



**Town of Clayton
Planning Board Minutes
October 28, 2019 @ 6:00 P.M.
Town Council Chambers**

BOARD MEMBERS PRESENT:

Stephen Powers
James Lipscomb
Bob Ahlert
Frank Price
James Moore
George "Bucky" Coats

STAFF PRESENT:

Samantha Wullenwaber, Planning Director
Haley Hogg, Planner
Jeff Caines, Planner
Chrissy Freeman, Clerk to the Board
Merrick Parrot, Town Attorney
Michael Grannis, Council Member

MEMBERS ABSENT:

Ross Benson
Marty Bizzell
Andria Merritt

1 CALL TO ORDER

a)

Bob Ahlert called the meeting to order at 6:01 p. m.

There were three Planning Board Members absent from this meeting:

Marty Bizzell
Andria Merritt
Ross Benson

2 ADJUSTMENT OF THE AGENDA

3 APPROVAL OF MINUTES

a)

Approval of September 23, 2019 Planning Board Minutes

ACTION: Approval of September 23, 2019 Planning Board Minutes

Motion: Board Member Powers
Second: Board Member Price
Vote: Unanimous

4 PUBLIC HEARINGS

a) 2019-191-VAR 217 S. Church Street Setback Variance
NC PIN: 166917-02-4389

Tag # 05015062

Location: 217 S. Church Street

Town Attorney Merrick Parrott explained the Quasi-Judicial process. Clerk to the Board Chrissy Freeman gave the affirmation.

Planning Director Samantha Wullenwaber presented this item. The applicant is requesting a rear yard setback of 14 feet to construct a 5' x 18' addition on the rear of their single family dwelling. The addition will be a handicap accessible bathroom. Other structures in the area also appear to encroach into the setback as most of the structures were built in the mid-1900s, so the setbacks may not have existed at that point in time.

Applicant, Curk Lane from Trueline Surveying was present and available for questions. There were no questions for the applicant. The homeowner, Robert Barber was also present. He explained that they are requesting this variance to build a handicap bathroom so that they can remain in the house. There were no questions for the homeowner.

The Board read through the Findings of Facts.

ACTION: Approve the request as presented by staff.

Motion: Board Member Lipscomb

Second: Board Member Price

Vote: Unanimous

- b) 2019-42-CUP Horne Memorial UMC Expansion Conditional Use Permit
NC PIN: 166913-02-4512 / 166917-02-1390
Tag #: 05015059 / 05016041
Location: 121 E. Second St.

Planner Haley Hogg presented this item. This request is running concurrently with Major Site Plan 2019-37-SP.

The applicant is requesting a Conditional Use Permit for the expansion of the existing Horne Memorial UMC Church on their property. There is also an approved Variance application 2019-41-VAR, which reduced the minimum setback distance. The applicant are also proposing to include accessory uses to the church on the adjacent property that will include the use of a private playground for daycare/preschool students, limited outdoor storage area for church vehicles and space within a shelter for restrooms, storage and a meeting space. This request is consistent with the Unified Development Code and with Surrounding Land Uses. There will be a shared parking agreement with the Town to share parking at the Clayton Center/Town Hall. There were no questions for staff.

The applicant, Don Curry with Curry Engineering. He stated they have been working with staff for the past few months to have a good and reasonable request. Board Member Frank Price asked is there an anticipated schedule for Phase two. The applicant stated not at this time. They will be starting a pledge

campaign next spring and that will depend on when they start phase two. They would like to start Phase one next year. There were no further questions for the applicant.

Resident Dorotea Torchiano lives in an adjacent home from the Church. The Church offered to give her an eight foot fence. She does have some questions that she would like to get resolved. She is not comprehending the buffer zone of the fence. At one point it was that the fence would be right up to her carport. Both sides her house will be squeezed in by this expansion. Ms. Torchiano would like more clarity to have the fence more off her property line. Also behind her house she has a screened in porch, despite the fence, it looks like she will have a direct view of the bathroom doors. She would like these items to be considered and is open to discussion.

The applicant addressed Ms. Torchiano's concerns. Ms. Torchiano's property is to the north of the church. The applicant stated no doors will be in view. With the landscaping and eight foot fence there will be no encroachment on her property. They feel they have taken appropriate steps to be a good neighbor. The entire back wall will accommodate her property and will be adjacent to her property. The proposed door will open up facing the church to avoid exposure to the adjacent properties.

Board Member Frank Price said that the UDC states the fence to be one foot in from property line. The applicant stated at the request of the neighbor they increased the fence height to be eight feet. The applicant stated they will write a letter stating the fence location will be one foot from the property line.

Tom Wells, the architect on this proposal was available for questions. There were no questions.

Ms. Torchiano stated she would be fine with 1 foot off the property line.

The Board read through the Findings of Facts.

ACTION: Approve 2019-42-CUP Horne Memorial UMC Expansion Conditional Use Permit - conditions listed in staff report

Motion: Board Member Coats
Second: Board Member Powers
Vote: Unanimous

- c) 2019-37-SP Horne Memorial UMC Expansion Major Site Plan
NC PIN: 166913-02-4512 / 166917-02-1390
Tag #: 05015059 / 05016041
Location: 121 E. Second St.

This request is running concurrently with Conditional Use Permit 2019-42-CUP.

The applicant stated that they will write a letter stating the fence will be one foot from the property line.

ACTION: Approve the request.

Motion: Board Member Lipscomb

Second: Board Member Moore

Vote: Unanimous

- d) 2019-161-CUP Clayton Storage Conditional Use Permit
NC PIN: 165915-62-2628 / 165915-62-4541
Tag #: 05E99018Y / 0525003B
Location:

Planner Haley Hogg presented this item. This request is running concurrently with Major Site Plan 2019-162-SP. The property is located off Highway 70 and is adjacent from Clayton Crossing and Meineke. The request to allow the use of Self-Storage facility and three more portable storage buildings that will total 3400 square feet and add 20 more units. A Special Use Permit application (2019-183-SUP) is also running alongside these applications in order to allow an accessory use of limited outdoor storage of RVs and boats on the vacant southernmost parcel (05025003). This accessory limited outdoor storage will be reviewed by the Town Council for a final decision during the Special Use Permit process. The properties are located within the flood plain.

Development may occur within a flood plain, so long as specific building standards are met. The proposed structures and their placement have been reviewed by the Town's Engineering & Inspections department and the design will be finalized to ensure compliance during the construction drawing review. The proposed parking area is proposed to consist of paved surface with curb and gutter throughout. On the northern most property the landscaping plan labels and shades an area on which gravel is proposed and the curb and gutter is not continued. Gravel is not a permitted surface per UDC requirements. Staff is recommending a condition of approval be placed upon the Conditional Use Permit requiring this to be modified to a paved surface. The applicant is proposing five parking spaces and converting the drive to a one-way entering from Highway 70 and exiting through Meineke. The TRC committee did review this for emergency vehicles to access the drive. The Fire Department is comfortable with the 20 foot width of the aisle to maneuver the Fire Trucks and Emergency Vehicles. This request meets all landscaping requirements and is consistent with the Comprehensive Plan 2040 and Surrounding Land Uses. If approved, staff recommends Conditions of Approval be placed upon the application. Board Member Bob Ahlert asked where the additional units will be located. Ms. Hogg stated on the existing storage site, surrounding the adjacent building and showed on the presentation. Board James Moore asked if the outdoor storage would be impervious. Ms. Hogg stated this would be asphalt, so it would be impervious.

The applicant, Mr. Gary Walston Landscape Architect with Bass, Nixon and Kennedy was present and available for questions. Board Member Price asked the existing building is in a 100 year flood plain, and the portable units will be added to the back of which would be the west side of the existing building. The applicant stated existing building is in the 100 year floodplain but not in the 100 year flood-way. One small area of gravel drive around the south side of the

building will be proposed to be paved and not graded. There is jurisdiction wetland between the existing and new buildings, the applicant stated they are under a tenth of an acre. Bob Ahlert asked if the gravel on the south side is in the existing flood-way. The applicant stated there will be no buildings located there. The storage building will be going up against the existing building, not in the flood-way. The units will be on the north side of building. No vertical units will be in flood-way, only the paving will be. Mr. Coats stated he is concerned about the one way. He made a statement that if there is 20 foot unit to come in to unload, the space is only 27 feet would that be a smaller unit? He also asked why it was measured from an angle. It looks like it will be blocked if someone wants to come through. Mr. Coats asked about his concern about the clearance. By code the clearance is 20 feet. They stepped down the length of the unit for that reason. The developer Cliff, stated they are removing the dumpster because it is an unmanned area and typically if there is no management on site, they become a common area to become abused. He also said the 27 foot drive is wide enough for vehicles to get through. Bob Ahlert asked about the RV storage is the elevation of the land going to be raised. The applicant stated yes at the minimum to remove out of the floodplain. Also, there was a statement made there will be a storm water device installed. Robbie Bell, engineer for the project spoke on this. Both sites represent .2 percent of the drainage area on Little Creek, very small compared to watershed. There is a quarter acre that drains back to the ditch by US 70. They are proposing take 40% of that and take to their SCM. Board member Moore asked about utilizing existing gravel lot to pavement, there is no drainage system in place, how will this be managed? Mr. Bell stated the existing is not changing except the small portion of gravel which is consider pervious. It will stay at the same elevation as it is right now. The new site, it is graded to go to the SCM by way of a flume. They are fluming it to the parking lot to the SCM and has to meet town code for storm water. Mr. Ahlert asked about the study only covered 5, 10, and 25 year flood, why did you go to 100 year? If they raise the site 4 or 5 feet, that would be a problem to the properties to the East and US Hwy 70. They are building the site up to meet the flood regulations. To address the 100 storm water, they would have to build way above the pond. It would have be much higher the the 100 year, to create more volume and storage they would have to go much higher elevation. One comment to be addressed, confusion over the driveway. The area is 27 feet wide, but doesn't look like that on the site plan because they took the hatching off for the pavement. There is an existing fence that they will be paving up to which is over 25 feet in width. There were no further questions for the applicant.

Benny Fussell, one of the owners Clayton Crossings was present. There were other representatives from the surrounding businesses available for comment as well. Mr. Fussell stated according to the map, this is sitting 100% in the 100 year floodplain. There is a ditch that goes across the property and there is considerable flooding at that ditch. There has been problems on Amelia Church Road with heavy rains as well. He presented a document to give an overview of what they experienced the past 10 years with flooding. (See attached with minutes). The town has stated there is nothing they can do about the flooding. An Engineering study was never performed. Maintenance

of the grounds have been done to prevent more flooding. Mr. Fussell went over the attached document with the board. There was no further questions.

John Sanders pastor at Clayton Crossings Church was present for comment. He presented a picture of 3 feet of water that flooded in that area behind their building. He presented another picture that showed water 200 feet from the creek and was about a foot deep. He is asking for an additional look at that property. There were no questions.

Dan Spivy, business owner in the area. Gerber Collision has people parking on the curb and if there is any more traffic it will make this area worse. There were no questions.

Mike Marvel owner of the property and current owner Meinike was present for comment. He stated Meinike never flooded during storms. Engineering reports are showing the stops of flows of water. Methods are being taken to stop the run off and this should be considered. The ditch is not on his property. They have an engineering report and if it's valid, this should be considered. There were no questions.

The applicant stated the driveway is long and would like to have a clear driveway. Self-storage facilities are pretty quiet and not a lot of traffic flow on a day to day basis. The storm water will be controlled and flow to where it should be. The amount of land that this site has for the drainage is equal to 2 tenths of the entire site. Mike Marvel has owned this property for many years.

Board Member James Lipscomb went over the information that has been given and asked if the applicant is willing to come back to discuss more on this project. The applicant stated he is willing to work with the neighbors. They have met all the criteria that they can and are complying.

Frank Issa, from Liberty Used spoke. He stated the parking is too tight right now. If they park cars the street is not wide enough. Emergency vehicles could not get through. The creek provides a lot of trouble and they spend money to keep this creek up even though they are not the owners. Neighbors will be affected. This has to be addressed differently. With the asphalt there will be more flooding. There were no questions.

Haley Hogg wanted to clarify that the driveway is 25 feet wide.

The concern is the water on the properties. They would like to see more engineering reports on the flooding.

Mr. Ahlert suggested for this to be continued November 25 Planning Board Meeting.

ACTION: To be continued November 25, 2019 2019-161-CUP Clayton Storage Conditional Use Permit

Motion: Board Member Price
Second: Board Member Powers
Vote: Unanimous

- e) 2019-162-SP Clayton Storage Major Site Plan
NC PIN: 165915-62-2628 / 165915-62-4541
Tag # 05E99018Y / 05025003B
Location:

This request is running concurrently with Conditional Use Permit

ACTION: To be continued November 25, 2019 Planning Board meeting.

5 NEW BUSINESS

- a) Adoption of Planning Board 2020 Meetings.

ACTION: Approve 2020 Planning Board Meeting Dates

Motion: Board Member Powers
Second: Board Member Coats
Vote: Unanimous

- b) 2019-113-SP Grifols Distribution Facility C540 Major Site Plan
NC PIN: 167800-21-6344
Tag #: 05I05001D
Location: Located off US Hwy 70 Bus

Planner Haley Hogg presented this item.. The applicant is requesting to develop an 18,000 square foot distribution storage building. The building, C540, is proposed to connect to the existing building, C580, and will only be used for storage. No employees will be working within the building. The building will be concrete with metal panels and will match the other buildings on site. The existing parking lot includes 224 spaces and the proposed parking lot will provide a total of 274 spaces. This parking will serve employees working throughout the Grifols campus. The proposed 85 foot building does exceed the height requirement, however through issuance of a Special Use Permit, deviation from the height requirement is permitted on this property. This request is consistent with the Comprehensive Plan 2040 and Surrounding Land Uses.

The applicant was present and available for questions. There were no questions for the applicant.

ACTION: Approve the request.

Motion: Board Member Price
Second: Board Member Coats
Vote: Unanimous

6 INFORMAL DISCUSSION AND PUBLIC COMMENT

a)

Planning Director introduced new Planner Jeff Caines.

A resident asked about buffers and Planning Director explained. The resident was just curious.

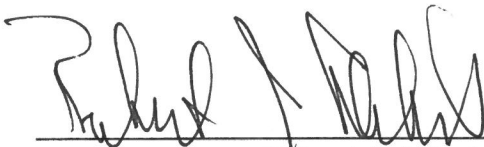
Board Member Lipscomb asked for additional training within the Planning Board. Planning Director Samantha Wullenwaber stated it's a great idea and would like to go over goals with the Planning Board Members. This will work towards our January meeting. James Moore asked about the school of government. Samantha has a print out that she can get to them. Town Attorney also stated she can give some training.

7 ADJOURN

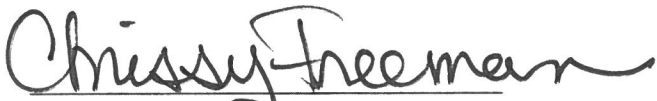
a)

With there being nothing further the meeting was adjourned at 7:58 p.m.

Motion: Board Member Coats
Second: Board Member Price
Vote: Unanimous


Robert J. Ahlert, Chair

ATTEST:


Chrissy Freeman, Clerk to the Board

October 17, 2019

To: Haley Hogg, Planner, Town of Clayton
From: Robert Williamson, Clayton Crossings Owners
Re: 2019-161-CUP Clayton Storage Conditional use Permit
US Hwy 70 Bus., Clayton N.C.

Hello,

I have been asked to write this letter on behalf of the adjacent property owners of the proposed project referenced above. The immediate and nearby existing property owners have some concerns regarding this development.

The "Neighborhood Meeting", held on September 10, was led by the applicant and his paid for engineering firm. The questions and concerns we had were not addressed by an unbiased group. Though the engineering firm answered questions and explained some areas of question, we feel the meeting lacked substantive responses intended for our best interest.

One concern we have is why a project which lies almost totally within a flood zone in an area prone to flooding, would be considered by the Town. Some buildings were built years ago prior to complete knowledge and understanding of downstream effects of stormwater run-off. However, in the present, it has become apparent that stormwater runoff and development in flood zones can lead to property damage and huge expenses to those affected adjacent to and downstream from the development.

Due to development upstream prior to stormwater planning, the surrounding properties of the proposed project have had to pay to maintain an inadequate drainage creek that runs adjacent to the proposed property requesting the approval. It has cost Frank Issa of Liberty Motors thousands of dollars and the Clayton Crossings Owners Association, also adjacent, tens of thousands of dollars to prevent the creeks bank from overflowing and to maintain erosion control. The Church at Clayton Crossings has endured a history of stormwater expenses as well.

Moreover, The Town of Clayton has recently spent thousands of dollars rerouting electric conduits in order to alleviate stormwater erosion; evidence there is a problem. In addition, water is carried under a bridge that crosses Amelia Church Road which collects debris and is already inundated with each storm. In any event, we are all concerned at what effects our properties might face if the parcel of land proposed for development becomes impervious.

The adjacent owners do not want to endure the expense of hiring engineers to ensure our best interest is protected unless we absolutely have to. As taxpayers, we are depending on the Town to do what is right. We presume that certain zoning exists for the purposes of regulating and preventing detrimental events from occurring.

We hope the meeting scheduled for October 28 will be attended by the Town's engineering team and will conduct and direct an unbiased outcome which is in the best interest of the environment, existing property owners and businesses.

Sincerely,

Robert Williamson
Clayton Crossings Owners Association

Clayton Crossings Owners Association (CCOA)

Timeline of Flooding Issue at Clayton Crossings since 2010

October 28, 2019

Prepared by BC Fussell, PE (property owner and member of the CCOA architectural committee)

- March 31, 2010 – flooding from recent rains – CCOA representative Bob Williamson contacted Tim Simpson, the Operations Manager for the Town of Clayton. (Photos of clean up area attached.)
- April 16, 2010 – Bob Williamson met with Tim Walden and Earl Johnson with Town of Clayton and requested Town help to remedy the situation
- June 4, 2010 - Bob Williamson received a phone call from John McCullen the Town Engineer for Clayton. Mr McCullen stated that he didn't think the town could do anything about the flooding problem.
- August 24, 2010 –Clayton Crossings facility experienced flooding from creek in rear of building.
- June 9, 2013 - Due to the heavy rains, dirt and debris are again in the driveway near the west side of the center.
- September 24, 2013, Bob Williamson and Lynn Fussell met with the Town of Clayton and adjoining property owners at the creek that separates the Clayton Crossings property from our neighbor, "Liberty Motors" to discuss possible solutions for easing the overflow of the creek during heavy rain. The reason the sudden interest came about is due to a developer wanting to build mini storage units adjacent to our building and behind the Liberty Motor's (formerly Sonic) building. After several discussions about the cause, effect and remedy of the situation, it was suggested by the developer (Mike Marvel) that he would pay for

Timeline of Flooding Issue at Clayton Crossings since 2010

an engineering study to determine how to ease potential overflowing. An engineer's study was never obtained from the developer.

- June 23, 2014 – CCOA contracted with Criterium Giles Engineers to perform a study of the flooding experienced at Clayton Crossings. The Engineers Drainage Report received from Criterium Giles Engineers, paid for by CCOA, recommended "maintaining flood insurance for the buildings" and "provide routine maintenance of the swale on the north side of the Clayton Crossings property to ensure overgrown vegetation and ground litter is removed and positive slopes are maintained.". The report also stated "the only long-term solution would be to incorporate added detention of upstream areas, which will reduce the flowrate of runoff in the stream. The incorporation of additional upstream detention would likely require changes in the development regulations."

Additional information;

- Flood insurance is being maintained for the buildings.
 - Routine maintenance of the swale on the north side of the property
 - There basically needs to be upstream retention ponds as well as downstream measures to ease the speed of which the water races downstream and backs up. This would involve State, local and city cooperation and participation.
 - There is a meeting scheduled for July 17, 2014 at 6:00 to discuss a site plan for a proposed 2.29 acre outdoor storage facility to be built immediately adjacent to Clayton Crossings on the creek. This meeting will be held at Gilbert Land Surveying, 112 North Church St., Clayton.
 - The outdoor storage facility project never went forward.
- August 31, 2017 – Bob Williamson received an email from Dale Medlin, Town of Clayton Electrical Department concerning erosion of the ditch on the North side of Clayton Crossings exposing a large conduit containing the Town's electrical facilities.
- October 6, 2017 - Bob Williamson requested a professional research and determine the owners of the property adjoining the Clayton Crossings Owners Association property.
- January 11, 2018 - Bob Williamson requested a meeting with Dale Medlin, Town of Clayton Electrical Department concerning the creek erosion located near 11471 Hwy. 70 W. Bus.
- February 1, 2018 – Dale Medlin contacted Bob Williams to cancel the erosion meeting due to a conflict.

Timeline of Flooding Issue at Clayton Crossings since 2010

- March 5, 2018 - Dale Medlin contacted Bob Williams to reschedule the erosion meeting for April 13, 2018.
- April 30, 2018 – Bob Williamson notified Dale Medlin that the CCOA had decided to go with the option of having the Town relocate the existing electric conduit and then the CCOA would repair the bank erosion. Dale Medlin agreed to work on the engineering concept for the relocation.
- July 6, 2018 – Bob Williams sent a letter to Spectrum requesting relocation of their fiber cable.
- August 21, 2018 – Town of Clayton severed the gas, internet and telephone lines while working on relocation of the underground electric facilities.
- September 12, 2018 – Town of Clayton electric conduit removed from ditch bank and ready for erosion repair. Due to impending hurricane, now workers are available to complete the repair.
- November 7, 2018 – Update from Bob Williamson on erosion repair.
 - Consulted with several experts including the N.C. State Department of Biological and Agricultural Engineering Department.
 - Site prep work has been completed which included removing several dams that were comprised of upstream debris including building material, plastic, litter and trees.
 - Contracted with a company with track-hoe operator and a crew experienced in rip-rap placement. Estimate 60 tons of rip-rap is needed to control the erosion.
 - Estimate of \$8,500.
- November 26, 2018 – Had to get second crew to perform erosion control work as first contractor did not work out. Estimate \$10,000.
- April 8, 2019 – Erosion repair completed on the ditch bank and along the North side of the Clayton Crossings property.
 - Storm pipe from parking lot clean out = \$3,090
 - Erosion repair and rip-rap placement = \$9,000
 - Berm placement along entrance drive = \$2,200
- September 10, 2019 – Bob Williams and Lynn Fussell attended the “Neighborhood Meeting” held by the Town of Clayton to discuss the issue of new development in the flood plain adjunct to Clayton Crossings. (2019-161-CUP Clayton Storage Conditional use Permit, US Hwy 70 Bus., Clayton N.C.)
- October 17, 2019 – Bob Williams sent letter to Haley Hogg, Planner, Town of Clayton expressing concern over the proposed development.

Timeline of Flooding Issue at Clayton Crossings since 2010

- October 21, 2019 – Bob Williams received email from Haley Hogg, stating that she has included your letter in the agenda package for Planning Board.

Clayton Crossings – Typical Flooding



Timeline of Flooding Issue at Clayton Crossings since 2010

March 2010 flooding debris.



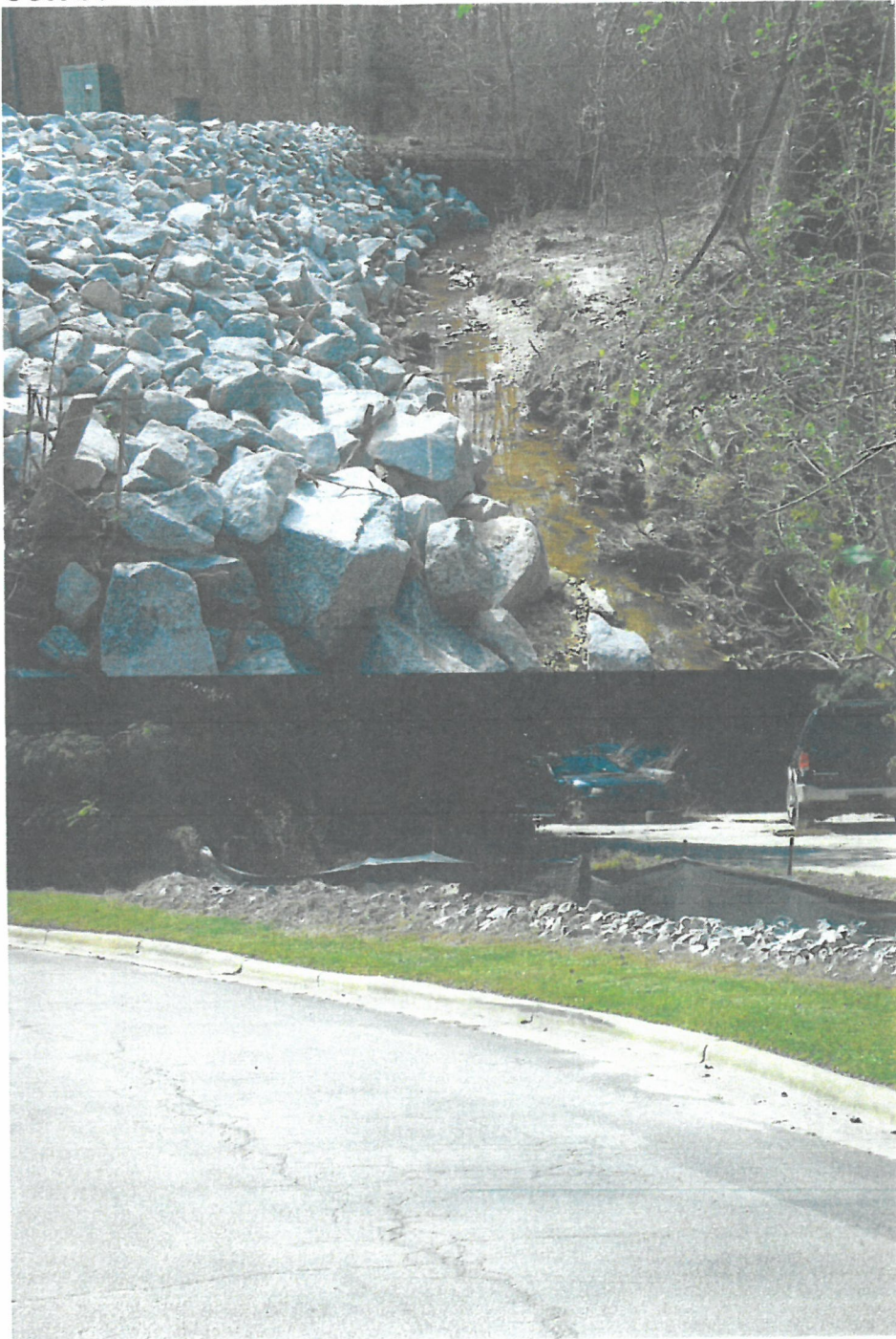
Timeline of Flooding Issue at Clayton Crossings since 2010

January 2018 Erosion Damage



Timeline of Flooding Issue at Clayton Crossings since 2010

October 2019 – Current Condition of Ditch Bank



Timeline of Flooding Issue at Clayton Crossings since 2010



CRITERIUM[®]

GILES ENGINEERS

1150 SE MAYNARD ROAD
SUITE 220
CARY, NC 27511
PHONE 919 465-3801
FAX 919 465-3802
NC LIC. NO. C-2871

June 23, 2014

Clayton Crossings Retail Center, Inc.
c/o Bob Williamson

Re: Limited Drainage Evaluation
11481 US Highway 70 Business-West
Clayton, NC

Dear Sir;

At your request, we conducted a site inspection to evaluate and provide guidance for the drainage concerns identified at the above referenced sites. The inspection was conducted and report written by Christopher A. Flythe, PE. No calculations, building, or development code reviews were performed other than those explicitly described below.

OBSERVATIONS

1. In front of the strip retail center (east side of the building), the north side of the parking lot drains towards two curb inlets connected by a reinforced concrete pipe (RCP) with a size that appears to be 15-inch diameter. The northern curb inlet outlets into a swale approximately 10-feet behind the back of curb. At the time of inspection, there was approximately 3"-4" of standing water in the bottom of the pipe.
2. The swale identified in #1 above runs northeast to southwest and is also fed by a large diameter (approximately 36") RCP cross-pipe that discharges on the north/west side of the entrance. This pipe drains areas north of US Highway 70.
3. The swale identified in #1 above continues flowing towards the southwest, ultimately discharging into the stream to the west of the property. The swale is intermittently lined with rip rap and includes significant quantities of small trees, shrubs, and underbrush. We observed water with little movement in the entire length of the swale.
4. A small, asphalt parking area and drive is located at the rear (west) side of the building. To the west of the parking area is a grassed open space, bordered by a tree line.
5. Utilizing Johnston County GIS and the North Carolina Flood Insurance Rate Map (FIRM) panel, the floodway and floodplain information was downloaded. We note that the floodway encroaches on the rear of the lot, while the 100- and 500-year floodplain elevations encroach into the buildings themselves and envelope the main parking area.

LICENSED
PROFESSIONAL
ENGINEERS

BUILDING DIAGNOSTICS
INSPECTIONS
ENVIRONMENTAL SERVICES
CONSTRUCTION MONITORING
DESIGN



www.criterion-giles.com



DISCUSSION

The parking lot and buildings at the subject property are influenced by runoff from drainage areas far greater in size than the parcel. Because of the interconnectivity between the stream/floodway to the west of the parcel and the onsite drainage systems and swales, the surface water elevations are directly related. As the stream to the west rises due to significant runoff from upstream properties, the drainage swale running along the north side of the property identified in Observation #1 above rises as well. If the water in the stream rises high enough, it would soon extend above the curb inlets at the edge of the parking areas, causing water ponding in the parking lot.

While there are routine maintenance that can be performed on the drainage swales to ensure runoff moves as efficiently as possible, we do not believe this will have a material affect on the frequency of parking lot flooding. Routine maintenance that can be performed would be to remove trees, shrubs, limbs, and debris from the swale on a regular basis and verify that positive slope is maintained in the swale.

Because the stream water surface elevation is caused by increase in runoff from upstream areas, we believe the only long-term solution would be to incorporate added detention of upstream areas, which will reduce the flowrate of runoff in the stream. The incorporation of additional upstream detention would likely require changes in the development regulations. However, as all detention ponds are designed for a given storm event, flooding will inevitably occur for the larger storms. For this reason, we recommend obtaining flood insurance on the affected buildings in order to mitigate for the high likelihood of water damage.

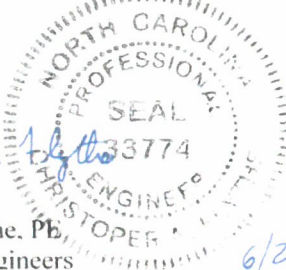
RECOMMENDATIONS

1. Maintain flood insurance for the buildings on the subject parcel.
2. Provide routine maintenance on the swale on the north side of the property to ensure overgrown vegetation and ground litter is removed, and positive slopes are maintained.

CONCLUSION

We trust that this report provides the information you require. Please contact us (919) 465-3801) if you have any questions. Thank you for the opportunity to be of assistance to you.

Sincerely,



Christopher A. Flythe, P.E.
Criterium-Giles Engineers
NC Lic. No. C-2871
Enclosures

6/23/2014

Location:
Clayton Crossings
Clayton, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
6/17/2014



Description:
Building and
parking lot.

Photo Number
1



Description:
Parking lot curb
inlets.

Photo Number
2

Location:
Clayton Crossings
Clayton, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
6/17/2014



Description:
Standing water in
pipe at parking lot
curb inlet.

Photo Number
3



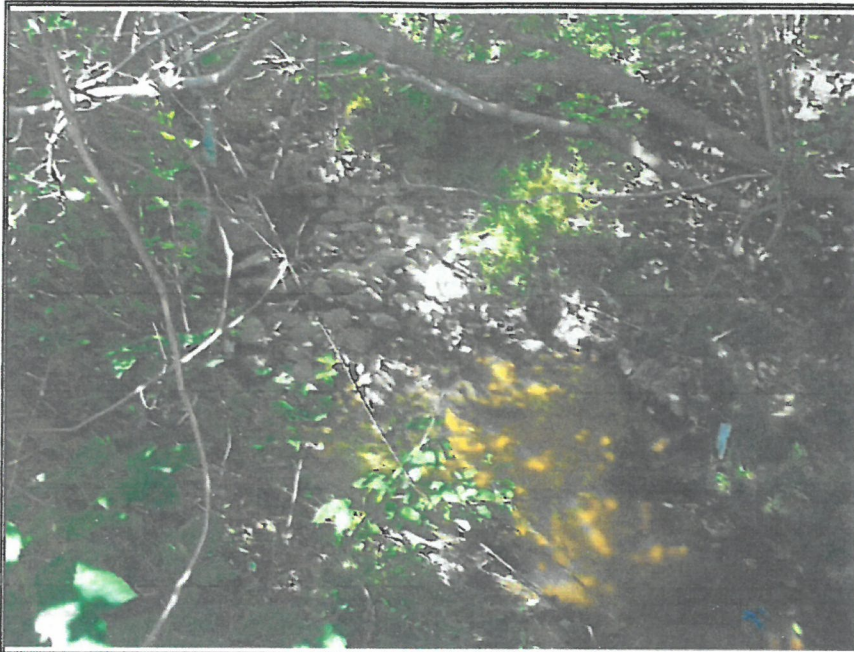
Description:
Outlet of pipe into
swale.

Photo Number
4

Location:
Clayton Crossings
Clayton, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
6/17/2014



Description:
Typical swale
section.

Photo Number
5



Description:
Floodplain behind
building.

Photo Number
6

Location:
Clayton Crossings
Clayton, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
6/17/2014



Description:
Convergence of
swale from north
side of subject
parcel

Photo Number
7



Description:
RCP cross-pipe at
US Business 70

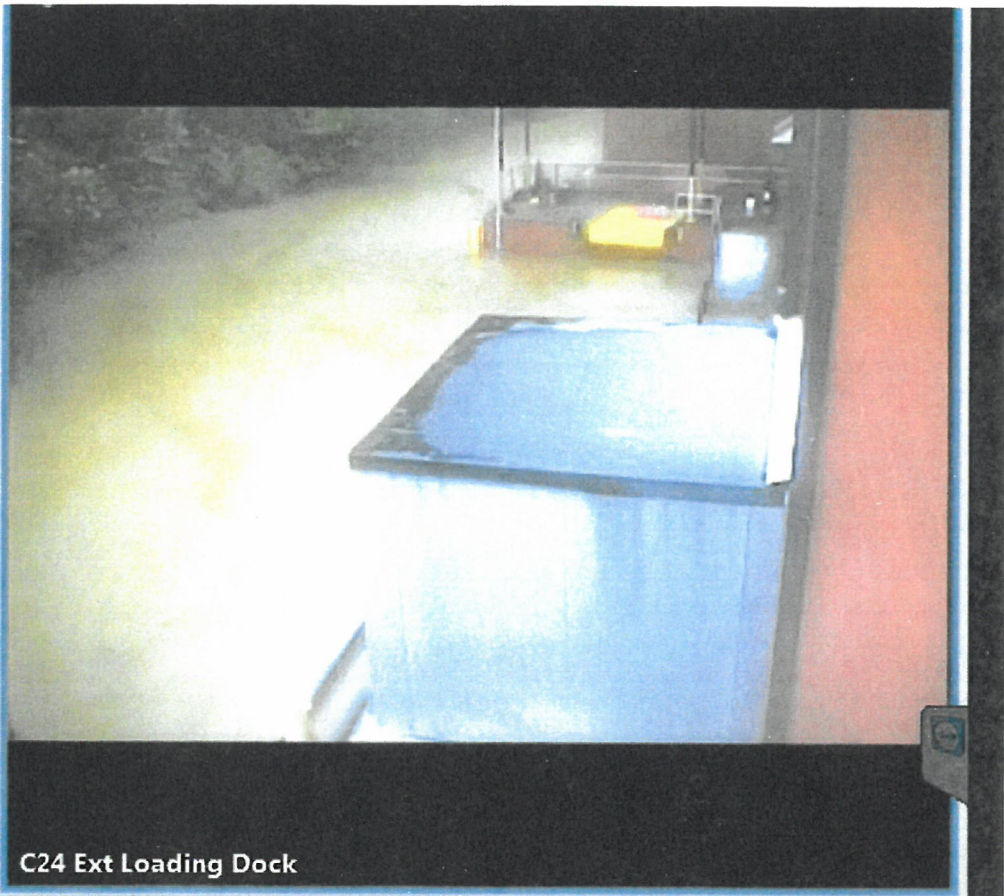
Photo Number
8

ADDENDUM to June 23, 2014 Report

In regards to the March 14, 2014 proposal by JM Daniels Construction Company to remove and replace the existing rip rap and clean the existing swale along the north/west property line, we have the following comments.

Based on my discussions with Mr. Williams about the existing concerns, I think there will be limited benefit to the proposed repairs. I believe these repairs are good practice, meant to promote good drainage that is impeded by tree/shrub growth in the swale, and prevent erosion of the banks. This will provide some benefit at reducing flooding from the water in the swale overtopping the banks, but will not provide relief from the predominant concern associated with the floodplain to the south. It cannot be easily quantified as to the benefit of the proposed repairs, but it is assumed to be limited to the more frequent storm, smaller storm events.





C24 Ext Loading Dock

