

4201 BAYMEADOWS RD.
STE #3
JACKSONVILLE, FL 32217

P: 904.730.3223
F: 904.730.3226

frontdesk@avaengineers.com

October 21, 2020

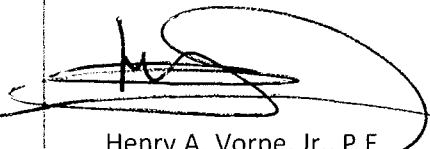
Mr. Al Stoddard
Pirates Wood Association
3745 Blackbeards Way
Yulee, Florida 32097

RE: Pirates Wood Subdivision
Limited Drainage Study

Dear Mr. Stoddard:

Attached you will find a copy of our limited drainage study for your development. This report is based on my past experience with the project, available records, and recent site visits. Please review and if you have any questions do not hesitate to contact the office.

Sincerely,



Henry A. Vorpe, Jr., P.E.
President

Enclosures

Residential

Master Planning
Subdivision
Feasibility

Commercial

Industrial
Retail Center
Office

Rail

Rail Design
Product Conveyance
Permitting

Marine

Dry Storage
Floating Dock

Limited Drainage Report
Pirates Wood Subdivision, Nassau County, Florida

I. Background

The development consists of large rural type lots with approximately five miles of paved roadway. The roadways were paved in 2002 and some drainage improvements were made during the roadway paving project. The soils throughout the development generally provide high percolation rates.

II. Drainage Network

The development is well drained and backed up by good permeable soil. There are three major drainage outfalls that serve the subdivision and most of the exterior lots slope to the adjoining marsh and/or canal system. Interior lots generally rely on roadside swales to convey water to the outfalls. However, most of the lots rely on percolation for the roadway/ right-of-way conveyance. A copy of an owner provided lidar map was used as a graphical representation for this report (copy attached). The roadways are marked by yellow. Red lines indicate the drainage patterns, and blue is an outfall that also serves Blackrock Rd, which is a county road and therefore, this outfall falls under County control.

III. Issues by Section

A. Section A

This part of the development receives water from Blackrock Rd and enters the development at two locations. The ditches that extend through the subdivision are inundated with vegetation and most of the culverts that cross the interior roadways are partially plugged. And/ or damaged. The roadside swales along Corsair Rd and Long Johns Tr are not graded properly and need to have the vegetation removed. The County should be responsible for this ditch maintenance, but generally they only cut the vegetation and leave the cuttings in the ditch. This is an unacceptable practice as it causes blockages and adds to the work necessary to keep these outfalls flowing.

Overall, all of the areas in blue should be cleaned, vegetation removed, and the roadside swales cleared of vegetation in the swales within the right-of-way. The culvert crossings need maintenance in order to remove damaged ends and restore proper flow.

B. Section B

This section is the discharge point for the area known as the park. There is a catch basin located at Morgans Way and Pirates Point Rd, and the basin is not seated. The ditch extending to the south is inundated with silt and partially blocked. The drainage notes

shown along Section C are sound findings (by another party). However, without accurate survey information, this is suspect. This outfall needs to be surveyed from Pirates Point Rd, south to where Section E is shown. Lidar maps are good planning tools but are not sufficiently accurate for design.

C. Section C

This section is the park area. This park is mostly jurisdictional wetlands and appears to drain north and south. Hence the need for a ground survey. It is nearly impossible to determine how this area drains without a survey. Water is staged up but slowly flowing to the north. The south end is mounded, with no crossing.

D. Section D

The current crossing at Doubloon Way requires repairs and ditch cleaning.

E. Section E

The intersection of Katfish Dr and Pirates Way requires immediate attention. The culvert has a sinkhole forming under the road, for a distance over the culvert, most likely from a failed pipe or open joint. This section of the roadway must be repaired.

IV. **Recommendations**

I offer the following as a framework for improving the drainage conditions at Pirates Wood.

- A. Engage the County for work at Section A
- B. Survey the drainage ditch from the north side of Pirates Point Rd to the south end of Pirates Point Rd to provide base data for improvements.
- C. Immediately secure a contractor to make repairs at Katfish Dr and Pirates Way
- D. Engage someone to clean out the roadside swales and outfalls in Section A

V. **Conclusions**

Based on recent rainfall events and review of the site in person, the Pirates Wood Subdivision is in very good condition for such a large development without a designed drainage system. With a little more maintenance and some localized repairs, the system in place should serve the residents well for years to come, provided that continued regular maintenance is performed.

Attachments