

Town of Windsor

Memorandum

September 10, 2019

TO: The Honorable Mayor and Town Council

FROM: Michael Stallings, Town Manager *MS*

SUBJECT: Groundwater Withdrawal Permit

As you may know, we are currently in the process of renewing our Groundwater Withdrawal Permit from the Virginia Department of Environmental Quality.

We submitted our renewal application back in January of 2015. We received a draft permit from DEQ in July of this year. Since that time I have reviewed the draft and solicited comments from Isle of Wight as well as staff. We are all in agreement that the proposed draft permit is acceptable and will allow us to supply water to our customers for the 15 year life of the permit.

Attached is a copy of the draft permit. As you can see, it is a tiered permit that allows our withdrawals to change based on certain trigger events. A public notice of this draft permit is being published by DEQ in the Smithfield Times tomorrow. The public comment period will end on October 11, 2019.

This is for your information. I will keep Council updated as we near the end of this process.



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

DRAFT PERMIT July 10, 2019
TO WITHDRAW GROUNDWATER IN THE
EASTERN VIRGINIA GROUNDWATER MANAGEMENT AREA

Permit Number: GW0042701

Effective Date: xxxxxx XX, 2019

Expiration Date: Xxxxxxxx XX, 2034

Pursuant to Section 62.1-256 of the Ground Water Management Act of 1992 (Chapter 25, Title 62.1 of the Code of Virginia) and the Groundwater Withdrawal Regulations (Regulations) (9VAC25-610-10 *et seq.*), the State Water Control Board (Board) hereby authorizes the Permittee to withdraw and use groundwater in accordance with this permit.

Permittee Town of Windsor
Facility Windsor Public Water System
Facility Address 8 East Windsor Blvd. (P.O. Box 397)
Windsor, VA 23487

The Permittee's authorized groundwater withdrawal shall not exceed:

170,163,000 gallons per year,
15,760,000 gallons per month,
560,000 gallons per day.

Additional withdrawal limitations are included in Part I, Operating Conditions, and Part II, Tiered Withdrawal Limits.

The permitted withdrawal will be used to provide a municipal public water supply. Other uses are not authorized by this permit.

The Permittee shall comply with all conditions and requirements of the permit.

By direction of the State Water Control Board, this Permit is granted by:

Signed _____ Date _____
Director, Office of Water Supply

This permit is based on the Permittee's application submitted on January 14, 2015, and subsequently amended to include supplemental information provided by the Permittee. The following are conditions that govern the system set-up and operation, monitoring, reporting, and recordkeeping pertinent to the Regulations.

Part I
Operating Conditions

A. Authorized Withdrawal

1. The withdrawal of groundwater shall be limited to the following wells identified in the table below. Withdrawals from wells not included in Table 1 are not authorized by this permit and are therefore prohibited. 9VAC25-610-140(A)

Table 1

Owner Well Name	DEQ Well #	Well Depth (ft)	Screen Intervals	Aquifer	Latitude	Longitude
Well #5, E. Griffin St.	146-00304	455	357-398, 423-433	Potomac	36° 48' 23.2"	76° 44' 38.00"
Well #6, Courthouse Hwy.	146-00349	540	450-490, 505-520	Potomac	36° 49' 40.0"	76° 44' 49.53"

2. Any actions that result in a change to the status, construction, or pump intake setting of wells included in this permit must be pre-approved by the Department of Environmental Quality (Department) in writing prior to implementing the change and a revised Uniform Water Well Completion Report (GW-2 Form) must be submitted to the Department within 30 days after the physical construction of a well is altered or the pump intake setting has been changed. If changes are a result of an emergency, notify the Department within 5 days from the change. 9VAC25-610-140 (C)

B. Public Water Supplies

1. Daily withdrawal limits set forth in this permit are consistent with the requirements and conditions of the Virginia Department of Health Waterworks Operation Permit No. 3093900. 9VAC25-610-140(A)(5)
2. The Permittee shall submit copies of an updated Waterworks Operation Permit and the associated Engineering Description Sheets to the Department within 30 days of receipt from the Virginia Department of Health. 9VAC25-610-140(C)

C. Pump Intake Settings

1. The Permittee shall not place a pump or water intake device lower than the top of the uppermost confined aquifer that a well utilizes as a groundwater source or lower than the bottom of an unconfined aquifer that a well utilizes as a groundwater source in order to prevent dewatering of the aquifer, loss of inelastic storage, or damage to the aquifer from compaction. 9VAC25-610-140(A)(6)
2. Pump settings in individual wells are limited as follows. Any change in the pump setting must

receive prior approval by the Department.

Owner Well Name	DEQ Well #	Max Pump Setting (feet below land surface)
Well #5, E. Griffin St.	146-00304	360
Well #6, Courthouse Hwy.	146-00349	350

D. Reporting

1. Water withdrawn from each well shall be recorded monthly at the end of each month and reported to the Office of Water Supply, in paper or electronic format, on a form provided by the Department by the tenth (10th) day of each January, April, July and October for the respective previous standard quarter. Records of water use shall be maintained by the Permittee in accordance with Part III, Condition F, 1 through 5 of this permit. 9VAC25-610-140(A)(9)
2. The Permittee shall report any amount in excess of the permitted withdrawal limit by the fifth (5th) day of the month following the month when such a withdrawal occurred. Failure to report may result in compliance or enforcement activities. 9VAC25-610-140(C)
3. The following is a summary of reporting requirements for specific facility wells:

Owner Well Name	DEQ Well #	Reporting Requirements
Well #5, E. Griffin St.	146-00304	Water Use
Well #6, Courthouse Hwy.	146-00349	Water Use

E. Water Conservation and Management Plan

1. The Water Conservation and Management Plan (WCMP) submitted in the application received January 20, 2015 and subsequently amended and then approved by the Department is incorporated by reference into this permit and shall have the same effect as any condition contained in this permit and may be enforced as such.
2. The Permittee is required by Part III, Condition B to submit an expanded WCMP meeting the requirements of 9VAC25-610-100 and approvable by the Department by XX XX, 2020.
3. By the end of the first year of the permit cycle [date] the Permittee shall submit documentation to the Department that the leak detection and repair program defined in 9VAC25-610-100 has been developed and initiated. This documentation shall include activities completed during the first year of the permit term. 9VAC25-610-100(B)(1b)(2b), or (3b)
4. As soon as completed but not later than the end of the second year of the permit cycle [date] the Permittee shall submit to the Department results of an audit of the total amount of groundwater used in the distribution system and operational processes. This documentation shall include any resulting changes to the leak detection and repair program in the WCMP. 9VAC25-610-100(B)(1b)(2b), or (3b)
5. A report on the plan's effectiveness in reducing water use, including revisions to those elements of the WCMP that can be improved and addition of other elements found to be effective based on operations to date shall be submitted by the end of years four [date] and eight [date] of the permit

term. These reports shall include as appropriate: 9VAC25-610-140(C)

- a. Any new water saving equipment installed or water saving processes adopted.
 - b. WCMP actions taken to reduce the volume of water needed to supply the system.
 - c. Planned short or long term efforts and actions to be added to the WCMP to improve the efficiency of water use in the system or by customers and for reducing the loss of water.
 - d. Results of additional water audits completed.
 - e. Review of water use category (residential, commercial, industrial) per-connection use in municipal systems.
 - f. Evaluation of the leak detection and repair program.
 - g. Description of educational activities completed.
 - h. Identification of any water reuse opportunities identified.
6. If revisions or additions to the plan are necessary an updated WCMP shall be submitted to the Department for approval along with the report prior to implementation of the revised plan
 7. Records of activities conducted pursuant to the WCMP are to be submitted to DEQ upon request.

F. Mitigation Plan

The Mitigation Plan submitted in the application received January 20, 2015 and subsequently amended and then approved by the Department is incorporated by reference into this permit and shall have the same effect as any condition contained in this permit and may be enforced as such. 9VAC25-610-110(D)(3)(g)

G. Well Tags

1. Each well that is included in this permit shall have affixed to the well casing, in a prominent place, a permanent well identification plate that records, at a minimum, the DEQ well identification number, the groundwater withdrawal permit number, the total depth of the well, and the screened intervals in the well. Such well identification plates shall be in a format specified by the Board and are available from the Department. 9VAC25-610-140(A)(12)
2. Well tags shall be affixed to the appropriate well casing within 30 days of receiving the tags from the Department. The accompanying well tag installation certification form shall be returned to the Department within 60 days of receipt of the tags. 9VAC25-610-140(C)

Part II

Tiered Withdrawal Limits

A. Withdrawal Tiers

1. Withdrawals shall be limited according to the following tiers:
Tiered Water Withdrawal Limits:

Tier	Maximum Monthly Withdrawal (gallons)	Maximum Annual Withdrawal (gallons)
1	14,200,000	153,523,000
2	15,756,000	170,163,000
3a	6,720,000	71,763,000
3b	8,250,000	88,403,000

Description of tiers:

- i. Tier 1 authorizes an amount to supply existing connections and proposed connections associated with the Holland Meadows development, as well as to satisfy the Town's agreement with Isle of Wight County to supply the Shirley T. Holland (STH) Intermodal Park.
 - ii. Tier 2 includes Tier 1 demands and adds 16,640,000 gallons annually for the expansion of service to the Cambridge Villas subdivision.
 - iii. Tier 3a and 3b authorize reduced withdrawal limits which account for supply to the STH Intermodal Park being provided by the Western Tidewater Water Authority (WTWA) water system. The amount stated in 3a applies if at the time of the WTWA connection to STH Intermodal Park, Tier 2 limits have not been authorized; the amount stated in 3b applies if, at the time of the WTWA connection to STH Intermodal Park, Tier 2 limits have been authorized.
2. Withdrawal tiers shall be authorized as follows:
- a. Tier 1 withdrawal limits are authorized as of the effective date of the permit.
 - b. Tier 2 withdrawal limits may be authorized upon DEQ approval of a written request to increase to Tier 2 withdrawal limits. The request shall include documentation that the infrastructure for the Cambridge Villas subdivision has been constructed and newly constructed homes will need a water connection within 90 days of the request.
 - c. Tier 3a or 3b withdrawal limits will be authorized once the DEQ receives notification that the WTWA has begun supplying water to the STH Park; the Permittee shall notify DEQ within 30 days of WTWA supplying water to STH Park. Tier 3a withdrawal limits will be authorized if at the time of this notification, Tier 1 limits are currently authorized. Tier 3b withdrawal limits will be authorized if at the time of this notification, Tier 2 limits are currently authorized. At any time after authorization of Tier 3a withdrawal limits, the Permittee may submit a request in accordance with Part II.2.b to increase to Tier 3b withdrawal limits.
3. The Permittee may request additional withdrawal amounts for Phase III of the STH Park. The Permittee must provide written certification to DEQ that the necessary water supply and sewer infrastructure as well as committed customers are in place, as well as documentation supporting an increase in water demand that the Permittee is responsible for providing. In no case shall the annual permitted amount be greater than 170,163,000 g/y.

Part III
Special Conditions

Pursuant to 9VAC25-610-140(B) and (C), the following Special Conditions apply to this permit in order to protect the public welfare, safety, and health or conserve, protect and help ensure the beneficial use of groundwater.

A. Water Conservation Management Plan Update

By XX XX, 2020, (one year from the effective date of the permit) the Permittee shall submit a revised and expanded Water Conservation and Management Plan meeting the requirements of 9VAC25-610-100 and approvable by the Department. The Plan shall incorporate the leak detection and repair program required under Part I Condition E.2 above and findings from any water use audits or reports conducted by the permittee, including a timeline for implementing additional water saving measures. Once an approvable plan is received by the Department, the revised Plan will be incorporated into the permit as a permit condition (replacing the current Plan).

Part IV
General Conditions

A. Duty to Comply

The Permittee shall comply with all conditions of the permit. Nothing in this permit shall be construed to relieve the permit holder of the duty to comply with all applicable federal and state statutes, regulations, and prohibitions. Any permit violation is a violation of the law and is grounds for enforcement action, permit termination, revocation, modification, or denial of a permit application. 9VAC25-610-130(A)

B. Duty to Cease or Confine Activity

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a permit has been granted in order to maintain compliance with the conditions of the permit. 9VAC25-610-130(B)

C. Duty to Mitigate

The Permittee shall take all reasonable steps to avoid all adverse impacts that may result from this withdrawal as defined in 9VAC25-610-10 and provide mitigation of the adverse impact when necessary as described in 9VAC25-610-110(D)(3)(g) and 9VAC25-610-130(C)

D. Inspection, Entry, and Information Requests

Upon presentation of credentials, the Permittee shall allow the Board, the Department, or any duly authorized agent of the Board, at reasonable times and under reasonable circumstances, to enter upon the Permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the permit conditions, and to inspect any facilities, well(s), water supply system, operations, or

practices (including sampling, monitoring and withdrawal) regulated or required under the permit. For the purpose of this section, the time for inspection shall be deemed reasonable during regular business hours. Nothing contained herein shall make an inspection time unreasonable during an emergency. 9VAC25-610-130(D)

E. Duty to Provide Information

The Permittee shall furnish to the Board or Department, within a reasonable time, any information that the Board may request to determine whether cause exists for modifying or revoking, reissuing, or terminating the permit, or to determine compliance with the permit. The Permittee shall also furnish to the Board or Department, upon request, copies of records required to be kept by regulation or this permit. 9VAC25-610-130(E)

F. Monitoring and Records Requirements

1. The Permittee shall maintain a copy of the permit on-site and/or shall make the permit available upon request. 9VAC25-610-130(E)
2. Monitoring of parameters shall be conducted according to approved analytical methods as specified in the permit. 9VAC25-610-130(F)(1)
3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. 9VAC25-610-130(F)(2)
4. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three years from the date of the expiration of a granted permit. This period may be extended by request of the board at any time. 9VAC25-610-130(F)(3)
5. Records of monitoring information shall include as appropriate: 9VAC25-610-130(F)(4)
 - a. the date, exact place and time of sampling or measurements;
 - b. the name(s) of the individual(s) who performed the sampling or measurements;
 - c. the date the analyses were performed;
 - d. the name(s) of the individual(s) who performed the analyses;
 - e. the analytical techniques or methods supporting the information, such as observations, readings, calculations and bench data used;
 - f. the results of such analyses; and
 - g. chain of custody documentation.

G. Environmental Laboratory Certification

The Permittee shall comply with the requirement for certification of laboratories conducting any tests, analyses, measurements, or monitoring required pursuant to the State Water Control Law (§ 62.1-44.2 et seq.), Environmental Laboratory Certification Program (§ 2.2-1105 et seq.), Certification for

Noncommercial Environmental Laboratories (1VAC30-45), and/or Accreditation for Commercial Environmental Laboratories (1VAC30-46), and

- a. Ensure that all samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. Conduct monitoring according to procedures approved under 40CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency.
- c. Periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will ensure accuracy of measurements. (1VAC30-45-20)

H. Future Permitting Actions

1. A permit may be modified or revoked as set forth in Part VI of the Regulations. 9VAC25-610-290 and 9VAC25-610-130(G)
2. If a Permittee files a request for permit modification or revocation, or files a notification of planned changes, or anticipated noncompliance, the permit terms and conditions shall remain effective until the Board makes a final case decision. This provision shall not be used to extend the expiration date of the effective permit. 9VAC25-610-130(G)
3. Permits may be modified or revoked upon the request of the Permittee, or upon Board initiative, to reflect the requirements of any changes in the statutes or regulations. 9VAC25-610-130(G)
4. The Permittee shall schedule a meeting with the Department prior to submitting a new, expanded, or modified permit application. 9VAC25-610-85
5. A new permit application shall be submitted 270 days prior to the expiration date of this permit, unless permission for a later date has been granted by the Board, to continue a withdrawal greater than 300,000 gallons in any month while an application for a renewal is being processed. 9VAC25-610-96
6. A new permit application shall be submitted 270 days prior to any proposed modification to this permit that will (i) result in an increase of withdrawal above permitted limits; or (ii) violate the terms and conditions of this permit. 9VAC25-610-96
7. The applicant shall provide all information described in 9VAC25-610-94 for any reapplication. 9VAC25-610-96(C)
8. The Permittee must notify the Department in writing of any changes to owner and facility contact information within 30 days of the change. 9VAC25-610-140(C)

I. Metering and Equipment Requirements

1. Each well and/or impoundment or impoundment system shall have an in-line totalizing flow meter to read gallons, cubic feet, or cubic meters installed prior to beginning the permitted use. Meters shall produce volume determinations within plus or minus 10% of actual flows. 9VAC25-610-140(A)(7)(b)
 - a. A defective meter or other device must be repaired or replaced within 30 days.

- b. A defective meter is not grounds for not reporting withdrawals. During any period when a meter is defective, generally accepted engineering methods shall be used to estimate withdrawals. The period during which the meter was defective must be clearly identified in the groundwater withdrawal report required by Part I, Subsection D of this permit. An alternative method for determining flow may be approved by the board on a case-by-case basis.
2. Each well shall be equipped in a manner such that water levels can be measured during pumping and non-pumping periods without dismantling any equipment. Any opening for tape measurement of water levels shall have an inside diameter of at least 0.5 inches and be sealed by a removable plug or cap. The Permittee shall provide a tap for taking raw water samples from each permitted well. 9VAC25-610-140(A)(7)(e)

J. Minor Modifications

1. A minor modification to this permit must be made to replace an existing well(s) or add an additional well(s) provided that the well(s) is screened in the same aquifer(s) as the existing well(s), and is in the near vicinity of the existing well(s), the total groundwater withdrawal does not increase, the area of impact does not increase, and the well has been approved by the Department prior to construction. 9VAC25-610-330(B)(4) and (5)
2. A minor modification to this permit must be made to combine withdrawals governed by multiple permits when the systems are physically connected as long as interconnection will not result in additional groundwater withdrawal and the area of impact will not increase. 9VAC25-610-330(B)(6)
3. Minor modifications to this permit must also be made to:
 - a. Change an interim compliance date up to 120 days from the original compliance date, as long as the change does not interfere with the final compliance date. 9VAC25-610-330(B)(7)
 - b. Allow for change in ownership when the Board determines no other change in the permit is necessary and the appropriate written agreements are provided in accordance with the transferability of permits and special exceptions. 9VAC25-610-320 and 9VAC25-610-330(B)(8)
 - c. Revise a Water Conservation and Management Plan to update conservation measures being implemented by the Permittee that increase the amount of groundwater conserved. 9VAC25-610-330(B)(9)

K. Well Construction

At least two weeks prior to the scheduled construction of any well(s), the Permittee shall notify the Department of the construction timetable and receive prior approval of the well(s) location(s) and acquire the DEQ Well number. All wells shall be constructed in accordance with the following requirements.

1. A well site approval letter or well construction permit must be obtained from the Virginia Department of Health prior to construction of the well. 9VAC25-610-130(A)
2. A complete suite of geophysical logs (Spontaneous Potential, Single Point Resistance, 16/64 Short and Long Normal, Natural Gamma) shall be completed for the well and submitted to the Department along with the corresponding completion report. 9VAC25-610-140(C)

3. The Permittee shall evaluate the geophysical log and driller's log information to estimate the top of the target aquifer and; therefore, a depth below which the pump shall not be set. The Permittee's determination of the top of the target aquifer shall be submitted to the Department for review and approval, or approved on site by the Department's Groundwater Characterization staff, prior to installation of any pump. 9VAC25-610-140(A)(6)
4. The Permittee shall install gravel packs and grout in a manner that prevents leakage between aquifers. Gravel pack shall be terminated close to the top of the well screen(s) and shall not extend above the top of the target aquifer. 9VAC25-610-140(C)
5. A completed GW-2 Form and any additional water well construction documents shall be submitted to the Department within 30 days of the completion of any well and prior to the initiation of any withdrawal from the well. 9VAC25-610-140(C) The assigned DEQ Well number shall be included on all well documents. 9VAC25-610-140(C)
6. In addition to the above requirements, construction of a Water Level Monitoring State Observation Well (SOW) requires:
 - a. The Permittee shall coordinate activities with the Department's Groundwater Characterization Program (GWCP) to determine the appropriate observation well location and construction schedule, along with the needed screen interval(s), and other completion details following review of geophysical logging. 9VAC25-610-140(C)
 - b. Prior to preparation of bid documents for construction of the observation well, the Permittee shall notify the Department and shall include any GWCP requirements in the bid documents. At a minimum, the Department will require a pre-bid meeting with interested drilling contractors and a pre-construction meeting with the successful bidder. 9VAC25-610-140(C)
 - c. Instrumentation to meet the requirements for real-time data transmission consistent with the State Observation Well Network shall be purchased by the Permittee. The Permittee shall submit a purchase order based on the Department's equipment specifications for review and approval prior to purchase of the equipment. The Permittee shall install the real-time equipment infrastructure with Department oversight. The Department will conduct the installation of the transducer and final hook-up of the equipment. 9VAC25-610-140(C)
7. In addition to the above requirements, construction of a Chloride Monitoring SOW requires:
 - a. The Permittee shall coordinate activities with the Department's Groundwater Characterization Program (GWCP) to determine the appropriate observation well location and construction schedule, along with the needed screen interval(s), and other completion details following review of geophysical logging. 9VAC25-610-140(C)
 - b. Prior to preparation of bid documents for construction of the observation well, the Permittee shall notify the Department and shall include any GWCP requirements in the bid documents. At a minimum, the Department will require a pre-bid meeting with interested drilling contractors and a pre-construction meeting with the successful bidder. 9VAC25-610-140(C)

- c. Instrumentation to meet the requirements for real-time data transmission consistent with the State Observation Well Network shall be purchased by the Permittee. The Permittee shall submit a purchase order based on the Department's equipment specifications for review and approval prior to purchase of the equipment. The Permittee shall install the real-time equipment infrastructure with Department oversight. The Department will conduct final hook-up of the equipment. 9VAC25-610-140(C)
- d. Instrumentation to meet the requirements for continuous measurement of specific conductance from multiple levels within the well screen shall be purchased by the Permittee. The Permittee shall submit a purchase order based on the Department's equipment specifications for review and approval prior to purchase of the equipment. The Permittee shall install the real-time equipment infrastructure with Department oversight. The Department will conduct the final hook-up of the equipment. 9VAC25-610-140(C)

L. Permit Reopening

This permit may be reopened for the purpose of modifying the conditions of the permit as follows:

- a. To meet new regulatory standards duly adopted by the Board. 9VAC25-610-140(A)(11)
- b. When new information becomes available about the permitted withdrawal, or the impact of the withdrawal, which had not been available at permit issuance and would have justified the application of different conditions at the time of issuance. 9VAC25-610-310(B)(1)
- c. When the reported withdrawal is less than 60% of the permitted withdrawal amount for a five year period. 9VAC25-610-310(B)(2)
- d. If monitoring information indicates the potential for adverse impacts to groundwater quality or level due to this withdrawal. 9VAC25-610-140(C)

