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Secretary

LINDA CULPEPPER
Director



NORTH CAROLINA
Environmental Quality

August 28, 2019

Mr. John Nichols
Director of Public Utilities
County of Brunswick
PO Box 249
Bolivia, North Carolina 28422

SUBJECT: Authorization to Construct
A to C No. 086819A02
Brunswick County
Northeast Brunswick Regional WWTP
NPDES Permit No. NC0086819

Dear Mr. Nichols:

A letter of request for an Authorization to Construct was received on June 26, 2019, by the Division of Water Resources (Division), and final plans and specifications for the subject project have been reviewed and found to be satisfactory. Authorization is hereby granted for the construction of modifications to the existing 2.475 MGD NE Brunswick Regional WWTP, with discharge of treated wastewater into the Cape Fear River in the Cape Fear River Basin.

This authorization results in an increase in design and permitted capacity to 4.975 MGD, and is awarded for the construction of the following specific modifications:

Construction of new 30-inch influent forcemain; construction of new headworks consisting of three (3) new rotary drum screens each rated for 7.785 MGD at peak hourly flow, one (1) 250 CFH shaftless spiral conveyor, one (1) grit removal system rated for 15.57 MGD at peak hourly flow, one (1) 300 GPM grit washing unit, and one converting dry air scrubber for odor control; installation of one (1) new 2,200 GPM 20 BHP jet aeration pump and one (1) new 40 HP rotary lobe PD blower capable of providing 600 SCFM of air at 10.5 psig; installation of one (1) new 956,000 gallons EQ tank with two (2) new 3,200 GPM 22 BHP dry-pit motive liquid pumps and two (2) new 50 HP rotary lobe PD blowers each capable of providing 660 CFM of air at 9.5 psig; construction of new EQ basin pump station and metering vault; installation of three (3) new 5,400 GPM 150 HP submersible EQ pumps; construction of two (2) new oxidation ditches with each rated for 1.25 MGD ADF and 24-inch forcemain from new EQ basin to new oxidation ditches; installation of four (4) new 3,995 GPM 30 HP dry-pit motive liquid pumps; construction of three (3) new 78,000 gallons anaerobic selectors and installation of three (3) new 4.4 HP submersible mixers; installation of new MLSS distribution box; construction of two (2) new 65 ft diameter by 15 ft side



water depth secondary clarifiers; construction of new scum pump station and installation of two (2) new 105 GPM 5 HP scum pumps; installation of two (2) new disc filters with each filter providing 744 square feet of filtration area; installation of new UV disinfection system consisting of two (2) channels with two (2) banks per channel and 48 UV lamps per bank, and each bank is rated for 2.5 MGD and peak hourly flow; construction of new cascade aeration; construction of new effluent/NPW pump station and meter vault; installation of three (3) new 2,610 GPM 40 HP submersible effluent pumps, two (2) new 200 GPM 25 HP vertical turbine NPW pumps, and two (2) 3,963 gallons hydro pneumatics tanks; construction of new 24-inch effluent forcemain; construction of new RAS/WAS pump station and installation of three (3) new 1,240 GPM 15 HP horizontal solids handling RAS/WAS pumps; construction of new blower building and installation of three (3) new 100 HP screw blowers capable of providing 2,130 SCFM of air; construction of new pre-ATAD thickening facility consisting of two (2) new rotary drum thickener each rated for 1,654 dry lb/hour and polymer feed system including two (2) new 4 GPH polymer feed pumps and two (2) new 275 gallons totes; construction of new pre-ATAD pump station consisting of two (2) new 750 GPM 25 HP rotary lobe ATAD reactor feed pumps and two (2) new 750 GPM 25 HP rotary lobe post-ATAD transfer pumps; installation of two (2) new 78,000 gallons ATAD reactors consisting of two (2) 750 GPM 15 HP rotary lobe ATAD transfer pumps, two (2) truck loading stations with two (2) new 750 GPM 10 HP centrifugal ATAD truck loading pumps, eight (8) new 15 HP Centrox mixers (four mixers in each ATAD reactor), two (2) new 5 HP rooftop mounted submersible mixers, two (2) 560 GPM sludge feed flocculators, and dual stage biological tricking filter and biofilter for odor control; installation of two (2) ATAD holding tanks including two (2) new 4,300 GPM 40 HP jet motive centrifugal pumps and two (2) new 75 HP rotary lobe PD blowers with each capable of providing 1,100 SCFM of air at 10.5 psig; construction of new electrical building and installation of new 1,750 kw backup generator; installation of all required VFDs, piping and controls; in conformity with the project plans, specifications, and other supporting documentation comprising the ATC Permit Application package submitted to the Department of Environmental Quality.

This ATC is issued in accordance with Part III, Paragraph A of NPDES Permit No. NC0086819 issued effective October 1, 2019, and shall be subject to revocation unless the wastewater treatment facilities are constructed in accordance with the conditions and limitations specified in Permit No. NC0086819.

It is the Owner's responsibility to ensure that the as-constructed project meets the requirements of all applicable regulations and statutes, the ATC Permit Application package, and all of the requirements contained herein. Failure to comply may result in penalties in accordance with North Carolina General Statute §143-215.6A through §143-215.6C.

The sludge generated from these treatment facilities must be disposed of in accordance with G.S. 143-215.1 and in a manner approved by the Division.

In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective action, including those as may be required by the Division, such as the construction of additional or replacement wastewater treatment or disposal facilities.

The Wilmington Regional Office, telephone number 910-496-7215, shall be notified at least forty-eight (48) hours in advance of operation of the installed facilities so that an on-site inspection can be made. Such notification to the regional supervisor shall be made during the normal office hours from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays.

Upon completion of construction and prior to operation of this permitted facility, a certification must be received from a Professional Engineer certifying that the permitted facility has been installed in accordance with the NPDES Permit and the ATC Permit Application package. Mail the Certification to: Division of Water Resources, WQ Permitting – NPDES, 1617 Mail Service Center, Raleigh, NC 27699-1617.

Upon classification of the facility by the Certification Commission, the Permittee shall employ a certified wastewater treatment plant operator to be in responsible charge (ORC) of the wastewater treatment facilities. The operator must hold a certificate of the type and grade at least equivalent to or greater than the classification assigned to the wastewater treatment facilities by the Certification Commission.

The Permittee must also employ a certified back-up operator of the appropriate type and grade to comply with the conditions of T15A:8G.0202. The ORC of the facility must visit each Class I facility at least weekly and each Class II, III and IV facility at least daily, excluding weekends and holidays, must properly manage the facility, must document daily operation and maintenance of the facility, and must comply with all other conditions of T15A:8G.0202.

A copy of the project plans and specifications shall be maintained on file by the Permittee for the life of the facility.

During the construction of the proposed additions/modifications, the Permittee shall continue to properly maintain and operate the existing wastewater treatment facilities at all times, and in such a manner, as necessary to comply with the effluent limits specified in the NPDES Permit.

You are reminded that it is mandatory for the project to be constructed in accordance with the North Carolina Sedimentation Pollution Control Act, and when applicable, the North Carolina Dam Safety Act. In addition, the specifications must clearly state what the contractor's responsibilities shall be in complying with these Acts.

Prior to entering into any contract(s) for construction, the recipient must have obtained all applicable permits from the State.

The issuance of this ATC does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state, and federal) which have jurisdiction.

If you have any questions or need additional information, please contact Min Xiao at telephone number (919) 707-3644.

Sincerely,


for Linda Culpepper

Director, Division of Water Resources

With Engineer's Certificate attached:

cc: DWR Wilmington Regional Office, Water Quality Programs
Central Files

ecopy: Joshua A. Powell, P.E.

McKim & Creed, Inc.

Email: jpowell@mckimcreed.com

NPDES File

Without Engineer's Certificate attached:

cc: Brunswick County Health

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Engineer's Certification

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically/weekly/full time) the construction of the modifications and improvements to the NE Brunswick Regional WWTP, located in Brunswick County, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the following construction:

Construction of new 30-inch influent forcemain; construction of new headworks consisting of three (3) new rotary drum screens each rated for 7.785 MGD at peak hourly flow, one (1) 250 CFH shaftless spiral conveyor, one (1) grit removal system rated for 15.57 MGD at peak hourly flow, one (1) 300 GPM grit washing unit, and one converting dry air scrubber for odor control; installation of one (1) new 2,200 GPM 20 BHP jet aeration pump and one (1) new 40 HP rotary lobe PD blower capable of providing 600 SCFM of air at 10.5 psig; installation of one (1) new 956,000 gallons EQ tank with two (2) new 3,200 GPM 22 BHP dry-pit motive liquid pumps and two (2) new 50 HP rotary lobe PD blowers each capable of providing 660 CFM of air at 9.5 psig; construction of new EQ basin pump station and metering vault; installation of three (3) new 5,400 GPM 150 HP submersible EQ pumps; construction of two (2) new oxidation ditches with each rated for 1.25 MGD ADF and 24-inch forcemain from new EQ basin to new oxidation ditches; installation of four (4) new 3,995 GPM 30 HP dry-pit motive liquid pumps; construction of three (3) new 78,000 gallons anaerobic selectors and installation of three (3) new 4.4 HP submersible mixers; installation of new MLSS distribution box; construction of two (2) new 65 ft diameter by 15 ft side water depth secondary clarifiers; construction of new scum pump station and installation of two (2) new 105 GPM 5 HP scum pumps; installation of two (2) new disc filters with each filter providing 744 square feet of filtration area; installation of new UV disinfection system consisting of two (2) channels with two (2) banks per channel and 48 UV lamps per bank, and each bank is rated for 2.5 MGD and peak hourly flow; construction of new cascade aeration; construction of new effluent/NPW pump station and meter vault; installation of three (3) new 2,610 GPM 40 HP submersible effluent pumps, two (2) new 200 GPM 25 HP vertical turbine NPW pumps, and two (2) 3,963 gallons hydro pneumatics tanks; construction of new 24-inch effluent forcemain; construction of new RAS/WAS pump station and installation of three (3) new 1,240 GPM 15 HP horizontal solids handling RAS/WAS pumps; construction of new blower building and installation of three (3) new 100 HP screw blowers capable of providing 2,130 SCFM of air; construction of new pre-ATAD thickening facility consisting of two (2) new rotary drum thickener each rated for 1,654 dry lb/hour and polymer feed system including two (2) new 4 GPH polymer feed pumps and two (2) new 275 gallons totes; construction of new pre-ATAD pump station consisting of two (2) new 750 GPM 25 HP rotary lobe ATAD reactor feed pumps and two (2) new 750 GPM 25 HP rotary lobe post-ATAD transfer pumps; installation of two (2) new 78,000 gallons ATAD reactors consisting of two (2) 750 GPM 15 HP rotary lobe ATAD transfer pumps, two (2) truck loading stations with two (2) new 750 GPM 10 HP centrifugal ATAD truck loading pumps,

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eight (8) new 15 HP Centrox mixers (four mixers in each ATAD reactor), two (2) new 5 HP rooftop mounted submersible mixers, two (2) 560 GPM sludge feed flocculators, and dual stage biological tricking filter and biofilter for odor control; installation of two (2) ATAD holding tanks including two (2) new 4,300 GPM 40 HP jet motive centrifugal pumps and two (2) new 75 HP rotary lobe PD blowers with each capable of providing 1,100 SCFM of air at 10.5 psig; construction of new electrical building and installation of new 1,750 kw backup generator; installation of all required VFDs, piping and controls; in conformity with the project plans, specifications, and other supporting documentation comprising the ATC Permit Application package submitted to the Department of Environmental Quality.

I certify that the construction of the above referenced project was observed to be built within substantial compliance, intent and in conformity with all applicable regulations and statutes and the project plans, specifications, and other supporting documentation comprising the Authorization to Construct Permit Application package.

Signature _____ Registration No. _____

Date _____

Mail this Certification to: Attn: Min Xiao
NPDES Complex Permitting Unit
DEQ/DWR/Water Quality Programs
1617 Mail Service Center
Raleigh, NC 27699-1617

