2,375.00 | 7,675.00 | 15,500.00 | 80,000.00 | 29 |
| 10-5700-2300 SUPPLIES | 381.40 | 969.62 | 3,467.07 | 20,500.00 | 22 |
| 10-5700-2400 TRAFFIC SIGNS | 0.00 | 3,444.72 | 0.00 | 5,000.00 | 69 |
| 10-5700-2500 STORM WATER DRAINAGE | 1,352.39 | 1,712.71 | 765.60 | 100,000.00 | 2 |
| 10-5700-6500 STAFF DEVELOPMENT | 0.00 | 0.00 | 0.00 | 1,000.00 | 0 |
| 10-5700-7400 EQUIPMENT PURCHASES | 0.00 | 0.00 | 0.00 | 7,000.00 | 0 |
| 10-5700-7500 ENGINEERING | 2,037.00 | 31,627.34 | 0.00 | 50,000.00 | 63 |
| 5700 Streets & Transportation Subtotal | \$13,349.54 | \$69,489.30 | \$19,732.67 | \$351,678.00 | 25 |
| 5800 Sanitation & Recycling | | | | | |
| 10-5800-0200 SALARIES | 11,167.31 | 30,712.28 | 0.00 | 105,855.00 | 29 |
| 10-5800-0300 OVERTIME | 90.03 | 484.17 | 0.00 | 10,000.00 | 5 |

REVENUE & EXPENDITURE STATEMENT FOR 10 GENERAL FUND

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| Account | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used |
|---|---------------------|---------------------|--------------------|---------------------|-----------|
| 10-5800-0500 FICA | 857.02 | 2,382.47 | 0.00 | 8,863.00 | 27 |
| 10-5800-0600 HEALTH INSURANCE (MEDICAL) | 1,705.92 | 6,230.04 | 0.00 | 31,202.00 | 20 |
| 10-5800-0650 DENTAL, VISION, LIFE INSURANCE | 102.48 | 462.18 | 0.00 | 4,068.00 | 11 |
| 10-5800-0675 HRA HEALTH REIMB ACCT | 375.00 | 1,375.00 | 0.00 | 4,500.00 | 31 |
| 10-5800-0700 LGERS RETIREMENT | 1,735.88 | 4,810.49 | 0.00 | 17,923.00 | 27 |
| 10-5800-0800 401K SUPP RETIREMENT | 562.85 | 1,559.77 | 0.00 | 5,793.00 | 27 |
| 10-5800-1700 MAINT/REPAIRS - VEHICLES | 1,050.84 | 1,129.60 | 10,165.00 | 15,000.00 | 75 |
| 10-5800-3100 MOTOR FUELS | 2,023.48 | 4,702.43 | 0.00 | 17,500.00 | 27 |
| 10-5800-3300 SUPPLIES | 0.00 | 173.27 | 0.00 | 1,000.00 | 17 |
| 10-5800-3600 UNIFORMS | 39.99 | 224.11 | 0.00 | 0.00 | 0 |
| 10-5800-3800 TECHNOLOGY | 56.85 | 75.18 | 0.00 | 0.00 | 0 |
| 10-5800-5800 PHYSICAL EXAMS | 455.00 | 455.00 | 0.00 | 0.00 | 0 |
| 10-5800-5900 MISCELLANEOUS | 0.00 | 166.83 | 0.00 | 1,000.00 | 17 |
| 10-5800-8000 TIPPING FEES & BRUSH REMOVAL | 3,487.39 | 11,868.21 | 0.00 | 55,000.00 | 22 |
| 10-5800-8100 RECYCLING | 1,107.48 | 3,075.81 | 0.00 | 15,000.00 | 21 |
| 5800 Sanitation & Recycling Subtotal | \$24,817.52 | \$69,886.84 | \$10,165.00 | \$292,704.00 | 27 |
| 6600 General Government | | | | | |
| 10-6600-0401 LEGAL SERVICES | 2,490.00 | 7,291.54 | 0.00 | 40,000.00 | 18 |
| 10-6600-1100 TECHNOLOGY | 3,632.22 | 24,249.65 | 0.00 | 85,000.00 | 29 |
| 10-6600-1300 MUNICIPAL UTILITIES | 1,228.36 | 5,656.51 | 0.00 | 16,881.00 | 34 |
| 10-6600-1500 GE. REPS. AND MAINT. | 2,125.22 | 4,844.51 | 350.00 | 20,000.00 | 26 |
| 10-6600-2800 ELECTIONS | 0.00 | 0.00 | 0.00 | 100.00 | 0 |
| 10-6600-3300 SUPPLIES & EQUIPMENT | 0.00 | 0.00 | 0.00 | 2,000.00 | 0 |
| 10-6600-5400 INSURANCE | 169.00 | 76,467.17 | 0.00 | 80,000.00 | 96 |
| 10-6600-6000 CONTINGENCY | 160.00 | 160.00 | 0.00 | 4,919.00 | 3 |
| 10-6600-6100 MISCELLANEOUS | 930.79 | 2,405.79 | 0.00 | 10,000.00 | 24 |
| 10-6600-6300 COMMUNITY EVENTS | 789.12 | 789.12 | 0.00 | 0.00 | 0 |
| 10-6600-6301 4TH OF JULY | 0.00 | 5,209.60 | 0.00 | 15,000.00 | 35 |
| 10-6600-6302 NATIONAL NIGHT OUT | 220.00 | 1,061.76 | 0.00 | 5,000.00 | 21 |
| 10-6600-6303 HOLIDAY LIGHTING | 0.00 | 0.00 | 0.00 | 2,500.00 | 0 |
| 10-6600-6304 ARBOR DAY EVENT | 0.00 | 0.00 | 0.00 | 3,000.00 | 0 |
| 10-6600-6400 WILDLIFE MANAGEMENT | 0.00 | 50.00 | 0.00 | 5,000.00 | 1 |
| 10-6600-6500 FOREST MANAGEMENT | 350.00 | 350.00 | 0.00 | 60,000.00 | 1 |
| 6600 General Government Subtotal | \$12,094.71 | \$128,535.65 | \$350.00 | \$349,400.00 | 37 |
| 6700 Debt Service | | | | | |
| 10-6700-0100 Police Dept Renovations-Principal | 5,833.33 | 11,666.66 | 0.00 | 23,333.00 | 50 |
| 10-6700-0200 Street Improvements-Principal | 1,666.67 | 3,333.34 | 0.00 | 6,667.00 | 50 |
| 10-6700-0400 2017 Garbage Truck-Principal | 0.00 | 0.00 | 0.00 | 34,327.00 | 0 |
| 10-6700-0500 Public Works Building-Principal | 42,105.26 | 42,105.26 | 0.00 | 84,211.00 | 50 |
| 10-6700-1100 Police Dept Renovations-Interest | 1,055.69 | 2,166.94 | 0.00 | 4,112.00 | 53 |
| 10-6700-1200 Street Improvements-Interest | 301.62 | 619.12 | 0.00 | 1,175.00 | 53 |
| 10-6700-1400 2017 Garbage Truck-Interest | 0.00 | 0.00 | 0.00 | 1,625.00 | 0 |
| 10-6700-1500 Public Works Building-Interest | 27,253.35 | 27,253.35 | 0.00 | 39,986.00 | 68 |
| 6700 Debt Service Subtotal | \$78,215.92 | \$87,144.67 | \$0.00 | \$195,436.00 | 45 |

REVENUE & EXPENDITURE STATEMENT FOR 10 GENERAL FUND

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| Account | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used |
|---|----------------------|-----------------------|---------------------|-----------------------|-------------|
| Expenditure Subtotal | \$633,213.93 | \$1,519,268.23 | \$58,579.64 | \$4,533,544.00 | 35 |
| Before Transfers | | | | | |
| Deficiency Of Revenue Subtotal | -\$529,737.49 | \$1,649,621.45 | -\$58,579.64 | -\$276,000.00 | -576 |
| Other Financing Source | | | | | |
| 3500 Other Financing | | | | | |
| 10-3500-0000 SALE OF PERSONAL PROPERTY | 3,383.00 | 6,268.90 | 0.00 | 15,000.00 | 42 |
| 10-3500-0500 GRANT (GOVERNMENTAL) FUNDS | 0.00 | 0.00 | 0.00 | 181,000.00 | 0 |
| 10-3500-0600 DONATION (LAND) | 0.00 | 0.00 | 0.00 | 80,000.00 | 0 |
| 3500 Other Financing Subtotal | \$3,383.00 | \$6,268.90 | \$0.00 | \$276,000.00 | 2 |
| Other Financing Source Subtotal | \$3,383.00 | \$6,268.90 | \$0.00 | \$276,000.00 | 2 |
| After Transfers | | | | | |
| Deficiency Of Revenue Subtotal | -\$526,354.49 | \$1,655,890.35 | -\$58,579.64 | \$0.00 | 0 |

REVENUE & EXPENDITURE STATEMENT FOR 30 WATER & SEWER

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| Account | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used |
|---|-----------------------------------|---------------------|---------------------|---------------------|---------------|
| 30 Water & Sewer Fund | | | | | |
| Revenue | | | | | |
| 3290 | | | | | |
| 30-3290-0000 INTEREST EARNED | 146.84 | 652.92 | 0.00 | 1,500.00 | 44 |
| 3290 Subtotal | \$146.84 | \$652.92 | \$0.00 | \$1,500.00 | 44 |
| 3350 Commissions, Sw Chg Coll | | | | | |
| 30-3350-0000 COMMISSIONS, SEWER CHARGE COLL | 1,636.60 | 3,298.80 | 0.00 | 8,000.00 | 41 |
| 3350 Commissions, Sw Chg Coll Subtotal | \$1,636.60 | \$3,298.80 | \$0.00 | \$8,000.00 | 41 |
| 3710 Water Sales | | | | | |
| 30-3710-0000 WATER CHARGES | 75,450.89 | 169,209.76 | 0.00 | 384,355.00 | 44 |
| 30-3710-0100 MSD CHARGES | 53,878.31 | 121,313.97 | 0.00 | 306,849.00 | 40 |
| 30-3710-0200 AMI TRANSMITTER CHARGES | 1,375.94 | 2,766.12 | 0.00 | 7,700.00 | 36 |
| 3710 Water Sales Subtotal | \$130,705.14 | \$293,289.85 | \$0.00 | \$698,904.00 | 42 |
| 3730 Water Tap & Connect Fees | | | | | |
| 30-3730-0000 WATER TAP AND CONNECTION FEES | 60.00 | 8,270.00 | 0.00 | 6,000.00 | 138 |
| 3730 Water Tap & Connect Fees Subtotal | \$60.00 | \$8,270.00 | \$0.00 | \$6,000.00 | 138 |
| Revenue Subtotal | \$132,548.58 | \$305,511.57 | \$0.00 | \$714,404.00 | 43 |
| Expenditure | | | | | |
| 8100 Water Dept. | | | | | |
| 30-8100-0200 SALARIES | 0.00 | 0.00 | 0.00 | 26,363.00 | 0 |
| 30-8100-0300 OVERTIME | 0.00 | 0.00 | 0.00 | 1,200.00 | 0 |
| 30-8100-0400 PROFESSIONAL SERVICES | 925.00 | 1,400.00 | 0.00 | 4,000.00 | 35 |
| 30-8100-0500 FICA | 0.00 | 0.00 | 0.00 | 92.00 | 0 |
| 30-8100-0600 HEALTH INSURANCE (MEDICAL) | 0.00 | 0.00 | 0.00 | 5,707.00 | 0 |
| 30-8100-0650 DENTAL, VISION, LIFE INSURANCE | 0.00 | 0.00 | 0.00 | 884.00 | 0 |
| 30-8100-0675 HRA HEALTH REIMBURSEMENT ACCT | 0.00 | 0.00 | 0.00 | 750.00 | 0 |
| 30-8100-0700 LGERS RETIREMENT | 0.00 | 0.00 | 0.00 | 4,078.00 | 0 |
| 30-8100-0800 401K SUPP RETIREMENT | 0.00 | 0.00 | 0.00 | 1,318.00 | 0 |
| 30-8100-1200 POSTAGE, PRINTING, & STATIONARY | 0.00 | 39.00 | 0.00 | 5,000.00 | 1 |
| 30-8100-1500 GENERAL REPAIRS | 0.00 | 3,573.38 | 0.00 | 10,000.00 | 36 |
| 30-8100-3300 SUPPLIES & EQUIPMENT | 1,605.46 | 13,170.01 | 1,768.19 | 10,000.00 | 149 |
| 30-8100-4800 WATER PURCHASES | 20,104.34 | 80,137.10 | 0.00 | 239,636.00 | 33 |
| 30-8100-4900 SEWER PURCHASES | 0.00 | 68,266.41 | 0.00 | 309,259.00 | 22 |
| 30-8100-5000 AMI TRANSMITTER FEES | 721.79 | 2,165.37 | 0.00 | 7,700.00 | 28 |
| 30-8100-5700 MISCELLANEOUS | 30.99 | 124.09 | 0.00 | 1,500.00 | 8 |
| 30-8100-6000 CAPITAL RESERVE | 0.00 | 0.00 | 0.00 | 5,000.00 | 0 |
| 30-8100-6500 STAFF DEVELOPMENT | 0.00 | 50.00 | 0.00 | 81,917.00 | 0 |
| 8100 Water Dept. Subtotal | \$23,387.58 | \$168,925.36 | \$1,768.19 | \$714,404.00 | 24 |
| Expenditure Subtotal | \$23,387.58 | \$168,925.36 | \$1,768.19 | \$714,404.00 | 24 |
| Before Transfers | Excess Of Revenue Subtotal | \$109,161.00 | \$136,586.21 | -\$1,768.19 | \$0.00 |
| After Transfers | Excess Of Revenue Subtotal | \$109,161.00 | \$136,586.21 | -\$1,768.19 | \$0.00 |

REVENUE & EXPENDITURE STATEMENT FOR 40 CAPITAL PROJECT

Town of Biltmore Forest

10/01/2019 To 10/31/2019

FY 2019-2020

| Account | Current Period (\$) | YTD (\$) | Encumbrance (\$) | Budget (\$) | % Used |
|---|---------------------------------------|---------------------|----------------------|---------------------|-----------|
| 40 Capital Project Fund | | | | | |
| Revenue | | | | | |
| 4000 | | | | | |
| 40-4000-0000 FUND BALANCE | 0.00 | 0.00 | 0.00 | 719,250.00 | 0 |
| 40-4000-1000 INSTALLMENT FINANCING | 0.00 | 0.00 | 0.00 | 242,607.00 | 0 |
| 4000 Subtotal | \$0.00 | \$0.00 | \$0.00 | \$961,857.00 | 0 |
| Revenue Subtotal | \$0.00 | \$0.00 | \$0.00 | \$961,857.00 | 0 |
| Expenditure | | | | | |
| 5600 Public Works | | | | | |
| 40-5600-1000 DESIGN (ARCHITECTURAL SERVICES) | 0.00 | 2,200.00 | 0.00 | 10,267.00 | 21 |
| 40-5600-2000 CONSTRUCTION (CONST MGR AT RISK) | 0.00 | 93,906.33 | 0.00 | 951,590.00 | 10 |
| 40-5600-7400 CAPITAL OUTLAY/EQUIPMENT | 545.70 | 36,657.71 | 0.00 | 0.00 | 0 |
| 5600 Public Works Subtotal | \$545.70 | \$132,764.04 | \$0.00 | \$961,857.00 | 14 |
| Expenditure Subtotal | \$545.70 | \$132,764.04 | \$0.00 | \$961,857.00 | 14 |
| Before Transfers | Deficiency Of Revenue Subtotal | -\$545.70 | -\$132,764.04 | \$0.00 | 0 |
| After Transfers | Deficiency Of Revenue Subtotal | -\$545.70 | -\$132,764.04 | \$0.00 | 0 |

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George F. Goosmann, III, Mayor
Fran G. Cogburn, Mayor-Pro Tem
E. Glenn Kelly, Commissioner
Doris P. Loomis, Commissioner

Jonathan B. Kanipe,
Town Manager

MEMORANDUM

To: Mayor and Board of Commissioners

From: Jonathan Kanipe, Town Manager

Re: Public Hearing – ZTA 2019-01

Date: November 5, 2019

The Board of Commissioners requested a public hearing regarding potential changes to the Town's accessory structure ordinance. The potential amendments to this ordinance are related to fences, gates, and walls. The notice for the zoning text amendment and public hearing were published appropriately in the Asheville *Citizen-Times* and copies of the ordinance were made available to the public on the Town's website and in the Town Hall.

The Board will receive public comment regarding proposed changes. Consideration of the ordinance is not anticipated at the November meeting.

An Ordinance Amending the Town of Biltmore Forest Zoning Ordinance

WHEREAS, Biltmore Forest, originally part of the Vanderbilt Estate, was established almost 100 years ago. Since its establishment, Biltmore Forest has been a forested residential community with substantial open space. Historic continuity and preservation of the forest environment requires substantial open space for trees, plants and wildlife.

WHEREAS, Given the Town's proximity to the Biltmore Estate, the Estate's large deer population, and the prevalence of other species including bear, the Town, through its Board of Adjustment, has received and continues to receive requests to approve fences and gates. The Board Commissioners is committed to preservation and protection of the forested residential community and to accommodating reasonable requests from its residents. Current and prospective residents can participate in this effort by landscaping with plants that will not attract deer, confining dogs and other household pets with invisible fencing, limiting the construction of new fences, gates, and walls, and removing and not replacing existing fences, gates, and walls.

NOW, THEREFORE BE IT ORDAINED, by the Board of Commissioners for the Town of Biltmore Forest that the following amendments to the Zoning Ordinance and subsequent regulations be placed on fence, gate, and wall construction and replacement as of the effective date of this ordinance.

§ 153.029 – Accessory Structures and Buildings

ADD the following under § 153.029 (B):

New Number “3” states as follows:

Fences, gates, and walls shall be regulated in accordance with § 153.049 of this Zoning Ordinance.

§ 153.029 (C) is deleted in its entirety.

§ 153.049 - Fence, Gate, and Wall Regulations

(A) New fences, gates, or walls may be approved by the ~~Town Manager~~ Board of Adjustment as a special use ~~and do not have to be approved by the Board of Adjustment~~, so long as the gate, fence or wall meets the following requirements.

- (1) The fence, gate, or wall is constructed entirely within the rear yard, is not located in any side or rear yard setbacks, and is constructed of materials deemed acceptable in 153.049(D)
- (2) Mature vegetation or other buffering sufficiently obscuring the structure from neighbors ~~must~~ may be required.

New Town Zoning Ordinance
Section 153.049

(B) A driveway gate and supporting columns may be approved by the [Board of Adjustment as a special use](#) ~~Town Manager and does not have to be approved by the Board of Adjustment~~ so long as it meets the following requirements:

- (1) The Driveway Gate and columns must not be located in the front or side yard setback of a property in order to allow sufficient time and space when multiple vehicles are entering a property
- (2) The Driveway Gate shall not be more than eight (8) feet in height.
- (3) The Driveway Gate must provide access for emergency services and first responders. This may be done via a lockbox code, strobe or siren activation switch, or other method with demonstrated reliability.
- (4) The Driveway Gate must open wide enough to provide for ingress and egress of emergency vehicles.

(C) Replacement of existing fences, gates, and walls may be approved by the ~~Town Manager~~ [Board of Adjustment as a special use](#) so long as the replacement fence is constructed of materials deemed acceptable in 153.049 (D) and meets the requirements below. ~~Otherwise, replacement of an existing fence or wall is a conditional use subject to the approval of the Board of Adjustment and the requirements of this zoning ordinance. An~~ [A special use permit](#) application to replace an existing fence, gate, or wall must include a photograph of the existing fence or wall, specify the type of fence, gate, or wall, include a map or sketch depicting the height and length of the fence, gate, or wall and state whether or not the fence, gate, or wall is located within any setbacks.

- (1) Existing chain link fences or gates may not be replaced with new chain link fences or gates.
- (2) Existing fences, gates, or walls in the front yard may not be replaced. No new fences, gates, or walls shall be allowed in the front yard.
- (3) Repair of more than half of an existing fence, gate, or wall shall be considered a replacement and shall be subject to this ordinance.

(D) Acceptable Materials and Standards for Fences and Walls / Maintenance. The following materials and standards for fences and walls shall be deemed acceptable.

- (1) Wooden fencing or gates shall be of natural color or painted in a manner compatible with the residence and the lot.
- (2) Non-wooden fencing or gates shall be black, dark green or brown to blend with surrounding trees or vegetation.
- (3) No new chain link fencing or gates shall be allowed.
- (4) Fences may not exceed six (6) feet in height. Fences designed to prevent deer or other wildlife from entering the property may not exceed eight (8) feet in height.

New Town Zoning Ordinance
Section 153.049

- (5) Walls should be constructed of stone or similar material, and should be compatible with the construction materials of the house located on the same property.
- (6) When a fence, gate, or wall is not properly maintained or fails to comply with a condition imposed by the Board of Adjustment, the Town may require the property owner to repair the fence, gate, or wall, or, remove the fence, gate, or wall at the property owner's expense. If the property owner fails to repair or remove the fence, gate, or wall, the Town may remove the fence, gate, or wall and recover the cost of removal, including the cost of disposal, if any, from the property owner.

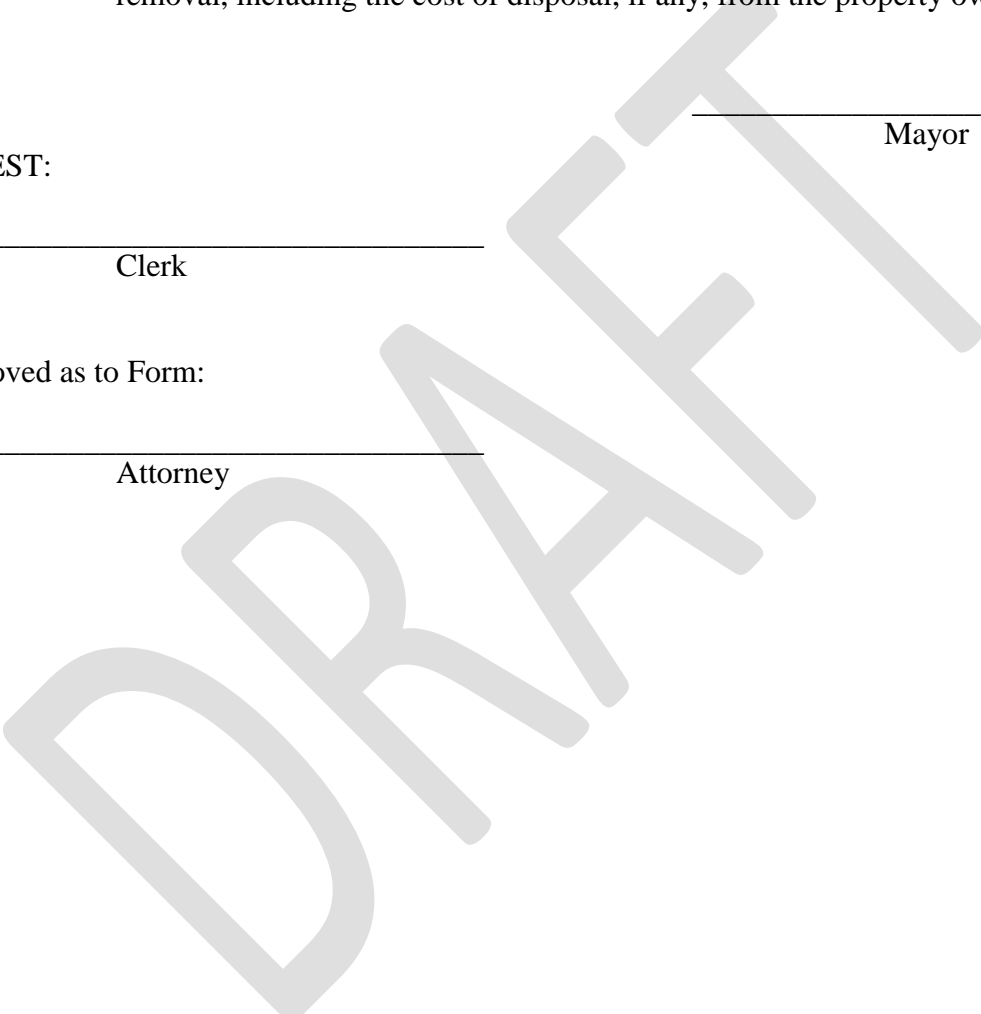
Mayor

ATTEST:

Clerk

Approved as to Form:

Attorney



CITIZEN-TIMES

PART OF THE USA TODAY NETWORK

Classified Ad Receipt (For Info Only - NOT A BILL)

Customer: TOWN OF BILTMORE FOREST
Address: 355 VANDERBILT RD
ASHEVILLE NC 28803
USA

Ad No.: 0003852660
Pymt Method Invoice
Net Amt: \$175.52

Run Times: 2

No. of Affidavits: 1

Run Dates: 10/27/19, 11/03/19

Text of Ad:

TOWN OF BILTMORE FOREST

Public Hearing Notice

The Town Board of Commissioners will hold a Public Hearing on Tuesday, November 12, 2019 at 4:30pm regarding amendments to the Town Zoning Ordinance. The public is invited to view or request a copy of the proposed changes to the Zoning Ordinance at the Biltmore Forest Town Hall, or alternatively can review the full draft amendment on the Town's website at the following link: <http://www.biltmoreforest.org/public-hearings>

The proposed changes are related to Section 153.029 of the Town's Zoning Ordinance, entitled "Accessory Structures and Buildings" concerning fences, driveway gates, and retaining walls.

The public is invited to attend and make comment.

Jonathan B. Kanipe Town Clerk

October 27, 2019
November 3, 2019
0003852660

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George F. Goosmann, III, Mayor
Fran G. Cogburn, Mayor-Pro Tem
E. Glenn Kelly, Commissioner
Doris P. Loomis, Commissioner
Jonathan B. Kanipe,
Town Manager

NOTICE
PUBLIC HEARING
TOWN OF BILTMORE FOREST

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The proposed changes are related to Section 153.029 of the Town's Zoning Ordinance, entitled "Accessory Structures and Buildings" concerning fences, driveway gates, and retaining walls.

The public is invited to attend and make comment.

Jonathan B. Kanipe
Town Clerk

Please run the above classified ad on Sunday, October 27, 2019 and Sunday, November 3, 2019.
I understand that an affidavit will automatically be sent.

Send the invoice to: The Town of Biltmore Forest
P.O. Box 5352
Asheville, NC 28813

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George F. Goosmann, III, Mayor
Fran G. Cogburn, Mayor-Pro Tem
E. Glenn Kelly, Commissioner
Doris P. Loomis, Commissioner

Jonathan B. Kanipe,
Town Manager

MEMORANDUM

To: Mayor and Board of Commissioners

From: Jonathan Kanipe, Town Manager

Re: Stormwater Master Plan Presentation – WithersRavenel Engineers

Date: November 5, 2019

Background

In April 2018, the Board of Commissioners began a master plan process for the Town's stormwater infrastructure. To the best of staff's knowledge, a master plan for this infrastructure has never been completed. This master plan was completed in two separate phases, with Phase 1 presented one year ago in November 2018. The remaining phase was completed in late summer 2019. Since that time, staff and the engineers have reviewed the draft plan multiple times before presenting to the Board formally this month.

Presentation

This final draft is presented to the Board for your review and feedback. With a project of this scope and timeframe (ten years for the Capital Improvement Program) there is certainly going to be things that the Board would like to amend or adjust. Staff and the consultant request your feedback after reviewing the plan and hearing the presentation. Please let me know what questions you may have.



Town of Biltmore Forest

STORMWATER MASTER PLAN REPORT

October, 2019



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- A. Project Costs
- B. Phase 1 Stormwater Master Plan, Summary of Field Reconnaissance Report
- C. Preliminary Stormwater Assessment and Analysis

Executive Summary

The History of the Town Biltmore Forest (Town) has been strongly influenced by stormwater. A significant flooding event in 1916 that impacted the Biltmore Estate is believed to have served as a catalyst that ultimately resulted in the establishment of the Town in 1923. More recently, continued development has put a strain on the aging stormwater infrastructure resulting in known flooding issues at certain locations within the Town. As a result, the Town decided to develop a plan to proactively address risks associated with this flooding. The Town engaged WithersRavenel to develop a Stormwater Master Plan (SMP) with a Stormwater Capital Improvement Plan (CIP) to address these stormwater needs. The goal of the SMP is to identify and prioritize capital improvement projects that will allow the Town to improve and update its stormwater infrastructure.

The SMP is carried out in two phases. Phase 1 included the identification of 10 Project Areas on which to base the CIP. It also included the collection of field data in order to evaluate the Project Areas. Phase 2 of the SMP included the development of preliminary hydrologic and hydraulic modeling of the existing stormwater systems and development and modeling of preliminary design solutions and preliminary costs for each Project Area. Phase 2 also included development of risk-based ranking criteria, the gathering and modeling of financial data, and the subsequent development of the CIP.

The solutions described in the SMP are intended to improve specific, identified stormwater issues throughout the Town. After onsite assessments and stormwater modeling were performed as part of Phase 1, site specific solutions and preliminary implementation costs were developed for 10 Project Areas to address the identified issues as part of Phase 2. A risk-based analysis was also developed from the assessments described above to assist in ranking the priority of each projects based on need. Additionally, based on the project costs and other fiscal information provided by the Town, a financial model was developed to assess funding of these 10 projects over time. All of these analyses served as the basis for establishing a Stormwater Capital Improvement Plan for the Town.

The CIP is intended to serve as the map to implement each of the stormwater solutions in a proactive manner that is sustainable in terms of its fund for the life of the plan. It also seeks to perform the projects in an order that reduces the potential for the issues to greatly increase or become critical before the planned implementation timeframe. Although there are no guarantees that the situations will not change, making certain projects or yet-to-be-identified issues more critical and requiring a reordering of the projects, the proactive planning described herein will make the Town better prepared to address its future stormwater needs by having anticipated funds in place to better address both the planned and unplanned issues going forward.

Stormwater Master Plan

Background

The Town of Biltmore Forest (Town) engaged WithersRavenel to develop a Stormwater Master Plan (SMP) with a Stormwater Capital Improvement Plan (CIP) to address specific stormwater needs within the Town. The goal of the SMP is to identify and prioritize capital improvement projects that will allow the Town to improve and update its stormwater infrastructure with consideration for combining stormwater management systems and recreation areas while also recognizing the Town's historic approach to managing stormwater.

The SMP was carried out in two phases. Phase 1 included the identification of Project Areas on which to base the CIP. It also included the collection of field data in order to evaluate the Project Areas. Phase 2 of the SMP included preliminary hydrologic and hydraulic modeling of the existing systems and development and modeling of preliminary design solutions with an opinion of cost for each Project Area. Phase 2 also included development of risk-based ranking criteria, gathering and modeling of financial data, and subsequent development of the CIP.

WithersRavenel submitted a *Summary of Field Reconnaissance Report* to the Town to summarize findings of Phase 1 of the Stormwater Master Plan in October 2018 (See **Appendix B**). The findings included a qualitative review of stormwater network elements for 10 Project Areas. Physical data that included dimensions and elevations of stormwater infrastructure was also gathered and provided in the report. This data was used to establish existing conditions and was then modeled as part of the *Preliminary Stormwater Assessment and Analysis* (See **Appendix C**), which was developed as part of Phase 2 of the SMP.

Performance of the existing stormwater networks in the 10 Project Areas was limited to determining if stormwater pipes and catch basins were surcharging based on North Carolina Department of Transportation (NCDOT) standard design storms as described herein.

The *Preliminary Stormwater Assessment and Analysis* provides site-specific problem statements, results of the stormwater analyses, and conceptual solutions intended to improve or resolve the existing stormwater problems within the Project Areas related to flooding. The conceptual solutions served as the basis for the development of CIP to improve the Town's stormwater infrastructure. The criteria that was assessed in the analysis of these conceptual solutions includes project implementation costs, conceptual system performance based on the modeling, and other potential benefits to the Town such as aesthetics. Further assessment of the concepts will be performed in the future during the design and implementation for each project area.

Phase 2 also includes the development of the CIP. The CIP identifies the priority of each of the projects and estimates the financial budgets needed to implement each. The CIP is based on the 10 Project Areas that were established in the Phase 1 Report and the Preliminary Report (**Appendix B** and **C**, respectively). The order and priority of the projects was determined by the Likelihood of Failure/Consequence of Failure (LoF/CoF) scoring as well as the financial model developed for the CIP. The LoF/CoF was determined solely on the physical situation and identified condition of the infrastructure at each project location. The financial model was developed using preliminary project cost opinions as well as the Town's financial data. The financial model made use of the Town's financial data and the opinion of project cost data to create a plan to fund the CIP. The results of the LoF/CoF scoring and the financial analysis were used to prioritize the order of implantation of each project.

Stormwater Program Description

History

Much of the stormwater infrastructure in Biltmore Forest has been installed over time beginning in the late 1800s, before the Town was incorporated. As such, much of the infrastructure and materials are aging and in need of updates to perform to current standards. In 1916, there was a flooding event in Buncombe County that impacted the Biltmore Estate. It is believed that this event was one of the triggers that ultimately resulted in the establishment of the Town in 1923. Although the Town pays special attention to maintaining its unique character, continued development has put an additional strain on the aging stormwater infrastructure. Therefore, as the Town approaches the 100th anniversary of its 1923 charter, it is seeking to improve the quality of life for its citizens by addressing risks associated with flooding.

Current State and Federal Regulatory Requirements

Most of the Town's stormwater regulations are based on State and Federal requirements that are administered by Buncombe County. For the most part these requirements are established by the NPDES Phase II Stormwater Program. This program requires North Carolina to set certain standards for stormwater quality and control and to establish NPDES permitting requirements for entities that own or control stormwater infrastructure. The Town of Biltmore Forest is subject to such a permit that is administered by Buncombe County. For all construction projects within the Town limits that disturb an acre or more of land, the land owner is required to obtain a Sediment and Erosion Control Permit from Buncombe County. Additionally, the landowner is also required to obtain approval from the County to manage stormwater quality after construction through the implementation of certain stormwater control measures on an ongoing basis. Buncombe County does not require such measures for single family residences. However, other types of development would trigger these requirements. It should be noted that developments with greater than 24% built-upon area require more intensive post construction stormwater measures (including controlling the peak runoff from the 1-year 24-hour storm event to that of the pre-developed peak rate) than those with less. The Town regulates construction and post construction stormwater as described above based on Chapter 52 – Stormwater Management of the Town's ordinances.

Another State and Federal requirement is the regulation of floodplains along streams with typically greater than a 1 square mile drainage area. Such areas are regulated by the Federal Emergency Management Agency (FEMA) through the State's Floodplain Mapping Program. Only one such stream is regulated within Biltmore Forest: Fourmile Branch. Chapter 151 – Flood Damage Prevention (enacted 1/1/2010) describes how the Town regulates impacts to and within special flood hazard areas as designated by the NC Flood Mapping Program. The ordinance requires the issuance of a Flood Plain Development Permit from the Town for such impacts. The ordinance designates the Town Manager or their designee as the Town's Floodplain Manager.

None of the above Federal or State regulatory requirements forecast any immediate concerns requiring the Town to change its ordinances significantly. However, the Town does not have any ordinances that regulate peak stormwater runoff rates or the control the volume of stormwater runoff other than for the 1 year 24-hour discharge which is intended mostly for water quality and stream erosion purposes. Many municipalities regulate discharges for the 2-year to 25- year discharge events to avoid overwhelming stormwater infrastructure and to reduce the changes of flooding within smaller drainage areas than those regulated by FEMA. The Town could consider developing such ordinances in the future.

Going Forward

The Town desires to address its stormwater needs in a more proactive manner going forward. One important step is the development of this SMP and CIP that is focused on addressing the 10 Project Areas

identified herein with a primary goal of improving or resolving specific flooding issues. However, the SMP can also serve as a stepping stone to identify additional stormwater related needs with a goal of getting ahead of ongoing needs for stormwater related improvements. Below are some potential stormwater improvements for the Town to consider.

Based on the age and condition of its stormwater infrastructure, the Town not only needs to address currently identified stormwater issues, but also to identify anticipated future needs.

- Systematic addition of valley curb gutters to replace high-maintenance asphalt gutters. Valley curb gutters are v-shaped concrete gutters that make use of smoother, less obtrusive transitions as compared with typical residential curb and gutter. The fact that they are less obtrusive may make them more in keeping with the Town's character.
- Establish Stormwater Fees (Utility)
- Develop ordinances to control peak runoff rates and/or volume

Stormwater Master Plan Purpose and Goals

The Stormwater Master Plan provides a foundation for the preparation of the Town of Biltmore Forest's Stormwater Capital Improvement Plan by identifying ten stormwater improvement projects primarily to address known flooding issues throughout the Town. The purpose of the CIP is to rank the priority of each Project Area based on the need, condition, and cost. The CIP also identifies budget and funding mechanisms spread over a period of years that can realistically be achieved.

The solutions offered by the SMP and CIP would proactively bring existing infrastructure more in line with current industry standards. Also, green infrastructure options were identified for some Project Areas to provide for aesthetics and to maintain the Town's character. Ultimately the goal of the proposed stormwater improvements is to address known flooding issues while preserving the character of the Town. The SMP also identifies future considerations for other improvements related to stormwater.

SMP Approach

Project Area Identification

In order to identify the Project Areas, WithersRavenel, based on input from the Town, combined anecdotal reports of flooding and maintenance with an analysis of existing GIS information. Seven Project Areas were brought forward by the Town, and three additional areas were identified by expanding the topographic analysis and watershed delineation to include areas that appeared to be underserved by the existing infrastructure. The Project Areas are as follows:

Table 1 - Location of Project Areas

| Project Area | Location |
|--------------|---|
| 1 | Vanderbilt and Lone Pine Roads |
| 2 | Park Road Cross Drainage |
| 3 | Brooklawn Chase and Hemlock Roads |
| 4 | Cedar Chine Drive to Hemlock Road Stream Crossings |
| 5 | Vanderbilt Road (Cedarcliff Road to Busbee Road) Storm Drainage |
| 6 | Southwood Road Golf Course Pond Spillway |
| 7 | Greenwood Road Storm Drainage |
| 8 | Cedarcliff Road Storm Drainage (Vanderbilt Road to Forest Road) |
| 9 | Vanderbilt and Park Roads Storm Drainage |
| 10 | Browntown and Amherst Roads Storm Drainage |

Data Gathering

The field reconnaissance was tasked with collecting information within Project Area boundaries. Existing GIS data provided by the Town helped give direction to structures and pipes that required additional inspection. A total of 108 structures and pipes were surveyed for detailed information. The team was able to obtain measurements and note the general condition of all structures and pipes observed in the field. The condition of each structure was categorized as either Excellent, Good, Fair, Poor, or Needs Repair.

The observed conditions were observed as follows:

- Excellent** New infrastructure in perfect condition
- Good** Infrastructure with no discernable flaws, in optimal working condition without much sediment or debris
- Fair** Infrastructure is in working order but shows signs of age. There is a significant amount of wear and tear and/or debris and sediment is substantial
- Poor** Infrastructure needs maintenance (signs of an active problem such as cracking, sedimentation, etc.). These structures are visibly broken or in imminent danger of failure
- Needs Repair** The infrastructure has failed and requires immediate maintenance action

The table below tabulates the condition assessments of the structures:

Table 2 - Condition Assessment

| Condition | Number of Structures |
|--------------|----------------------|
| Excellent | 2 |
| Good | 30 |
| Fair | 42 |
| Poor | 25 |
| Needs Repair | 9 |

Additional comments are included in the ArcGIS data when the condition is considered to be Poor or Needs Repair.

Hydrologic & Hydraulic Modeling

The reconnaissance data was also used to establish existing model conditions as part of the *Preliminary Stormwater Assessment and Analysis (Appendix C)*. Existing performance of the stormwater networks in the 10 Project Areas was limited to determining if stormwater pipes were undersized and causing backwater, which in turn caused the inlets to flood and spill over onto adjacent streets and properties. This was quantified based on North Carolina Department of Transportation (NCDOT) standard design storms as described herein.

NCDOT standards for subdivision road drainage were selected as the modeled level of service (also see below) to determine the performance of existing Town storm drainage networks. The NCDOT standards require storm drain pipes parallel to roadways be sized to contain the flow from the 10-year return interval design storm. Culverts and cross pipes that cross perpendicular to roads are to be sized to accept and carry flows from the 25-year storm. The majority of storm drain features being studied likely predate the use of these NCDOT standards; therefore, existing networks of structures and pipes were considered undersized if models predict the design storms would result in inadequate performance of the system.

For successful understanding and implementation of the Stormwater Master Plan, it is important to understand the level of service for the Project Area recommendations. Storm drainage networks that utilize inlets and pipes are often sized for precipitation events over a certain duration with average recurrence intervals, commonly referred to as a “design storm.” This can be analyzed in terms of intensity (inches/hour), or depth (inches).

It was observed that many of the inlets, outlets, and interior of pipes within the 10 Project Areas were completely or partially blocked by the buildup of sediment and debris. The storm drain modeling analyses assumed that this sedimentation and clogging debris would be removed to restore full flow to all 10 Project Areas.

Recently implemented storm drainage systems often utilize curb and gutter to help direct flow to catch basins. Asphalt curbs are used intermittently throughout the Town; however, the typical storm network observed was a series of drop inlets within the right-of-way connected by vitrified clay pipe (VCP). Where concrete slab top drop inlets were not used, large stones were placed on top of the inlets as covers. Over time these stone covers have become partially buried, and now have limited orifice area to accept incoming flow. Two scenarios were analyzed for storm drain networks: inlets were modeled as they exist to determine capture efficiency, and then modeled assuming 100% capture to determine if risers and pipes were adequately sized. The scenario results helped determine if pipes need be replaced to meet industry standard levels of service, and to replace infrastructure near the end of their service life.

The SCS Method was used to determine hydrologic outputs. Drainage areas to existing inlets were delineated based on surfaces generated by 2' and 10' LiDAR contours. Curve Number (CN) values vary based on land use within the drainage area. NCDOT suggests a minimum time of concentration (T_c) of 10-minutes, so this T_c was used for catch basin drainage areas. Drainage areas to culverts providing stream conveyance utilized the TR-55 Method of calculating T_c, with a maximum sheet flow of 100 linear feet (LF). Note that the recommended solutions are preliminary and the performance and adequacy of each is based on the information available at the time of this report. The performance of any recommended solution selected must be evaluated during the design phase.

In some cases, the design storms did not adequately represent an appropriate level of service. As such, other conditions were assessed in addition to the design storm. For example, an alternative level of service may be established as a particular depth of rainfall that correlates to a stormwater facility's runoff storage capacity (such as for a detention or retention pond). *The Preliminary Stormwater Assessment and Analysis* provided site-specific problem statements, results of the stormwater analyses, and recommended conceptual solutions (that require further evaluation) to improve existing problems.

Ultimately, the intent of the conceptual solutions is to serve as the basis for the development of CIP to improve the Town's stormwater infrastructure. The information to be considered with these conceptual solutions includes relative implementation and maintenance costs, system performance, and secondary benefits to the Town such as aesthetics. Further assessment of the concepts will be performed at the design and implementation phases of the CIP.

Project Ranking

The Projects in the CIP were ranked based on two main parameters: the risk of infrastructure failure and the financial analysis results. The approach used to develop each of these metrics is described below.

Risk Analysis

The *Preliminary Stormwater Assessment and Analysis* outlined the Ten Project Areas' existing conditions and recommendations for proposed design approaches to meet various levels of service. The next phase to produce the Town of Biltmore Forest's Capital Improvement Plan is to rank these projects based on “Likelihood of Failure” (LoF) and “Consequence of Failure” (CoF).

LoF was based on pipe material, observed condition, and inlet cover type. For the purposes of this analysis, a condition was attributed to the pipe based on the worse condition of the connected structure. For instance, if the upstream inlet of the pipe was considered to be in “Fair” condition and the downstream inlet was considered to be in “Good” condition, the pipe was assigned a “Fair” condition. Many of the pipes observed in the field are vitrified clay pipe (VCP). While modern VCP has a service life greater than 100 years, the existing VCP was likely installed when portions of the Town were being platted and is nearing 100 years of service. This clay pipe was also not manufactured to tolerate modern strain specifications. Where stone covered inlets were used, the LoF is high due to the ability of debris to block limited flow area and the increased difficulty of maintenance.

Consequence of Failure was based on size of pipe, contributing drainage area, and location of pipe (under road or not). The size of the pipe received a greater CoF if it was larger, and the overall score for this quality was averaged over the number of pipes in the system. This was meant to account for redundancy in the system; should one pipe fail there are pipes downstream to continue carrying flow. Larger drainage areas carried a higher CoF score. If a system crossed a road, the pipe size was also taken into consideration. Roads that crossed impoundments and pipes larger than 36” carried the highest CoF scores.

Table 3 – Likelihood of Failure (LoF) Score Based on Material of Pipe

| Material | LoF Score |
|----------|-----------|
| PVC | 0.25 |
| CMP | 0.75 |
| CPP | 0.5 |
| RCP | 0.25 |
| VCP | 1 |
| Unknown | 1 |

Table 4 – Likelihood of Failure (LoF) Score Based on Condition of Pipe

| Condition | LoF Score |
|--------------|-----------|
| Good | 0.5 |
| Fair | 1 |
| Poor | 2 |
| Needs Repair | 2.5 |
| Unknown | 2.5 |

Table 5 – Likelihood of Failure (LoF) Score Based on Inlet Cover

| Cover Material | LoF Score |
|----------------|-----------|
| Stone | 1.5 |
| Grate | 1 |

Table 6 – Consequence of Failure (CoF) Score Based on Diameter of Pipe

| Diameter (in.) | CoF Score |
|----------------|-----------|
| 50+ | 1.25 |
| 40 – 50 | 1 |
| 30 – 40 | 0.75 |
| 20 – 30 | 0.5 |
| 15 – 18 | 0.25 |
| 6 – 12 | 0.1 |
| Unknown | 1.25 |

Table 7 – Consequence of Failure (CoF) Score Based on Total Contributing Drainage Areas

| Drainage Area (ac) | CoF Score |
|--------------------|-----------|
| 50+ | 1.25 |
| 40 - 50 | 1 |
| 30 - 40 | 0.75 |
| 20 - 30 | 0.5 |
| 10 - 20 | 0.25 |
| 0 - 10 | 0.1 |

Table 8 – Consequence of Failure (CoF) Score Based on Location of Pipe

| Crosses Road | CoF Score |
|----------------|-----------|
| Impoundment | 2.5 |
| +36" Pipe | 1 |
| 24" - 30" Pipe | 0.75 |
| 15" - 18" Pipe | 0.5 |
| 6" - 12" Pipe | 0.25 |

Each project was scored based on the number of structures (inlets, pipes, etc.) within the project area. The sum for each LoF and CoF category was divided by the number of objects included in the scoring. This is intended to represent a lower score for drainage networks with more redundancy than single cross pipes. The position of each project based on its LoF and CoF is relative to its observed field conditions during non-flood events. The Town may rearrange the priority of the projects based on observed flood events, estimated cost, and phasing with other projects.

Financial Analysis

Narrative of how developed and data used and assumptions made.

INTRODUCTION

The financial study represents a joint effort between the Town of Biltmore Forest and WithersRavenel to delineate the impact of stormwater needs upon the Town's general fund financial status. In conducting this study, WithersRavenel examined the Town's financial reports, stormwater capital needs, ad valorem rates and projected the financial impact these items have on the Town and its users utilizing a financial analysis developed for the Town. WithersRavenel identified the following study objectives:

- Document key financial objectives and assumptions, which the Town would decide upon, that would serve to guide the development of the financial analysis model.
- Project new stormwater operating expenditures consistent with key financial assumptions.
- Create a Financial Analysis model that would reflect the incorporation of the stormwater related capital improvements and operating expenditures.
- Consider exceptional or non-reoccurring events planned or anticipated which would influence financial trends or conclusions during the ten-year forecasting period.
- Incorporate capital outlay and debt assumptions, established by the Town, in the proposed capital improvement plan.
- Determine the extent to which revenues are projected to exceed expenditures for each year of the project period.
- Establish annual estimates of new revenue requirements necessary to sustain impacts to the general fund over the next ten years.

Certain assumptions have been made with respect to conditions that may occur in the future. While these assumptions are reasonable for the purposes of this study, they are dependent upon future events and actual conditions may differ from those assumed. In addition, information that has been provided by others has been used and relied upon. This information includes, among other things, audited financial statements, annual operating budgets, and tax levy schedules. While this information is deemed reliable, the information has not been independently verified and no assurances are offered with respect thereto. To the extent that actual future conditions differ from those assumed herein or provided by others, the actual results may differ from those anticipated.

FINANCIAL ANALYSIS

In conducting the financial analysis, the Town's audited financial statements from FY 2016 – FY 2018 were compiled with the FY 2019 Year-To-Date report and the FY 2020 budget. Non-recurring general fund capital outlays were separated from routine operating expenditures to ensure the costs used for projections were consistent with prior years. Since an analysis of the general fund is outside the scope of this effort, assumptions were made regarding line item revenues and expenditures. Historical trends for each of the line items were analyzed to anticipate how each revenue and expenditures would change over the next ten years. After calculating growth trends and discussion with Town staff, we projected that property assessed values would grow at an average annual rate of 1%. In addition, we assumed that Permits and Fees revenue would increase at an average annual rate of 1%. However, Sales Tax revenue is projected to increase at a 0.5% annual rate. Furthermore, other Unrestricted Intergovernmental, Restricted Intergovernmental, and Sale of Assets are assumed to not increase. The analysis prudently assumes that there will be no annexations during the next ten years and no significant increases in property values during the scheduled revaluations in FY 2022, FY 2026, and FY 2030.

Regarding expenditures, each department is assumed to increase by the average annual inflation rate of 3%. The Town budgeted \$100,000 for unspecified stormwater improvements in FY 2020. Capital outlay unrelated to stormwater is assumed to annually average \$150,000. Lastly, stormwater capital costs are assumed to be incurred as described in the Financial Analysis Results, below.

Results

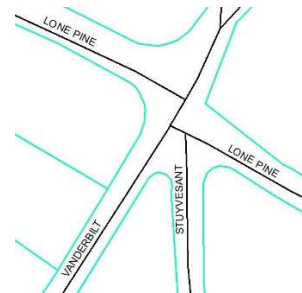
Summary of Issues and Solutions for Each Project Area

The following is a summary of the issues and solutions proposed for the 10 Project Areas included in the CIP. Please refer to the *Preliminary Stormwater Assessment and Analysis (Appendix C)* for a more detailed description of the issues and solutions for each Project Area.

Project Area 1

PROBLEM DESCRIPTION

The streets at the intersection of Vanderbilt and Lone Pine Road have been observed to flood frequently. The pipes under Lone Pine Road and Stuyvesant Road are undersized, and the associated inlets are categorized as "Poor" or "In Need of Repair." The majority of local network inlets are in "Poor" condition.



RECOMMENDED SOLUTION

Estimated Project Cost: \$484,500

- Replace storm drainage networks on the east and south side of the intersection with larger capacity inlets and larger storm drainage lines.
- Increase the size of the existing cross pipes, under Lone Pine and Stuyvesant Road.
- Replace existing boulder inlet covers with better performing, aesthetically designed inlet covers.

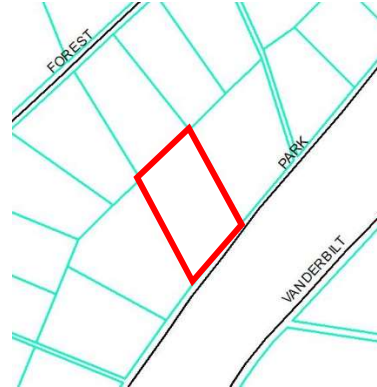
ADDITIONAL MULTI-PURPOSE SOLUTION

- Install permeable pavement at the intersection to improve minor flooding. Assess incorporating a round-about design with a rain garden centerpiece.

Project Area 2

PROBLEM DESCRIPTION

The culvert located at 13 Park Road is not adequately sized and is in “Poor” condition. A portion of the drainage area to this culvert is restricted by a weir-controlled culvert further upstream on Forest Road.



RECOMMENDED SOLUTION

Estimated Project Cost: \$114,300

- Stabilize eroded areas at the culvert inlet. Replace the culvert with a larger diameter reinforced concrete pipe RCP, with headwall and endwall treatments.
- Coordinate with affected residents to assist with long term success of the project.

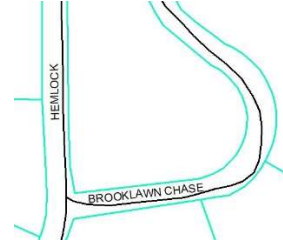
ADDITIONAL MULTI-PURPOSE SOLUTION

- Master planning and expansions to Rosebank Park could include improving the aesthetics of the culvert appearance for any proposed trail or greenway.

Project Area 3

PROBLEM DESCRIPTION

The pond north of the Brooklawn Chase and Hemlock Road intersection pond continues to fill with sediment that has been dredged twice since 2001.



RECOMMENDED SOLUTION

- Continue to remove sediment every 3 to 5 years (estimated) using “geotubes” to collect and dewater the sediment prior to disposal. The cost in 2018 was approximately \$75,000. This solution is considered a recurring maintenance cost and is not included in the CIP.

ADDITIONAL SOLUTION:

- Install a forebay to capture and hold heavier sediment as it enters the pond allowing it to settle in a confined area for easier access to the sediment.

ALTERNATIVE MULTI-PURPOSE SOLUTION:

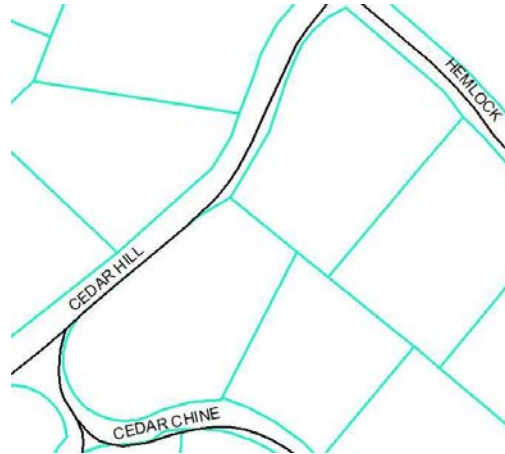
- Stream erosion is a common source of excessive sediment. Assess the stream condition upstream of the pond and consider restoring the stream if excessive erosion is identified. This would potentially remove the sediment source preventing sediment from reaching the pond and would improve water quality. Such an approach could be eligible for State-funded grants if the upstream landowners are willing to provide easements.

If the Additional or Alternative Multi-Purpose Solution is selected, further study may be performed to determine the preferred method.

Project Area 4

PROBLEM DESCRIPTION

The culvert on Lot 14 of Cedar Chine Drive, between the right-of-way and setback, is undersized and in “Poor” condition. The drainage area above the culvert is 68 acres. This culvert system has developed a sink hole which could indicate a pipe failure. Additionally, the stream below the culvert is eroding, potentially threatening Cedar Hill Drive.



RECOMMENDED SOLUTION

Estimated Project Cost: \$510,350

- Replace the Lot 14 culvert with an RCP with headwall and endwall designed to carry the 25-year design storm discharge without overtopping the embankment.
- Replace culvert under Cedar Hill Drive at same time.
- Stabilize the actively eroding stream below the Lot 14 culvert to Hemlock Drive.

ADDITIONAL MULTI-PURPOSE SOLUTION

- Remove the Lot 14 culvert to “daylight” the stream. This would require the Town to acquire access to Lot 14. This approach could be used for passive park space.

Project Area 5

PROBLEM DESCRIPTION

The two storm drainage pipes along Vanderbilt Road (south of 322 Vanderbilt Road and south of 330 Vanderbilt Road) are undersized and in “Poor” condition, as well as partially filled with sediment.



RECOMMENDED SOLUTION

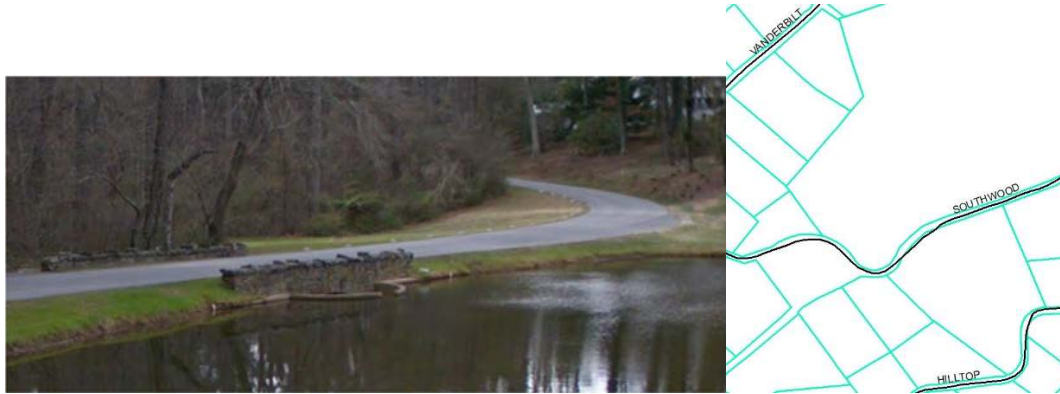
Estimated Project Cost: \$690,220

- Replace the existing storm drainage network elements with aesthetically pleasing and better performing inlets and stormwater pipe.
- Replace the existing culverts with RCP using headwall and endwall treatments.
- Stabilize downstream areas to protect them from erosion.

Project Area 6

PROBLEM DESCRIPTION

The pond located along Southwood Road has been observed to stage above the road crest elevation, so that Southwood Road was overtopped.



RECOMMENDED SOLUTION

Estimated Project Cost: \$382,200

- Raise the road centerline elevation at least 6-inches or more along the lowest sag point.

Project Area 7

PROBLEM DESCRIPTION

Nearby homeowners have reported recurring nuisance flooding related to the Greenwood Road storm network which consists of eleven stormwater inlets and associated pipes. The pipes are undersized. Additionally, it is believed that stormwater runoff is bypassing the inlets due to their “Poor” condition causing increased overland flow.



RECOMMENDED SOLUTION

Estimated Project Cost: \$1,275,660

- Replace existing storm drain with adequately sized inlets and pipes. Better performing aesthetic inlet covers can be incorporated as well.

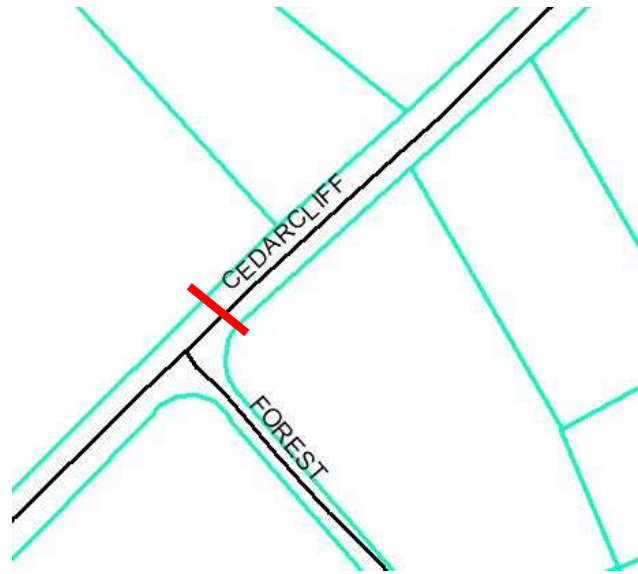
MULTI-PURPOSE SOLUTION:

- Install infiltration trenches in the right of way to collect and infiltrate runoff and potentially replace existing storm drainage.
- Such improvements to Greenwood Road storm drainage system could include plantings and signage to act as an approach path to Greenwood Park.

Project Area 8

PROBLEM DESCRIPTION

A previous study by others found that the stormwater infrastructure along Cedarcliff Road, between Forest Road and Vanderbilt Road, that could be located and measured was undersized. WithersRavenel assessed the area based on the apparent age of the infrastructure at the Ram Branch crossing, to the north side of Forest Road at its intersection with Cedarcliff Road, and observed that a CMP was projecting through the interior of the arched bridge over Ram Branch and that the bridge material was degrading at the pipe invert.



Arched bridge in red. The CMP projects from the NE side, parallel with the Cedarcliff Road center line.

RECOMMENDED SOLUTION

Estimated Project Cost: \$390,720

- Perform maintenance on existing inlets.
- Install new inlets at select locations.
- Install new storm drainage pipe under the pavement of Cedarcliff Road, parallel to the existing system.
- Connect existing inlets to the new storm pipe.
- Replace the existing 12" VCP outlet pipe and connect to the new main storm pipe.

ALTERNATIVE SOLUTION

- Confirm existing pipe alignments.
- Locate covered junction boxes.
- Replace inlets and pipes determined to be in "Poor" condition.
- Perform video (CCTV) inspection of the CMP that penetrates through bridge arch to determine condition of pipe.
- Based on CCTV, recommend rehabilitation or replacement of the CMP.

Project Area 9

PROBLEM DESCRIPTION

Any drainage improvements performed at Project Area 1 would likely impact the downstream stormwater infrastructure at Project Area 9 requiring a higher capacity system at Project Area 9 as well as additional erosion protection. Additionally, the storm drainage system at Project Area 9 is mostly in “Fair” condition. The cross pipe that discharges to Raoul Branch near the park is currently undersized and in need of repair or replacement. The remaining cross pipes near the park are also in need of repair.



RECOMMENDED SOLUTION

Estimated Project Cost: \$778,030

- Rehabilitate or install new inlets to improve capture efficiency along Vanderbilt Road.
- Replace existing pipe with a larger capacity storm pipe as needed.
- Replace the cross pipes near the park.

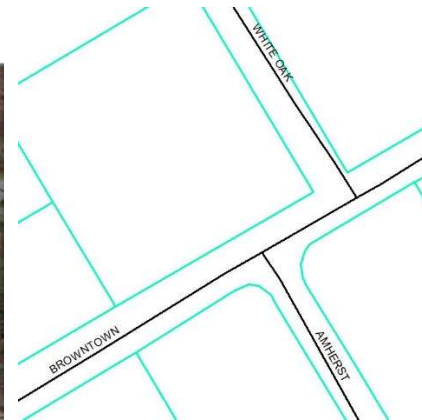
ADDITIONAL SOLUTION:

- Locate utilities in the right-of-way, and utilize available space for infiltration trenches to reduce runoff.

Project Area 10

PROBLEM DESCRIPTION

Available topographic mapping indicates that the Browntown Road and Amherst Road intersection exists in a natural draw. It is important for drainage infrastructure in this area to operate efficiently to avoid greater backwater effects than desired. There is a cross pipe and culvert at this intersection; one “Fair” condition cross pipe under Amherst Road that consists of two materials, and one “Poor” condition culvert that discharges onto private property on the south side of Browntown Road. The “Poor” cross pipe receives flow from the “Fair” cross pipe. Both the cross pipe and culvert are currently undersized.



RECOMMENDED SOLUTION

Estimated Project Cost: \$215,310

- Replace both cross pipes with larger capacity pipes or parallel pipe systems.

ADDITIONAL SOLUTION

- If native soil infiltration, rock, and groundwater elevations are optimal, the use of corrugated drain pipe and infiltration trenches may be used to decrease cross pipe flow events resulting from smaller storms.

ALTERNATIVE SOLUTION

- Replace the Browntown Road cross pipe, and
- Determine if adjacent private property is usable for shallow ponding rain gardens.

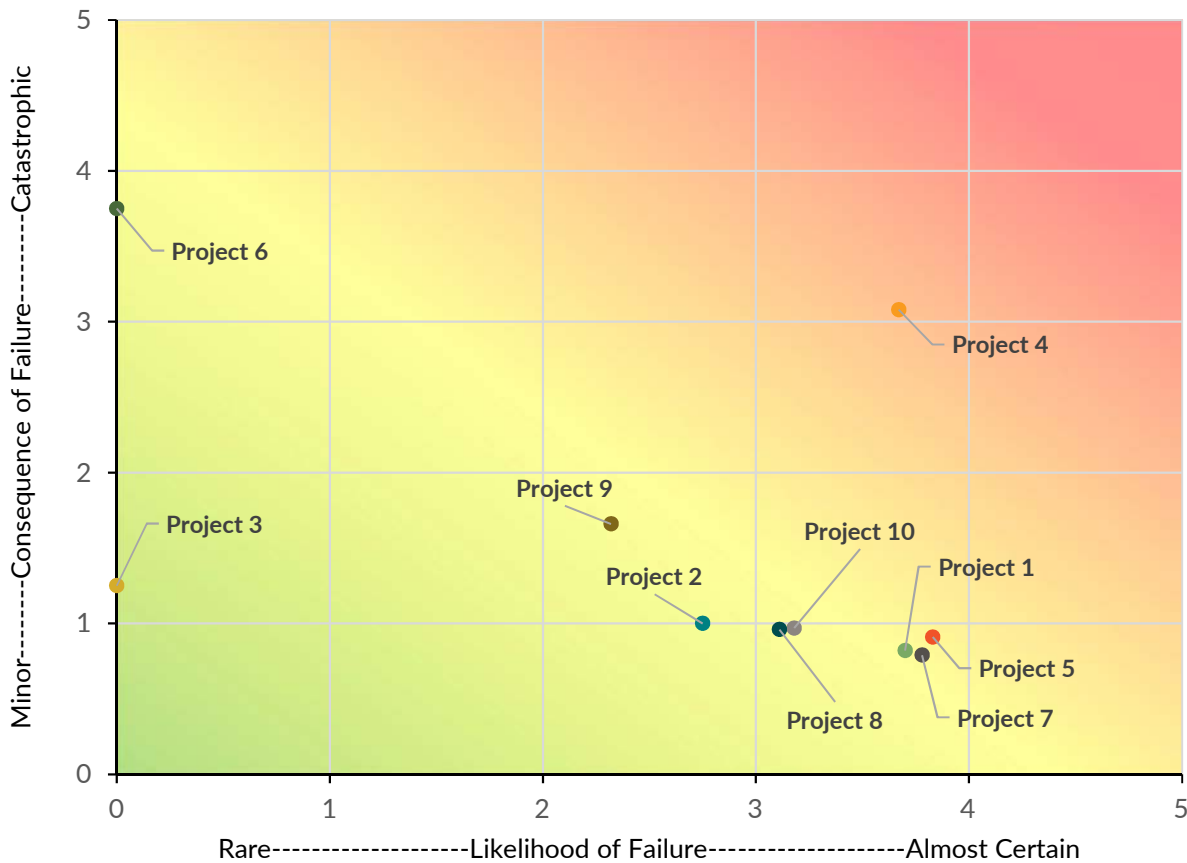
Table 9 - Project Descriptions

| Project | Project Location | Existing Problem | Design Considerations |
|---------|--|--|--|
| 1 | Vanderbilt and Lone Pine Road | Intersection floods frequently | Intersection is a topographic "saddle" receiving water from various directions |
| 2 | 13 Park Road | Flooding and poor culvert conditions | Culvert inlet on private property, upstream flow restricted |
| 3 | Brooklawn Chase and Hemlock Road | Pond is observed to be filling with sediment | Access impacts, and cost of disposal |
| 4 | Cedar Hill Drive Stream | Multiple culverts in poor conditions, sink hole over culvert on Lot 14, stream erosion along Cedar Hills | Impacts of stream stabilization on private property |
| 5 | Vanderbilt Road (Cedarcliff to Busbee) | Frequent road flooding and erosion problems | Existing discharges into private property via cross pipes |
| 6 | Golf Course Pond at Southwood Road | Road overtopping, acting as spillway | Changes to Pond will involve Golf Course managers |
| 7 | Greenwood Road | Existing storm drain network in poor condition | Approaches Greenwood Park stream rehabilitation project |
| 8 | Cedarcliff Road (Vanderbilt to Forest) | Projecting CMP in bridge in fair condition | Accessibility |
| 9 | Vanderbilt & Park Road Intersection | Downstream of Project 1 where improvements are expected to change hydrology for this area | Immediately downstream of outlets is a stream and park |
| 10 | Browntown & Amherst Road Intersection | Poor outlet and cross pipe conditions | Minimal existing data, limited study area |

LoF/CoF Summary and Matrix

The existing conditions of the infrastructure in each of the 10 Project Areas was used to score the LoF and CoF. The trend seen in the figure below agrees with input from the Town on projects urgency. Project Area 4 is displayed as having the highest LoF and CoF, and has known issues outside of the scoring methods detailed in this report. Project Areas 1, 5, and 7 have very similar scores should be cross referenced with cost estimates to determine the best course of action.

Figure 1 - Project Likelihood of Failure vs. Consequence of Failure



The sum of each Project's LoF and CoF was used to determine priority of action. The table below displays the LoF and CoF scores of each Project, and their total score.

Table 10 - Priority Ranking of 10 Project Areas Based on LoF and CoF Sum

| | LoF | CoF | Total Score |
|------------|------|------|-------------|
| Project 4 | 3.67 | 3.08 | 6.75 |
| Project 5 | 3.83 | 0.91 | 4.74 |
| Project 7 | 3.78 | 0.79 | 4.57 |
| Project 1 | 3.70 | 0.82 | 4.52 |
| Project 10 | 3.18 | 0.97 | 4.15 |
| Project 8 | 3.11 | 0.96 | 4.07 |
| Project 9 | 2.32 | 1.66 | 3.98 |
| Project 2 | 2.75 | 1.00 | 3.75 |
| Project 6 | 0.00 | 3.75 | 3.75 |
| Project 3 | 0.00 | 1.25 | 1.25 |

Financial Analysis Results

Capital Improvements Plan

The CIP is formatted to show each capital need in a separate row showing the priority and name in the left-most columns. The following columns to the right show the total estimated cost of the project in today's dollars and the year or years in which it is planned. Project costs are inflated by 3% per year to adjust for start dates beyond FY 2020. The bottom row of the CIP indicates new operating costs to service Project Area 3. All projects are proposed to be funded with cash on hand or debt. No grant funds are assumed to be awarded for any specific project. The bottom of the table summarizes the amounts proposed to be spent during each fiscal year.

This leads to the matter of funding \$5.37 million of projects over the next ten years. The largest projects include the following:

Table 11 - Largest Projects by Cost

| Location | Cost |
|----------|--------------|
| Area 7 | \$ 1,470,000 |
| Area 9 | \$ 901,950 |
| Area 5 | \$ 710,927 |

In addition to the proposed new debt, the Town is obligated to pay loans for prior projects.

Debt Service Requirements

The general fund had four outstanding debt obligations in FY 2019. The Town issued debt for a garbage truck, police department renovations, public works improvements, and street improvements. Annual payments total over \$195,000 in FY 2020, however one of the loans will mature in FY 2021, two will mature in FY 2024, and the fourth loan will mature in FY 2029. Also, the stream restoration debt for Greenwood Park is expected to require repayment starting FY 2022. It will be a \$300,000 State Revolving Loan with a 20-year term. Since the State will not provide a repayment schedule until completion, the analysis assumes annual repayments averaging \$20,000.

To maintain a positive net income with expensive capital projects in the CIP, the analysis assumes that funds will be acquired by borrowing capital. The remaining yearly capital requirements for Areas 2 and 3 will be paid by capital outlays. Area 2 cost is budgeted for FY 2020 and Area 3 cost is projected every four years that increase from \$75,000 to \$95,000 due to inflation. The proposed method to finance the improvements in the CIP is shown in Table 12.

Table 12 - Biltmore Forest Stormwater Program Proposed Future Debt Package

| Year | Type | Principal | Yearly Payment | Rate | Term (Years) |
|------|---------|--------------|----------------|------|--------------|
| 2021 | 160a-20 | \$ 1,735,622 | \$ 160,369 | 4.5% | 15 |
| 2025 | 160a-20 | \$ 3,658,924 | \$ 349,630 | 5% | 15 |

Financial Model

Each of the columns in the financial model shown in **Figure 2** represents the Town's general fund revenues and expenditures for a specific fiscal year. Revenues and expenditures from past audited years FY 2016 - FY 2018 appear in columns on the left side of the table followed by adjacent columns on the right showing projections for the current fiscal year and ten additional years thereafter through FY 2030. Each row in the table shows a revenue or expense line item from the audit and additional calculations. Revenues are listed at the top of the table followed by operating expenses, capital outlays, and debt payments.

**FIGURE 2
BILTMORE FOREST GENERAL FUND
FINANCIAL ANALYSIS WITH STORMWATER CAPITAL OUTLAY**

DRAFT

| | AUDIT 2016 | AUDIT 2017 | AUDIT 2018 | ESTIMATE 2019 | BUDGET 2020 | YEAR 1 2021 | YEAR 2 2022 | YEAR 3 2023 | YEAR 4 2024 | YEAR 5 2025 | YEAR 6 2026 | YEAR 7 2027 | YEAR 8 2028 | YEAR 9 2029 | YEAR 10 2030 |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| REVENUES | | | | | | | | | | | | | | | |
| AD VALOREM TAXES | 2,483,187 | 2,569,457 | 2,553,520 | 2,577,570 | 2,697,390 | 2,800,000 | 3,048,729 | 3,164,770 | 3,278,374 | 3,393,932 | 3,592,049 | 3,715,467 | 3,837,905 | 3,962,420 | 4,172,887 |
| UNRESTRICTED INTERGOVERNMENTAL | 228,121 | 216,965 | 224,287 | 234,174 | 225,488 | 225,488 | 225,488 | 225,488 | 225,488 | 225,488 | 225,488 | 225,488 | 225,488 | 225,488 | 225,488 |
| UNRESTRICTED INTERGOVERNMENTAL - SALES TAX | 993,799 | 1,024,525 | 1,085,772 | 1,066,897 | 1,141,764 | 1,147,473 | 1,153,210 | 1,158,976 | 1,164,771 | 1,170,595 | 1,176,448 | 1,182,330 | 1,188,242 | 1,194,183 | 1,200,154 |
| RESTRICTED INTERGOVERNMENTAL | 901 | 955 | 966 | 978 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 |
| RESTRICTED INTERGOVERNMENTAL - POWELL BILL | 64,253 | 63,699 | 63,787 | 62,360 | 62,500 | 62,500 | 62,500 | 62,500 | 62,500 | 62,500 | 62,500 | 62,500 | 62,500 | 62,500 | 62,500 |
| PERMITS AND FEES | 16,415 | 28,527 | 24,791 | 37,993 | 26,500 | 26,765 | 27,033 | 27,303 | 27,576 | 27,852 | 28,130 | 28,412 | 28,696 | 28,983 | 29,272 |
| INVESTMENT EARNINGS | 3,803 | 10,647 | 39,630 | 82,037 | 59,953 | 60,552 | 61,158 | 61,769 | 62,387 | 63,011 | 63,641 | 64,277 | 64,920 | 65,569 | 66,225 |
| MISCELLANEOUS | 84,163 | 160,556 | 43,381 | 51,076 | 123,000 | 124,230 | 125,472 | 126,727 | 127,994 | 129,274 | 130,567 | 131,873 | 133,191 | 134,523 | 135,869 |
| SALE OF ASSETS | 7,500 | | 10,907 | 4,548 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| DEBT PROCEEDS | 93,739 | | 103,000 | | | | | | | | | | | | |
| GRANTS | | | | 4,431 | 181,000 | | | | | | | | | | |
| TOTAL REVENUES | 3,975,881 | 4,075,331 | 4,150,041 | 4,122,064 | 4,533,544 | 4,462,958 | 4,719,540 | 4,843,483 | 4,965,040 | 5,088,602 | 5,294,772 | 5,426,296 | 5,556,892 | 5,689,616 | 5,908,345 |
| EXPENDITURES | | | | | | | | | | | | | | | |
| GENERAL GOVERNMENT | 904,923 | 559,057 | 554,086 | 711,306 | 791,944 | 815,702 | 840,173 | 865,379 | 891,340 | 918,080 | 945,623 | 973,991 | 1,003,211 | 1,033,307 | 1,064,307 |
| PUBLIC SAFETY | 1,285,591 | 1,698,685 | 1,702,341 | 1,774,774 | 1,967,625 | 2,026,654 | 2,087,453 | 2,150,077 | 2,214,579 | 2,281,017 | 2,349,447 | 2,419,931 | 2,492,528 | 2,567,304 | 2,644,323 |
| TRANSPORTATION | 168,732 | 181,689 | 186,158 | 245,061 | 251,680 | 259,230 | 267,007 | 275,018 | 283,268 | 291,766 | 300,519 | 309,535 | 318,821 | 328,385 | 338,237 |
| STORMWATER DRAINAGE | 90,584 | - | 3,500 | 88,615 | 114,300 | 75,000 | - | - | - | 84,413 | - | - | - | 95,008 | - |
| PHYSICAL DEVELOPMENT | 751,623 | 821,125 | 870,767 | 787,846 | 861,911 | 887,768 | 914,401 | 941,833 | 970,088 | 999,191 | 1,029,167 | 1,060,042 | 1,091,843 | 1,124,598 | 1,158,336 |
| TOTAL OPERATING EXPENSES | 3,201,453 | 3,260,556 | 3,316,852 | 3,607,602 | 3,987,460 | 4,064,355 | 4,109,035 | 4,232,307 | 4,359,276 | 4,574,467 | 4,624,756 | 4,763,498 | 4,906,403 | 5,148,603 | 5,205,203 |
| TRANSFER TO WATER FUND | | 110,217 | | | | | | | | | | | | | |
| CAPITAL OUTLAY | 124,992 | 252,192 | 168,520 | 106,088 | 364,950 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 |
| CURRENT DEBT | 39,859 | 71,354 | 70,210 | 105,729 | 195,435 | 177,650 | 157,724 | 153,752 | 149,780 | 116,236 | 113,406 | 110,577 | 107,747 | 62,813 | 20,000 |
| NEW DEBT | | | | | | 80,185 | 160,369 | 160,369 | 160,369 | 328,853 | 497,337 | 497,337 | 497,337 | 497,337 | 497,337 |
| TOTAL EXPENDITURES | 3,366,304 | 3,694,319 | 3,555,582 | 3,819,419 | 4,547,845 | 4,472,189 | 4,577,129 | 4,696,428 | 4,819,425 | 5,169,556 | 5,385,499 | 5,521,412 | 5,661,487 | 5,858,753 | 5,872,540 |
| REVENUES OVER EXPENDITURES | 609,577 | 381,012 | 594,459 | 302,645 | (14,301) | (9,232) | 142,411 | 147,056 | 145,615 | (80,954) | (90,726) | (95,116) | (104,596) | (169,137) | 35,805 |
| UNRESTRICTED FUND BALANCE | 1,947,191 | 2,591,044 | 258,418 | 4,578,973 | 4,564,672 | 4,555,440 | 4,697,851 | 4,844,907 | 4,990,522 | 4,909,567 | 4,818,841 | 4,723,725 | 4,619,129 | 4,449,992 | 4,485,796 |
| UNRESTRICTED FUND BALANCE / TOTAL EXPENDITURES | 57.84% | 70.14% | 7.27% | 119.89% | 100.37% | 101.86% | 102.64% | 103.16% | 103.55% | 94.97% | 89.48% | 85.55% | 81.59% | 75.95% | 76.39% |
| TAX RATE | \$ 0.385 | \$ 0.395 | \$ 0.330 | \$ 0.330 | \$ 0.345 | \$ 0.355 | \$ 0.380 | \$ 0.390 | \$ 0.400 | \$ 0.410 | \$ 0.430 | \$ 0.440 | \$ 0.450 | \$ 0.460 | \$ 0.480 |
| EFFECTIVE TAX EQUIVALENT | | | | | \$ - | \$ 0.010 | \$ 0.025 | \$ 0.010 | \$ 0.010 | \$ 0.010 | \$ 0.020 | \$ 0.010 | \$ 0.010 | \$ 0.010 | \$ 0.020 |

| | |
|------------------|-----------|
| NEW DEBT: | |
| LOAN AMOUNT | 1,735,622 |
| PAYMENT | 80,185 |
| ANNUAL PAYMENTS | 160,369 |
| RATE | 4.50% |
| TERM | 15 |
| | 3,526,419 |
| | 168,484 |
| | 336,968 |
| | 5.00% |
| | 15 |

ASSUMPTIONS:
DOES NOT CONSIDER ANNEXATION OR OTHER UNANTICIPATED INCREASES IN TAX BASE OR RELATED OPERATING EXPENDITURES.

Several notable line items from the general fund are highlighted in yellow or orange. The annual capital outlay costs and new operating costs are prominent. Additionally, each fiscal year's net income or loss is shown followed by projected Unrestricted Fund balances. The proposed ad valorem tax increases over the next ten years are also highlighted in the table. These increases are high enough to yield feasible operations for the fund yet not so high as to create excessive fund balances. It is assumed that the fund balance will not be significantly used to fund stormwater projects.

Ad Valorem Tax estimates are based on projections of total assessed valuation of real and personal property within the Town's jurisdiction. **Figure 3** reflects the projections of assessed valuations and the annual tax rates, which are required to maintain requisite cash flows throughout the study period. The projected tax rates and the revenue neutral tax rate of \$0.345 per \$100 are highlighted yellow.

Since expenditures are assumed to increase at a faster rate than revenues, net income declines each year. Without stormwater capital improvements, the general fund may require new revenue from ad valorem tax increases to supplement the growth difference. For comparative purposes, it is assumed that the Town will increase ad valorem taxes on revaluation years of FY 2022, 2026, and FY 2030 by \$0.025, \$0.02, and \$0.02 respectively for a total of \$0.065 to fund general fund costs other than stormwater.

Other Qualitative Considerations for Ranking

Other criteria, below, for ranking/prioritizing the Project Areas were considered during the development of the SMP and CIP. Although these criteria did influence the ranking, the criteria were not metrically-based but are qualitative in nature.

Solution Effectiveness – The primary means of assessing effectiveness of each solution was based on the results from hydrologic and hydraulic modeling of the existing and proposed conditions (where applicable). Other considerations that were qualitatively considered are constructability and disruptiveness.

Character Maintenance – Most of the specific ideas explored that identified ways to allow for the infrastructure improvements to preserve the Town's character are discussed in the Preliminary Stormwater Assessment and Analysis (**Appendix C**). The most prominent of these measures is the use of decorative stormwater inlet covers that would replace those in current use including the boulders that are placed over the inlets partially blocking them. The design of the decorative inlets could be chosen by the Town during the overall design process. One way to engage the Town's citizens in the stormwater improvements process would be to solicit local artists to provide conceptual ideas for the inlet covers and allow the citizens to vote on their preferred concept. The artist with the most votes would then contract with the Town to develop their concept (along with the engineer) to be used for all future storm drain inlets creating a unifying motif throughout the Town.

Multi-purpose Solutions – As part of the development of the Preliminary Stormwater Assessment and Analysis (**Appendix C**) several multi-purpose alternatives were identified. Many such options related to the Parks Master Planning effort currently underway by the Town. Such alternatives are summarized above in the summary descriptions for Project Areas 1 through 4 and 7. Others are more mundane such as coordinating repaving with projects that would impact the pavement. Another, potential multi-purpose solution would include developing a systematic program to replace asphalt curbs with concrete valley curbs as part of ongoing repaving projects, stormwater, and utility projects that impact the road surfaces.

Maintenance Intensiveness – Maintenance intensiveness was also considered qualitatively. Maintenance was considered for each project as a relative cost, frequency, and disruptiveness. Project Area 3 is the best example of how maintenance intensiveness can impact the cost and disruptiveness of a project.

FIGURE 3
BILTMORE FOREST GENERAL FUND
AD VALOREM TAX REVENUE PROJECTIONS

DRAFT

| | AUDIT | AUDIT | AUDIT | ESTIMATE | BUDGET | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 | YEAR 7 | YEAR 8 | YEAR 9 | YEAR 10 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | REVALUATION | | | | REVALUATION | | | | REVALUATION | | | | REVALUATION |
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| PROPERTY | | | | | | | | | | | | | | | |
| TOTAL ASSESSED VALUE AT CURRENT RATE | 612,351,429 | 617,921,013 | 740,136,667 | 745,687,599 | 760,949,757 | 768,559,255 | 776,244,847 | 784,007,296 | 791,847,369 | 799,765,842 | 807,763,501 | 815,841,136 | 823,999,547 | 832,239,542 | 840,561,938 |
| TAX RATE | \$ 0.3850 | \$ 0.3950 | \$ 0.3300 | \$ 0.3300 | \$ 0.3450 | \$ 0.3550 | \$ 0.3800 | \$ 0.3900 | \$ 0.4000 | \$ 0.4100 | \$ 0.4300 | \$ 0.4400 | \$ 0.4500 | \$ 0.4600 | \$ 0.4800 |
| TAX LEVY SUBTOTAL | 2,357,553 | 2,440,788 | 2,442,451 | 2,460,769 | 2,625,277 | 2,728,385 | 2,949,730 | 3,057,628 | 3,167,389 | 3,279,040 | 3,473,383 | 3,589,701 | 3,707,998 | 3,828,302 | 4,034,697 |
| MOTOR VEHICLES | | | | | | | | | | | | | | | |
| PRIOR YEAR TAX RATE | \$ 0.3850 | \$ 0.3950 | \$ 0.3300 | \$ 0.3300 | \$ 0.3450 | \$ 0.3450 | \$ 0.3550 | \$ 0.3800 | \$ 0.3900 | \$ 0.4000 | \$ 0.4100 | \$ 0.4300 | \$ 0.4400 | \$ 0.4500 | \$ 0.4600 |
| TAX LEVY | 102,568 | 105,929 | 90,676 | 92,478 | 98,688 | 99,675 | 103,590 | 111,994 | 116,090 | 120,257 | 124,497 | 131,875 | 136,292 | 140,783 | 145,351 |
| NET LEVY | 2,480,241 | 2,566,533 | 2,549,133 | 2,568,247 | 2,723,965 | 2,828,060 | 3,053,320 | 3,169,622 | 3,283,480 | 3,399,297 | 3,597,880 | 3,721,576 | 3,844,289 | 3,969,085 | 4,180,048 |
| UNCOLLECTED TAXES | (2,604) | (1,436) | (7,936) | 6,152 | (6,826) | (7,087) | (7,651) | (7,942) | (8,228) | (8,518) | (9,016) | (9,326) | (9,633) | (9,946) | (10,474) |
| CURRENT YEAR TAXES COLLECTED | 2,477,637 | 2,565,097 | 2,541,197 | 2,574,399 | 2,717,139 | 2,820,974 | 3,045,669 | 3,161,680 | 3,275,252 | 3,390,779 | 3,588,864 | 3,712,251 | 3,834,656 | 3,959,139 | 4,169,573 |
| PRIOR YEAR TAXES | 5,736 | 3,665 | 1,436 | - | 3,000 | 3,030 | 3,060 | 3,091 | 3,122 | 3,153 | 3,185 | 3,216 | 3,249 | 3,281 | 3,314 |
| OTHER | (186) | 695 | 10,887 | 3,171 | - | - | - | - | - | - | - | - | - | - | - |
| AD VALOREM TAXES | 2,483,187 | 2,569,457 | 2,553,520 | 2,577,570 | 2,720,139 | 2,824,004 | 3,048,729 | 3,164,770 | 3,278,374 | 3,393,932 | 3,592,049 | 3,715,467 | 3,837,905 | 3,962,420 | 4,172,887 |
| COLLECTION RATE | 99.90% | 99.94% | 99.69% | 99.75% | 99.75% | 99.75% | 99.75% | 99.75% | 99.75% | 99.75% | 99.75% | 99.75% | 99.75% | 99.75% | 99.75% |
| EFFECTIVE TAX EQUIVALENT REVENUE NEUTRAL RATE | | | | | \$ 0.345 | \$ 0.345 | \$ 0.345 | \$ 0.345 | \$ 0.345 | \$ 0.345 | \$ 0.345 | \$ 0.345 | \$ 0.345 | \$ 0.345 | \$ 0.345 |

ASSUMPTIONS:
 ASSESSED VALUES GROW AT AVERAGE ANNUAL RATE OF 1%.
 NO REVALUATION GAINS IN FY 2022, 2026, OR 2030.

CIP – Conclusions

The solutions described in the SMP are intended to improve specific, identified stormwater issues throughout the Town. After onsite assessments and stormwater modeling were performed, site specific solutions and preliminary implementation costs were developed for 10 Project Areas to address the identified issues. A risked-based analysis was developed from the assessments described above to assist in ranking the priority of each projects based on need. Additionally, based on the project costs and other fiscal information provided by the Town, a financial model was developed to assess funding of these 10 projects over time. All of these analyses served as the basis for establishing a Stormwater Capital Improvement Plan for the Town.

The CIP is intended to serve as the map to implement each of the stormwater solutions in a proactive manner that is sustainable in terms of its fund for the life of the plan. It also seeks to perform the projects in an order that reduces the potential for the issues to greatly increase or become critical before the planned implementation timeframe. Although there are no guarantees that the situations will not change, making certain projects or yet to be identified issues more critical and requiring a reordering of the projects, the proactive planning described herein will make the Town better prepared to address its future stormwater needs by having anticipated funds in place to better address both the planned and unplanned issues going forward.

Please see **Figure 4** for the CIP.

Fiscal Recommendations

Prior to implementing any of the projects in the CIP, it is important that the means of funding such be specifically identified and provided for. The following are the recommendations to that end.

Ad valorem tax rates are the principal variable that the Town can adjust to influence the revenues achieved to support its annual budgets. As a result of our analysis, we have modeled the following ad valorem rate increases to finance growing operating costs and prioritized stormwater capital needs. These revenue increases are arranged to fund all capital projects within five years as shown below:

- \$0.01 increases in FY 2021, 2023, 2024, 2025, 2027, 2028, and 2029
- \$0.025 increase in FY 2022
- \$0.02 increases in FY 2026 and 2030

Alternatively, the Town may delay some stormwater capital projects in order to reduce ad valorem tax increases. Two additional options are shown below:

Option A: Fund Projects within Ten Years

This option assumes that lower priority projects are delayed and funded within a ten-year period, as depicted below:

- Areas 5, 4, and 1 in FY 2022
- Area 7 in FY 2025
- Areas 10, 8, 2, 9, and 6 in FY 2029.
- Area 2 and 3 costs are unchanged.

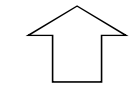
Ad valorem tax increases are slightly reduced due to delayed debt payments:

- \$0.01 increases in FY 2021, 2023, 2024, and 2025
- \$0.025 increase in FY 2022
- \$0.02 increases in FY 2026 and 2030

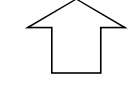
FIGURE 4
BILTMORE FOREST STORMWATER PROGRAM
CAPITAL IMPROVEMENTS PLAN

DRAFT

| PRIORITY | PROJECT NAME | 2020 TOTAL COST | INFLATED TOTAL COST | BUDGET 2020 | YEAR 1 2021 | YEAR 2 2022 | YEAR 3 2023 | YEAR 4 2024 | YEAR 5 2025 | YEAR 6 2026 | YEAR 7 2027 | YEAR 8 2028 | YEAR 9 2029 | YEAR 10 2030 | YEARS 11+ 2031+ |
|----------|-----------------|--------------------|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|--------------------|
| 1 | PROJECT AREA 4 | 510,350 | 525,661 | | 525,661 | | | | | | | | | | |
| 2 | PROJECT AREA 5 | 690,220 | 710,927 | | 710,927 | | | | | | | | | | |
| 3 | PROJECT AREA 1 | 484,500 | 499,035 | | 499,035 | | | | | | | | | | |
| 4 | PROJECT AREA 7 | 1,275,660 | 1,478,840 | | | | | | 1,478,840 | | | | | | |
| 5 | PROJECT AREA 10 | 215,310 | 249,603 | | | | | | 249,603 | | | | | | |
| 6 | PROJECT AREA 8 | 390,720 | 452,952 | | | | | | 452,952 | | | | | | |
| 7 | PROJECT AREA 2 | 114,300 | 114,300 | 114,300 | | | | | | | | | | | |
| 8 | PROJECT AREA 9 | 778,030 | 901,950 | | | | | | 901,950 | | | | | | |
| 9 | PROJECT AREA 6 | 382,200 | 443,075 | | | | | | 443,075 | | | | | | |
| | | 4,841,290 | 5,376,341 | 114,300 | 1,735,622 | - | - | - | 3,526,419 | - | - | - | - | - | - |



DEBT PKG 1



DEBT PKG 2

| | | | | | | | | | | | | | | | |
|----------------------------------|-----------|--|-----------|--|---|---|-----------|--------|---|---|---|--------|--------|--|---|
| DEBT PACKAGES | 5,262,041 | | 1,735,622 | | | | 3,526,419 | | | | | | | | |
| ANNUAL DEBT | 5,262,041 | | 1,735,622 | | | | 3,526,419 | | | | | | | | 0 |
| NEW OPERATING COSTS | | | | | | | | | | | | | | | |
| PROJECT AREA 3 | | | 75,000 | | | | | 84,413 | | | | | 95,008 | | |
| TOTAL NEW OPERATING COSTS | | | 75,000 | | 0 | 0 | 0 | 84,413 | 0 | 0 | 0 | 95,008 | 0 | | |

Option B: Delay Projects beyond Ten Years

This option assumes that lower priority projects are delayed beyond the ten-year planning period, as depicted below:

- Areas 5,4, and 1 in FY 2022
- Area 7 in FY 2029
- Areas 10, 8, 2, 9, and 6 are delayed beyond ten years.
- Areas 2 and 3 costs are unchanged.

Ad valorem tax increases are further reduced due to less debt issuances:

- \$0.01 increases in FY 2021, 2023, and 2024
- \$0.025 increase in FY 2022
- \$0.02 increases in FY 2026 and 2030

Additional Fiscal Recommendations

General fund operating expenses have increased greater than revenues in recent years. This occurs at many municipalities across the State. The analysis assumes that this trend will continue. These higher costs and stormwater capital needs will place demands on revenues. Any unforeseen expenses may result in the need for additional revenue. The Town must continue to manage its general fund budget strictly in order to minimize impacts on ad valorem tax rates.

The analysis assumes that containing the increases in ad valorem taxes at minimum rates enjoys the highest priority, only after the maintenance of a minimum standard of services to the Town's citizenry. Based upon our analyses, we have concluded that the Town recovers its general fund costs. Projected inflation of operating costs, unforeseen events, and capital needs will necessitate new revenue to ensure positive net income.

The delay of capital projects reduces the need for new revenues for the ten-year planning period, but it yields negative consequences. Delaying a project oftentimes results in higher project costs due to inflation and higher risk of stormwater related failure costs. The Town must ascertain how much ad valorem tax increases are tolerable by its citizenry over the planning period and allocate the revenue to its highest priority projects.

The two largest revenue sources for the general fund are ad valorem taxes and sales taxes. The growth or decline of each are greatly influenced by the real estate market and economic conditions respectively. The Town has limited influence on these two factors, unlike its greater control over its operating expenditures. Any significant changes to real estate values or the economy can expand or contract the revenue available to the general fund. Therefore, the Town should closely monitor economic conditions so it may proactively manage its resources.

The Town should consider charging a stormwater fee (stormwater utility fee) to help fund the costs. A simple, flat monthly fee of \$4 charged to each property owner would yield approximately \$35,000 annually assuming approximately 729 parcels. This alternative would introduce the concept of stormwater fees to property owners. Additionally, it would provide the Town a funding mechanism that could be further developed in the future into a defensible rate schedule that varies by impervious surface.

CIP Implementation Schedule

The Town needs to consider the CIP and begin to implement the fiscal aspects as soon as can be accomplished efficiently. Once the funding mechanisms and provisions are in place and a specific project is

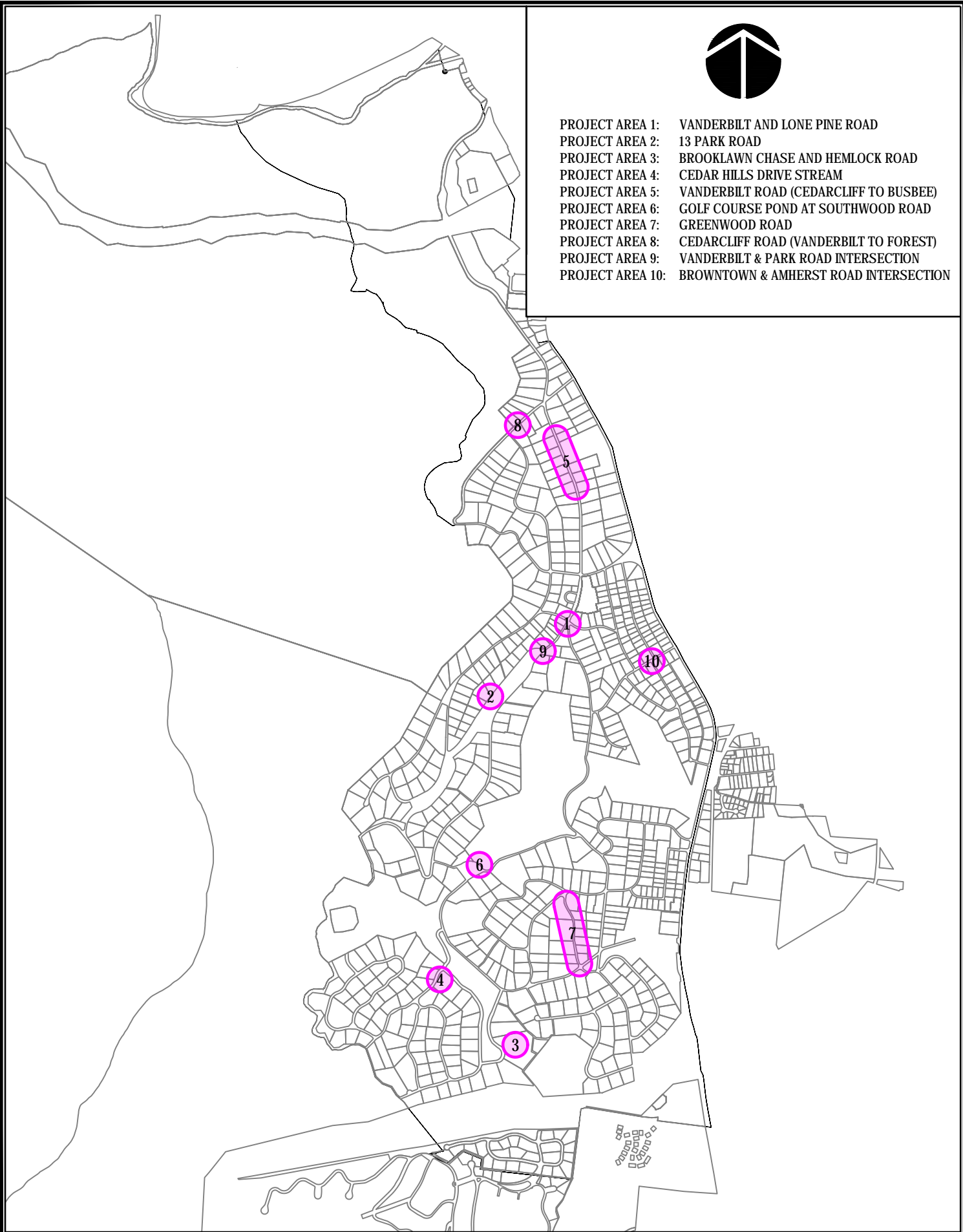
funded each will have a design and construction phase to complete implementation. The following is an estimate of the time need to design, bid, and construct each of the 10 Project Areas projects.

Maps



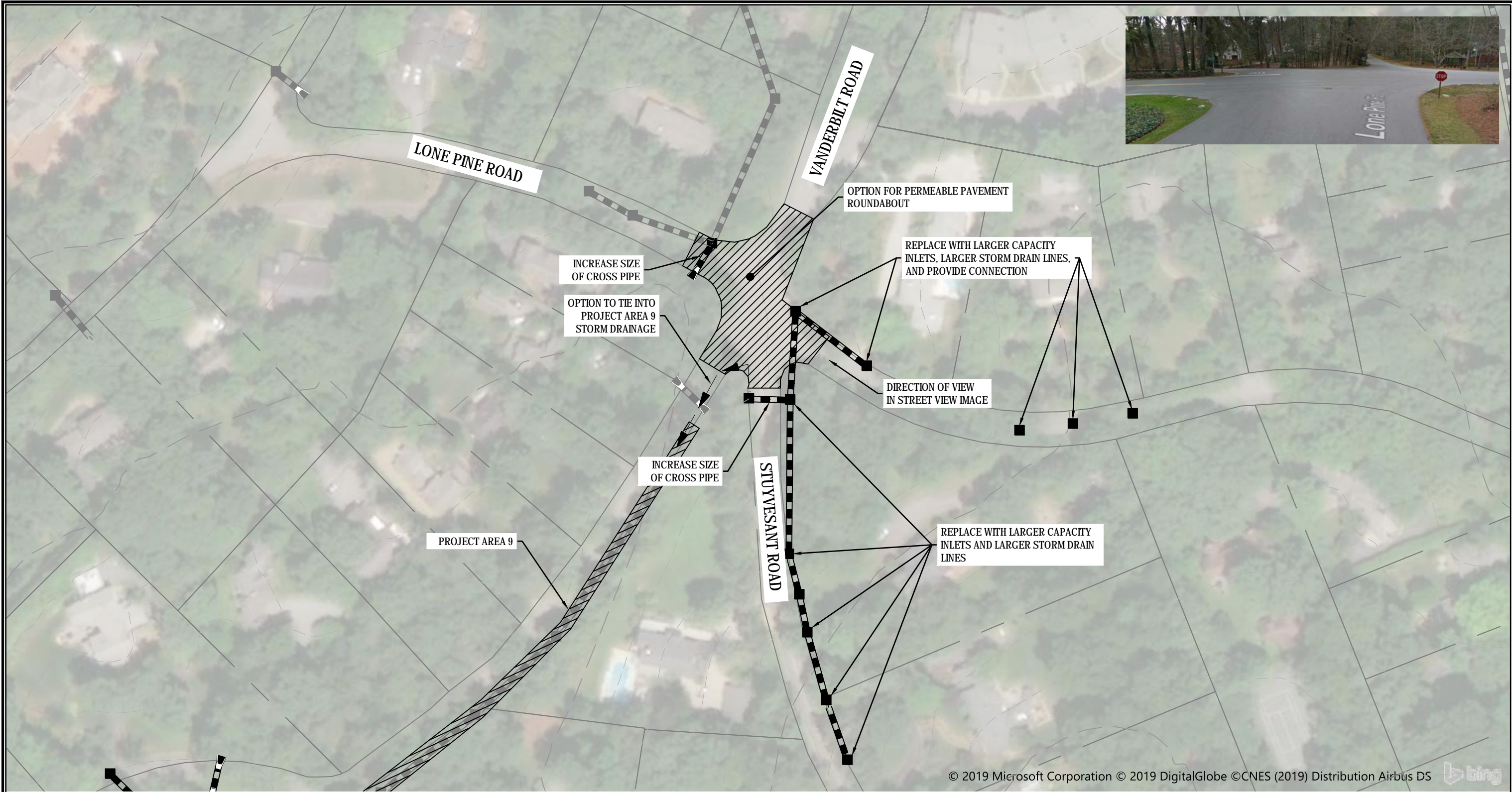


- PROJECT AREA 1: VANDERBILT AND LONE PINE ROAD
- PROJECT AREA 2: 13 PARK ROAD
- PROJECT AREA 3: BROOKLAWN CHASE AND HEMLOCK ROAD
- PROJECT AREA 4: CEDAR HILLS DRIVE STREAM
- PROJECT AREA 5: VANDERBILT ROAD (CEDARCLIFF TO BUSBEE)
- PROJECT AREA 6: GOLF COURSE POND AT SOUTHWOOD ROAD
- PROJECT AREA 7: GREENWOOD ROAD
- PROJECT AREA 8: CEDARCLIFF ROAD (VANDERBILT TO FOREST)
- PROJECT AREA 9: VANDERBILT & PARK ROAD INTERSECTION
- PROJECT AREA 10: BROWNTOWN & AMHERST ROAD INTERSECTION



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PROBLEM STATEMENT

THE INTERSECTION OF VANDERBILT AND LONE PINE ROAD FLOODS FREQUENTLY, INCLUDING DURING SMALLER STORM EVENTS.

RECOMMENDATIONS

1. REPLACE STORM DRAINAGE NETWORKS ON EAST AND SOUTH SIDES OF INTERSECTION WITH LARGER CAPACITY INLETS AND LARGER STORM DRAIN LINES. INCREASE SIZE OF CROSS PIPES UNDER LONE PINE AND STUYVESANT ROADS.
2. INSTALL AN AREA OF PERMEABLE PAVEMENT CENTRAL TO THE INTERSECTION TO ROUTE AND STORE RUNOFF VOLUME FROM SMALLER STORM EVENTS.



5' AND 20' CONTOURS SHOWN

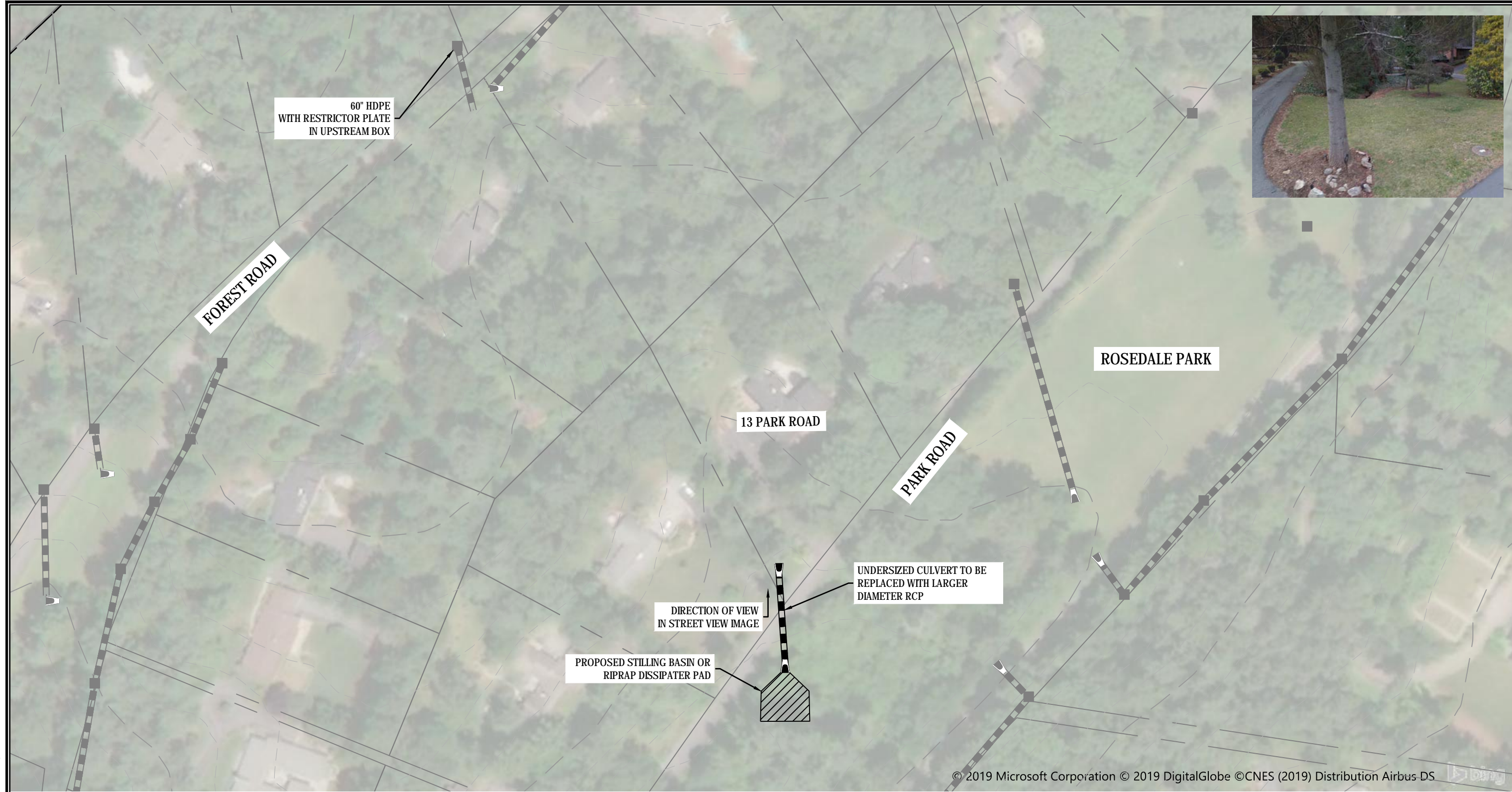
GRAPHIC SCALE



1 inch = 100 ft.

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| Sheet No. 1 | |
| WithersRavenel Engineers Planners Surveyors 115 Mackenran Drive Cary, NC 27511 t: 919.469.3340 license #: C-0832 www.withersravenel.com | |
| PROJECT AREA 1 VICINITY MAP | |
| BILTMORE FOREST STORMWATER MASTER PLAN <small>BILTMORE FOREST, NORTH CAROLINA</small> | |
| Designer: WR Drawn by: BJM Checked by: JCD | Scale: AS NOTED Date: 6/7/19 Job No.: 021209246 |
| No. Revision Date By | No. Date By |

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Sheet No. **2**

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**PROJECT AREA 2
VICINITY MAP**

**BILTMORE FOREST
STORMWATER MASTER PLAN**
BILTMORE FOREST, NORTH CAROLINA

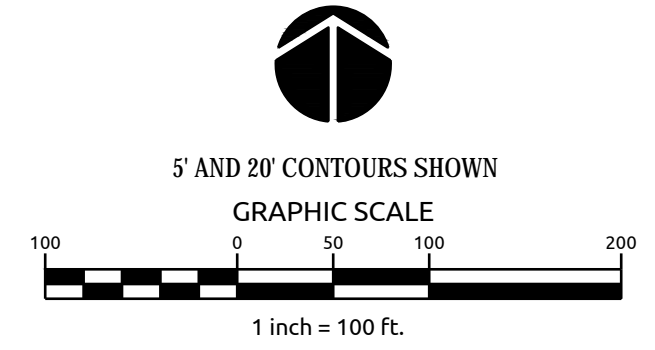
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| | | | | WR | | |
| | | | | BJM | | 6/7/19 |
| | | | | JCD | | 021209246 |

PROBLEM STATEMENT

FLOODING OCCURS IN THE VICINITY OF 13 PARK ROAD DUE TO A CULVERT THAT IS IN POOR CONDITION AND IS INADEQUATELY SIZED.

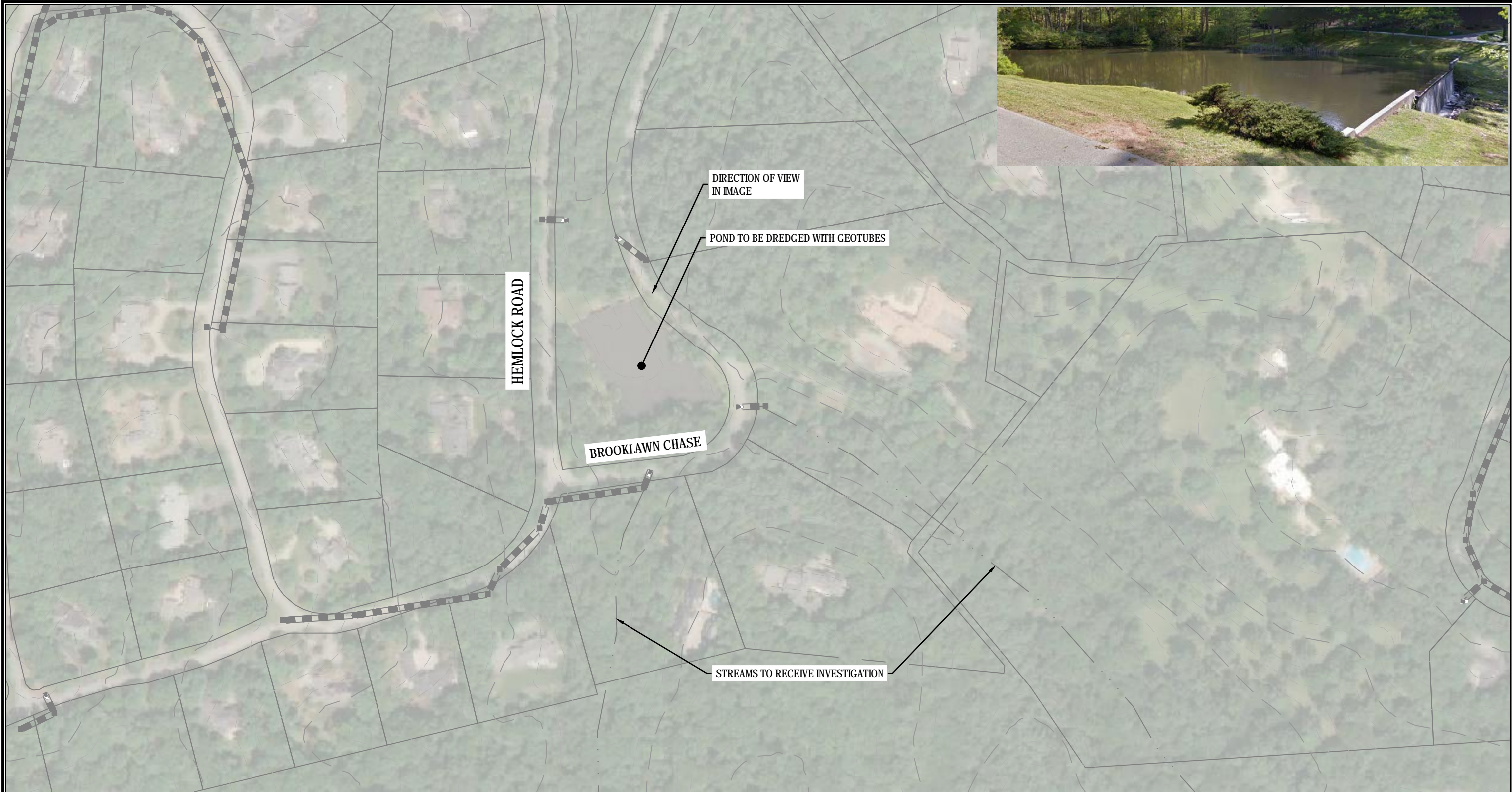
RECOMMENDATIONS

1. STABILIZE ERODED AREAS AT THE CULVERT INLET. REPLACE CULVERT WITH LARGER DIAMETER RCP. PROTECT RECEIVING AREAS FROM CHANGES IN FLOW VELOCITY WITH STILLING BASINS OR RIPRAP DISSIPATER PADS. MASTER PLANNING FOR ROSEDALE PARK SHOULD INCLUDE CONSIDERATIONS FOR THIS CULVERT IN PROPOSED TRAIL/GREENWAY DESIGNS.



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Sheet No. **3**

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**PROJECT AREA 2
VICINITY MAP**

**BILTMORE FOREST
STORMWATER MASTER PLAN**
BILTMORE FOREST, NORTH CAROLINA

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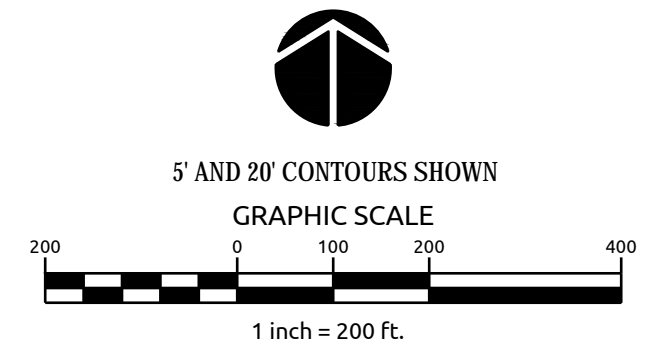
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 Drawn by: BJM
 Checked by: JCD
 Date: 6/7/19
 Job No.: 02120946

PROBLEM STATEMENT

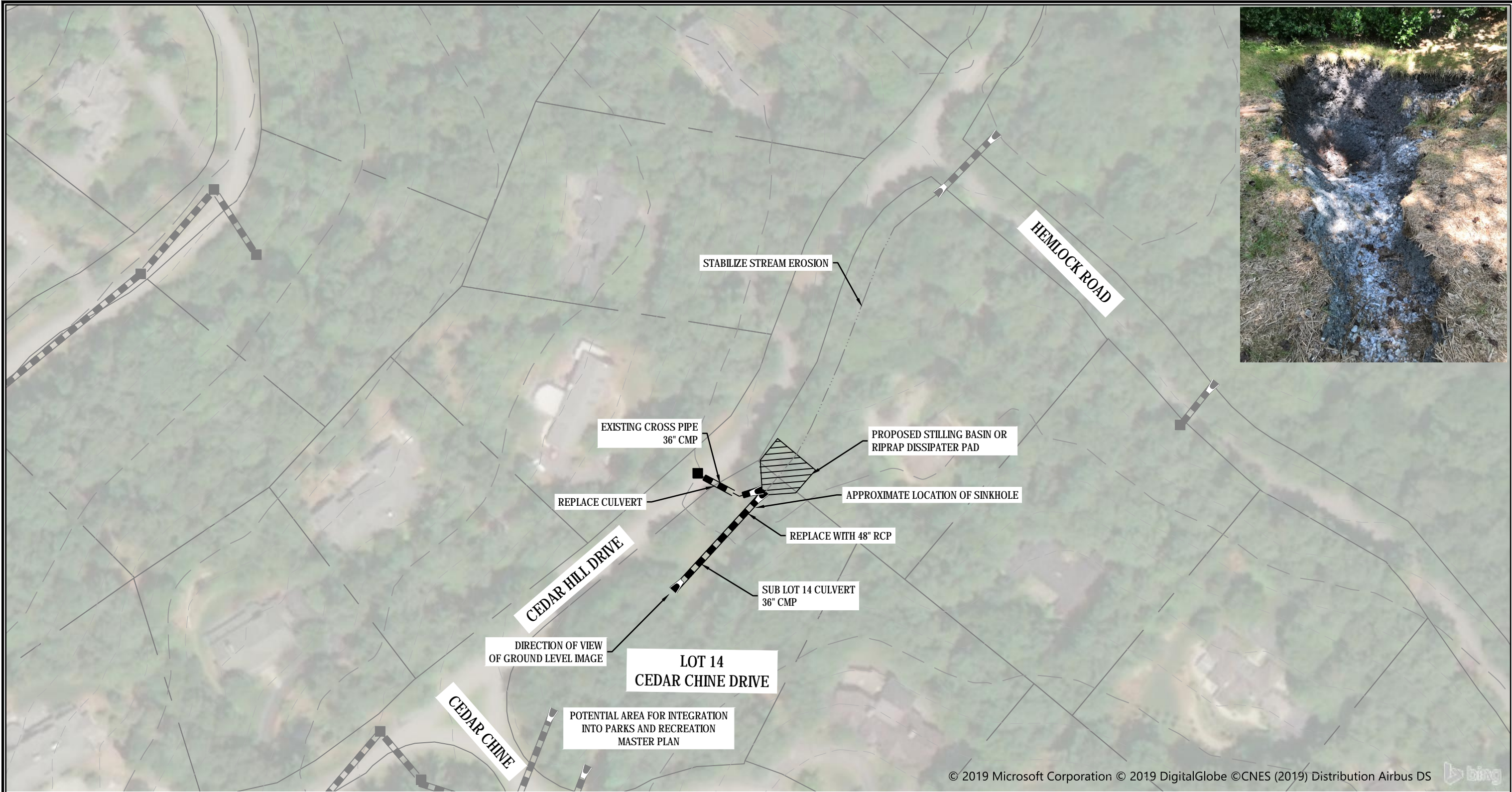
THE POND AT BROOKLAWN CHASE AND HEMLOCK ROAD HAS FILLED WITH SEDIMENT REQUIRING DREDGING FOR A SECOND TIME IN RECENT YEARS.

RECOMMENDATIONS

1. CONTINUE USING GEOTUBES TO COLLECT AND DEWATER THE SEDIMENT PRIOR TO DISPOSAL. THIS REMEDIATION IS REPEATABLE.
2. PERFORM A BANK EROSION HAZARD INDEX AND NEAR BANK STRESS ANALYSIS TO DETERMINE IF UPSTREAM EROSION CAN BE REMEDIATED TO REDUCE THE FREQUENCY OF DREDGING.



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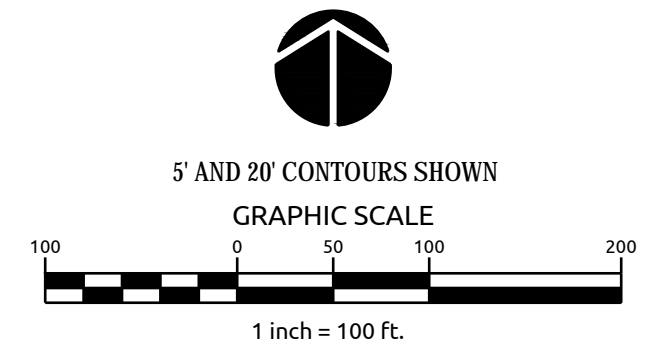


PROBLEM STATEMENT

CULVERT ON LOT 14 OF CEDAR CHINE DRIVE IS IN "POOR" CONDITION AND IS UNDERSIZED FOR THE 25-YEAR, 24-HOUR STORM. ALSO, A SINKHOLE HAS FORMED ALONG THE CULVERT ON LOT 14.

RECOMMENDATIONS

1. REPLACE CULVERT ON LOT 14 WITH NEW RCP DESIGNED TO PASS 25-YEAR STORM. PROTECT RECEIVING AREAS FROM CHANGES IN FLOW VELOCITY WITH STILLING BASINS OR RIPRAP DISSIPATER PADS.
2. ACQUIRE OWNERSHIP OF LOT 14 FOR IMPROVEMENTS AND POTENTIAL INTEGRATION INTO PARKS & RECREATION MASTER PLAN.



Sheet No. **4**

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PROJECT AREA 4
 VICINITY MAP

BILTMORE FOREST
 STORMWATER MASTER PLAN
 BILTMORE FOREST, NORTH CAROLINA

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| Drawn by | Date | |
| BJM | OCT 2019 | |
| Checked by | Job No. | |
| JCD | 02120946 | |

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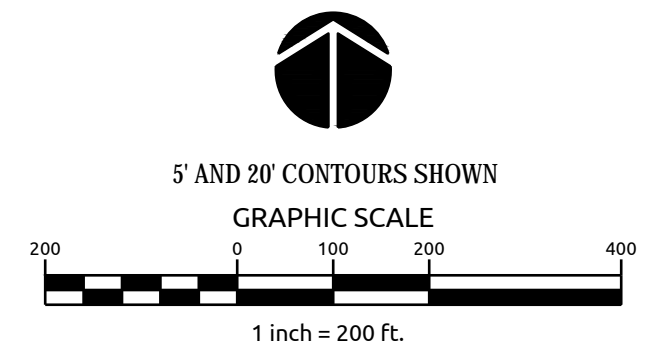


PROBLEM STATEMENT

STORM DRAINAGE PIPES ALONG VANDERBILT ROAD ARE UNDERSIZED FOR 10-YEAR, 24-HOUR STORM. CULVERTS AT 322 AND 330 VANDERBILT ROAD ARE IN "POOR" CONDITION AND PARTIALLY FILLED WITH SEDIMENT.

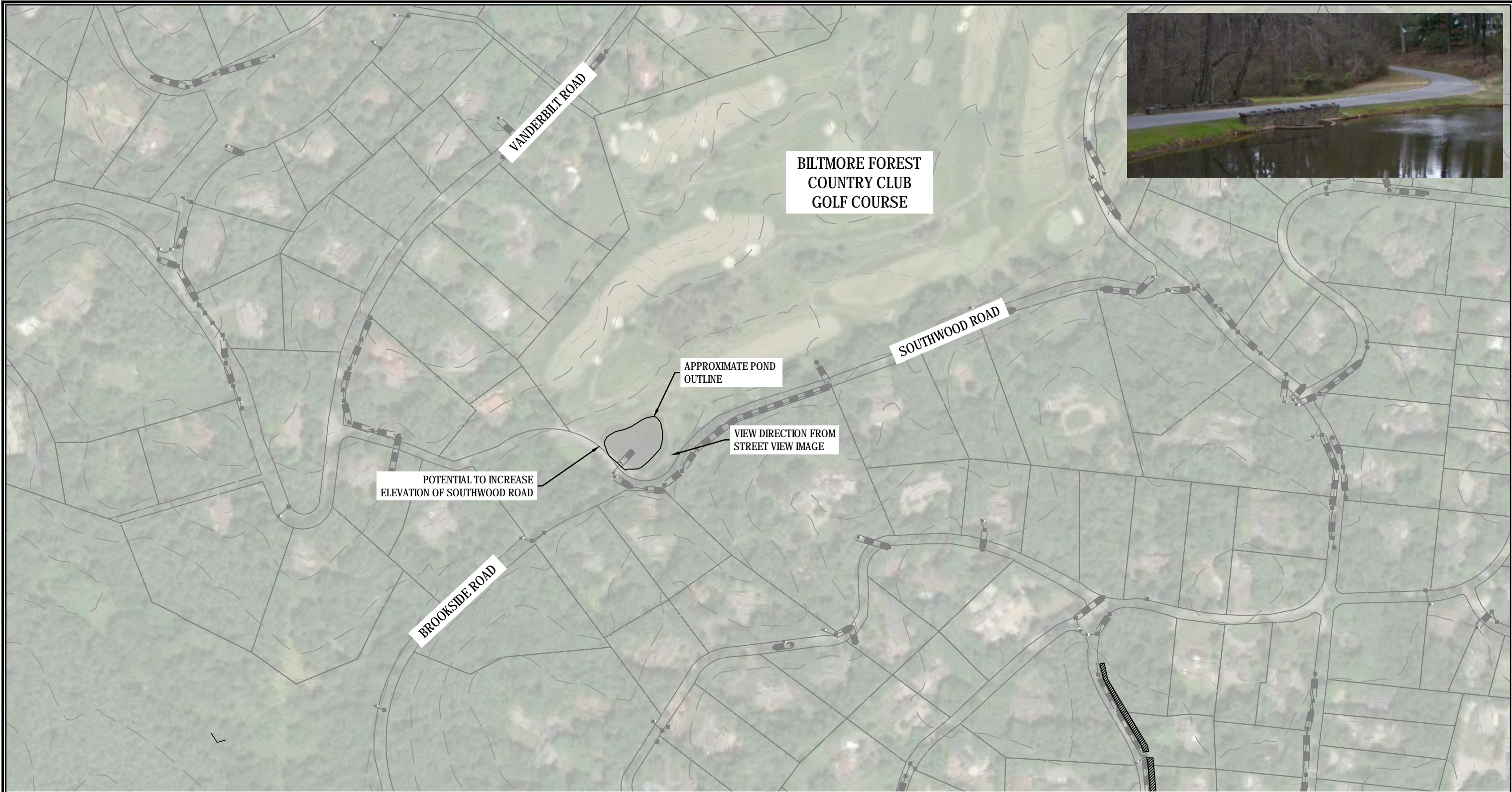
RECOMMENDATIONS

1. REPLACE EXISTING STORM DRAINAGE NETWORK WITH NEW INLETS AND DRAINAGE PIPE. REPLACE EXISTING CULVERTS AT 322 AND 330 VANDERBILT ROAD WITH RCP. PROTECT DOWNSTREAM AREAS FROM EROSION USING STABILIZATION.



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| PROJECT AREA 5 VICINITY MAP | | | | | | | | | | | | | |
| BILTMORE FOREST STORMWATER MASTER PLAN <small>BILTMORE FOREST, NORTH CAROLINA</small> | | | | | | | | | | | | | |
| Designer: JCD Drawn by: BJM Checked by: JCD | Scale: AS NOTED Date: 6/7/19 Job No.: 02120946 | | | | | | | | | | | | |
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Sheet No. **6**

WithersRavenel
 Engineers | Planners | Surveyors
 115 MackKean Drive | Cary, NC 27511
 t: 919.469.3340 | license #: C-0832 | www.withersravenel.com

**PROJECT AREA 6
VICINITY MAP**

**BILTMORE FOREST
STORMWATER MASTER PLAN**
BILTMORE FOREST, NORTH CAROLINA

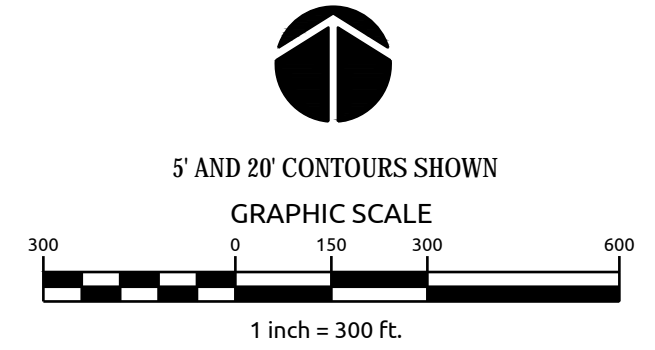
| No. | Revision | Date | By | Checked By | Scale |
|-----|----------|------|----|------------|----------|
| | | | | | AS NOTED |
| | | | | | WR |
| | | | | | Date |
| | | | | | 6/7/19 |
| | | | | | Job No. |
| | | | | | 02120946 |
| | | | | | JCD |

PROBLEM STATEMENT

POND ALONG SOUTHWOOD ROAD (SOUTHERN END OF BILTMORE FOREST COUNTRY CLUB GOLF COURSE) IS OVERTOPPING SOUTHWOOD ROAD CAUSING IT TO ACT AS A SPILLWAY.

RECOMMENDATIONS

1. COLLECT ADDITIONAL FIELD DATA FOR DETAILED DESIGN. POTENTIALLY INCREASE THE ELEVATION OF SOUTHWOOD ROAD AT LEAST 6 INCHES AT THE LOWEST POINT AND GRADE UNIFORMLY (SUBJECT TO CHANGE BASED ON ADDITIONAL FIELD DATA).
2. COORDINATE WITH BILTMORE FOREST COUNTRY CLUB TO ALTER THE SPILLWAY OR INCREASE THE SIZE (STORAGE CAPACITY) OF THE POND.



K:\31716\010790\Biltmore Forest Stormwater MFCWP\Phase 2\Exhibits\2.dwg Monday, June 10, 2019 7:45:11 AM MILLER, BRADDOCK



PROBLEM STATEMENT

RESIDENTS HAVE REPORTED RECURRING NUISANCE FLOODING IN AREA SURROUNDING GREENWOOD ROAD. THE EXISTING STORM NETWORK IS IN POOR CONDITION AND IS UNDERSIZED.

RECOMMENDATIONS

1. IF SOIL CONDITIONS ARE OPTIMAL, ESTABLISH INFILTRATION TRENCHES IN RIGHT OF WAY TO REPLACE EXISTING STORM DRAINAGE NETWORK. POTENTIALLY COORDINATE WITH PARKS & RECREATION ON APPROACH PATH TO GREENWOOD PARK.
2. REPLACE EXISTING STORM DRAINAGE NETWORK WITH ADEQUATELY SIZED INLETS AND PIPES.



5' AND 20' CONTOURS SHOWN

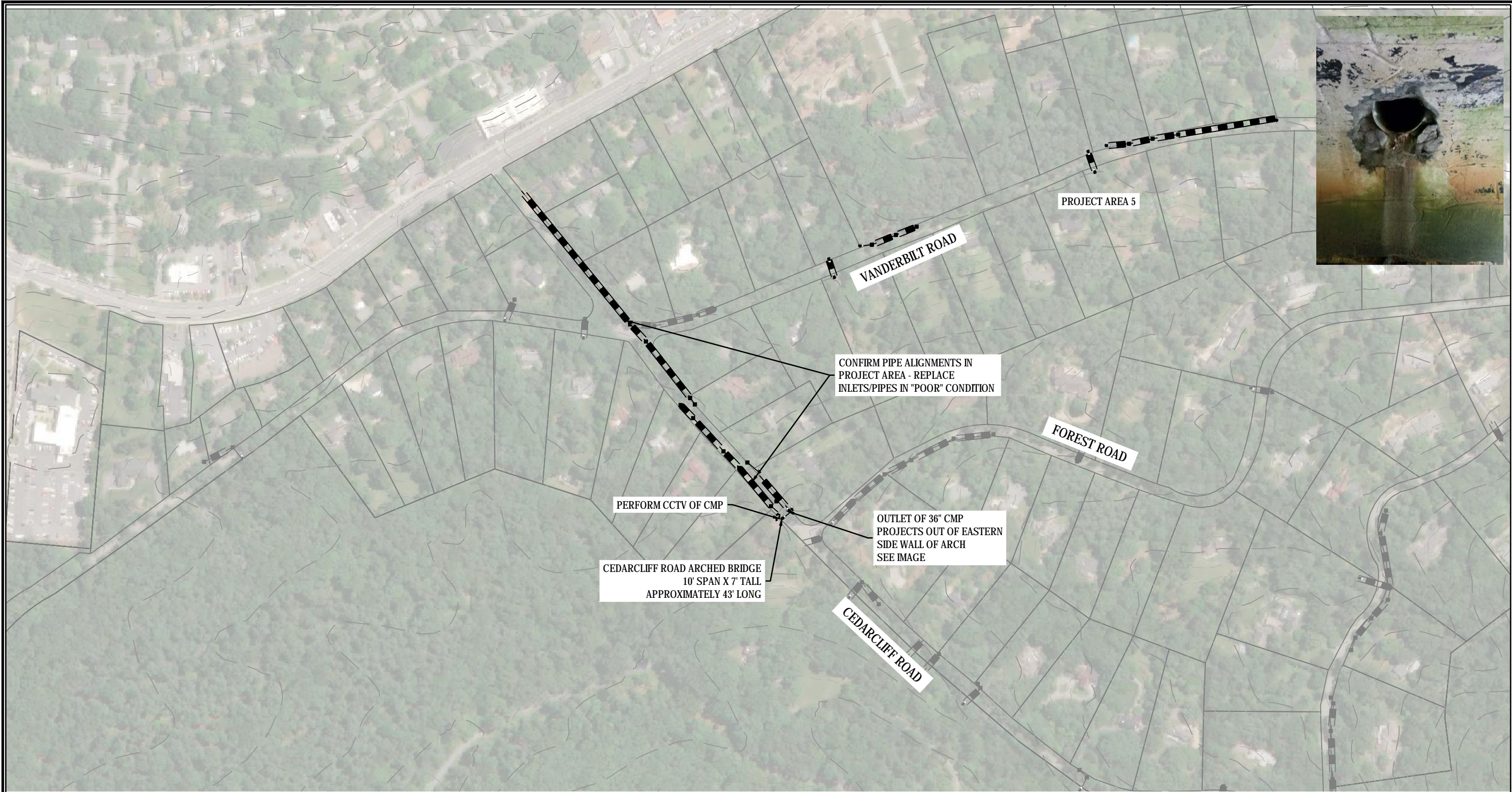
GRAPHIC SCALE



1 inch = 200 ft.

| | | |
|--|-------------------|-----------------------|
| <p>WithersRavenel Engineers Planners Surveyors 115 MackKean Drive Cary, NC 27511 t: 919.469.3340 license #: C-0832 www.withersravenel.com</p> | | Sheet No. 7 |
| PROJECT AREA 7 VICINITY MAP | | |
| BILTMORE FOREST STORMWATER MASTER PLAN BILTMORE FOREST, NORTH CAROLINA | | |
| Designer WR | Scale AS NOTED | Job No. 021709246 |
| Drawn by BJM | Date 6/7/19 | Checked by JCD |
| No. | Revision | Date |

K:\31717\010179010\Biltmore Forest Stormwater MFC\010179010\Drawings\2019\06\2019_06_24_13:24 PM - MILLER, BRANDON



PROBLEM STATEMENT

PARTS OF THE EXISTING STORM INFRASTRUCTURE IN THIS AREA ARE IN POOR CONDITION AND ARE UNDERSIZED.

RECOMMENDATIONS

- CONFIRM PIPE ALIGNMENTS AND OUTLET LOCATIONS AND REPLACE INLETS/PIPES IN "POOR" CONDITION. PERFORM CCTV INSPECTION ON CMP THAT PENETRATES THROUGH BRIDGE ARCH.
- INSTALL NEW INLETS AS NECESSARY AND INSTALL NEW MAIN STORM DRAIN PIPE UNDER CEDARCLIFF ROAD PARALLEL TO EXISTING SYSTEM. REPLACE EXISTING 12" VCP OUTLET AND TIE INTO NEW MAIN STORM DRAIN.



5' AND 20' CONTOURS SHOWN

GRAPHIC SCALE

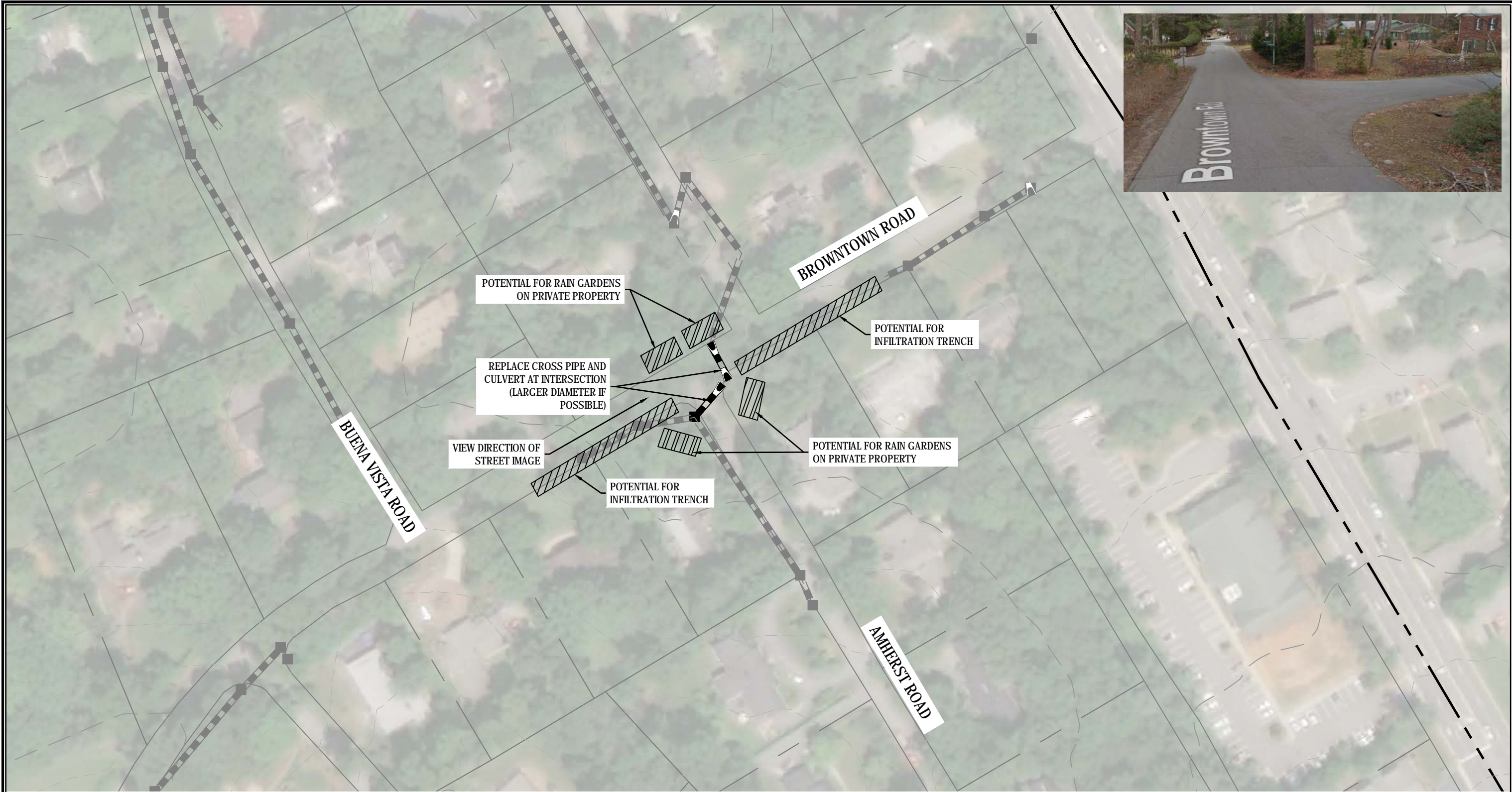


1 inch = 300 ft.

| No. | Revision | By | Date | Designated | Scale | AS NOTED |
|-----|----------|----|------|------------|-------|----------|
| | | | | WR | | |
| | | | | BJM | | |
| | | | | JCD | | |

Checked By: JCD
 Job No.: 02120946

K:\2017\08010790\Biltmore Forest Stormwater MFC\01\Phase 2\Tables\vc2.dwg Monday, June 10, 2019 2:56:14 PM MILLER, BAK/SDB



PROBLEM STATEMENT

THE INTERSECTION OF BROWNTOWN ROAD AND AMHERST ROAD LIES IN A NATURAL DRAW. THE CROSS PIPE AND CULVERT AT THE INTERSECTION ARE IN "FAIR"/"POOR" CONDITION AND ARE UNDERSIZED FOR THE 25-YEAR, 24-HOUR STORM.

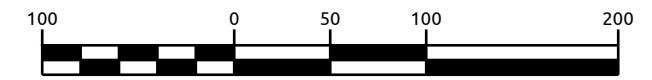
RECOMMENDATIONS

1. REPLACE THE CROSS PIPE AND CULVERT WITH LARGER DIAMETER PIPES TO PASS 25-YEAR, 24-HOUR STORM. IF NEEDED, INSTEAD REPLACE CROSS PIPE/CULVERT WITH SAME DIAMETER PIPE AND INSTALL ADDITIONAL INLETS/ PIPE PARALLEL TO EXISTING. POTENTIALLY INSTALL CORRUGATED DRAIN PIPE AND INFILTRATION TRENCHES.
2. REPLACE BROWNTOWN ROAD CROSS PIPE IN "POOR" CONDITION. IF POSSIBLE, UTILIZE ADJACENT PRIVATE PROPERTY FOR SHALLOW-PONDING RAIN GARDENS.



5' AND 20' CONTOURS SHOWN

GRAPHIC SCALE



1 inch = 100 ft.

| | |
|--|--|
| Sheet No. 10 | |
| WithersRavenel Engineers Planners Surveyors 115 MackKean Drive Cary, NC 27511 t: 919.469.3340 license #: C-0832 www.withersravenel.com | |
| PROJECT AREA 10 VICINITY MAP | |
| BILTMORE FOREST STORMWATER MASTER PLAN <small>BILTMORE FOREST, NORTH CAROLINA</small> | |
| Designer: JCD Drawn by: BJM Checked by: JCD | Scale: AS NOTED Date: 6/7/19 Job No.: 02120946 |
| No. Revision Date By | [Empty table for revisions] |

K:\31712\08101790\Biltmore Forest Stormwater MFC\01\Phase 2\Exhibits\vd.dwg - Major - June 7, 2019, 5:43:19 PM - MILLER, BRANDON

Appendices

- A. **Project Costs**
 - B. **Phase 1 Stormwater Master Plan, Summary of Field Reconnaissance Report**
 - C. **Preliminary Stormwater Assessment and Analysis**
-

Opinion of Construction Cost

October 2019

Town of Biltmore Forest

Stormwater Master Plan - Project Area 1

WithersRavenel Project No. 02170940

Recommendation #1

| Item No. | Item Description | Unit | Est. Quan. | Unit Price | Extended Price |
|---|--|------|------------|--------------|----------------------|
| 1 | Mobilization (5%) | LS | 1 | \$ 15,600.00 | \$ 15,600.00 |
| 2 | Clearing & Grubbing | LS | 1 | \$ 1,700.00 | \$ 1,700.00 |
| 3 | Erosion Control | LS | 1 | \$ 8,100.00 | \$ 8,100.00 |
| 4 | 12" Reinforced Concrete Pipe (RCP) Storm Drain | LF | 630 | \$ 70.00 | \$ 44,100.00 |
| 5 | 24" Reinforced Concrete Pipe (RCP) Cross Pipe | LF | 44 | \$ 160.00 | \$ 7,040.00 |
| 6 | Demolition/Removal of Ex. Storm Drainage Pipe | LF | 674 | \$ 140.00 | \$ 94,360.00 |
| 7 | Tie to Existing Storm Drainage | EA | 1 | \$ 2,500.00 | \$ 2,500.00 |
| 8 | Catch Basin (0' to 6' Deep) | EA | 8 | \$ 5,000.00 | \$ 40,000.00 |
| 9 | Demolition/Removal of Ex. Catch Basins | EA | 8 | \$ 1,500.00 | \$ 12,000.00 |
| 10 | Excavation for Swale | CY | 650 | \$ 35.00 | \$ 22,750.00 |
| 11 | Asphalt Pavement Removal and Replacement | SY | 60 | \$ 65.00 | \$ 3,900.00 |
| 12 | Rock Excavation | CY | 25 | \$ 200.00 | \$ 5,000.00 |
| 13 | Select Backfill | CY | 25 | \$ 50.00 | \$ 1,250.00 |
| 14 | Site Resoration | LS | 1 | \$ 13,500.00 | \$ 13,500.00 |
| 15 | Traffic Control | LS | 1 | \$ 4,000.00 | \$ 4,000.00 |
| 16 | Miscellaneous (20%) | LS | 1 | \$ 52,100.00 | \$ 52,100.00 |
| Construction Subtotal | | | | | \$ 327,900.00 |
| 15% Construction Contingency | | | | | \$ 49,200.00 |
| Surveying/SUE/Geotechnical | | | | | \$ 16,400.00 |
| Planning and Engineering Design | | | | | \$ 49,200.00 |
| Bid and Award | | | | | \$ 9,000.00 |
| Construction Administration/Observation | | | | | \$ 32,800.00 |
| Project Total | | | | | \$ 484,500.00 |

Opinion of Construction Cost
Town of Biltmore Forest
Stormwater Master Plan - Project Area 2
 WithersRavenel Project No. 02170940

October 2019

Recommendation #1

| Item No. | Item Description | Unit | Est. Quan. | Unit Price | Extended Price |
|---|---|------|------------|--------------|----------------------|
| 1 | Mobilization (5%) | LS | 1 | \$ 3,500.00 | \$ 3,500.00 |
| 2 | Clearing & Grubbing | LS | 1 | \$ 600.00 | \$ 600.00 |
| 3 | Erosion Control | LS | 1 | \$ 1,400.00 | \$ 1,400.00 |
| 4 | 24" Reinforced Concrete Pipe (RCP) Cross Pipe | LF | 120 | \$ 160.00 | \$ 19,200.00 |
| 5 | Demolition/Removal of Ex. Storm Drainage Pipe | LF | 120 | \$ 140.00 | \$ 16,800.00 |
| 6 | Headwall/Endwall | EA | 2 | \$ 4,000.00 | \$ 8,000.00 |
| 7 | Geotextile Fabric (Dissipater Pad) | SY | 20 | \$ 20.00 | \$ 400.00 |
| 8 | Crushed Stone (Dissipater Pad) | CY | 20 | \$ 50.00 | \$ 1,000.00 |
| 9 | Asphalt Pavement Removal and Replacement | SY | 30 | \$ 65.00 | \$ 1,950.00 |
| 10 | Rock Excavation | CY | 15 | \$ 200.00 | \$ 3,000.00 |
| 11 | Select Backfill | CY | 15 | \$ 50.00 | \$ 750.00 |
| 12 | Site Resoration | LS | 1 | \$ 2,400.00 | \$ 2,400.00 |
| 13 | Traffic Control | LS | 1 | \$ 2,000.00 | \$ 2,000.00 |
| 14 | Miscellaneous (20%) | LS | 1 | \$ 11,500.00 | \$ 11,500.00 |
| Construction Subtotal | | | | | \$ 72,500.00 |
| 15% Construction Contingency | | | | | \$ 10,900.00 |
| Surveying/SUE/Geotechnical | | | | | \$ 3,700.00 |
| Planning and Engineering Design | | | | | \$ 10,900.00 |
| Bid and Award | | | | | \$ 9,000.00 |
| Construction Administration/Observation | | | | | \$ 7,300.00 |
| Project Total | | | | | \$ 114,300.00 |

Opinion of Construction Cost
Town of Biltmore Forest
Stormwater Master Plan - Project Area 4
 WithersRavenel Project No. 02170940

October 2019

Recommendation #1

| Item No. | Item Description | Unit | Est. Quan. | Unit Price | Extended Price |
|---|---|------|------------|--------------|----------------------|
| 1 | Mobilization (5%) | LS | 1 | \$ 16,500.00 | \$ 16,500.00 |
| 2 | Clearing & Grubbing | LS | 1 | \$ 500.00 | \$ 500.00 |
| 3 | Erosion Control | LS | 1 | \$ 2,400.00 | \$ 2,400.00 |
| 4 | 36" Reinforced Concrete Pipe (RCP) Cross Pipe | LF | 50 | \$ 250.00 | \$ 12,500.00 |
| 5 | 48" Reinforced Concrete Pipe (RCP) Cross Pipe | LF | 150 | \$ 400.00 | \$ 60,000.00 |
| 6 | Demolition/Removal of Ex. Storm Drainage Pipe | LF | 200 | \$ 140.00 | \$ 28,000.00 |
| 7 | Headwall/Endwall | EA | 4 | \$ 4,000.00 | \$ 16,000.00 |
| 8 | Geotextile Fabric (Dissipater Pad) | SY | 20 | \$ 20.00 | \$ 400.00 |
| 9 | Crushed Stone (Dissipater Pad) | CY | 20 | \$ 50.00 | \$ 1,000.00 |
| 10 | Asphalt Pavement Removal and Replacement | SY | 30 | \$ 65.00 | \$ 1,950.00 |
| 11 | Stream Stabilization | LF | 370 | \$ 350.00 | \$ 129,500.00 |
| 12 | Rock Excavation | CY | 60 | \$ 200.00 | \$ 12,000.00 |
| 13 | Select Backfill | CY | 60 | \$ 50.00 | \$ 3,000.00 |
| 14 | Site Resoration | LS | 1 | \$ 4,000.00 | \$ 4,000.00 |
| 15 | Traffic Control | LS | 1 | \$ 3,000.00 | \$ 3,000.00 |
| 16 | Miscellaneous (20%) | LS | 1 | \$ 54,900.00 | \$ 54,900.00 |
| Construction Subtotal | | | | | \$ 345,650.00 |
| 15% Construction Contingency | | | | | \$ 51,900.00 |
| Surveying/SUE/Geotechnical | | | | | \$ 17,300.00 |
| Planning and Engineering Design | | | | | \$ 51,900.00 |
| Bid and Award | | | | | \$ 9,000.00 |
| Construction Administration/Observation | | | | | \$ 34,600.00 |
| Project Total | | | | | \$ 510,350.00 |

Opinion of Construction Cost
Town of Biltmore Forest
Stormwater Master Plan - Project Area 5
 WithersRavenel Project No. 02170940

October 2019

Recommendation #1

| Item No. | Item Description | Unit | Est. Quan. | Unit Price | Extended Price |
|---|--|------|------------|--------------|----------------------|
| 1 | Mobilization (5%) | LS | 1 | \$ 22,400.00 | \$ 22,400.00 |
| 2 | Clearing & Grubbing | LS | 1 | \$ 2,400.00 | \$ 2,400.00 |
| 3 | Erosion Control | LS | 1 | \$ 11,400.00 | \$ 11,400.00 |
| 4 | 15" Reinforced Concrete Pipe (RCP) Storm Drain | LF | 800 | \$ 100.00 | \$ 80,000.00 |
| 5 | 18" Reinforced Concrete Pipe (RCP) Cross Pipe | LF | 152 | \$ 120.00 | \$ 18,240.00 |
| 6 | Demolition/Removal of Ex. Storm Drainage Pipe | LF | 952 | \$ 140.00 | \$ 133,280.00 |
| 7 | Catch Basin (0' to 6' Deep) | EA | 7 | \$ 5,000.00 | \$ 35,000.00 |
| 8 | Demolition/Removal of Ex. Catch Basins | EA | 7 | \$ 1,500.00 | \$ 10,500.00 |
| 9 | Headwall/Endwall | EA | 4 | \$ 4,000.00 | \$ 16,000.00 |
| 10 | Excavation for Swale | CY | 900 | \$ 35.00 | \$ 31,500.00 |
| 11 | Asphalt Pavement Removal and Replacement | SY | 60 | \$ 65.00 | \$ 3,900.00 |
| 12 | Rock Excavation | CY | 30 | \$ 200.00 | \$ 6,000.00 |
| 13 | Select Backfill | CY | 30 | \$ 50.00 | \$ 1,500.00 |
| 14 | Site Resoration | LS | 1 | \$ 19,000.00 | \$ 19,000.00 |
| 15 | Traffic Control | LS | 1 | \$ 4,000.00 | \$ 4,000.00 |
| 16 | Miscellaneous (20%) | LS | 1 | \$ 74,600.00 | \$ 74,600.00 |
| Construction Subtotal | | | | | \$ 469,720.00 |
| 15% Construction Contingency | | | | | \$ 70,500.00 |
| Surveying/SUE/Geotechnical | | | | | \$ 23,500.00 |
| Planning and Engineering Design | | | | | \$ 70,500.00 |
| Bid and Award | | | | | \$ 9,000.00 |
| Construction Administration/Observation | | | | | \$ 47,000.00 |
| Project Total | | | | | \$ 690,220.00 |

Opinion of Construction Cost
Town of Biltmore Forest
Stormwater Master Plan - Project Area 6
 WithersRavenel Project No. 02170940

October 2019

Recommendation #1

| Item No. | Item Description | Unit | Est. Quan. | Unit Price | Extended Price |
|---|--|------|------------|--------------|----------------------|
| 1 | Mobilization (5%) | LS | 1 | \$ 12,300.00 | \$ 12,300.00 |
| 2 | Clearing & Grubbing | LS | 1 | \$ 3,800.00 | \$ 3,800.00 |
| 3 | Erosion Control | LS | 1 | \$ 15,200.00 | \$ 15,200.00 |
| 4 | Excavation/Grading | CY | 1,300 | \$ 35.00 | \$ 45,500.00 |
| 5 | Asphalt Pavement Removal and Replacement | SY | 1,300 | \$ 65.00 | \$ 84,500.00 |
| 6 | Rock Excavation | CY | 130 | \$ 200.00 | \$ 26,000.00 |
| 7 | Select Backfill | CY | 130 | \$ 50.00 | \$ 6,500.00 |
| 8 | Site Resoration | LS | 1 | \$ 7,600.00 | \$ 7,600.00 |
| 9 | Traffic Control | LS | 1 | \$ 15,000.00 | \$ 15,000.00 |
| 10 | Miscellaneous (20%) | LS | 1 | \$ 40,900.00 | \$ 40,900.00 |
| Construction Subtotal | | | | | \$ 257,300.00 |
| 15% Construction Contingency | | | | | \$ 38,600.00 |
| Surveying/SUE/Geotechnical | | | | | \$ 12,900.00 |
| Planning and Engineering Design | | | | | \$ 38,600.00 |
| Bid and Award | | | | | \$ 9,000.00 |
| Construction Administration/Observation | | | | | \$ 25,800.00 |
| Project Total | | | | | \$ 382,200.00 |

Opinion of Construction Cost
Town of Biltmore Forest
Stormwater Master Plan - Project Area 7
 WithersRavenel Project No. 02170940

October 2019

Recommendation #2

| Item No. | Item Description | Unit | Est. Quan. | Unit Price | Extended Price |
|---|--|------|------------|---------------|------------------------|
| 1 | Mobilization (5%) | LS | 1 | \$ 41,600.00 | \$ 41,600.00 |
| 2 | Clearing & Grubbing | LS | 1 | \$ 3,700.00 | \$ 3,700.00 |
| 3 | Erosion Control | LS | 1 | \$ 18,000.00 | \$ 18,000.00 |
| 4 | 18" Reinforced Concrete Pipe (RCP) Storm Drain | LF | 1,036 | \$ 120.00 | \$ 124,320.00 |
| 5 | 18" Reinforced Concrete Pipe (RCP) Cross Pipe | LF | 160 | \$ 120.00 | \$ 19,200.00 |
| 6 | 24" Reinforced Concrete Pipe (RCP) Storm Drain | LF | 300 | \$ 160.00 | \$ 48,000.00 |
| 7 | Demolition/Removal of Ex. Storm Pipe | LF | 1,496 | \$ 140.00 | \$ 209,440.00 |
| 8 | Catch Basin (0' to 6' Deep) | EA | 13 | \$ 5,000.00 | \$ 65,000.00 |
| 9 | Demolition/Removal of Ex. Catch Basins | EA | 13 | \$ 1,500.00 | \$ 19,500.00 |
| 10 | Headwall/Endwall | EA | 1 | \$ 4,000.00 | \$ 4,000.00 |
| 11 | Excavation for Swale | CY | 1,400 | \$ 35.00 | \$ 49,000.00 |
| 12 | Asphalt Pavement Removal and Replacement | SY | 1,200 | \$ 65.00 | \$ 78,000.00 |
| 13 | Rock Excavation | CY | 60 | \$ 200.00 | \$ 12,000.00 |
| 14 | Select Backfill | CY | 60 | \$ 50.00 | \$ 3,000.00 |
| 15 | Site Resoration | LS | 1 | \$ 29,900.00 | \$ 29,900.00 |
| 16 | Traffic Control | LS | 1 | \$ 10,000.00 | \$ 10,000.00 |
| 17 | Miscellaneous (20%) | LS | 1 | \$ 138,700.00 | \$ 138,700.00 |
| Construction Subtotal | | | | | \$ 873,360.00 |
| 15% Construction Contingency | | | | | \$ 131,100.00 |
| Surveying/SUE/Geotechnical | | | | | \$ 43,700.00 |
| Planning and Engineering Design | | | | | \$ 131,100.00 |
| Bid and Award | | | | | \$ 9,000.00 |
| Construction Administration/Observation | | | | | \$ 87,400.00 |
| Project Total | | | | | \$ 1,275,660.00 |

Opinion of Construction Cost
Town of Biltmore Forest
Stormwater Master Plan - Project Area 8
 WithersRavenel Project No. 02170940

October 2019

Recommendation #2

| Item No. | Item Description | Unit | Est. Quan. | Unit Price | Extended Price |
|---|--|------|------------|--------------|----------------------|
| 1 | Mobilization (5%) | LS | 1 | \$ 12,500.00 | \$ 12,500.00 |
| 2 | Clearing & Grubbing | LS | 1 | \$ 1,600.00 | \$ 1,600.00 |
| 3 | Erosion Control | LS | 1 | \$ 7,800.00 | \$ 7,800.00 |
| 4 | 15" Reinforced Concrete Pipe (RCP) Storm Drain | LF | 648 | \$ 100.00 | \$ 64,800.00 |
| 5 | Demolition/Removal of Ex. Storm Pipe | LF | 648 | \$ 140.00 | \$ 90,720.00 |
| 6 | Tie to Existing Storm Drainage | EA | 1 | \$ 2,500.00 | \$ 2,500.00 |
| 7 | Catch Basin (0' to 6' Deep) | EA | 2 | \$ 5,000.00 | \$ 10,000.00 |
| 8 | Demolition/Removal of Ex. Catch Basins | EA | 2 | \$ 1,500.00 | \$ 3,000.00 |
| 9 | Headwall/Endwall | EA | 1 | \$ 4,000.00 | \$ 4,000.00 |
| 10 | Asphalt Pavement Removal and Replacement | SY | 60 | \$ 65.00 | \$ 3,900.00 |
| 11 | Rock Excavation | CY | 10 | \$ 200.00 | \$ 2,000.00 |
| 12 | Select Backfill | CY | 10 | \$ 50.00 | \$ 500.00 |
| 13 | Site Resoration | LS | 1 | \$ 13,000.00 | \$ 13,000.00 |
| 14 | Traffic Control | LS | 1 | \$ 5,000.00 | \$ 5,000.00 |
| 15 | Miscellaneous (20%) | LS | 1 | \$ 41,800.00 | \$ 41,800.00 |
| Construction Subtotal | | | | | \$ 263,120.00 |
| 15% Construction Contingency | | | | | \$ 39,500.00 |
| Surveying/SUE/Geotechnical | | | | | \$ 13,200.00 |
| Planning and Engineering Design | | | | | \$ 39,500.00 |
| Bid and Award | | | | | \$ 9,000.00 |
| Construction Administration/Observation | | | | | \$ 26,400.00 |
| Project Total | | | | | \$ 390,720.00 |

Opinion of Construction Cost
Town of Biltmore Forest
Stormwater Master Plan - Project Area 9
 WithersRavenel Project No. 02170940

October 2019

Recommendation #1

| Item No. | Item Description | Unit | Est. Quan. | Unit Price | Extended Price |
|---|--|------|------------|--------------|----------------------|
| 1 | Mobilization (5%) | LS | 1 | \$ 25,200.00 | \$ 25,200.00 |
| 2 | Clearing & Grubbing | LS | 1 | \$ 2,300.00 | \$ 2,300.00 |
| 3 | Erosion Control | LS | 1 | \$ 11,000.00 | \$ 11,000.00 |
| 4 | 15" Reinforced Concrete Pipe (RCP) Storm Drain | LF | 468 | \$ 100.00 | \$ 46,800.00 |
| 5 | 18" Reinforced Concrete Pipe (RCP) Storm Drain | LF | 88 | \$ 120.00 | \$ 10,560.00 |
| 6 | 24" Reinforced Concrete Pipe (RCP) Cross Pipe | LF | 164 | \$ 160.00 | \$ 26,240.00 |
| 7 | 42" Reinforced Concrete Pipe (RCP) Cross Pipe | LF | 196 | \$ 340.00 | \$ 66,640.00 |
| 8 | Demolition/Removal of Ex. Storm Pipe | LF | 916 | \$ 140.00 | \$ 128,240.00 |
| 9 | Catch Basin (0' to 6' Deep) | EA | 5 | \$ 5,000.00 | \$ 25,000.00 |
| 10 | Demolition/Removal of Ex. Catch Basins | EA | 5 | \$ 1,500.00 | \$ 7,500.00 |
| 11 | Headwall/Endwall | EA | 6 | \$ 4,000.00 | \$ 24,000.00 |
| 12 | Excavation for Swale | CY | 650 | \$ 35.00 | \$ 22,750.00 |
| 13 | Asphalt Pavement Removal and Replacement | SY | 60 | \$ 65.00 | \$ 3,900.00 |
| 14 | Rock Excavation | CY | 90 | \$ 200.00 | \$ 18,000.00 |
| 15 | Select Backfill | CY | 90 | \$ 50.00 | \$ 4,500.00 |
| 16 | Site Resoration | LS | 1 | \$ 18,300.00 | \$ 18,300.00 |
| 17 | Traffic Control | LS | 1 | \$ 5,000.00 | \$ 5,000.00 |
| 18 | Miscellaneous (20%) | LS | 1 | \$ 84,200.00 | \$ 84,200.00 |
| Construction Subtotal | | | | | \$ 530,130.00 |
| 15% Construction Contingency | | | | | \$ 79,600.00 |
| Surveying/SUE/Geotechnical | | | | | \$ 26,600.00 |
| Planning and Engineering Design | | | | | \$ 79,600.00 |
| Bid and Award | | | | | \$ 9,000.00 |
| Construction Administration/Observation | | | | | \$ 53,100.00 |
| Project Total | | | | | \$ 778,030.00 |

Opinion of Construction Cost
Town of Biltmore Forest
Stormwater Master Plan - Project Area 10
 WithersRavenel Project No. 02170940

October 2019

Recommendation #1

| Item No. | Item Description | Unit | Est. Quan. | Unit Price | Extended Price |
|---|--|------|------------|--------------|----------------------|
| 1 | Mobilization (5%) | LS | 1 | \$ 6,800.00 | \$ 6,800.00 |
| 2 | Clearing & Grubbing | LS | 1 | \$ 600.00 | \$ 600.00 |
| 3 | Erosion Control | LS | 1 | \$ 2,700.00 | \$ 2,700.00 |
| 4 | 15" Reinforced Concrete Pipe (RCP) Storm Drain | LF | 136 | \$ 100.00 | \$ 13,600.00 |
| 5 | 18" Reinforced Concrete Pipe (RCP) Cross Pipe | LF | 92 | \$ 120.00 | \$ 11,040.00 |
| 6 | Demolition/Removal of Ex. Storm Pipe | LF | 228 | \$ 140.00 | \$ 31,920.00 |
| 7 | Catch Basin (0' to 6' Deep) | EA | 3 | \$ 5,000.00 | \$ 15,000.00 |
| 8 | Demolition/Removal of Ex. Catch Basins | EA | 3 | \$ 1,500.00 | \$ 4,500.00 |
| 9 | Headwall/Endwall | EA | 3 | \$ 4,000.00 | \$ 12,000.00 |
| 10 | Excavation for Swale | CY | 150 | \$ 35.00 | \$ 5,250.00 |
| 11 | Asphalt Pavement Removal and Replacement | SY | 60 | \$ 65.00 | \$ 3,900.00 |
| 12 | Rock Excavation | CY | 10 | \$ 200.00 | \$ 2,000.00 |
| 13 | Select Backfill | CY | 10 | \$ 50.00 | \$ 500.00 |
| 14 | Site Resoration | LS | 1 | \$ 4,600.00 | \$ 4,600.00 |
| 15 | Traffic Control | LS | 1 | \$ 5,000.00 | \$ 5,000.00 |
| 16 | Miscellaneous (20%) | LS | 1 | \$ 22,600.00 | \$ 22,600.00 |
| Construction Subtotal | | | | | \$ 142,010.00 |
| 15% Construction Contingency | | | | | \$ 21,400.00 |
| Surveying/SUE/Geotechnical | | | | | \$ 7,200.00 |
| Planning and Engineering Design | | | | | \$ 21,400.00 |
| Bid and Award | | | | | \$ 9,000.00 |
| Construction Administration/Observation | | | | | \$ 14,300.00 |
| Project Total | | | | | \$ 215,310.00 |

355 Vanderbilt Rd | Biltmore Forest, NC
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www.biltmoreforest.org



George F. Goosmann, III, Mayor
Fran G. Cogburn, Mayor-Pro Tem
E. Glenn Kelly, Commissioner
Doris P. Loomis, Commissioner

Jonathan B. Kanipe,
Town Manager

MEMORANDUM

To: Mayor and Board of Commissioners

From: Jonathan Kanipe, Town Manager

Re: Resolution 2019-09 – A Resolution Awarding Badge & Service Sidearm

Date: November 5, 2019

Background

Sergeant Keith Mackey is retiring from the Biltmore Forest Police Department after serving the Town for 25 years. Sgt. Mackey will be missed and has done a tremendous job in service to the citizens of Biltmore Forest.

Action Requested

North Carolina law allows local governments to award the badge and service sidearm to retiring law enforcement officers. The Town has made these types of awards previously, and staff requests this consideration for Sgt. Mackey. If approved, these items will be presented to Sgt. Mackey at a retirement celebration to be held Tuesday, December 3 from 4-6pm at the Town Hall.

Please let me know if you have questions.

STATE OF NORTH CAROLINA)
)
 COUNTY OF BUNCOMBE)

TOWN OF BILTMORE FOREST
 BOARD OF COMMISSIONERS

RESOLUTION 2019-09

**RESOLUTION AWARDING BADGE AND SERVICE SIDEARM TO RETIRING
 SERGEANT KEITH MACKEY**

WHEREAS, N.C.G.S. 20-187.2 provides that retiring members of municipal law enforcement agencies may receive, at the time of their retirement, the badge worn or carried by them during their service with the municipality; AND

WHEREAS, N.C.G.S. 20-187.2 further provides that the governing body of the municipal law enforcement agency may, in its discretion, award to a retiring member the service sidearm of such retiring member; AND

WHEREAS, Sergeant Keith Mackey has served the Town of Biltmore Forest as a Police Officer and Sergeant for twenty-five years and will retire from the Department on November 30, 2019.

NOW THEREFORE, BE IT RESOLVED by the Board of Commissioners of the Town of Biltmore Forest, North Carolina that the badge and service sidearm worn and/or carried by Sergeant Keith Mackey be awarded to him on his retirement. This firearm is further identified as a Glock model 17, Serial # BGTX226.

This the 12th day of November, 2019.

George F. Goosmann, III
 Mayor

Attest:

Jonathan B. Kanipe
 Town Manager

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Fran G. Cogburn, Mayor-Pro Tem
E. Glenn Kelly, Commissioner
Doris P. Loomis, Commissioner

Jonathan B. Kanipe,
Town Manager

MEMORANDUM

To: Mayor and Board of Commissioners
From: Jonathan Kanipe, Town Manager
Re: Stormwater On-Call RFQ Submissions
Date: November 7, 2019

Background

Last month, Town staff issued a Request for Qualifications from engineering firms interested in providing on-call stormwater services for the Town. The following RFQ proposals were received per the request.

RFQ Submissions (in alphabetical order)

1. Bell Engineering – Asheville, N.C.
2. Mattern & Craig Engineers-Surveyors – Asheville, N.C.
3. McGill Associates – Asheville, N.C.
4. WithersRavenel – Asheville, N.C.
5. Wood Environment & Infrastructure Solutions – Asheville, N.C.

Staff is currently reviewing these submissions and will provide the Board a recommendation within the next two weeks for a decision to be made at the regular December meeting. Please let me know if you have any questions regarding these submissions.

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Jonathan B. Kanipe,
Town Manager

MEMORANDUM

To: Mayor and Board of Commissioners

From: Jonathan Kanipe, Town Manager

Re: Town Improvements to Greenwood Park

Date: November 5, 2019

Background

The Town applied for, but did not receive, a PARTF grant to fund the Greenwood Park Master Plan. The Board of Commissioners requested staff to identify potential portions of the master plan that could be completed by the Town without grant assistance.

Park Recommendations

There are several components of this project that can be completed with Town forces and, perhaps, volunteer donations. First, the Biltmore Forest Community Preservation Committee (BFCPC) discussed an honorific bench and picnic table program that would allow residents to purchase a park bench or picnic table in honor or memory of someone. The BFCPC believes this program would be effective and allow the Town to focus on other needs at the park. If approved by the Board, the Town would notify residents to this opportunity with a set timetable and ordering method through the Town. The benches would be uniform and placed in specific parts in Greenwood Park, and potentially in other park spaces throughout the Town.

The critical pieces of the Greenwood Park plan that could be accomplished by the Town are as follows. Please note, these budgetary estimates were provided during the Greenwood Park Master Plan/PARTF application process. By separating some of the components out and performing much of the work through Town forces, pricing is certainly subject to change. The Town can accommodate necessary improvements such as landscaping improvements, a new staircase, parking lot safety improvements, and the bridge repair for less than \$15,000. This, coupled with the addition of bench and picnic tables as noted above, would provide a substantially improved look to the park and improve safety. The accessibility needs are still present, but these represent a significantly larger amount of funding (approximately \$100,000) that would prevent other improvements from being made. The Town should consider applying for PARTF funding in the next cycle and perhaps the focus at that point could be accessibility and playground equipment.