City File #_____

GASTONIA NC
Great Place. Great People. Great Promise.

City of Gastonia
Garland Business Center

Engineering Department

150 S. York St., Gastonia, NC 28053 704-866-6022(P) 704-854-6654(F)

Water/Sewer Extension Application

Project/Development Type:
- ☐ Water Extension
- ☐ Sewer Extension
- ☐ Water and Sewer Extension

AKPAR# and/or Address (Required):
_____
_____

Primary Contact: ___ Yes ___ No Date: ____/____/_____

Name _____

Company: _____

Address: _____

City: _____ State: ____ Zip: _____

Developer: ___ Property Owner: ___ PE/PLS: ___ Other: _____

Day Phone: (____) ____ - _____ Mobile: (____) ____ - _____

Fax: (____) ____ - _____ Pager: (____) ____ - _____

Email: _____

Project Name: _____
Project Size: _____ Acres _____LF of Public Water _____LF of Public Sewer

Comments:

_____

_____

_____

_____

Attach six (6) copies of the plans with the application

Applicant Signature: _____

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INSTRUCTIONS FOR APPLICATION FORM

(PUMP STATIONS, FORCE MAINS, AND GRAVITY SEWERS)

The City of Gastonia will not accept this application unless all the instructions are followed. Plans and specifications must be prepared in accordance with City of Gastonia Standard Details and Specifications and with 15A NCAC 02T practices. Failure to submit all of the required items will lead to additional processing and review time for the permit application.

A. **Application Form** (All Application Packages):

- Submit application form to the City of Gastonia's online portal. The instructions (Pages 1 and 2 of 7) do not need to be submitted. Any changes made to this form will result in the application being returned. The City of Gastonia will only accept application packages that have been fully completed with all applicable items addressed.
- The project name should be consistent with the project name on the plans.
- If this project involves a modification of an existing permit, submit one copy of the existing permit.

B. **Detailed Plans and Specifications** (All Application Packages):

- Upload detailed plans and specifications signed, sealed, and dated by a North Carolina Professional Engineer.
- Plans must include the following minimum items: a general location map, plan and profile views of the sewer extension as well as the proximity of the sewer extension to other utilities and natural features, and detail drawings of all items pertinent to the sewer extension and pump station. Depict minimum separations required in 71B-18 on the plans, and note the use of ferrous pipe material with joints equivalent to water main standards if minimum separations are not met. Minimum cover over sewer extensions in accordance with 13.01 must also be shown clearly on the plans.
- Plans and specifications must not be labeled with preliminary phrases (e.g., FOR REVIEW ONLY, NOT FOR CONSTRUCTION, etc.) that indicate that they are anything other than final plans and specifications. However, the plans and specifications may be labeled with the phrase: FINAL DESIGN – NOT RELEASED FOR CONSTRUCTION.

C. **Engineering Calculations** (All Application Packages):

- Submit three copies of all design calculations that have been signed, sealed, and dated by a NC Professional Engineer.
- Calculations must include the following minimum items: friction/total dynamic head calculations and system curve analysis (with one pump running, two pumps running, etc.); pump selection information including pump curves, manufacturer's information, and recommended installation guidelines; pump station cycle times and pump run times; minimum velocities in the sewer extension in accordance with 15A NCAC 02T.0305(h)(1); and flotation calculations for the pump station.

D. **Downstream Sewer Evaluations** (All Application Packages):

- For connection to a gravity sewer, submit an evaluation of the gravity sewer based on peak flows from the proposed project. Provide calculations and detail how existing peak flows were determined.

- For connection to a pump station, submit an evaluation of the existing pump station to pump peak flow from proposed project and peak flows already tributary to the existing pump station. Provide calculations and detail how existing peak flows were determined.
- For connection to a force main, provide an evaluation of the existing force main based on peak flows from proposed project and peak flows already tributary to the existing force main. In addition, evaluate the ability of each pump station tributary to the existing force main to pump against additional head created by greater flows through the force main. Evaluation may include alternate designs such as telemetry to coordinate pumping between pump stations (provided sufficient storage is available). Also, include an evaluation of the discharge point of the existing force main as described above.

E. **Pump Station Reliability**

a. Pump stations, except when exempted by 15A NCAC 02T .0305 (j)(2) of this Rule, shall be designed with multiple pumps such that peak flow can be pumped with the largest pump out of service.

b. A standby power source or pump is required at all pump stations except for those pump stations subject to 15A NCAC 02T .0305 (j)(2) of this Rule. Controls shall be provided to automatically activate the standby source and signal an alarm condition.

c. As an alternative to Part (b) for pump stations with an average daily design flow less than 15,000 gallons per day as calculated using Rule .0114 of this Subchapter, a portable power source or pumping capability may be utilized. It shall be demonstrated to the Division that the portable source is owned or contracted by the permittee and is compatible with the station. If the portable power source or pump is dedicated to multiple pump stations, an evaluation of all the pump stations' storage capacities and the rotation schedule of the portable power source or pump, including travel timeframes, shall be provided in the case of a multiple station power outage.

d. As an alternative to Part (b) for pump or vacuum stations connecting a single building to an alternative sewer system, wet well storage requirements shall be documented to provide 24-hours worth of wastewater storage or, exceed the greatest power outage over the last three years or the documented response time to replace a failed pump, whichever is greater. Documentation shall be required pursuant to the permit application.

e. All pump stations designed for two pumps or more shall have a telemetry system to provide remote notification of a problem condition to include power failure and high water alarm.

f. High water audio and visual alarm.

The completed application package, including all supporting information and materials, should be sent to the following address:

By U.S. Postal Service:

The City of Gastonia
Engineering Department
Land Development Section
Post Office Box 1748
Gastonia, North Carolina 28053-1748

By Courier:

The City of Gastonia
Engineering Department
Land Development Section
150 South York Street
Gastonia, North Carolina 28052

PUMP STATIONS, FORCE MAINS, AND GRAVITY SEWERS

APPLICATION FORM

(THIS FORM MAY BE PHOTOCOPIED FOR USE AS AN ORIGINAL)

Application Number: _____ (to be completed by City of Gastonia)

I. GENERAL INFORMATION:

1. Applicant's name (name of the corporation, individual, etc): _____

   _____

2. Owner's or signing official's name and title: _____

   _____

3. Name and complete address of applicant: _____

   _____

   City: _____ State: _____ Zip: _____

   Telephone number: (_____) _____ Facsimile number (_____) _____

4. Project name (name of subdivision, facility or establishment, etc.) _____

   _____

5. Fee Submitted: $_____

6. Name and compete address of engineering firm: _____

   _____

   City: _____ State_____ Zip: _____

   Telephone number: (_____) _____ Facsimile number (_____) _____

7. Name and affiliation of contact person who can answer questions about application: _____

   _____

II. PERMIT INFORMATION:

1. Project is: ☐ new; ☐ modification
2. If this application is being submitted as a result of a modification to an existing permit, provide:
   existing permit number _____ and the issuance date _____

3. If project disturbs more than one acre, provide date when an erosion and sedimentation control plan was submitted to the Division of Land Resources for approval: _____

   _____

4. If project included any stream or wetland crossings, provide date when Nationwide 12 or 404 permit was submitted for approval: _____

III. INFORMATION ON WASTEWATER:

1. Please provide a one- or two-word description specifying the origin of the wastewater (school, subdivision, hospital, commercial facility, industry, apartments, condominiums, etc.): _____

2. Volume of wastewater generated by this project: _____ gallons per day.

3. Explanation of how wastewater flow was determined: _____

4. Nature of wastewater : _____% Domestic/Commercial;
   _____% Percent Industrial
   _____% Other waste – specify: _____

5. If wastewater is industrial in nature:
   a. Level of pretreatment that has been provided to ensure protection of the receiving collection system and wastewater treatment facility: _____
   b. If a pretreatment permit is required, has one been issued? . Yes ☐ No ☐. If yes, please attach a copy of the pretreatment permit. If no, provide date application was submitted: _____

IV. DESIGN INFORMATION:

1. Brief project description: _____
2. Name of wastewater treatment facility (WWTF) receiving wastewater _____
3. Pipe diameter of sewers immediately downstream: _____
4. Engineering evaluation of downstream sewers' ability to accept the wastewater from this project (See Instruction F.) is provided on page _____ of the calculations.
5. Summary of GRAVITY SEWER to be permitted:

Diameter (inches)	**Length (linear feet)**

6. Does the subject gravity sewer collection system comply with the City of Gastonia Standard Specifications and Details ☐ Yes; ☐ No. If no, please identify criteria and explain: _____

V. PUMP STATION INFORMATION (Complete Page 5 of 6 for each pump station included in this project.)

1. Pump station number or street address: _____

   _____

2. Describe the measures that are being implemented to prevent impacts on down-slope surface waters should a power failure occur at this pump station (See Instruction G.): _____

   _____

3. Design flow of pump station: _____ million gallons per day.

4. Operational point(s) of the pump(s): _____ gallons per minute at

   _____ feet total dynamic head (TDH).

5. Number of pumps provided: _____

6. Number of pumping cycles at average daily flow. _____ cycles per hour.

7. For extended travel times (greater than 24 hours) or if appropriate pumping cycles are not met, describe odor and corrosion control measures taken: _____

   _____

8. Provide the location of each design element in the specifications and/or engineering plans:

Design Element	Sheet Number of the Plans	Page Number in the Specifications
Alternate Power Sources:		
Portable Generator (telemetry and receptacle required)		
On-site Generator (automatic transfer switch required)		
Wet Well Vented with Screen		
Fillets in Wet Well		
Check Valves and Gate Valves		
Security Fencing		
Lockable Wet Well Cover and Dead Front Control Panel		
Area Light		
110-Volt Electrical Convenience Outlet		
High Water Alarms:		
Audible Alarm		
Visual Alarm		
Auto-Dialer/Telemetry		
Non-Corrosive Guide Rails/Lift Chains		
All-Weather Access Road		

9. List any equipment (note sheet number of the plans or page number in the specifications) not specifically mentioned above (hoist, odor control equipment, etc.): _____

   _____

   _____

   _____

10. a. 100-year flood elevation: _____

b. Finish grade elevation of the pump station: _____ feet.

c. Measures taken to protect the pump station against flooding _____

_____

_____

11. Summary of FORCE MAIN to be permitted, by diameter and length:

Diameter (inches)	Length (linear feet)	High Elevation (feet)	Discharge Elevation (feet)	Pump-Off Elevation (feet)

12. Station location of air-release valves: _____

_____

Note: Air-release valves must be provided at all high points along the force main where the elevation difference exceed 10 feet.

Professional Engineer's Certification:

I, _____, attest that this application for _____ _____ has been reviewed by me and is accurate, complete and consistent with the information in the engineering plans, calculations, and all other supporting documentation to the best of my knowledge. I further attest that to the best of my knowledge the proposed design has been prepared in accordance with the applicable regulations, and the most recent versions of the City of Gastonia Standard Specifications, NCDENR Gravity Sewer Minimum Design Criteria, NCDENR Minimum Design Criteria for the Fast-Track Permitting of Pump Stations and Force Mains, and the watershed classification in accordance with NCDENR guidance. Although certain portions of this submittal package may have been developed by other professionals, inclusion of these materials under my signature and seal signifies that I have reviewed this material and have judged it to be consistent with the proposed design. I further attest that all offsite easements required for the sewer extension installation as shown on the plans have been acquired and legal proof for the acquisition is available upon request.

North Carolina Professional Engineer's seal, signature, and date:

Applicant's Certification:

I, _____, attest that this application for _____ _____ has been reviewed by me and is accurate and complete to the best of my knowledge. I understand that if all required parts of this application are not completed and that if all required supporting information and attachments are not included, this application package will be returned to me as incomplete. Furthermore, I certify that upon complete installation of the sewer extensions permitted through this application form, the subject sewer extensions shall be dedicated to the City of Gastonia.

Signature: _____ Date: _____

Approval:

The permit cited in the foregoing application is hereby approved insofar as the protection of public health is concerned as provided in the regulations, standards and criteria adopted under the authority of Chapter 14, Article II. Division 2. Water & Sewer Extensions, Section 14-141 of the Code of Ordinance for the City of Gastonia, with the following provisions:

This permit is issued with the understanding that upon installation of such sewer extensions, the project shall be dedicated to the City of Gastonia, who will operate the installation to the best accepted practice and in accordance with the recommendations of the State of North Carolina Department of Environment and Natural Resources. The official copies of plans accompanying this application have been sealed and stamped with the serial number of this application _____. Only such plans are included in this permit approval and any erasures, additions or alterations of the proposed sewer extensions will make such approval null and void.

Date: _____ Approved By: _____

Updated_9-17-14