



**Date:** February 5, 2015  
**To:** Thomas J. Bonfield, City Manager  
**Through:** W. Bowman Ferguson, Deputy City Manager  
**From:** Donald F. Greeley, Director, Water Management  
**Subject:** Basin Area and Reimbursement Fee for the Southeast Regional Lift Station

### Executive Summary

The Department of Water Management proposes to build a regional sewer lift station in the Lick Basin area. Once completed, this lift station will serve a large extension of the City's sewer service area in eastern Durham County. Part of the service area extends into Wake County, per Interlocal agreement. The lift station's service area, shown in Figure 1, is comprised of the Olive Branch Drainage and Del-Webb Drainage Basins. The new lift station will also allow for two existing lift stations to be abandoned and replaced with a gravity main outfall.

Current City policy requires developers to build any required lift stations according to the City's specifications and then donate them to the City. Presently, there is significant interest in development in the Lick Basin beyond the large number of separate developments that are either underway or in the planning stages. Based on economies of scale, among many factors, it is in the City's best interest to consolidate as many separate lift stations as possible into one regional lift station. The proposed lift station would pump sewage to the North Durham Water Reclamation Facility (NDWRF).

The estimated cost to plan, design, permit, and construct a regional lift station, force main, and gravity outfall is approximately \$35 million. It is proposed that the upfront costs be borne by the City and recovered through a new basin fee on new lots served by the proposed lift station. Currently, lots that connect to the Del-Webb Lift Station are under agreement to pay a \$2,500 basin fee to the Del-Webb developer, builders of the recently-constructed Del-Webb lift station.

The alternatives consider a number of different methods to determine a per-lot fee. These options range from assessing fees either to all contributory basin lots or only to those not included in the Del-Webb reimbursement agreement. For the latter lots not already assessed, two alternatives are presented; one for which the owner bears all cost, and one where the City subsidizes the cost. A final option would be to abandon the construction of the regional pump station and deal with acceptance and operation of the many smaller lift stations as the individual developments come online.

### Recommendations

To receive a presentation from the Department of Water of Management on the Southeast Regional Lift Station.

### Background

A number of developments in eastern Durham County were proposed as early as 2000, but were limited in size and scope due to constraints on the water and sewer service in the area. The extension of utilities to accommodate the Del-Webb development has encouraged new development activity in the area. This increased capacity has broadened interest in developing large sites in the

area, some of which are already in the City's development review process. For these projects to be successful, a new lift station is needed that eventually pumps sewage to existing infrastructure.

In the late 2000's, a group associated with the Sierra development agreed with the City to build a regional lift station at the intersection of Lick Creek and Olive Branch Road. The Sierra development never materialized primarily due to the ensuing recession; the development group dissolved and the lift station was not constructed. Several active Utility Extension Agreements (UEAs) for development referenced the proposed regional lift station, recognizing the viability of such an approach. This has created a level of confusion and uncertainty for moving plans forward.

Recent development interest warrants a regional lift station. It would allow for additional development in the two drainage basins and minimize the need for several small lift stations that serve a community (residential, commercial or mixed use). A new regional lift station would also allow the City to abandon the existing Brightleaf and Ravenstone lift stations, replacing them with a gravity outfall to the proposed regional lift station. Abandoning these stations for gravity mains greatly reduces operating costs.

The number of lots estimated for the area is 13,070 (approximately 8,430 lots in the Olive Branch Drainage Basin and 4,640 lots in the Del-Webb Drainage Basin). Roughly half of the Del-Webb Drainage Basin is incorporated into the Del-Webb reimbursement area, which was established in 2011. Lots in the Del-Webb reimbursement area, shown in Figure 1, are under agreement to pay a \$2,500 basin fee to the Del-Webb developer, Pulte Homes Corp, for the recently constructed Del-Webb lift station. The reimbursement area extends to some parcels in the Olive Branch Drainage Basin.

### **Issues and Analysis**

The Southeast Regional Lift Station, force main, and outfall are estimated to cost approximately \$35 million to plan, design, permit and build. Development participation in the financing of this station will be necessary to ensure that current rate payers are not adversely affected. Other issues to be addressed include a) how funds are collected from the developer, b) the extent of their participation, and c) how developments currently in the City's review queue are handled.

A comprehensive master plan for the basin area has not been prepared that firmly projects the number of homes and businesses ultimately served by the new lift station. Thus far, the station's size and approximate flowrate are estimated based on current density of developments in review.

### **Alternatives**

Based on the information currently available, the following strategies have been proposed for consideration:

Alternative 1 – Do not construct a regional lift station and require the individual developers to construct all infrastructure, offsite improvements and required upgrades. No overall development plan exists for this basin, and under this alternative the City will ultimately maintain and operate possibly a dozen or more new lift stations. Eventually, as these new lift stations reach the end of their useful life cycle, the City will bear the expense of abandoning or replacing them; replacing some with outfalls; and eventually constructing a new regional lift station and force main.

Also, Alternative 1 does not allow for a systematic planning of upgrades to existing infrastructure. Development interest and projects vary with respect to time and magnitude, and the vision of an

ultimate build-out condition would remain in constant flux. At some point, with limited ability to plan, the receiving sewer capacity will be exceeded, and development in this area would need to be delayed until off-site infrastructure is upgraded. Also, without planning, a site that is ideal now for a regional lift station may not be available or constructible in the future.

Alternative 2: Assess every new property within the Del-Webb and Olive Branch basins a fee to connect to the new lift station. The fees would cover 100% of the financing of the regional lift station, outfalls, and force main. This alternative allows the cost of design and construction be spread over all properties served by the Southeast Regional Lift Station.

Preliminarily, based on a 20-year loan at 3.5% per year, the per-lot fee would be approximately \$2,500 in Year 1, with the fee increasing 3.5% each year thereafter to cover the cost of the City carrying the debt. New lots in the Del-Webb reimbursement area would pay this amount as well as the amount they are paying to reimburse the Pulte Homes Corp.

Alternative 3: Exclude the lots committed to the Del-Webb reimbursement agreement, and assess the remaining properties that connect to the Southeast Regional Lift Station (approximately 8,430). On a preliminary basis, these lots would each be assessed \$3,700 (also to be increased annually to reflect interest rates).

Alternative 4 – Assess only the new lots that connect to the Southeast Regional Lift Station, but at a rate determined from the total number of lots (\$2,500 per lot, with annual escalation). The City would bear the cost of the difference, preliminarily estimated at \$12.3 million.

### **Financial Impacts**

North Carolina statutes allow differential fees for customers based upon the cost of service delivery. Historically the City of Durham has considered costs of service in the aggregate when determining capital facility fees since previously there has never been an exceptional expense which benefited a limited group of customers. However, due to recent significant development in the Lick Creek area, the City has determined that a regional pump station costing about \$35 million will be needed to serve customers in this basin.

For purposes of equity to all customers, the City would like to assess the cost of this pump station not provided by developers to those who will ultimately benefit from it. As allowed by GS 160A-314 the City proposes assessing an additional capital facility fee to customers tying on to City sewer lines in the Lick Creek Basin. This fee will be paid at the same time as other capital facility fees for water and sewer are remitted.

### **SDBE Summary**

This item was not reviewed by the EO/EA Department.