

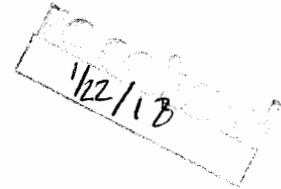


SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN
Governor

February 16, 2017



Mark Skiles, City Manager
City of Clinton
415 Gary Boulevard
Clinton, Oklahoma 73601

Re: Tier II Permit No.: WT000020150999
Proposed Reverse Osmosis
Water Treatment Plant Project
PWSID No.: 1010828

Dear Mr. Skiles:

Enclosed is Tier II Permit No.: WT000020150999 for construction of a 3-MGD reverse osmosis (RO) groundwater water treatment plant including approximately 500 L. F. of twelve (12) inch raw water line, 0.13-MG raw water bolted steel raw water storage tank, and raw water pump station including three 2,640-gpm at 121-ft TDH horizontal end suction centrifugal pumps with variable frequency drive (VFD) system; 3-MGD greensand filtration system including four (one redundant) 10-ft diameter X 24-ft long horizontal greensand pressure filters; 3-MGD reverse osmosis blended water treatment system including five (one redundant) cartridge ultrafiltration pre-filters, five (one redundant) 406-gpm RO filter trains with a permeate capacity of 2.34-MGD, including clean-in-place (CIP) flush skid; 0.5-MG finished water steel bolted storage tank and high service pump station including three 2,085-gpm at 83-feet TDH horizontal end suction centrifugal pumps with VFD system; RO influent water treatment with sodium bisulfite and anti-scalant chemical feed systems, post RO blended effluent water treatment for pH with sodium hydroxide chemical feed system, and pre-blended water primary disinfection with sodium hypochlorite chemical feed system and post-secondary disinfection with ammonia chemical feed system; plant drain/RO CIP wastewater/sanitary sewer pump station with an approximately 2,300-gallon wet well and one 50-gpm at 25-feet TDH submersible pump, and, an adjoining greensand backwash pump station with an approximately 50,000-gallon surge basin (overflow wall between both basins), including two 50-gpm at 25-feet TDH submersible pumps, with all three submersible pumps sharing a common pump discharge manifold for transport to, and, treatment by the municipal wastewater treatment plant (WWTP); future RO concentrate eight (8) inch force main and deep injection disposal well (to be permitted separately); 1.25-MW emergency generator with automatic transfer switch; and appurtenances to serve the proposed City of Clinton RO Treatment Plant Project, Custer County, Oklahoma.



Mr. Mark Skiles
February 16, 2017
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The project authorized by this permit should be constructed in accordance with the plans approved by this Department on February 16, 2017. Any deviations from the approved plans and specifications affecting capacity, flow, or operation of units must be approved, in writing, by the Department before changes are made.

Receipt of this permit should be noted in the minutes of the next regular meeting of the City of Clinton, after which it should be made a matter of permanent record.

We are returning one (1) set of the approved plans to you and retaining one (1) set for our files.

Respectfully,



Robert B. Walker
Construction Permit Section
Water Quality Division

RBW/RC/ag

Enclosures:

c: Burns Flat DEQ Office
Bill Kropf, R. S., Regional Manager, DEQ
Tyler McGown P. E., Burns & McDonnell, Inc.



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TIER II PERMIT NO.: WT000020150999

WATER TREATMENT

PWSID NO.: 1010828

PERMIT TO CONSTRUCT

February 16, 2017

Pursuant to O.S. 27A 2-6-304, the City of Clinton is hereby given this Tier II Permit for proposed construction of a 3-MGD reverse osmosis (RO) groundwater water treatment plant including approximately 500 L. F. of twelve (12) inch raw water line, 0.13-MG raw water bolted steel raw water storage tank, and raw water pump station including three 2,640-gpm at 121-ft TDH horizontal end suction centrifugal pumps with variable frequency drive (VFD) system; 3-MGD greensand filtration system including four (one redundant) 10-ft diameter X 24-ft long horizontal greensand pressure filters; 3-MGD reverse osmosis blended water treatment system including five (one redundant) cartridge ultrafiltration pre-filters, five (one redundant) 406-gpm RO filter trains with a permeate capacity of 2.34-MGD, including clean-in-place (CIP) flush skid; 0.5-MG finished water steel bolted storage tank and high service pump station including three 2,085-gpm at 83-feet TDH horizontal end suction centrifugal pumps with VFD system; RO influent water treatment with sodium bisulfite and anti-scalant chemical feed systems, post RO blended effluent water treatment for pH with sodium hydroxide chemical feed system, and pre-blended water primary disinfection with sodium hypochlorite chemical feed system and post-secondary disinfection with ammonia chemical feed system; plant drain/RO CIP wastewater/sanitary sewer pump station with an approximately 2,300-gallon wet well and one 50-gpm at 25-feet TDH submersible pump, and, an adjoining greensand backwash pump station with an approximately 50,000-gallon surge basin (overflow wall between both basins), including two 50-gpm at 25-feet TDH submersible pumps, with all three submersible pumps sharing a common pump discharge manifold for transport to, and, treatment by the municipal wastewater treatment plant (WWTP); future RO concentrate eight (8) inch force main and deep injection disposal well (to be permitted separately); 1.25-MW emergency generator with automatic transfer switch; and appurtenances to serve the City of Clinton Groundwater Reverse Osmosis Treatment Plant Project, located in part of SE-1/4, SW-1/4, Section 16, T-12-N, R-17-W, I. M., Custer County, Oklahoma, in accordance with the plans approved on February 16, 2017.

Sludge will be disposed of in accordance with applicable rules and regulations regarding the disposal of waste sludges.

By acceptance of this permit, once approved, the permittee agrees to operate and maintain the facility in accordance with the Public Water Supply Operation rules (OAC 252:631), and to comply with the State Certification laws, Title 59, Section 1101-1116 O.S. and the rules and regulations adopted thereunder regarding the requirement for certified operators.





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VARIANCES

- 1) A variance from OAC 252:626-9-7(a)(3)(A), requiring potassium manganese be applied for oxidation ahead of the green sand filters, is granted. Sodium hypochlorite chemical will be used for oxidation ahead of proposed green sand filters as detailed and specified in the approved plans and specifications.
- 2) A variance from OAC 252:626-9-7(a)(3)(D), requiring the normal backwash rate of green sand filtration to be 8 to 10 gal/min-ft² of filter area is granted. A backwash rate of 12.0-gal/min-ft² will be used as recommended by the green sand filter manufacturer.
- 3) A variance from OAC 252:626-9-7(a)(3)(E), requiring air washing as part of green sand filter backwashing is granted. The green sand filter backwash cycle will not include air scouring as per green sand filter manufacturer's recommendation.
- 4) A variance from OAC 252:626-9-7(a), requiring provisions be made, when treatment groundwater for pH adjustment of the water to optimize the chemical reaction is granted. No provision for adjusting pH of raw water is required as per green sand filter manufacturer's recommendation.

PROVISIONS AND CONDITIONS

This permit is issued subject to the following provisions and conditions.

- 1) That the recipient of the permit is responsible that the project will receive supervision and inspection by competent and qualified personnel.
- 2) That construction of all phases of the project will be started within one year of the date of approval or the phases not under construction will be resubmitted for approval as a new project.
- 3) That no significant information necessary for a proper evaluation of the project has been omitted, or invalid information has been presented in applying for the permit.
- 4) That the Oklahoma Department of Environmental Quality shall be kept informed on occurrences which may affect the eventual performance of the works or that will unduly delay the progress of the project.
- 5) That the issuing of this permit does not relieve the responsible parties from any damage which may accrue as the result of the location and operation of the plant in this area.





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- 6) That before placing this facility into service, at least two samples of the water, taken on different days, shall be tested for bacteria to show that it is safe for drinking purposes.
- 7) That any deviations from approved plans or specifications affecting capacity, flow or operation of units must be approved by the Department before any such deviations are made in the construction of this project.
- 8) That the water leaving the plant will be non-corrosive as determined by a calcium carbonate saturation index (langelier index), and the water shall contain at least 1.0 mg/l free chlorine or 2.0 mg/l of combined chlorine.
- 9) The issuance of this permit does not relieve the responsible parties of any obligations or liabilities which the permittee may be under pursuant to prior enforcement action taken by the Department.
- 10) That the permittee is required to inform the developer/builder that a DEQ Storm Water Construction Permit is required for a construction site that will disturb one (1) acre or more in accordance with OPDES, 27A O.S. 2-6-201 et seq. For information or a copy of the GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES, Notice of Intent (NOI) form, Notice of Termination (NOT) form, or guidance on preparation of a Pollution Prevention Plan, contact the Storm Water Unit of the Water Quality Division at P.O. Box 1677, Oklahoma City, OK 73101-1677 or by phone at (405) 702-8100.
- 11) That this plant will not be place into service until its RO concentrate deep injection disposal well and connecting eight (8) inch force main have been designed, permitted, constructed, and placed into service.

Failure to appeal the conditions of this permit in writing within 30 days from the date of issue will constitute acceptance of the permit and all conditions or provisions.

Rocky Chen, P. E., Engineering Manager, Construction Permit Section
Water Quality Division

Shellie Chard, Director
Water Quality Division

