

Jason Sullivan

From: Emily Sutton <emily@hawriver.org>
Sent: Tuesday, August 01, 2017 5:18 PM
To: Angela Birchett
Cc: Paula Phillips; Kimberly Tyson; bgruesbeck@pittsboronc.gov; jbonitz@pittsboronc.gov; jfarrell@pittsboronc.gov; pittsborocommis2010@gmail.com; Fiocco Michael; Perry Cindy; Wilson Foley Bett; Diana Hales; James Crawford; Karen Howard; Lindsay Ray; Mike Dasher; Walter Petty; Jason Sullivan; Janie Phelps
Subject: Planning Meeting 8/1: Public Comments on Proposed Publix
Attachments: Proposed Publix Planning Hearing.pdf; Pokeberry 1E Summer 2017 Report.pdf; Pokeberry 1N Summer 2017 Report.pdf; Pokeberry Site 1E-1 Upstream.jpg

Hello, Planning Staff.

I intended on presenting these comments at the meeting tonight, but something has come up and I am unable to attend.

I hope you will include the attachments in your decision making process. I have attached my comments, two water quality reports on two sites downstream of the proposed development, and a photo of the wetlands downstream of this site.

Thank you,
Emily Sutton
Haw River Assembly

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Emily Sutton
Haw River Watch Coordinator

Haw River Assembly
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Proposed Rezoning of Residential Lot: Publix
Planning Board Hearing: 8/1/17
Emily Sutton
Haw River Assembly

Though the Environmental Impact Assessment lists no streams or wetlands in the study area, I am concerned about the environmental impacts to Pokeberry Creek. The increase of paved surfaces and disturbed soil will further exacerbate dramatic erosion and sedimentation in the tributaries and main channel of Pokeberry Creek. A steep slope occurs just south of the proposed development area. The gradual slope leading from the proposed stormwater pond leads to this steep slope. Though it is out of the study area, discharged water from this holding pond will further erode this slope and incise the creek banks of perennial tributaries and Pokeberry Creek.

The proposed BMP is certified to withstand a 100 year flood, however, these rain events are becoming more common. We have had two of these events in the past three years. With the overflow from these BMPs into the tributaries of Pokeberry Creek will come sediment holding nutrient pollution. Pokeberry Creek has been and continues to be monitored at several sites to observe and record nutrient and sediment pollution, which has continued to worsen in the past decade.

In a 2006 report done by my predecessors at Haw River Assembly, titled *Two Threatened Streams*, turbidity was shown to be a problem Pokeberry Creek. The mean turbidity levels in both Pokeberry sites were greater than the state standard for most receiving waters (50 NTU). A monitoring site located just south of the proposed residentially zoned parcels for Publix was reported as having a “deeply incised channel preventing access to its floodplain. Also the macroinvertebrate community during the initial assessment of this site were dominated by tolerant species.” The sites also received a poor score due to lack of bank stabilization. The eroding banks carry sediment, which holds high levels of nutrients, into the watershed.

Pokeberry Creek is part of the watershed of the Haw River Arm of Jordan Lake and is included in the nutrient load reduction targets under the Jordan Lake Nutrient Management Strategy and TMDL. The reductions for loading to this part of the Lake are 5% for phosphorus and 8% for nitrogen. The non-point source plan includes strategies for reducing nutrient loading to streams from agricultural lands; better management of fertilizers and biosolid applications; reducing stormwater run-off from new and redevelopment, as well as retrofitting existing development; riparian buffer protection; and improving wastewater land application and on-site wastewater systems to reduce nitrogen and phosphorus loading. All of these land use strategies apply to the Pokeberry Creek watersheds.

While the Jordan Lake Nutrient Management Strategy continues to be postponed and weakened, the conditions of Jordan Lake and the tributary watersheds continue to worsen.

Downstream of the proposed Publix site, Pokeberry Creek flows through a string of wetlands and beaver ponds that are providing amazing wildlife habitat in the midst of a developed landscape of residential neighborhoods. The wetlands are also acting as filters cleaning up much of the sediment laden stormwaters that are washing into Pokeberry from construction. Without additional protection these wetlands will start to decline, resulting in a loss of nutrient and sediment filtration to Pokeberry Creek. Currently, there are no regulations for developments

to assess or mitigate impacts downstream. The only way to avoid drastic degradations to this downstream wetland is to prevent it from happening in the first place.

The 2003 Cape Fear Assessment Plan suggests that there is evidence that “the benthic communities in Pokeberry Creek may be declining in this rapidly developing area.” The most recent report in 2014 listed the Benthos and Fish Community as meeting criteria for state standards, but our data shows gradual decline in benthic communities.

Currently, we have three monitoring sites downstream of this proposed development project. That data has shown a moderate decline in benthic communities since the 2006 publication of the *Two Threatened Streams* report. We will continue to conduct quarterly assessments of the water quality and benthic communities in Pokeberry Creek.

Due to the critical condition of Pokeberry Creek, we ask you to vote against the rezoning of these parcels for proposed development in order to avoid negative impacts on drinking water and human health, as well as pollution mitigation costs.

Thank you,
Emily Sutton
Haw River Assembly



Haw River Watch Survey

Return to: *Haw River Watch Project, P.O. Box 25, Saxapahaw, NC 27340*
(919) 967-2500 E-mail: *riverwatch@hawriver.org*

Date entered: _____
Date entered: _____
Office use only

The purpose of this form is to aid you in gathering and recording important data about the health of your stream, to document changes in water quality. Refer to the Stream Insects and Crustaceans ID chart to identify stream macroinvertebrates.

SECTION A. Fill in this section each time you do a sampling of your stream. GPS coordinates 35 49.307
 Team Name BRYAN CLARKE Site ID Pokeberry LNE # of participants: 1
 Stream Pokeberry Creek Location Borders wetlands off Pokeberry bike trail
 County CHRISTIAN Survey Leader RON BOURGNET Phone # 919 903 8444
 Date: 6/22/17 Start time 12:40 End time 1:06 Survey Scribe RB
 Air temperature 90 Water temperature 82 Flow rate: High Normal Low Negligible Fast flow through small channel
 Weather conditions (last 3 days) cloudy, rain, 0.4" SUNNY NOW
 Chemical testing: pH 6.6 Nitrate _____ Phosphate _____ Transparency (in inches): 7"

Macroinvertebrate Count Search several likely habitats: look under stones in riffle areas; use net to sample bottom in several places; and sample underbank, leaf mat, and woody debris. Use letter codes to record number of organisms of each type found: A = 1-9; B = 10-99; C = 100 or more. Add up the number of letters in each column and multiply by the indicated index value.

Pollution Sensitive	Somewhat Pollution Sensitive	Pollution Tolerant
<input type="checkbox"/> Stonefly	<input type="checkbox"/> Crayfish	<input type="checkbox"/> Aquatic Worm
<input type="checkbox"/> Caddisfly	<input type="checkbox"/> Sowbug	<input type="checkbox"/> Midge Fly Larva
<input type="checkbox"/> Water Penny	<input type="checkbox"/> Scud	<input type="checkbox"/> Blackfly Larva
<input type="checkbox"/> Riffle Beetle	<input type="checkbox"/> Alderfly Larva	<input type="checkbox"/> Leech
<input type="checkbox"/> Mayfly	<input type="checkbox"/> Fishfly Larva	<input type="checkbox"/> Pouch (and other) Snails
<input type="checkbox"/> Gilled Snail	<input type="checkbox"/> Damselfly	
<input type="checkbox"/> Dobsonfly (Hellgrammite)	<input type="checkbox"/> Watersnipe Fly Larva	
	<input type="checkbox"/> Crane Fly	
	<input type="checkbox"/> Beetle Larva	
	<input type="checkbox"/> Dragonfly	
	<input type="checkbox"/> Clam	
<input type="checkbox"/> # letters times 3 =	<input type="checkbox"/> # letters times 2 =	<input type="checkbox"/> # letters times 1 =
<input type="checkbox"/> Index Value	<input type="checkbox"/> Index Value	<input type="checkbox"/> Index Value

Now add together the three Index Values from the columns for your total index value: Total Index Value = 0

Compare the Total Index Value to the following ranges of numbers to determine the water quality of your stream. Good water quality is indicated by a variety of different kinds of organisms, with no one kind making up the majority of the sample. Although the A, B, and C ratings do not contribute to the water quality rating, record them to see how your macroinvertebrate populations change over time.

Water Quality Rating			
<input type="checkbox"/> Excellent (>22)	<input type="checkbox"/> Good (17 - 22)	<input type="checkbox"/> Fair (11 - 16)	<input checked="" type="checkbox"/> Poor (<11)

What kind of Algae? Is water discolored (green, bright blue, red)? [Phytoplankton type algae] Yes No If No:
 Is algae big thick "hairlike" mat (green, blue-green, black, yellowish)? [Filamentous type algae] Yes No If No:
 Are rocks and logs covered with beardlike growth (green, blue-green, golden brown)? [Periphyton type algae] Yes No If No:
 Is there brown slimy algae on rocks? [Diatomaceous type algae] Yes No
 Algae is located: everywhere in spots 0 % of stream covered (for one stream-width by one stream-width area)
 Are you seeing an unusual amount of algae? Yes No

If there is foam, is it:

Ivory brownish, less than 8" high, w/earthy, fishy, or fresh cut grass smell? [Natural foam]

bright white, over 8" high, with perfumy or artificial "fresh" soapy scent? [Indicates pollution problem]

Wildlife

Mussel shells seen? Yes No

Fish seen? Yes No

Signs of beaver? Yes No

If Yes, describe: _____

Signs of other wildlife observed: _____

Odor: (check one)

rotten eggs

musky

petroleum

sewage

none

other _____

Water Appearance: (you may check up to two items from the list below)

clear clear but tea-colored

cloudy muddy

milky colored sheen (oily)

grey black

foamy green (suspended algae)

other _____

SECTION B. The following aspects of the stream don't change often. Fill in this section on your first survey, and be sure to keep a copy to refer to. Thereafter, fill in an item only if it changes. Photographs are very useful in recording changes to your stream.

Stream Channel Answer these questions for a stream length of four times the stream width, with monitored section close to middle.

Average stream width 3 ft. Average stream depth 0.8 ft. ^{7-10" w} Is stream channel natural and meandering? Yes No

Does stream have access to its flood plain (is there stream deposit or debris on banks, streamside trees & rocks)? Yes No

Has stream been channelized? Yes No Is there rip-rap in stream? Yes No Do manmade dams block flow? Yes No

Stream Buffer Natural vegetation (a mix of trees, shrubs, and ground cover), looking downstream: _____ feet left bank; _____ feet right bank

Description of stream buffer: Dense vegetation

Stream Sides

Are stream banks (sides) eroding? Yes No

_____ % bare soil on stream banks (not covered by plants, rocks, and logs)

Is stream getting cut deeper? Yes No

Is stream widening? Yes No

Stream Bed (bottom) (=100%):

90 % silt (mud)

10 % sand (1/16" - 1/4" grains)

_____ % gravel (1/4" - 2" stones)

_____ % cobble (2" - 10" stones)

_____ % boulders (>10" stones)

_____ % dead leaves

Stream Buffer Composition (=100%):

40 % trees

20 % shrubs

40 % grass

_____ % bare soil

_____ % rocks

_____ % other _____

Stream Shade

Best (25 - 90% shade--sun-dappled stream)

Good (>90% shade -- almost totally shaded)

Poor (<25 shade - almost no shade)

Bed sinks beneath your feet in:

no spots a few spots many spots

Land Uses in the Watershed: Record all land uses observed in the watershed area nearby (one mile upstream) and surrounding your sampling site. Indicate whether the following land uses have a High (H), Moderate (M), Slight (S) or No (N) potential to negatively impact the quality of your stream. If the land use is not present in your watershed, leave it unmarked.

- | | |
|---|---|
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Oil & gas drilling | <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Trash dump |
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Housing developments | <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Fields |
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Forest | <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Livestock pasture |
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Logging | <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Animal operations (types _____) |
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Urban uses (highways, parking lots, etc.) | <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Other possible sources of pollution |
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Sanitary landfill | (describe: _____) |
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Housing construction | _____ |
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Road construction | _____ |
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Mining (types _____) | <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Garbage/litter (Type: _____) |
| <input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Cropland (types _____) | _____ |

Discharging Pipes Are there any discharging pipes? Yes No If Yes, how many? _____

What types of pipes? runoff (field or stormwater?) _____ sewage treatment industrial (type of industry) _____

Other comments on your stream's health and condition: overall water level low, localized oxbow is empty, flow is fast through small channel, bed is hard packed clay, no organisms found
difficult to sample, no riffles, no debris







<p>If there is foam, is it:</p> <p><input type="checkbox"/> Ivory brownish, less than 8" high, w/earthy, fishy, or fresh cut grass smell? [Natural foam]</p> <p><input type="checkbox"/> bright white, over 8" high, with perfumy or artificial "fresh" soapy scent? [Indicates pollution problem]</p>	<p>Wildlife</p> <p>Mussel shells seen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Fish seen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Signs of beaver? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, describe: _____</p> <p>Signs of other wildlife observed: <u>NO BEAVER DAM</u> <u>DOWN STREAM</u></p>	<p>Odor: (check one)</p> <p><input type="checkbox"/> rotten eggs</p> <p><input type="checkbox"/> musky</p> <p><input type="checkbox"/> petroleum</p> <p><input type="checkbox"/> sewage</p> <p><input checked="" type="checkbox"/> none</p> <p><input type="checkbox"/> other _____</p>	<p>Water Appearance: (you may check up to two items from the list below)</p> <p><input checked="" type="checkbox"/> clear</p> <p><input type="checkbox"/> cloudy</p> <p><input type="checkbox"/> milky</p> <p><input type="checkbox"/> grey</p> <p><input type="checkbox"/> foamy</p> <p><input type="checkbox"/> other _____</p> <p><input type="checkbox"/> clear but tea-colored</p> <p><input type="checkbox"/> muddy</p> <p><input type="checkbox"/> colored sheen (oily)</p> <p><input type="checkbox"/> black</p> <p><input type="checkbox"/> green (suspended algae)</p>
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SECTION B. The following aspects of the stream don't change often. Fill in this section on your first survey, and be sure to keep a copy to refer to. Thereafter, fill in an item only if it changes. Photographs are very useful in recording changes to your stream.

Stream Channel Answer these questions for a stream length of four times the stream width, with monitored section close to middle.

Average stream width _____ ft. Average stream depth 0.3-5 3-7 ft. Is stream channel natural and meandering? Yes No

Does stream have access to its flood plain (is there stream deposit or debris on banks, streamside trees & rocks)? Yes No

Has stream been channelized? Yes No Is there rip-rap in stream? Yes No Do manmade dams block flow? Yes No

Stream Buffer Natural vegetation (a mix of trees, shrubs, and ground cover), looking downstream: _____ feet left bank; _____ feet right bank

Description of stream buffer: _____

<p>Stream Sides</p> <p>Are stream banks (sides) eroding? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>_____ % bare soil on stream banks (not covered by plants, rocks, and logs)</p> <p>Is stream getting cut deeper? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Is stream widening? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Stream Bed (bottom) (=100%):</p> <p>_____ % silt (mud)</p> <p>_____ % sand (1/16" - 1/4" grains)</p> <p>_____ % gravel (1/4" - 2" stones)</p> <p>_____ % cobble (2" - 10" stones)</p> <p>_____ % boulders (>10" stones)</p> <p>_____ % dead leaves</p>	<p>Stream Buffer Composition (=100%):</p> <p>_____ % trees</p> <p>_____ % shrubs</p> <p>_____ % grass</p> <p>_____ % bare soil</p> <p>_____ % rocks</p> <p>_____ % other _____</p>
<p>Stream Shade</p> <p><input type="checkbox"/> Best (25 - 90% shade--sun-dappled stream)</p> <p><input type="checkbox"/> Good (>90% shade -- almost totally shaded)</p> <p><input type="checkbox"/> Poor (<25 shade - almost no shade)</p>	<p>Bed sinks beneath your feet in:</p> <p><input type="checkbox"/> no spots <input type="checkbox"/> a few spots <input type="checkbox"/> many spots</p>	

Land Uses in the Watershed: Record all land uses observed in the watershed area nearby (one mile upstream) and surrounding your sampling site. Indicate whether the following land uses have a High (H), Moderate (M), Slight (S) or No (N) potential to negatively impact the quality of your stream. If the land use is not present in your watershed, leave it unmarked.

<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Oil & gas drilling	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Trash dump
<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Housing developments	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Fields
<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Forest	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Livestock pasture
<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Logging	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Animal operations (types _____)
<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Urban uses (highways, parking lots, etc.)	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Other possible sources of pollution (describe: _____)
<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Sanitary landfill	_____
<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Housing construction	_____
<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Road construction	_____
<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Mining (types _____)	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Garbage/litter (Type: _____)
<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> N Cropland (types _____)	_____

Discharging Pipes Are there any discharging pipes? Yes No If Yes, how many? _____

What types of pipes? runoff (field or stormwater?) _____ sewage treatment industrial (type of industry) _____

Other comments on your stream's health and condition: Few organisms found
NO CHANGES IN STREAM NOTED
EVIDENCE OF PREVIOUS TRAFFIC (SCHOOLS OUT)

