

8.5. Finding #5

Adequate utilities, access roads, drainage, sanitation and/or other necessary facilities have been or are being provided.

8.5.1. Water Source and Requirements

Adequate water from the Chatham County Department of Public Works has been reserved. The development has reserved 40,000 GPD for Polks Centre. The developer has also identified current water main locations. Internal meter locations and expected fees for tapping on to the water system were also discussed.

Please refer to the following letter from Roy Lowder, Chatham County Utilities Director, regarding Polks Centre.

8.5.2. Wastewater Management

The current design load for the proposed development is less than 23,000 GPD. This volume is based on design guidelines from the *NC Division of Water Quality Rules* referencing the design of reuse wastewater treatment systems with appropriate reductions for low flow fixtures. Wastewater use is reduced since all the buildings will be using low-flow devices to meet our “Green Building Development Guidelines” and even future reductions will be gained by recycling of wastewater for toilets and urinals. The treatment system is a reuse wastewater treatment facility located on the Williams Corner site. Wastewater will be treated and the high-quality effluent will be used to irrigate the prepared landscaping, natural areas, recycling and as a water supply for landscape water features.

Preliminary discussions with the Division of Water Quality have been taking place for the last six months and an application for fast-track permitting has been accepted. The preliminary soils report performed by Soil and Environmental Consultants has determined that the site will easily accommodate the less than 23,000 GPD of treated effluent the project will generate. The storage requirement will be made up of multiple storage ponds that will also serve as application areas during normal disposal periods. At no point during preconstruction, construction, and operation phases will the wastewater treatment system not have any required permits from the NC Division of Water Quality, Chatham County, or any other regulatory body. All estimates and calculations are conservative based on preliminary soil reports and comparative use information.

The added benefit of a reuse wastewater system is that the water requirements of the project do not include use of Chatham County potable water or well water for irrigation. The developer is also working with other projects and landowners near the project to evaluate any possibility of taking their irrigation systems off the Chatham County water supply and using some of the project's reuse water.

8.5.2.1 Water/Sewer Impact Statement

Water will be provided by Chatham County and the amount required, 40,000 GPD, is readily available (letter attached). The wastewater treatment system is an onsite reuse system and does not impact Chatham County Utilities.

8.5.2.2 Wastewater Calculations

Acreege	39.84
Current Zoning	R-40
Proposed	B-1 CU
Total Impervious Potential	1,739,016
Square Footage Bldgs. (pad area)	125,000
Square Footage Other	281,250
Total Impervious Sq'	406,250
Total Impervious %	23.36%
	Unit
Retail/Office Some Two Story Sq'	110,000
Bank Sq'	5,000
Restaurant 1 Sq'	5,000
Restaurant 2 Sq'	5,000
Totals Sq'	125,000
Wastewater Requirements GPD	22,500

8.5.3. Access Roads

The proposed Polks Centre development is planned to have one full-movement stop lighted driveway and one right-in/right-out driveway onto US 15-501. Based on the concerns of residents of Polks Landing and other citizens it was decided that full access to the project would align to the north with the Williams Corner project where the safety of a stoplight would be implemented. This design will greatly alleviate the concerns regarding traffic safety. The main road passing through the project will exit onto Polks Landing Road, directly across from Holly Ridge Road in the Polks Landing community.

The drive traveling through the development from US 15-501 to Polks Landing Road is planned to be named Polks Centre Road. This road has been planned to be state-maintained.

Please see Site Plan and Traffic Study for schematics.

8.5.4. Storm Water Runoff

In order to meet the watershed protection ordinance, this site will provide stormwater management facilities that meet the requirements of the high-density option from the NPDES Phase II Stormwater Regulations. The main criteria that will be addressed are as follows:

1. The measures shall control and treat the difference in stormwater runoff volume leaving the project site between the pre- and post-development conditions for the 2-year / 24-hour storm. Runoff drawdown time shall be between 2 to 5 days.
2. All structural stormwater treatment devices will be designed to provide a minimum of 85% average annual removal for Total Suspended Solids from stormwater runoff generated from proposed impervious surfaces.

See Section 8.5.4.2, Stormwater Impact Analysis.