

Engineer's Report

for

**Autumn Corporation
Autumn Care Cornelius
Nursing Home
19300 Old Statesville Rd.**

Cornelius, Mecklenburg County, North Carolina

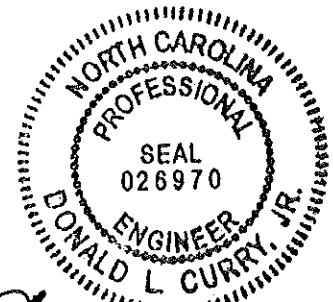
Owner/Applicant:

Autumn Corporation
451 N. Winstead Ave.
Rocky Mount, NC 27804

Prepared By:

Don L. Curry, Jr., PE
The Curry Engineering Group, PLLC
133 Spring Ave.
Fuquay-Varina, NC 27526

January 7, 2011



Donald L. Curry
1/7/11

This report has been written to conform with Rule .0307(b) section of the Public Water System Capacity Development Guidance Document as written by the North Carolina Department of Environment and Natural Resources.

The following information was obtained from plans, specifications, and calculations prepared by **The Curry Engineering Group, PLLC**, for this Project. The information obtained below has been placed in the order as noted in the NCDENR requirements.

1. Description of water system related to the project:

The proposed nursing home facility is to be located at 19300 Old Statesville Rd., in Cornelius, Mecklenburg County, NC. The facility will be owned by the Autumn Corporation of Rocky Mount, NC. The facility is located on approximately 12 acres of a parcel owned by the Mt. Zion United Methodist Church of Cornelius, NC, located approximately 1,000 ft south of the intersection of Zion Ave and Smith Rd. The property is accessed via Zion Ave.

The proposed nursing home is a 102-bed facility totaling approximately 59,021 sf. The proposed water system will consist of 725 linear feet of 6" public water line extension, 825 linear feet of 6" fire line and 950 linear feet of 3" domestic water service. These services will be tapped from an extended 6" main on Zion Avenue.

2. Name and Address of the Applicant:

Autumn Corporation
451 N. Winstead Ave.
Rocky Mount, NC 27804

3. A description of future service areas for 5-, 10-, 15-, and 20-years:

The proposed 6" fire line and 3" domestic extensions that connect to the existing 6" main on Zion Ave. are sized to account for the immediate development needs of the Autumn Care Nursing Home. Additional developments on this particular property may take place in the future, although a definite timeframe is undetermined. Additional taps will be necessary for future water service connections.

The extension of the 6" public line along Zion Ave. will serve existing properties as well as future developments along this corridor.

4. Financial considerations:

Not Applicable.

5. Present and anticipated water demands:

Nursing Home: 102 bed @ 120 gallons/bed = 12, 240 GPD

6. Character of the sources of supply:

Water source is the Charlotte-Mecklenburg Utilities Department. See attached "Flow Acceptance" letter from the CMUD for additional information.

7. Copies of any agreements to purchase water:

See attached "Flow Acceptance" letter from the CMUD for additional information.

8. Useful life of all sources, treatment, and transmission facilities:

This project specifies PVC and DIP mains, which have life expectancies in excess of 25-years. The proposed extensions are to be owned and maintained by Autumn Corporation. The proposed main extension on Zion Avenue is to be owned and maintained by CMUD.

9. Maximum daily treated water supply and maximum daily demand:

Unknown

10. Identification/Description of the service area:

The project area is served by an existing 6" water main along Zion Avenue. The fire line and domestic extensions will be tapped from the extended 6" water main, replacing the existing 2".

11. Consideration of alternatives to constructing a new water system:

No alternative sources were considered.

12. Population records and trends:

Residential, commercial and institutional construction has steadily been on the increase for many years. It is anticipated that these trends continue.

13. Present and future yield from the sources of supply:

Unknown

14. Proposed water treatment process:

Not Applicable.

15. Design basis of the source, treatment, and distribution systems:

The proposed water main extension is designed to supply sufficient water for domestic use and fire fighting capabilities based on current or predicted land uses and the fire flow requirements.

Hydrant flow tests provided by New Hanover County Fire Services indicate the following pressures and flows from a hydrant located at 19338 Zion Ave. and flow tested on November 22, 2010.

- Static 60 psi
- Residual 30 psi
- Pitot 22 psi
- GPM 787

16. Prioritized list of infrastructure improvements:

Construction of this project is anticipated to begin within the next 2-3 months.