# PUBLIC WASTEWATER COLLECTION SYSTEM EXTENSION OR MODIFICATION APPLICATION

### **INSTRUCTIONS FOR FORM: WWCSEM 03-2021**

The City of Concord will not accept this application unless all of the following instructions are adhered to: Prior to the submittal of an application package for a public wastewater collection system extension/modification, the engineering plans and specifications shall be approved through the appropriate technical review process as required by the Director of Engineering and defined by the City of Concord Development Ordinance. Plans and specifications must be prepared in accordance with 15A NCAC 2T, the State of North Carolina's *Gravity Sewer Minimum Design Criteria*, the Water and Sewer Authority of Cabarrus County's *Standard Specifications for Wastewater Collection and Water Distribution Construction for Cabarrus County*, the City of Concord Code of Ordinances, the Concord Regional Water Resources' *Water and Sewer Policy and standard specifications*, and good engineering practices.

- A. Cover Letter (All Application Packages):
  - Submit a cover letter, which lists all items and attachments included in the application package as well as a brief project description. As necessary, include attachments to the application form. Such attachments will be considered part of the application package and should be numbered to correspond to the section to which they refer.
- B. Application Form (All Application Packages):
  - Submission of an executed application form. Incomplete applications may result in the application being returned. The City of Concord 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 "Authorization to Construct," submit one copy of the existing "Authorization to Construct." Please note that modifications must meet current design standards.

- C. Application Fee (All Application Packages):
  - Each application shall be subject to an Engineering Review fee in the amount as required by the current "City of Concord Fiscal Year Fees and Charges Schedule" A copy current City of Concord Fiscal Year Fees and Charges Schedule can be viewed on the City of Concord web page at <u>www.concordnc.gov</u> under "Departments" "Finance" "Adopted Fees Schedule"
- D. Detailed Plans and Specifications (All Application Packages):
  - Submission of the **final design drawing plan** set must be signed, sealed, and dated by a N.C. Professional Engineer. The Water and Sewer Authority of Cabarrus County's "Standard Specifications for Wastewater Collection and Water Distribution Construction for Cabarrus County" and the City of Concord Development Ordinance and Code of Ordinances Utilities Article and Technical Specifications must be adhered to without exception. Use of the Water and Sewer Authority of Cabarrus County's (WSACC) "Standard Specifications for Wastewater Collection and Water Distribution Construction for Cabarrus County," and the City of Concord Development Ordinance, Code of Ordinances Chapter 62 and Technical Standards must be noted on each sheet of the plans.
  - Design plans must include but shall not be limited to the following minimum items:
    - Wastewater collection system extensions and/or modifications shall be designed in accordance with all applicable federal, state, and local regulations and standards.
    - Engineering plans shall be sealed by a North Carolina registered professional engineer and submitted on 24-inch by 36-inch sheets with the approved City of Concord border and logo.
    - The horizontal scale shall be one-inch equals 40 feet and the vertical scale shall be one-inch equals 4 feet.
    - A general location map, a North arrow, 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.
    - Depict minimum separations on the plans, in accordance with 15A NCAC 2T and the City of Concord's ordinance, policies, and specifications. Clearly indicate on the plans, the sections where the minimum separations cannot be maintained and the ferrous pipe material is required.
    - Minimum cover over sewer extensions must also be shown clearly on the plans, in accordance with 15A NCAC 2T and the City of Concord's ordinance, policies, and specifications.
    - 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.
- E. Digital Copy of Plans (All Application Packages):

Submit one digital copy of the complete design drawings in PDF format are to be uploaded to the Accela online portal in the applicable case at <u>https://accela1.cabarruscounty.us/CitizenAccess/</u>, unless otherwise specified.

- Submit an 8.5-inch by 11-inch **color** copy of the portion of a 7.5-minute USGS Topographic Map along with this form. The map should clearly identify the entire project area location as well as the closest down slope surface waters. Each map portion must be labeled with the map name and number, the identified location of the sewer line and pump station, and be of clear and reproducible quality. Projects that traverse over or near several different waterbodies (or counties, basins, etc.), shall submit topographic maps for each different waterbody.
- Submit an 8.5-inch by 11-inch street level map showing all relevant project areas.

#### G. Stream Classifications (All Application Packages):

 $\square$ 

Stream Classifications. Complete the stream classification for the closest down slope surface waters. Include all points that traverse over or are near different waterbodies (or counties, basins, etc.,) A variance must be requested for encroachment within required setbacks or buffers pursuant to 2T .0305 (f) and be indicated in Item B-13 with supporting documentation/justification provided. For further assistance with determining watershed classification, contact the NCDEQ Mooresville Regional at 704-663-1699 or the City of Concord Engineering Department for the guidance document entitled, "Determining Watershed Classifications for Form FTA 02/03 (Fast-Track Sewer Systems)." This document is also available on the NCDEQ–Division of Water Quality's web site at <a href="http://h2o.enr.state.nc.us/ndpu">http://h2o.enr.state.nc.us/ndpu</a>.

# H. Design Standards and Hydraulic Calculation Requirements (See 15A NCAC 2T and City of Concord Code of Ordinance Chapter 62, Article 3)

1. **Rights-of-way/easements** (All utility rights-of-way/easements shall meet the following standards. Documentation of offsite utility easement acquisition must be submitted with the application.)

a. Rights-of-way and easements shall be obtained, granted, dedicated, and recorded in accordance with the city's current rights-of-way, easements, and encroachments policy.

b. Wastewater collection lines that are not located within a road right-of-way shall be located within a public utility right-of-way/easement.

- The minimum utility right-of-way/easement width shall be 30 feet. Rights-of-way greater than 30 feet shall be provided for pump station lots, access roads, associated appurtenances, and when required by the director of engineering.
- Every portion of the water distribution system extension and wastewater collection system extension or modification shall be accessible by city maintenance crews and equipment within the utility rights-of-way/easement.
- An all-weather travel surface and a minimum slope of eight percent or flatter and side slopes of two percent or flatter must be provided within the utility rights-of-way/easement. When access through the utility rights-of-way/easement is not possible, the director of engineering may approve a maintenance/access easement.
- All maintenance/access easements must be clearly indicated on the plans and legally conveyed to the city. The maintenance/access easement shall have an all-weather travel surface with a minimum slope of eight percent or flatter and side slopes of two percent or flatter with a horizontal curve radius that does not exceed the turning capabilities of the city equipment.
- A vehicle turnaround area shall be provided at the termination of the dead-end easement, at an access impediment, and/or at the end of a maintenance/access road. At the option of the director of engineering, the vehicle turnaround area may be omitted if the site access easement or access/maintenance easement length is less than 100 feet.
- 2. Wastewater Collection Systems (All Application Packages):
  - All wastewater collection system mains shall be sized to accommodate potential wastewater flow from the entire drainage basin based on current zoning and/or land use designations.
  - The hydraulics of the proposed manhole with the greatest slope differential (i.e., steep line entering the manhole and a flat line exiting the manhole) and the tie-in point of the existing system shall be evaluated to determine whether or not the wastewater will surcharge during peak flow conditions.
  - Submit two copies of all design calculations that have been signed, sealed, and dated by a NC Professional Engineer.
  - Calculations must include the minimum items required by 15A NCAC 2T, the State of North Carolina's *Gravity Sewer Minimum Design Criteria* and the City of Concord's ordinance and policies:
    - Slope standards: Eight-inch diameter wastewater collection system lines shall be designed and installed at a slope equal to or exceeding six-tenths of one percent except on dead-end lines and lines where low flows are expected. Minimum slope on such lines that are 18 inch or less in diameter shall be one percent.
    - If the sanitary sewer lines entering and exiting a manhole are separated by 225°--270° or 90°--135°, the invert-in and invert-out elevations shall have a vertical separation of at least five-tenths of one foot.
    - Five-foot diameter inside drop manholes shall be provided where invert separations equal two feet or greater and a 12inch diameter pipe or smaller is proposed. If three 12-inch diameter or smaller drops are needed at a manhole, a six-foot inside drop manhole shall be provided. If the invert separation is two feet or greater and a pipe diameter larger than 12 inches is proposed, an outside drop manhole shall be provided.
    - Wastewater collection system manhole rim elevations must be set to conform to the street and shoulder final grade elevation within public or private road rights-of-way. All other wastewater collection system manhole rim elevations shall be at least two feet above final grade. Wastewater collection system manholes located within the 100-year flood elevation shall be set such that the rim elevation is either two feet above the 100-year flood elevation but not more than three feet above final grade or two feet above final grade and watertight with sealed manhole covers and screened vent pipes set at least two feet above the 100-year flood elevation.
    - Wastewater collection system manholes shall be vented every 1,000 feet or at every other manhole, whichever yields the greater number of vents.

#### **Locations and Separations:**

- The location of all utilities shall meet the following standards and the required horizontal and/or vertical separation distance shall be noted at the appropriate station on the engineering plans.
- A minimum horizontal separation of five feet shall be maintained between any type of maintenance obstruction and the city's water distribution lines, wastewater collection lines, and associated appurtenances, unless an exception is granted as outlined in section 62-100. Greater separation distances may be required as specified by federal, state, or local regulations.
- A minimum vertical separation of two feet shall be maintained between any type of maintenance obstruction, including but not limited to any other utility provider's lines or equipment, and the city water distribution lines, wastewater collection lines, and associated appurtenances, unless an exception is granted as outlined in section 62-100. If an exception is granted, a minimum vertical separation of one foot must be maintained and the city water distribution lines, wastewater collection lines, and associated appurtenances shall be constructed of ductile iron pipe or an approved ferrous material with joints that are equivalent to potable water main standards for a distance of ten feet on either side of the point of crossing. Greater separation distances may be required as specified by federal, state, or local regulations.
- A minimum horizontal separation of ten feet shall be maintained between the city water distribution system and wastewater collection lines, and associated appurtenances, unless an exception is granted as outlined in section 62-100.
- In areas where utilities are proposed along new roadways subject to the city's development ordinances, water distribution lines and wastewater collection lines shall be located in accordance with the city's current utility corridor plan, or as specified by the director of engineering.
- Manholes and cleanouts shall not be located within any feature conveying or pooling storm water.

Depth of Cover (Calculations may be required):

- Three feet minimum cover shall be provided for water distribution systems and wastewater collection systems extensions and/or modifications unless an exception is granted. If an exception is granted, the water distribution systems and wastewater collection systems extensions and/or modifications must maintain at least 30 inches of cover and be constructed of ductile iron pipe or an approved ferrous material.
- Maximum depth cover for PVC pipe shall be limited to eighteen (18) feet. All PVC pipe with a proposed depth of cover exceeding twelve (12) feet shall require the submission of bearing capacity documentation and the supporting design calculations from the engineer. The documentation and design calculations shall adequately address the bearing capacity of the proposed PVC pipe and the pipe's ability to withstand the dead and live loads. The design shall include adequate documentation and the proposed standard detail, which adequately satisfies the bedding requirements for the pipe.
- Ferrous material shall be provided for all proposed water and sewer system extensions that have a depth of cover exceeding eighteen (18) feet. All ferrous pipe with a proposed depth of cover exceeding eighteen (18) feet shall require the submission of bearing capacity documentation and the supporting design calculations from the engineer. The documentation and design calculations shall adequately address the bearing capacity of the proposed ferrous pipe and the pipe's ability to withstand the dead and live loads. The design shall include adequate documentation and the proposed standard detail, which adequately satisfies the bedding requirements for the pipe.
- 3. Wastewater Pump Stations & Force Main Projects For a proposed pump station and/or force main additions and/or modifications submit two copies of the executed Attachment A Pump Station and Force Main Form (PSFM:2017). For technical design requirements, please reference the most current version of City of Concord Pump Station and Force Main Technical Specification. This technical specification can be obtained from City of Concord Engineering Department upon request.

A DIGITAL COPY OF THE COMPLETED APPLICATION PACKAGE, INCLUDING PLANS, SUPPORTING INFORMATION AND MATERIALS, SHOULD BE UPLOADED TO ACCELA ONLINE PORTAL IN THE APPLICABLE CASE AT <a href="https://accela1.cabarruscounty.us/CitizenAccess/">https://accela1.cabarruscounty.us/CitizenAccess/</a>, UNLESS OTHERWISE SPECIFIED.

For Accela Case Inquiries, Contact:CITY OF CONCORDPlanning & Neighborhood Development-Zoning ServicesPost Office Box 308Concord, North Carolina 28026-0308Telephone Number: (704) 920-5152	For Engineering Design Inquiries, Contact:CITY OF CONCORDEngineering DepartmentPost Office Box 308Concord, North Carolina 28026-0308Telephone Number: (704) 920-5425
--	--



# WASTEWATER COLLECTION SYSTEM EXTENSION OR MODIFICATION APPLICATION

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

TO BE COMPLETED BY THE CITY OF CONCORD				
Planning Case No:				
Engineering Project No:				
ATC No:				

R ####) and Road				
8 ####) and Road				
(Applicant's Facsimile Number)				
is owner.				
(Company Name)				
(Street or Box Number)				

iit tion			🗌 New	7						
D. Permit Information	<b>E</b> Project is: <b>D</b> Modific: Specify the ATC				ation of an existing Authorization to C or DWQ/DWR Permit No					
E. Downstream Information	1.) Name of Water and Sewer Authority of Cabarrus County WWTF: <ul> <li>Rocky River Wastewater Treatment Facility (RRWWTF - I</li> <li>Muddy Creek Wastewater Treatment Facility (MCWWTF - I)</li> </ul>									
E. Dow Infoi	2.)Owner of Downstream Sewer			3.) Receiving Sewer Size		Gravity Force Main Pump Static		# of Downstream Sewer		
	1.) Т	The origin of this	wastewater	is (che	eck all that apply):		2.) The type o	f wastewater is (	(indicate percentage):	
		Residential Sub	odivision		Retail (Stores, shopping centers)			% Domestic		
		Apartments/Co	ndominiums		Institution		% Commercial % Industrial		rcial	
		Mobile Home I	Park		Hospital, nursing home, dental				l	
		School, prescho	ol, daycare		Church			% Other use (Specify)		
		Restaurants (Food or drink facilities)			Sports Centers		3.) Pretreatment required:			
u		Hotels or motel			Business, offices, factories	11	No Yes (Specify or attach effluent documentation)			
atio	Other (specify):				11	(Provide documentation of WSACC's pre-treatment approval.)				
ge Inforn	Other (specify):									
F. Waste	<ul> <li>Flow has already been allocated in Permit #</li></ul>							ng, proposed unknown non- 42A-4). 02T.0114] shall be er measured data. data in accordance with 15A		
Established Type (See 02T.0114(f))     Daily Design Flow (a,b)     No. of Units       gal/					No. of Units	Flow				
							GPD GPD			
	gal/ gal/								GPD	
gal/							GPD			
					gal/				GPD	
gal/						GPD				
							Total	GPD		

ry	1.) Summary of Sanitary	Gravity Sewer Ma	ains to be cons	structed (at	ach additional	sheets if necessary	7)			
ma	Diameter Length				Mater			Manholes		
un	(Inches)	(Linear fo	eet)	(P	rimary pipe m		Number	Diameter		
m S					PVC or			4-ft		
'stei						Other		5-ft		
Wastewater Collection System Summary					PVC or	DI		4-ft		
ctio					Or	Other		5-ft		
olle					PVC or	DI		4-ft		
r C					Or	Other		5-ft		
vate					PVC or	DI		-ft		
stew					Or	Other		-ft		
Was	~~~~ Pump Station and Force Mains ~~~~									
Ŀ.	2.) Pump Station? (additions/modifications)	Ye	s. (Complete	e and incl	ude attachm	ent A: PSFM 20	)17 Form)			
am ation	<b>Complete the stream classification for the closest down slope surface waters.</b> Include all points that traverse over or are near different waterbodies (or counties, basins, etc.,) A variance must be requested for encroachment within required setbacks or buffers pursuant to 2T .0305 (f) and be submitted by the City of Concord to NCDEQ DWR with supporting documentation/justification provided. For further assistance with determining watershed classification, contact the NCDEQ Mooresville Regional at 704-663-1699 or NCDEQ–Division of Water Resources's web site at									
H. Stream Classification	www.ncwater.org or the City of Concord Engineering D Location ID on QUAD Map (self-chosen – as shown on map for cross-reference) Nar		0 1	ng Department 704-920-542		River Basin	Waterbody Stream Index	Waterbody Classification		
					Cabarrus					
					Cabarrus					
I. Design Compliance Certification										
J. Other Permits	Have the following permits/certifications been submitted for approval for the proposed water system or the associated project to be served by the water system? If "yes," submit a copy of all applicable permits.         a.) US Army Corp 404 or NCDEQ DWQ 401 wetland permit?       Yes       No       N/A         b.) Sedimentation and Erosion Control Plan?       Yes       No       N/A         c.) Stormwater Management Permit?       Yes       No       N/A         d.) NCDOT Utility Encroachment?       Yes       No       N/A         e.) Environmental Assessment?       Yes       N/A         (If Yes, Submit FONSI or EIS)       If Yes, Submit FONSI or EIS						ject to be			
K. High Priority Lines	Does this project include any high priority lines (15A NCAC 02T .0402 (2)) involve aerial lines, siphons, or interference manholes? "High- priority sewer" means any aerial sewer, sewer contacting surface waters, siphon, or sewer positioned parallel to stream banks that is subject to erosion that undermines or deteriorates the sewer. Check if Yes provide details:									
Pri	: WWCSEM 11/202	.3	Page 3	8 of 5						

# Notice

These plans and specifications cited in the foregoing application and attachments, including any provisos in the approval letter, are approved insofar as the protection of public health is concerned as provided in the rules, standards and criteria adopted under the authority of NCGS 143-215.1(f) and 15A NCAC 2T. This approval does not address all applicable laws, rules, standards and criteria, and other approvals and licenses that may be required by the local, state or federal government. This approval is given with the understanding that upon installation of such works, its operation shall be placed under the care of a competent person, and the operation shall be carried out according to best accepted practice and in accordance with the recommendations of the City of Concord through the delegated authority of North Carolina Environmental Management Commission and the Division of Water Quality.

Any erasures, additions or alterations of the proposed improvements except those permitted in 15A NCAC 2T will make this approval null and void.

This approval does not constitute a warranty of the design, construction or future operation of the wastewater collection system.

THE CITY AND ITS STAFF ARE NOT RESPONSIBLE FOR ERRORS IN DESIGNS, CALCULATIONS, DRAWINGS OR STATEMENTS SUBMITTED BY APPLICANTS, THEIR TECHNICAL CONSULTANTS, SURVEYORS OR ENGINEERS. THE CITY AND ITS STAFF ARE NOT RESPONSIBLE FOR FINDING OR CORRECTING ANY ERRORS OR DEFICIENCIES IN PLANS SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL. THE CITY OF CONCORD DISCLAIMS ANY LIABILITY FOR ERRORS CONTAINED IN PLANS SUBMITTED TO THE CITY. THE SIGNATURE OF THE CITY ENGINEER MAY NOT BE RELIED UPON TO ESTABLISH ANY DUTY OR RELATIONSHIP (SUCH AS A THIRD-PARTY BENEFICIARY) WITH ANY PARTY USING THIS PLAN OR DRAWING. PARTIES USING THIS DOCUMENT SHOULD CONDUCT THEIR OWN REVIEW AND ANALYSIS FOR MAKING DECISIONS IN RELIANCE ON THIS DOCUMENT.

## City of Concord Certification: TO BE COMPLETED BY THE CITY OF CONCORD

The official copies of plans and specifications accompanying this application have been sealed and stamped with the

Authorization to Construct (ATC) number for this application \_

I, Jacklyn Beth Deal, P.E., attest that this application has been reviewed by me and contains sufficient information to ascertain reasonable grounds to believe the application package and its contents meet all applicable standards of Subchapter 15A NCAC 2T, the State of North Carolina's Administrative Code, the Water and Sewer Authority of Cabarrus County Standard Specifications and the City of Concord's ordinance, policies and specifications as presented. The denial of the issuance of a permit, subject to the provisions in Article III, Chapter 62 of the City of Concord Code of Ordinances shall be made in writing and shall contain the reasons for the denial and the City's estimate of the general changes in the applicant's proposed activities or plan which will be required in order that the applicant may obtain a permit. Nothing in such estimate shall preclude or otherwise bar the City from denying a permit, which incorporates such changes, based upon changed circumstances or information not previously known by the Director of Engineering or the applicant.

Signature<u>:</u>

Date<u>:</u>

Jacklyn Beth Deal, P.E., Director of Engineering

#### **Professional Engineer's Certification:**

As a duly registered Professional Engineer in the State of North Carolina, I certify that this application has been reviewed by me and is accurate, complete and consistent with the information supplied 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 and supporting documentation has been prepared in accordance with and subject to the applicable regulations; NCDEQ Gravity Sewer Minimum Design Criteria for Gravity Sewers adopted February 12, 1996; NCDEQ the Minimum Design Criteria for Fast-Track Permitting of Pump Stations and Force mains adopted June 1, 2000; the watershed classification in accordance with the Division Guidance; the Water and Sewer Authority of Cabarrus County's standard specifications and technical details; the City of Concord's ordinances, policies, details and standard specifications; and the North Carolina Administrative Code 15A NCAC 2T for wastewater collection systems. In the event of conflict between the Water and Sewer Authority of Cabarrus County's standard specifications; the City of Concord's ordinances, policies, and standard specifications, or the North Carolina Administrative Code, the more restrictive requirements shall apply. Although other professionals may have developed certain portions of this submittal package, 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. Note: In accordance with NC General Statutes 143-215.6A and 143-215.6B, any person who knowingly makes any false statement, representation, or certification in any application shall be guilty of a Class 2 misdemeanor which may include a fine not to exceed \$10,000 as well as civil penalties up to \$25,000 per violation, and referral to the State Board of Registered Professional Engineers and Surveyors.

(Signature of North Carolina Professional Engineer)		(Company Name) (Street or Box Number)		
(Type Name Signed Above)				
(NCPE Registration Number)		(City, State, Zip Code)		
(Seal & Signature Date)		(Email Address)		
(Phone Number)		(Facsimile Numbers)		
	(Engineer's seal)			

#### **Applicant's Certification:**

This application is made under and in full accord with the provision of NCGS 143-215.3(a)(1);143-215.1 and such other statutes as related to wastewater collection systems. The applicant agrees that no change or deviation from the engineering plans and specifications approved by the Division of Water Resources will be made except as allowed by 15A NCAC 2T or with the written consent and approval of the City of Concord Director of Engineering or the Directors' authorized representative. The applicant agrees that a professional engineer licensed to practice in the State of North Carolina shall submit a statement reflecting that adequate observations during and upon completion of construction, by the engineer or by a representative of the engineer's office who is under the engineer's supervision, indicates that construction was completed in accordance with the applicable regulations, ordinances, policies, approved plans and specifications. 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 applicant. Revised engineering plans and specifications shall constitute a re-submittal, shall be accompanied by a new fee, and shall require additional time for review. Note: In accordance with NC General Statutes 143-215.6A and 143-215.6B, any person who knowingly makes any false statement, representation, or certification in any application shall be guilty of a Class 2 misdemeanor, which may include a fine not to exceed \$10,000 as well as civil penalties up to \$25,000 per violation.

(Signature of legal owner, board, council, and/or defined in property records and/or a registered a of State Corporation filings.)		(Applicant's Street or Box Number)		
(Applicant's Typed Name & Title of signing entity)	(Applicant's Signature Date)	(Applicant's City, State, Zip Code)		
(Applicant's Phone	Number)	(Applicant's Email Address)		