

REVISED FINAL RULES

**TITLE 15A - DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES**

CHAPTER 2 - ENVIRONMENTAL MANAGEMENT

SUBCHAPTER 2E - WATER USE REGISTRATION AND ALLOCATION

SECTION .0100 - AUTHORITY

.0102 PURPOSE

*History Note: Authority G.S. 143-215.12; 143-215.14;
Eff. February 1, 1976;
Repealed Eff. August 1, 2002.*

.0103 SCOPE

*History Note: Authority G.S. 143-215.14;
Eff. February 1, 1976;
Repealed Eff. August 1, 2002.*

.0106 DEFINITIONS

As used herein, unless the context otherwise requires:

- (1) "Director" means the Director of the Division of ~~Environmental Management~~ Water Resources.
- (2) "Division" means the Division of ~~Environmental Management~~ Water Resources.

*History Note: Authority G.S. 87-87; 143-215.14; 143-215.21;
Eff. March 1, 1985;
Amended Eff. August 1, 2002.*

.0107 DELEGATION

- (a) The Director is delegated the authority to grant, modify, revoke or deny permits under G.S. 143-215.15 and G.S. 143-215.16.
- (b) The Director may delegate any permitting function given by the rules of this Subchapter.
- (c) The Director is delegated the authority to assess civil penalties and request the Attorney General to institute civil actions under G.S. 143-215.17.
- (d) The Director ~~of the Division of Water Resources~~ is delegated the authority to process applications and collect fees for registration of water withdrawals and transfers under G.S. 143-215.22H and G.S. 143- 215.3(a)(1b).
- (e) The Director ~~of the Division of Water Resources~~ may delegate any water withdrawal or transfer registration processing functions given by the rules of this Subchapter.

*History Note: Filed as a Temporary Amendment Eff. October 14, 1991 for a period of 180 Days to Expire on April 11, 1992;
Authority G.S. 143-215.3(a)(1); 143-215.3(a)(4);
Eff. March 1, 1985;
Amended Eff. August 1, 2002; September 1, 1994; April 1, 1992.*

SECTION .0200 - CAPACITY USE AREA NO. 1

**.0201 DECLARATION AND DELINEATION OF
CAPACITY USE AREA NO. 1**

*History Note: Authority G.S. 143-215.13;
Eff. February 1, 1976;
Repealed Eff. August 1, 2002.*

**.0202 PERSONS WITHDRAWING GROUNDWATER
IN CAPACITY USE AREAS**

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1 *History Note: Authority G.S. 143-215.14; 143-215.15;*
2 *Eff. February 1, 1976;*
3 *Amended Eff. March 1, 1985;*
4 *Repealed Eff. August 1, 2002.*

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6 **.0205 ACTIVITIES**

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8 *History Note: Authority G.S. 143-215.14; 143-215.20;*
9 *Eff. February 1, 1976;*
10 *Repealed Eff. August 1, 2002.*

11
12 **SECTION .0500 - CENTRAL COASTAL PLAIN CAPACITY USE AREA**

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14 **.0501 DECLARATION AND DELINEATION OF CENTRAL COASTAL PLAIN CAPACITY USE AREA**

15 The area encompassed by the following 15 North Carolina counties and adjoining creeks, streams, and rivers is
16 hereby declared and delineated as the Central Coastal Plain Capacity Use Area: Beaufort, Carteret, Craven, Duplin,
17 Edgecombe, Greene, Jones, Lenoir, Martin, Onslow, Pamlico, Pitt, Washington, Wayne and Wilson. The
18 Environmental Management Commission finds that the use of ground water requires coordination and limited
19 regulation in this delineated area for protection of the public interest. The intent of this Section is to protect the long
20 term productivity of aquifers within the designated area and to allow the use of ground water for beneficial uses at rates
21 which do not exceed the recharge rate of the aquifers within the designated area.

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23 *History Note: Authority G.S. 143-215.13;*
24 *Eff. August 1, 2002.*

25
26 **.0502 WITHDRAWAL PERMITS**

27 (a) Existing ground water withdrawal permits issued in Capacity Use Area No. 1 (15A NCAC 2E .0200) within the
28 Central Coastal Plain Capacity Use Area are reissued under Section .0500 of this Subchapter and are valid until the
29 expiration date specified in each permit. Water use permits are no longer required for withdrawals in Hyde and Tyrrell
30 Counties as of the effective date of this Rule. Permits are not required for surface water use under Section .0500 of this
31 Subchapter in the Central Coastal Plain Capacity Use Area as delineated in Rule .0501 of this Section.

32 (b) No person shall withdraw ground water after the effective date of this Rule in excess of 100,000 gallons per day
33 by a well, group of wells operated as a system, or sump for any purpose unless such person shall first obtain a water use
34 permit from the Director. Existing withdrawals of ground water as of the effective date of this Rule and proposed
35 withdrawals previously approved for funding appropriated pursuant to the "Clean Water and Natural Gas Critical Needs
36 Bond Act of 1998" or other local, state or federally funded projects as of the effective date of this Rule shall be allowed
37 to proceed with construction or to continue to operate under interim status until a permit has been issued or denied by
38 the Director, provided that persons withdrawing in excess of 100,000 gallons per day by a well, group of wells operated
39 as a system, or sump comply with the following requirements:

- 40 (1) Persons conducting withdrawals in the Capacity Use Area that require a permit shall submit a permit
41 application to the Division of Water Resources within 180 days of the effective date of this Rule.
42 (2) Persons who have submitted applications shall provide any additional information requested by the Division
43 of Water Resources for processing of the permit application within 30 days of the receipt of that request.
44 (3) Persons conducting withdrawals in the Capacity Use Area that require a permit shall submit water level and
45 water use data on a form supplied by the Division four times a year, within 30 days of the end of March, June,
46 September, and December until a permit has been issued or denied by the Division of Water Resources.

47 (c) Ground water withdrawals ~~will~~ shall be governed by the following standards:

- 48 (1) Adverse impacts of ground water withdrawals shall be avoided or minimized. Adverse impacts include, but
49 are not limited to:
50 (A) dewatering of aquifers;
51 (B) encroachment of salt water;
52 (C) land subsidence or sinkhole development;
53 (D) ~~long-term declines in aquifer water levels.~~ levels that indicate that aggregate water use exceeds the
54 aquifer replenishment rate.
55 (2) Adverse impacts on other water users from ground water withdrawals shall be corrected or minimized
56 through efficient use of water and development of sustainable water sources.
57 (3) In determining the importance and necessity of a proposed withdrawal the efficiency of water use and
58 implementation of conservation measures shall be considered.

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1 (d) An application for a water use permit must be submitted on a form approved by the Director to the North
2 Carolina Division of Water Resources. The application shall describe the purpose or purposes for which water ~~will~~
3 shall be used, shall set forth the method and location of withdrawals, shall justify the quantities needed, and shall
4 document water conservation measures to be used by the applicant to ensure efficient use of water and avoidance of
5 waste. Withdrawal permit applications shall include the following information:

- 6 (1) Location by latitude and longitude of all wells to be used for withdrawal of water.
7 (2) Specifications for design and construction of existing and proposed production and monitoring ~~wells. wells~~
8 including: Exceptions may be made where specific items of information are not critical, as determined by the
9 Director, to manage the ground water resource.
10 (A) Well diameter;
11 (B) Total depth of the well;
12 (C) Depths of all open hole or screened intervals that will yield water to the well;
13 (D) Depth of pump intake(s);
14 (E) Size, capacity and type of pump;
15 (F) Depth to top of gravel pack;
16 (G) Depth measurements shall be within accuracy limits of plus or minus 0.10 feet and referenced to a
17 known land surface elevation.

18 Exceptions may be made where specific items of information are not critical, as determined by the Director,
19 to manage the ground water resource.

- 20 (3) Withdrawal permit applications for use of ground water from the Cretaceous aquifer system shall include
21 plans to reduce water use from these aquifers as specified in Rule .0503 of this Section. Withdrawal rates
22 from the Cretaceous aquifer system that exceed the approved base rate may be permitted during Phase I of
23 Rule .0503 of this Section if the applicant can demonstrate to the Director's satisfaction a need for the greater
24 amount. Cretaceous aquifer system wells ~~will shall~~ be identified using the specifications in Rule .0502(d)(1)
25 and .0502(d)(2) of this Section and the hydrogeological framework.

- 26 (4) Withdrawal permit applications for dewatering of mines, pits or quarries shall include a dewatering or
27 depressurization plan that includes:
28 (A) a hydrogeological analysis of the dewatering or depressurization activity;
29 (B) the location, design and specifications of any sumps, drains or other withdrawal sources including
30 wells and trenches;
31 (C) the lateral extent and depth of the zone(s) to be dewatered or depressurized;
32 (D) a monitoring plan that provides data to delineate the nature and extent of dewatering or
33 depressurization;
34 (E) ~~certification by an appropriate North Carolina Licensed Engineer or Geologist of all engineering plans~~
35 and hydrogeological analyses prepared to meet these requirements. requirements consistent with
36 professional licensing board statutes and rules governing such activities.

- 37 (5) Conservation Measures. The applicant shall provide information on existing conservation measures and
38 conservation measures to be implemented during the permit period as follows:

- 39 (A) Public water supply systems shall develop and implement a feasible water conservation plan
40 incorporating, at a minimum, the following components. Each component shall be described,
41 including a timetable for implementing each component that does not already exist.
42 (i) Adoption of a water conservation-based rate structure, such as: flat rates, increasing block rates,
43 seasonal rates, or quantity-based surcharges.
44 (ii) Implementation of a water loss reduction program if unaccounted for water is greater than 15
45 percent of the total amount produced, as documented annually using a detailed water audit.
46 Water loss reduction programs shall consist of annual water audits, in-field leak detection, and
47 leak repair.
48 (iii) Adoption of a water conservation ordinance for irrigation, including such measures as: time-of-
49 day and day-of-week restrictions on lawn and ornamental irrigation, automatic irrigation system
50 shut-off devices or other appropriate measures.
51 (iv) Implementation of a retrofit program that makes available indoor water conservation devices to
52 customers (such as showerheads, toilet flappers, and faucet aerators).
53 (v) Implementation of a public education program (such as water bill inserts, school and civic
54 presentations, water treatment plant tours, public services announcements, or other appropriate
55 measures).
56 (vi) Evaluation of the feasibility of water reuse as a means of conservation, where applicable.
57 (B) Users of water for commercial purposes, other than irrigation of crops and forestry stock, shall develop
58 and implement a water conservation plan as follows:

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- 1 (i) an audit of water use by type of activity (for example, process make-up water, non-contact
2 cooling water) including existing and potential conservation and reuse measures for each type
3 of water use;
- 4 (ii) an implementation schedule for feasible measures identified in the above item for conservation
5 and reuse of water at the facility.
- 6 (C) Users of water for irrigation of crops and forestry stock shall provide the following information:
- 7 (i) total acreage with irrigation available;
- 8 (ii) types of crops that may be irrigated;
- 9 (iii) method of irrigation (for example, wells that supply water to canals, ditches or central pivot
10 systems or any other irrigation method using ground water);
- 11 (iv) a statement that the applicant uses conservation practice standards for irrigation as defined by
12 the Natural Resources Conservation Service.
- 13 (6) If an applicant intends to operate an aquifer storage and recovery program (ASR), the applicant shall provide
14 information on the storage zone, including the depth interval of the storage zone, lateral extent of the
15 projected storage area, construction details of wells used for injection and withdrawal of water, and
16 performance of the ASR program.
- 17 (e) The Director shall issue, modify, revoke, or deny each permit as set forth in G.S. 143-215.15. Permittees may
18 apply for permit modifications. Any application submitted by a permittee shall be subject to the public notice and
19 comment requirements of G.S. 143-215.15(d).
- 20 (f) Permit duration shall be set by the Director as described in G.S. 143-215.16(a). Permit transferability is
21 established in G.S. 143-215.16(b).
- 22 (g) Persons holding a permit shall submit signed water usage and water level reports to the Director not later than 30
23 days after the end of each permit reporting period as specified in the permit. Monitoring report requirements may
24 include:
- 25 (1) Amounts of daily withdrawal from each well.
- 26 (2) Pumping and static water levels for each supply well as measured with a steel or electric tape, or an
27 alternative method as specified in the permit, at time intervals specified in the permit.
- 28 (3) Static water levels in observation wells at time intervals specified in the permit.
- 29 (4) Annual sampling by applicants located in the salt water encroachment zone and chloride concentration
30 analysis by a State certified laboratory.
- 31 (5) Any other information the Director determines to be pertinent and necessary to the evaluation of the effects of
32 withdrawals.
- 33 (h) Water use permit holders shall not add new wells without prior approval from the Director.
- 34 (i) The Director may require permit holders to construct observation wells to observe water level and water quality
35 conditions before and after water withdrawals begin if there is a demonstrated need for aquifer monitoring to assess the
36 impact of the withdrawal on the aquifer.
- 37 (j) For all water uses other than dewatering of mines, pits or quarries, withdrawals shall be permitted only from wells
38 that are constructed such that the pump intake or intakes are at a shallower depth than the top of the uppermost confined
39 aquifer that yields water to the well. Confined aquifer tops are established in the hydrogeological framework. Where
40 wells in existence as of the effective date of this Rule are not in compliance with the requirements of this provision, the
41 permit shall include a compliance schedule for retrofitting or replacement of non-compliant wells. Withdrawals from
42 unconfined aquifers shall not lower the water table by an amount large enough to decrease the effective thickness of the
43 unconfined aquifer by more than 50 percent.
- 44 (k) For withdrawals to dewater mines, pits or quarries, the permit shall delimit the extent of the area and depths of
45 the aquifer(s) to be dewatered or depressurized. Maximum well withdrawal rates, total use limits, and the permissible
46 extent of dewatering or depressurization ~~will~~ shall be determined by the Director using available methods of
47 hydrogeologic analysis.
- 48 (l) Withdrawals of water that cause changes in water quality such that the available uses of the resource are adversely
49 affected ~~will~~ shall not be permitted. For example, withdrawals shall not be permitted that result in migration of ground
50 water that contains more than 250 milligrams per liter chloride into pumping wells that contain chloride at
51 concentrations below 250 milligrams per liter.
- 52 (m) General permits may be developed by the Division and issued by the Director for categories of withdrawal that
53 involve the same or substantially similar operations, have similar withdrawal characteristics, require the same
54 limitations or operating conditions, and require similar monitoring.
- 55 (n) Permitted water users may withdraw and sell or transfer water to other users provided that their permitted
56 withdrawal limits are not exceeded.
- 57 (o) A permitted water user may sell or transfer to other users a portion of his permitted withdrawal. To carry out
58 such a transfer, the original permittee must request a permit modification to reduce his permitted withdrawal and the

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1 proposed recipient of the transfer must apply for a new or amended withdrawal permit under Section .0500 of this
2 Subchapter.

3 (p) Where an applicant or a permit holder can demonstrate that compliance with water withdrawal limits established
4 under Section .0500 of this Subchapter is not possible because of construction schedules, requirements of other laws, or
5 other reasons beyond the control of the applicant or permit holder, and where the applicant or permit holder has made
6 appropriate good faith efforts to conserve water and to plan the development of adequate other water sources, the
7 Director may issue a temporary permit with an alternative schedule to attain compliance with provisions of Section
8 .0500 of this Subchapter, as authorized in G.S. 143-215.15(c)(ii).
9

10 *History Note: Authority G.S. 143-215.14; 143-215.15; 143-215.16;*
11 *Eff. August 1, 2002.*
12

13 **.0503 PRESCRIBED WATER USE REDUCTIONS IN CRETACEOUS AQUIFER ZONES**

14 Cretaceous aquifer water use shall be reduced in prescribed areas over a 16 year period, starting from approved base
15 rates on the effective date of this Rule. The Cretaceous aquifer system zones and the three phases of water use
16 reductions are listed as follows:

- 17 (1) Cretaceous aquifer system zones are regions established in the fresh water portion of the Cretaceous aquifer
18 system that delimit zones of salt water encroachment, dewatering and declining water levels. These zones are
19 designated on the paper and digital map entitled "Central Coastal Plain Capacity Use Area Cretaceous
20 Aquifer Zones" (CCPCUA) on file in the Office of the Secretary of State one week prior to the effective date
21 of these Rules.
22 (2) The reductions specified in Rule .0503 of this Section do not apply to intermittent users.
23 (3) If a permittee implements an aquifer storage and recovery program (ASR), reduction requirements ~~will shall~~
24 be based on the total net withdrawals. The reductions specified in Rule .0503 of this Section do not apply if
25 the volume of water injected into the aquifer is greater than the withdrawal volume. If the withdrawal volume
26 is greater than the injected volume, reductions specified in Rule .0503 of this Section apply to the difference
27 between the withdrawal volume and the injected volume.
28 (4) The reductions specified in Rule .0503 of this Section shall not reduce permitted water use rates below
29 100,001 gallons per day.
30 (5) Phase definitions:
31 (a) Phase I: The six year period extending into the future from the effective date of this Rule.
32 (b) Phase II: The five year period extending into the future from six years after the effective date of this
33 Rule to 11 years after the effective date of this Rule.
34 (c) Phase III: The five year period extending into the future from 11 years after the effective date of this
35 Rule to 16 years after the effective date of this Rule.
36 (6) Phase reductions:
37 (a) Phase I:
38 (i) At the end of the Phase I, permittees who are located in the dewatering zone ~~will be required to~~
39 shall reduce annual water use from Cretaceous aquifers by 25% from their approved base rate.
40 (ii) At the end of the Phase I, permittees who are located in the salt water encroachment zone ~~will be~~
41 ~~required to shall~~ reduce annual water use from Cretaceous aquifers by 25% from their approved
42 base rate.
43 (iii) At the end of the Phase I, permittees who are located in the declining water level zone ~~will be~~
44 ~~required to shall~~ reduce annual water use from Cretaceous aquifers by 10% from their approved
45 base rate.
46 (b) Phase II:
47 (i) At the end of the Phase II, permittees who are located in the dewatering zone ~~will be required to~~
48 shall reduce annual water use from Cretaceous aquifers by 50% from their approved base rate.
49 (ii) At the end of the Phase II, permittees who are located in the salt water encroachment zone ~~will~~
50 ~~be required to shall~~ reduce annual water use from Cretaceous aquifers by 50% from their
51 approved base rate.
52 (iii) At the end of the Phase II, permittees who are located in the declining water level zone ~~will be~~
53 ~~required to shall~~ reduce annual water use from Cretaceous aquifers by 20% from their approved
54 base rate.
55 (c) Phase III:
56 (i) At the end of the Phase III, permittees who are located in the dewatering zone ~~will be required to~~
57 shall reduce annual water use from Cretaceous aquifers by 75% from their approved base rate.

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- 1 (ii) At the end of the Phase III, permittees who are located in the salt water encroachment zone ~~will~~
2 ~~be required to~~ shall reduce annual water use from Cretaceous aquifers by 75% from their
3 approved base rate.
4 (iii) At the end of the Phase III, permittees who are located in the declining water level zone ~~will be~~
5 ~~required to~~ shall reduce annual water use from Cretaceous aquifers by 30% from their approved
6 base rate.

- 7 (7) The CCPCUA Cretaceous Aquifer Zones map ~~will~~ shall be updated, if necessary, in the sixth, eleventh, and
8 sixteenth years following the effective date of this Rule to account for aquifer water level responses to phased
9 withdrawal reductions. The map update ~~will~~ shall be based on the following conditions:
10 (a) Rate of decline in water levels in the aquifers;
11 (b) Rate of increase in water levels in the aquifers;
12 (c) Stabilization of water levels in the aquifers;
13 (d) Chloride concentrations in the aquifers.

14 This aquifer information ~~will~~ shall be analyzed on a regional scale and used to develop updated assessments of aquifer
15 conditions in the Central Coastal Plain Capacity Use Area. The Environmental Management Commission (EMC) may
16 adjust the aquifer zones and the water use reduction percentages for each zone based on the assessment of conditions.
17 The EMC ~~will~~ shall adopt the updated map and reduction percentage changes after public hearing.

- 18 (8) The reductions specified in Rule .0503 of this Section do not apply to wells exclusively screened or open to
19 the Peedee aquifer.
20 (9) An applicant may submit documentation supporting the exemption of a well located in the Declining Water
21 Level Zone from the withdrawal reductions specified in Rule .0503 of this Section. This documentation must
22 include a record of monthly static water levels from that well over at least a three-year period, ending with the
23 month when the request for exemption is submitted. The Director may exempt a well from reductions if the
24 water level history shows no pattern of decline during this three-year period. A well previously exempted
25 from the withdrawal reductions shall become subject to the reductions if water levels begin to show a pattern
26 of decline.
27

28 *History Note: Authority G.S. 143-215.15;*
29 *Eff. August 1, 2002.*
30

31 **.0504 REQUIREMENTS FOR ENTRY AND INSPECTION**

- 32 (a) The Division may enter and inspect property in order to evaluate wells, pumps, metering equipment or other
33 withdrawal or measurement devices and records of water withdrawals and water levels, if:
34 (1) Persons conduct an activity that the Division believes requires the use of water at quantities that subject the
35 person to regulation under these Rules;
36 (2) A permittee or applicant has not provided data or information on use of water and wells and other water
37 withdrawal facilities as required by these Rules; or
38 (3) Water levels and chloride concentrations at the person's facility, or at nearby facilities or monitoring stations,
39 indicate that aquifers may be damaged by overpumping or salt water encroachment, or other adverse affects
40 that may be attributed to withdrawal by the person.
41 (b) All information submitted to fulfill the requirements of these Rules, or to obtain a permit under these Rules, or
42 obtained by inspection under these Rules, shall be treated as Confidential Business Information, if requested by the
43 applicant, and found to be such by the Division. Reports defined in Rule .0502(g) of this Section are not considered
44 Confidential Business Information.
45

46 *History Note: Authority G.S. 143-215.19;*
47 *Eff. August 1, 2002.*
48

49 **.0505 ACCEPTABLE WITHDRAWAL METHODS THAT DO NOT REQUIRE A PERMIT**

- 50 (a) As of the effective date of this Rule, any person who is not subject to Rule .0502 of this Section and withdraws
51 more than 10,000 gallons per day from surface or ground water in the Central Coastal Plain Capacity Use Area, shall
52 register such withdrawals on a form supplied by the Division and comply with the following provisions:
53 (1) Construct new wells such that the pump intake or intakes are above the top of the uppermost confined aquifer
54 that yields water to the well. Confined aquifer tops are established in the hydrogeological framework.
55 (2) Report surface and ground water use to the Division of Water Resources on an annual basis on a form
56 supplied by the Division.
57 (3) Withdraw water in a manner that does not damage the aquifer or cause salt water encroachment or other
58 adverse impacts.
59 (b) These requirements do not apply to withdrawals to supply an individual domestic dwelling.

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(c) Agricultural water users may either register water use with the Division of Water Resources as provided in this Rule or provide the information to the North Carolina Department of Agriculture and Consumer Services.

*History Note: Authority G.S. 143-215.14; 143-355(k);
Eff. August 1, 2002.*

.0506 CENTRAL COASTAL PLAIN CAPACITY USE AREA STATUS REPORT

Within two years of the effective date of this Rule, and at five year intervals thereafter, the Division of Water Resources shall publish a status report on the Central Coastal Plain Capacity Use Area. The report shall include the following:

- (1) Compilations of water use data,
- (2) Evaluations of surface and ground water resources,
- (3) Updated information about the hydrogeologic framework in the Central Coastal Plain Capacity Use Area,
- (4) A summary of alternative water sources and water management techniques that may be feasible by generalized geographic location, and
- (5) A status report on actions by water users to develop new water sources and to increase water use efficiency.

*History Note: Authority G.S. 143-215.14;
Eff. August 1, 2002.*

.0507 DEFINITIONS

The following is a list of definitions for terms found in Section .0500 of this Subchapter.

- (1) Approved base rate: The larger of a person's January 1, 1997 through December 31, 1997 or August 1, 1999 through July 31, 2000 annual water use rate from the Cretaceous aquifer system, or an adjusted water use rate determined through negotiation with the Division using documentation provided by the applicant of:
 - (a) water use reductions made since January 1, 1992,
 - (b) use of wells for which funding has been approved or for which plans have been approved by the Division of Environmental Health by the effective date of this Rule,
 - (c) the portion of a plant nursery operation using low volume micro-irrigation, or
 - (d) other relevant information.
- (2) Aquifer: Water-bearing earth materials that are capable of yielding water in usable quantities to a well or spring.
- (3) Aquifer storage and recovery program (ASR): Controlled injection of water into an aquifer with the intent to store water in the aquifer for subsequent withdrawal and use.
- (4) Confining unit: A geologic formation that does not yield economically practical quantities of water to wells or springs. Confining units separate aquifers and slow the movement of ground water.
- (5) Cretaceous aquifer system: A system of aquifers in the North Carolina coastal plain that is comprised of water-bearing earth materials deposited during the Cretaceous period of geologic time. The extent of the Cretaceous Aquifer System is defined in the hydrogeological framework and includes the Peedee, Black Creek, Upper Cape Fear and Lower Cape Fear aquifers.
- (6) Dewatering: Dewatering occurs when aquifer water levels are depressed below the top of a confined aquifer or water table declines adversely affect the resource.
- (7) Flat rates: Unit price remains the same regardless of usage within customer class.
- (8) Fresh water: Water containing chloride concentrations equal to or less than 250 milligrams per liter.
- (9) Gravel pack: Sand or gravel sized material inside the well bore and outside the well screen and casing.
- (10) Ground water: Water in pore spaces or void spaces of subsurface sediments or consolidated rock.
- (11) Hydrogeological framework: A three-dimensional representation of aquifers and confining units that is stored in Division data bases and may be adjusted by applicant supplied information.
- (12) Increasing block rates: Unit price increases with additional usage.
- (13) Intermittent users: Persons who withdraw ground water less than 60 days per calendar year; or who withdraw less than 15 million gallons of ground water in a calendar year; or aquaculture operations licensed under the authority of G.S. 106-761 using water for the initial filling of ponds or refilling of ponds no more frequently than every five years.
- (14) Observation well: A non-pumping well screened in a particular aquifer where water levels can be measured and water samples can be obtained.
- (15) Pumping water level: The depth to ground water in a pumping well as measured from a known land surface elevation. Measurements shall be made four hours after pumping begins. Measurements shall be within accuracy limits of plus or minus 0.10 feet.
- (16) Quantity based surcharges: Surcharges billed with usage over a certain determined quantity.
- (17) Salt water: Water containing chloride concentrations in excess of 250 milligrams per liter.

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- 1 (18) Salt water encroachment: The lateral or vertical migration of salt water toward areas occupied by fresh water.
- 2 This may occur in aquifers due to natural or man-made causes.
- 3 (19) Seasonal rates: Unit prices change according to the season.
- 4 (20) Static water level: The depth to ground water in a non-pumping well as measured from a known land surface
- 5 elevation. Measurements shall be made after pumping has ceased for 12 hours. Measurements shall be
- 6 within accuracy limits of plus or minus 0.10 feet.
- 7 (21) Unaccounted for water: The difference between the total water entering the system (produced and purchased)
- 8 and the total metered or otherwise accounted for water usage.
- 9 (22) Water table: The water level in an unconfined aquifer.

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12

*History Note: Authority G.S. 143-215.14;
Eff. August 1, 2002.*