

# REVISED - Attachment I, Engineer's Off Site Stormwater Impact Statement

28 April 15

Mr. Marty Roupe  
Development Review Administrator  
Town of Carrboro Zoning Division  
301 West Main St.  
Carrboro, NC 27510



**Ballentine**  
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221 Providence Road  
Eastowne Office Park  
Chapel Hill, NC 27514

Subject: South Green – Truth in Drainage Statement  
BA Project #114023.00

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## **TRUTH IN DRAINAGE STATEMENT:**

The proposed redevelopment project, South Green, as proposed will meet and exceed all of the Town of Carrboro's stormwater requirements, including peak flow reduction, water quality requirements, and the Jordan Lake requirements through the use of several onsite stormwater BMPs.

The proposed stormwater BMPs consist of permeable pavement systems in each of the three main parking lots and the use of an underground sand filter. Each required peak flow storm event, the 1, 2, 5, 10, 25 and the 100 yr (not required) will be reduced from the pre-developed state to the post-developed state as a result of our proposed project. Each permeable pavement parking lot contains a detention basin in the void space of the stone layer beneath the permeable surface. The permeable pavement allows the water quality volume (1<sup>st</sup> inch of rainfall) to infiltrate into the existing soil beneath, which imitates what would happen if the site was undeveloped and helps recharge the groundwater tables. In addition, the permeable pavement system stores all of the larger storms (up to the 100 yr peak flow storm event) and slowly releases the runoff over a period of several days. The proposed sand filter provides some internal detention but its primary purpose is to treat and filter the remaining portions of the proposed site development that is not treated by the onsite permeable pavement systems.

In addition to meeting each of the Town of Carrboro's stormwater requirements, the proposed project will improve upon an existing onsite flooding problem that occurs with any significant rain event. A large portion of downtown Carrboro and highly developed areas north of the proposed redevelopment project help make up the 125 acre drainage basin that contributes to the flooding of the site. The chief reason for the flooding is because of a grossly undersized existing 24" storm drain system that carries the upstream runoff through the site. Several large storm events in the past have flooded the site and spilled out into Greensboro Street and aided in the flooding of the adjoining downstream properties. The majority of this drainage area was constructed prior to the implementation of today's stormwater standards, which contributes to the excessive amount of stormwater runoff and flooding of the downhill properties. As part of the proposed project, we plan on safely conveying up to the 100-yr storm event through our site with an 8'w x 5'h box culvert. We are currently working with the NCDOT hydraulics unit on the upsizing of the NCDOT pipe network (also undersized) to the outfall under NC 54 to come up with the best possible solution for the area.

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South Green – CUP  
Truth in Drainage Statement  
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The following statement addresses the flooding concerns at the existing box culvert underneath NC 54 and the adjacent trailer park as a result of our project. The 8'x8' box culvert under NC 54 not only carries all the stormwater runoff that is generated from our site and the 125 acres north of our site, but also carries another large drainage area on the west side of Greensboro Street (this area is not part of our study because it will remain unchanged as a result of our project). Our proposed site is such a small portion of the overall drainage area to this box culvert under NC 54. Even though all peak flow stormwater runoff events, including the 100 yr storm event, generated from our site are being reduced, the existing flooding problems at the box culvert under NC 54 will change insignificantly as a result of our project being developed.

Please don't hesitate to call me should you have any additional questions, concerns, or if you require additional information.

Yours very truly,  
BALLENTINE ASSOCIATES, PA

Ashton R. Smith, PE  
Civil Engineer II

