



**PUBLIC WORKS**  
Engineering Division  
225 E Weatherspoon St  
Sanford, NC 27330  
Phone: (919) 777-1122

## PRELIMINARY ENGINEERING ANALYSIS

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1. Project description, location and parcel identification information
2. Number of proposed lots
3. Assumptions on house size and water/sewer flows
4. Phasing
5. Water/Sewer flow by phase

Example table

| Source    | No. of Lots | Average Flow Rate (GPM) | Peak Flow Rate (GPM)* | Average Daily Flow (GPD) | Peak flow (GPD) |
|-----------|-------------|-------------------------|-----------------------|--------------------------|-----------------|
| Phase I   |             |                         |                       |                          |                 |
| Phase II  |             |                         |                       |                          |                 |
| Phase III |             |                         |                       |                          |                 |
| Total     |             |                         |                       |                          |                 |

\*Peaking factor of 2.5

6. If a new lift station is proposed:
  - a. Map of sewer basin it would serve. Include all parcel lines, road names, parcel identifying information and sewer tie in point and water connection point(s).
  - b. Assumptions on flow contribution from undeveloped lots. Lift stations shall serve the entire basin, not just the proposed subdivision

Example table

| Flow contributors      | PIN            | Acreage | Est flow, gpd |
|------------------------|----------------|---------|---------------|
| Smith                  | XXX-XX-XXXX-00 |         |               |
| Jones                  |                |         |               |
| Wicker                 |                |         |               |
| Total                  |                |         |               |
| Total from development |                |         |               |
| Grand Total            |                |         |               |

- c. Proposed Pump size (flow rate).
- d. Calculations showing the ratio of the cost of gravity sewer versus the lift station. If the ratio is greater than 2.5, the City will consider allowing a lift station.
- e. If the lift station
  - i. serves 400 units, or
  - ii. 400 acres, or
  - iii. is in the ETJ, is residential in nature and it can be eliminated in the future by a gravity extension, or
  - iv. is in the best interests of the City

Staff will determine if it qualifies to be maintained and operated by the City.