

February 26, 2010

Mr. Dan Dupree  
Chief Executive Officer  
Reynolds Companies  
3455 Peachtree Road, NE  
Suite 780  
Atlanta, GA 30326

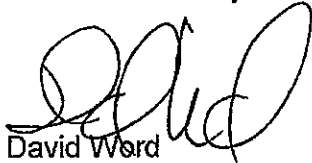
RE: Waterfall Country Club

Dear Mr. Dupree:

Joe Tanner and Associates is pleased to submit the Water Quality Assessment for the Waterfall Country Club.

As noted in the assessment, there are no significant water quality problems associated with the country club.

Please call me if you have any questions about the report.



David Word  
Senior Associate

Joe Tanner & Associates, Inc.

**Water Quality Assessment  
Waterfall Country Club**

February 26, 2010

## Introduction

Joe Tanner and Associates performed a water quality assessment for the Waterfall Country Club in Rabun County in February, 2010.

The assessment has five objectives.

1. To determine, by visual observation, the health of the on-site streams and adjacent coves and to make a recommendation as to the need of immediate stream monitoring.
2. To determine the potential or existing stormwater management problems.
3. To assess the potential impacts of the site on Lake Burton, particularly the adjacent coves.
4. To review the scope-of-work of the upcoming stormwater studies proposed by Nutter and Associates and predict the findings of those studies.
5. To determine if the site has recent or ongoing environmental compliance problems.

## EPD Information

Both the Atlanta and Cartersville offices of EPD were contacted for file review and interviews.

The Waterfall Country Club has old violations summarized below:

1. August 16, 2007 – Consent Order for erosion and sedimentation problems during construction.
2. August 16, 2007 – Consent Order for septic tank problems at the maintenance shop.

There have been no compliance problems noted by EPD since these orders. In fact, EPD was very complimentary of the site management and environmental programs.

The wastewater system was recently inspected and found to be properly operated. It is very underloaded and the treated effluent is sprayed only intermittently on the golf course.

EPD has responded to complaints of sediments in stormwater and found no problems on-site. However, problems off-site were documented (house construction sites and Vickers Road).

EPD highlighted two issues.

1. The house foundation (lot 10 G1) is in violation of the stream buffer and construction has been stopped. This is an issue between EPD and the property owner, not between EPD and the Waterfall Country Club.
2. The retention pond (off-site) at Vickers Road near Highway 76 becomes turbid after extreme rains. EPD does not consider Waterfall Country Club to be in violation of State requirements as they relate to this turbidity.

Finally, EPD clarified that the on-site streams are officially classified as trout waters, even though the Board of Natural Resources classified them as non-trout waters about eight years ago. The reason is that the U.S. Environmental Protection Agency did not accept the non-trout designation.

The significance of the trout stream classification is that a fifty-foot vegetative buffer must be maintained adjacent to the streams unless a stream buffer variance is obtained from EPD.

#### On-Site Observations

The site was visited on February 17, 2010. A mild rain event occurred two days previous. Two plats of the site are in the Appendix.

Each on-site stream was observed at several locations. Except as noted below, the streams at all locations were very healthy. The water was extremely clear, no sediment deposits were observed and no atypical vegetation was present. The streams are relatively small (2-3 feet wide) and originate on-site and flow into coves of Lake Burton.

Two locations with slow-moving water and without shade, had bottom green algae growth. (At Tee #2 and along Fairway #9). These were short segments and the algae was not upstream or downstream of the segments. This is most likely a result of fertilizer runoff. This is not an issue of concern.

The waterfall stream runs from an on-site pond down a steep concrete spillway into a small on-site pond which overflows into an off-site pond next to Vickers Road across from a cove. This off-street pond also receives road runoff. The volume and energy of water from the spillway during high storm events does stir up turbidity in the lower pond. This is not a pollution problem but is a source of complaints.

No exposed soil or other sources of sediments which could enter the streams or Lake Burton were observed except one spot of stream bank erosion near the #9 Green. This short segment is in a wooded area where the stream makes a turn eroding a short section of the bank.

The Lake Burton coves were observed. The lake was lowered and the bottom of the coves were visible near Vickers Road. The bottom was free of sediment. The water in Lake Burton was very clear. No signs of adverse impacts from the Waterfall Country Club were observed.

Vickers Road is unpaved surrounding the northern edge of the site. Cutouts lead to coves and the sediment and gravel from the road is washing into the coves.

#### Nutter and Associates Study

As a result of a settlement of a lawsuit, Nutter and Associates is designated to perform a water quality and sediment investigation on the streams draining the Waterfall Country Club. The full scope-of-work is in the Appendix.

This study will be performed immediately after a 2 inch – 24 hour storm. It will focus on the physical and chemical water quality of the streams resulting from this storm event. It will not be a thorough assessment of the streams, but a snapshot of the streams influenced by the storm. The study will also include a chemical analysis of sediments in the Lake Burton coves.

This study will most likely yield the following conclusions.

1. A tremendous increase of water will flow in the streams after this size storm with considerable velocity.
2. The water quality of the streams will be good with a slight (and unavoidable) increase in turbidity.
3. The streams will not be a source of sediment to Lake Burton or the coves.
4. The small pond near Vickers Road will be turbid.
5. The sediment sampled from the coves will be free of contaminants.

## Conclusions

The water quality of the streams at the Waterfall Country Club was assessed along with the potential for stormwater impacts on Lake Burton. The following conclusions were made.

1. The site is properly managed for stormwater quality. There is only one minor area for improvement (stream bank restoration).
2. The on-site streams are healthy with very minimal evidence of impairment.
3. The site is not having a detrimental impact on Lake Burton or on the few small coves of Lake Burton near the site.
4. The upcoming study by Nutter and Associates will focus on stormwater quality after a two-inch rain. This study will most likely show (as result of the extremely steep slopes) massive amounts of water pouring through the streams with small amounts of increased turbidity, but not creating sediment problems in Lake Burton. No sediment contamination will be found in the coves.
5. The main source of sediment to Lake Burton in this area appears to be the unpaved portion of Vickers Road.
6. There are no recent or ongoing environmental compliance problems at the site.
7. A more detailed assessment prior to the Nutter and Associates study (chemical or biological sampling) is not warranted.

## Recommendations

There are several recommendations to be considered.

1. Stream bank restoration should be placed in the short segment near Green #9.
2. Solutions to turbidity which occur at the off-site pond near Vickers Road during intense storm events should be explored.
3. The streams must have a fifty-foot buffer. No land clearing may occur in this buffer unless a variance from EPD's is obtained. Grass cutting is allowed, without the issuance of a variance, but reseeding or resodding is not.
4. The Waterfall Country Club is a new and unpopular neighbor for some Lake Burton homeowners, despite the fact that the site is not a pollution source. The site owners will always be operating under a microscope and the recent high level of compliance should continue.
5. Once house construction resumes, the potential for sediment loading to the streams and Lake Burton is very high. Legally, control of erosion and sedimentation is primarily the responsibility of the home builders. However, it is an unacceptable risk to trust the home builders to diligently control erosion. Extra measures, including enforceable oversight, by the Waterfall property managers should be implemented.

# APPENDIX



DATE	3/11/99
JOB #	87-01
CONTRACT #	423.87
DRAWN BY	MB
CHECKED BY	

REVISIONS

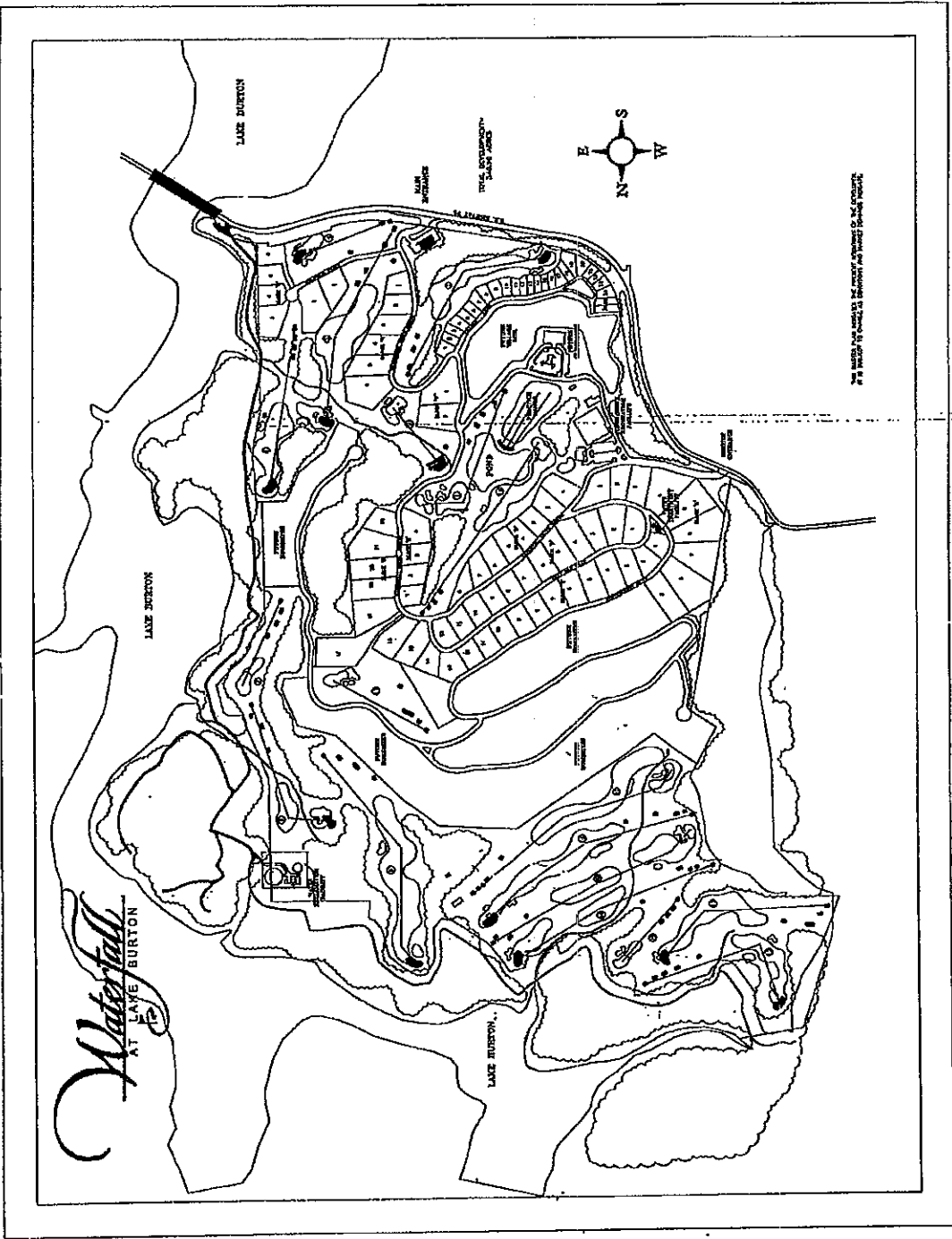
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PROJECT NAME  
**WATERFALL COUNTRY CLUB UNIT #1**

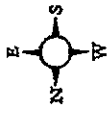
CLIENT NAME  
**LAKE BURTON DEV. L.L.C.  
100 EAGLE'S LANDING WAY  
STOCKBRIDGE, GA 30281  
770-381-2004**

**MB MOORE, BASS & BIBLER, INC.**  
LAND USE PLANNING ENGINEERING DESIGN ENVIRONMENTAL PLANNING

87 EIGHT ACRES 8788  
SALUDA COUNTY PLANNING  
PERMITS DIVISION  
DATE: 03/11/99  
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*Waterfall*  
AT LAKE BURTON



THE BOUNDARIES AND LOCATIONS OF THE PROPERTY ARE SUBJECT TO CHANGE WITHOUT NOTICE.