

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0101

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 8 – delete “G.S. 89G and” – I did not find any of these defined terms in G.S. 89G.*

*Lines 12 and 14 – is “graphic representation” simply a “drawing”? If so, please use that term.*

*Lines 12-13 and 15 – what does “other constructed features” mean?*

*Lines 16-19 – revise as follows:*

- (4) “Large community water system” is defined in G.S. 143-350.
- (5) “Local Government” shall have the same meaning as “Unit of local government” as defined in G.S. 143-350.

*Line 20 – replace “manufacturer” with “manufacturer’s”*

*Line 22 – replace “140-350” with “143-350”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0101 is amended as published in 30:03 NCR 297 as follows:

2  
3 **CHAPTER 23 – IRRIGATION CONTRACTORS' LICENSING BOARD**

4  
5 **SECTION .0100 – LICENSING**

6  
7 **21 NCAC 23 .0101 DIRECT SUPERVISION DEFINITIONS**

8 As used in G.S. 89G and this Chapter:

- 9 (1) ~~As used in G.S. 89G-2, "Direct supervision" is defined as~~ means an individual licensed contractor  
10 having personal responsibility for and control over all aspects of irrigation work done at each job  
11 site.
- 12 (2) "Irrigation plan" means a graphic representation of the irrigation system to be installed and other  
13 constructed features.
- 14 (3) "Irrigation record drawing" means a graphic representation of the irrigation system that was  
15 installed and other constructed features.
- 16 (4) "Large community water system" means a public water system that regularly serves 1,000 or more  
17 service connections or 3,000 or more individuals.
- 18 (5) "Local Government" means a county, city, consolidated city-county, sanitary district, or other  
19 local political subdivision or authority or agency.
- 20 (6) "Product information" means the manufacturer specifications, model, and size.

21  
22 *History Note: Authority G.S. 89G-2; 89G-5; 140-350;*  
23 *Eff. July 1, 2011;*  
24 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
25 *22, 2014;*  
26 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0102

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Page 1, line 6 – add “or her” after “his” twice in this line.*

*Page 1, line 7 – add a comma after “partnership” and add “or she” after “he”*

*Page 1, line 10 – add “or her” after “his” and add a comma after “agency”*

*Page 1, line 12 - add “or herself” after “himself”*

*Page 1, line 14 – replace “must” with “shall”*

*Page 1, line 15 – add “or her” after “his”*

*Page 1, line 25 – add a comma after “group”*

*Page 1, line 27 – replace “has become” with “becomes”*

*Page 1, line 27 – add “the” before “addition”*

*Page 1, line 35 – add a comma after “shareholder” and replace “as” with “that”*

*Page 2, line 1 – replace “as” with “that”*

*Page 2, line 2 – replace “ownership or right” with “ownership, right”*

*Page 2, line 2 – add a comma after “control”*

*Page 2, line 4 – replace “is” with “shall be”*

*Page 2, line 7 – replace “who” with “whose license”*

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

*Page 2, lines 9, 10, 13, and 15 – begin each subparagraph lower case, as that appears to be your usual practice. In any event, format all such subparagraphs and sub-items similarly.*

*Page 2, line 9 – add “or her” after “him”*

*Page 2, line 11 – delete the comma*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0102 is amended as published in 30:03 NCR 297 as follows:

2  
3 **21 NCAC 23 .0102 SURETY BONDS AND LEGAL STATUS**

4 (a) For purposes of this Section a corporate entity is a person as defined in G.S. 89G-1(5) who engages in irrigation  
5 contracting, other than natural persons. A natural person licensed by the Board shall post a surety bond or  
6 irrevocable letter of credit for his individual license listing his name and the name of any corporation, partnership,  
7 limited liability corporation, limited liability partnership or assumed or registered business name under which he  
8 does business.

9 (b) If any licensed individual employed by a corporate entity does irrigation contracting on his or her own behalf,  
10 outside the scope of his employment, agency or other relationship with the corporate entity named on the surety  
11 bond or irrevocable letter of credit submitted to the Board, that individual licensee must obtain and post a separate  
12 surety bond or irrevocable letter of credit with the Board, naming himself as principal.

13 (c) When a licensed individual terminates his or her relationship (e.g. employment, partnership, or agency) with a  
14 corporate entity that lists the individual on a surety bond or irrevocable letter of credit, the licensed individual must  
15 purchase and post his own surety bond or irrevocable letter of credit with the Board. The licensed individual shall  
16 report the termination to the Board within five business days of its effective date.

17 (d) If a licensed individual uses a corporate entity to engage in irrigation contracting and is required to file any  
18 corporate documents with the North Carolina Secretary of State pursuant to North Carolina law or rules, the  
19 individual licensee who qualifies said corporate entity to engage in irrigation contracting shall notify the Board of  
20 having filed corporate documents by providing the Board with copies of the same within five business days of the  
21 filing date. In lieu of submitting paper copies of such filings, the individual licensee may submit an e-mail to the  
22 Board's administrator including a link to the filed corporate documents on the North Carolina Secretary of State's  
23 website within 24 hours of those documents being available on said website.

24 (e) If a corporate entity's ownership changes or the right to control the corporate entity passes from one person or  
25 group to another person, group or receiver, the individual licensee who qualifies that corporate entity to engage in  
26 irrigation contracting shall notify the Board within five business days of the date when the change in the right of  
27 control has become effective. Such changes include addition of or termination of partnerships, changes in corporate  
28 form such as from corporation to limited liability company, sale or transfer of a controlling interest in the corporate  
29 entity, merger of the corporate entity with another person, or dissolution of the person's corporate or other legal  
30 status.

31 (f) An individual licensee who qualifies a corporate entity to engage in irrigation contracting shall notify the Board  
32 in a timely fashion of the beginning of any of the following legal actions in which the corporate entity, as the  
33 petitioner or respondent:

34 (1) has been named a respondent under an action for legal dissolution by the North Carolina  
35 Department of Justice or by a partner, shareholder or such other person as may have the right or  
36 authority to bring such action;

37 (2) has been notified of its administrative dissolution by the North Carolina Secretary of State; or

1 (3) has been notified of the initiation of any legal proceeding as may affect its corporate form,  
2 ownership or right of control or otherwise affect its status or ability to comply with G.S. 89G and  
3 the Board's rules.

4 Notice to the Board is timely if the Board receives written notice or e-mail of such action within  
5 10 business days of the receipt of notice or service of legal process by the individual licensee or  
6 the registered agent of the corporate entity.

7 (g) Any individual licensee who has been suspended solely due to cancellation of his or her surety bond or  
8 irrevocable letter of credit may apply for reinstatement upon providing the following to the Board:

- 9 (1) A valid surety bond or irrevocable letter of credit naming him as principal;
- 10 (2) An affidavit affirming that the suspended licensee has otherwise complied with all obligations of a  
11 licensee under G.S. 89G, and has refrained from practicing irrigation construction or contracting  
12 except as may be subject to a statutory exemption;
- 13 (3) Proof of compliance with the licensee's continuing education requirements for each calendar year  
14 in which the suspension has been in force; and
- 15 (4) A ~~license application fee of one hundred dollars (\$100.00)~~ reinstatement fee.

16  
17 *History Note:* Authority G.S. 89G-5; 89G-6; 89G-10;  
18 Eff. August 1, 2011;  
19 Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September  
20 22, 2014;  
21 Amended Eff. November 1, 2016.

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0104

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 4 – add “once” before “every”*

*Line 11 – add “shall” after “Chapter”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0104 is amended as published in 30:03 NCR 297 as follows:

2

3 **21 NCAC 23 .0104 CONTINUING EDUCATION**

4 (a) Continuing Education (CEU) credit shall not be obtained for the same course more frequently than every three  
5 years.

6 (b) Each individual licensee must earn ten hours of approved continuing education each calendar year. The 10  
7 hours shall include ~~at least two but not more than~~ four hours of business education. The remaining six hours of  
8 continuing education shall consist of training in landscape and turf irrigation technology.

9 (c) A licensed contractor shall provide proof of attendance for all continuing education upon request by the Board.

10 (d) Only continuing education classes or activities that have been approved by the Board as providing adequate  
11 education regarding the requirements of this Chapter satisfy the licensee's continuing education requirement.

12

13 *History Note: Authority G.S. 89G-5; 89G-9;*  
14 *Eff. July 1, 2011;*  
15 *Readopted Eff. January 1, 2016;*  
16 *Amended Eff. November 1, 2016.*

17



REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0208

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Page 1, lines 7-10 – Paragraph (a) seems to contain both mandatory and discretionary provisions. The discretionary provisions (“may”) do not appear to be guided by any standards or factors. These discretionary provisions also seem to describe internal procedures that do not impose any requirements on the Board, a licensee, or any member of the public. If all of this is the case, please consider revising as follows, if this is what is intended:*

- (a) Upon receipt of a complaint alleging misconduct or unlicensed practice that might subject a licensee or other person to discipline or upon notice of such otherwise coming to the Board's attention through investigatory means, the Board shall send a notice of complaint to the respondent.

*If you believe you must retain more of Paragraph (a), please make the following changes:*

*Page 1, line 8 – delete the comma after “discipline”*

*Page 1, line 9 – the rule states that the Board “may” investigate – when will it investigate and when will it choose not to? What standards or factors will guide this decision?*

*Page 1, line 10 – the Rule states that the Board shall send notice – is that of all complaints or only those that the Board chooses to investigate?*

*Page 1, line 11 – this provision requires the use of a form. The APA requires the substantive contents of forms to be set forth in either rules or statute.*

*Page 1, line 12 – provide the Board's mailing address, either here or in another rule which should be cited here.*

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

*Page 1, line 17 – add “submitted” before “more”*

*Page 1, lines 18-26 – Paragraph (e) seems to describe internal procedures that do not impose any requirements on the Board, a licensee, or any member of the public. The provision for hiring investigators and issuing subpoenas simply restates the authority conferred by statutes. Thus, this paragraph appears to be unnecessary and should be deleted.*

*Page 1, lines 28 and 30 – begin each subparagraph lower case, as that appears to be your usual practice. In any event, format all such subparagraphs and sub-items similarly.*

*Page 1, lines 28 and 30 – delete the commas after “occurred”*

*Page 1, lines 32-35 – Paragraph (g) seems to describe internal procedures and legal conclusions that do not impose any requirements on the Board, a licensee, or any member of the public. Thus, this paragraph appears to be unnecessary and should be deleted.*

*Page 1, line 37 – do you mean “parties to the complaint” or “parties to the settlement”?*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0208 is adopted as published in 30:03 NCR 297 as follows:

2  
3 **SECTION .0200 – COMPLAINT PROCESS AND HEARING RULES OF THE NORTH CAROLINA**  
4 **IRRIGATION CONTRACTORS LICENSING BOARD**  
5

6 **21 NCAC 23 .0208 COMPLAINT PROCESS**

7 (a) Upon receipt of a complaint alleging misconduct or unlicensed practice that might subject a licensee or other  
8 person to discipline, or upon notice of such otherwise coming to the Board's attention through investigatory means,  
9 the Board's Investigative Committee may investigate such matter to determine whether probable cause exists to  
10 believe a violation occurred. The Board shall send a notice of complaint to the respondent.

11 (b) The complainant shall submit the complaint form online through the Board's website (<http://www.nciclb.org>) or  
12 by printing the form from the Board's website and mailing it to the Board office.

13 (c) The Board shall not respond to or investigate anonymous complaints or inquiries.

14 (d) The Board shall administratively close any complaint that:

15 (1) is anonymously submitted;

16 (2) is withdrawn by the complainant at any stage of the investigation; or

17 (3) is more than 2 years after the irrigation system was completed.

18 (e) The Investigative Committee may:

19 (1) be assisted by any attorney retained by the Board;

20 (2) hire an investigator or such persons as it deems necessary to determine whether probable cause  
21 exists to believe a violation occurred;

22 (3) subpoena persons to provide the Committee with sworn testimony or documents, provided that the  
23 subpoena is signed by the President or Secretary-Treasurer of the Board;

24 (4) make inquiries designed to assist the Committee in its review of matters under investigation; or  
25 initiate charges against a licensee or other persons if violations are suggested by the evidence  
26 considered by the Committee during an investigation of a complaint.

27 (f) After a preliminary review of a complaint, the Investigative Committee shall:

28 (1) Find that there is probable cause to believe a violation occurred, and send the respondent a notice  
29 of violation; or

30 (2) Find that there is no probable cause to believe a violation occurred, and send the respondent and  
31 complainant notification of the same.

32 (g) The Investigative Committee, by and through the Board's legal counsel, may undertake negotiations with the  
33 respondent to settle the matter without a hearing when such settlement accomplishes the Board's duty to protect the  
34 consuming public. The settlement agreement shall not be final until and unless the Board votes to approve the  
35 agreement.

36 (h) If a settlement agreement is reached, the Investigative Committee shall present the proposed settlement  
37 agreement to the Board, but shall not identify the parties to the complaint to the full Board except by descriptive

1 titles, such as licensee or other persons. The Board shall either vote to approve the settlement agreement or vote to  
2 reject the settlement agreement. If the Board approves the settlement agreement, the Board shall notify the  
3 respondent and complainant and shall close the case upon satisfaction of all terms in the settlement agreement.

4 (i) If a settlement agreement is not reached or if the Board votes to reject a proposed settlement agreement, the  
5 Board shall serve the respondent with a notice of hearing and shall conduct a hearing in accordance with the rules of  
6 this Section and as required by G.S. 150B, Article 3A.

7

8 *History Note: Authority G.S. 89G-5; 150B;*

9 *Eff. November 1, 2016.*

10

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0301

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Page 1, line 8 – what does “accurately” – to scale, showing all elements of the system, or does this refer to the specific requirements in (a)(2) – (a)(4)?*

*Page 1, lines 10-11 – revise as follows, if this is what is intended:*

- (3) include all development on the site that surrounds the irrigation system (e.g. building edges, walks, walls, roads), irrigated areas, turf areas, and planted areas; and

*Page 1, line 12 – replace “and/or” with either “and” or “or” and replace “drip micro” with “drip or micro” (see .0405, line 4)*

*Page 2, line 7 – add “that” after “so”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0301 is amended as published in 30:03 NCR 297 as follows:

2  
3 **SECTION .0300 - IRRIGATION RECORD DRAWING MINIMUM STANDARDS**  
4

5 **21 NCAC 23 .0301 IRRIGATION RECORD DRAWING**

6 (a) ~~As required in Rule .0511 of this Chapter a record drawing is a graphic representation of the irrigation system~~  
7 ~~that was installed and other constructed features.~~ All irrigation record drawings shall:

- 8 (1) ~~accurately portray the site; and be drawn to accurately portray the site;~~  
9 (2) be legible and ~~reproducible.~~ reproducible;  
10 (3) include the site information of all surrounding development (e.g. building edges, walks, walls,  
11 roads), irrigated areas, turf areas, and planted areas; and  
12 (4) show the sprinkler system and/or drip micro irrigation system as installed and include the location  
13 of:  
14 (a) emergency shut-off valve(s);  
15 (b) water source(s);  
16 (c) backflow devices;  
17 (d) all types of valves;  
18 (e) all wire splices;  
19 (f) all wire paths;  
20 (g) controllers;  
21 (h) all sensors;  
22 (i) all grounding location(s) and type(s);  
23 (j) all pumps;  
24 (k) all filters;  
25 (l) all quick couplers or any other water connection points; and  
26 (n) all main line piping.

27 ~~(b) Site information shall include all development (e.g. building edges, walks, walls, roads), irrigated areas, turf~~  
28 ~~areas, and planted areas. The drawings shall show the sprinkler system as it is installed.~~

29 ~~(c) The record drawings shall include locations and product information regarding the location of:~~

- 30 ~~(1) emergency shut off valve(s);~~  
31 ~~(2) water source(s);~~  
32 ~~(3) backflow devices;~~  
33 ~~(4) all types of valves;~~  
34 ~~(5) all wire splices;~~  
35 ~~(6) all wire paths;~~  
36 ~~(7) all controllers;~~  
37 ~~(8) all sensors;~~

1 ~~(9)~~ all grounding location(s) and type(s);

2 ~~(10)~~ all pumps;

3 ~~(11)~~ all filters;

4 ~~(12)~~ all quick couplers or any other water connection points; and

5 ~~(13)~~ all main line piping.

6 ~~(d)~~ (b) All manual and automatic valve locations shall be shown with ~~actual measurements~~ distances to permanent  
7 reference points so they may be located in the field. ~~Proper permanent~~ Permanent reference points are buildings,  
8 drainage inlets, sidewalks, curbs, light poles, and other permanent, immovable objects.

9 ~~(e)~~ (c) The irrigation record drawings ~~Record drawings~~ shall be labeled "Record Drawings".

10

11 *History Note: Authority G.S. 89G-5(15);*

12 *Eff. July 1, 2011;*

13 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
14 *22, 2014;*

15 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0401

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Page 1, line 8 – revise as follows:*

- (b) When designing an irrigation system, an irrigation contractor shall consider the following criteria:

*Page 1, lines 9, 10, 11, 12, and 15 – begin each line with “the”*

*Page 1, line 12 – revise as follows, if this clarifies what is intended: “the water requirements of different plants”*

*Page 1, line 15 – add a comma after “quality”*

*Page 1, line 16 – delete “any issues relating to”*

*Page 1, line 21 – add “contractor” after “irrigation” and delete “do the below”*

*Page 1, line 22 – delete “to” twice, before “conserve” and “function”*

*Page 1, line 23 – add “by” after “landscape”*

*Page 1, line 24 – replace “Obtain” with “obtaining”*

*Page 1, line 26 – replace “Produce” with “producing”*

*Page 1, line 28 – do not capitalize “when” and replace “specify” with “specifying”*

*Page 1, line 31 – replace “Select” with “selecting” and add a comma after “wire”*

*Page 1, line 33 – replace “Design” with “designing”*

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016



*Page 1, line 34 – replace “Select and place” with “selecting and placing”*

*Page 1, line 34 – replace “drip/micro” with “drip or micro” (see .0405, line 4)*

*Page 1, line 36 – replace “10 years” with “10-year establishment period”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0401 is amended as published in 30:03 NCR 297 as follows:

2  
3 **SECTION .0400 - IRRIGATION DESIGN MINIMUM STANDARDS**  
4

5 **21 NCAC 23 .0401 SYSTEM DESIGN OBJECTIVES AND REQUIREMENTS**

6 (a) An irrigation contractor shall design an irrigation system ~~shall be designed to~~ so that it uniformly distribute  
7 distributes water.

8 (b) An irrigation contractor shall prepare a system design considering the following criteria:

- 9 (1) soil type;
- 10 (2) slope;
- 11 (3) plant root depth;
- 12 (4) differing plant material water requirements;
- 13 (5) microclimates;
- 14 (6) weather conditions;
- 15 (7) quantity, quality and delivery pressure of the water source; and
- 16 (8) any issues relating to the long-term management of the system and the landscape it serves.

17 (c) ~~To conserve and protect water resources,~~ When designing an irrigation system, an irrigation ~~system~~ contractor  
18 shall select equipment components and installation techniques that meet state and local code requirements and site  
19 requirements.

20 ~~(d) The irrigation system shall be designed to provide uniform distribution of water.~~

21 ~~(e)~~ (d) When designing an irrigation system, an irrigation shall do the below to ~~To~~ ensure that the irrigation system  
22 is designed to uniformly distribute the water, to conserve and protect water resources, and to function well as a  
23 component of the overall landscape: ~~landscape, the irrigation system contractor shall:~~

- 24 (1) Obtain direct knowledge of site conditions by visiting it. Viewing and relying solely on plot plans  
25 to generate a design is not adequate preparation for designing an irrigation system.
- 26 (2) Produce a design that meets all applicable state and local codes, including plumbing and electrical  
27 codes.
- 28 (3) When allowable by law, specify in the plan the manufacturer, model, type, and size of all  
29 components to eliminate ambiguity during construction and to facilitate management of the  
30 system.
- 31 (4) Select pipe, electrical wire and other materials based on design parameters, environmental  
32 conditions, code requirements, and long-term management requirements of the system.
- 33 (5) Design the irrigation system to minimize installation and maintenance difficulties.
- 34 (6) Select and place shrubs, trees, and groundcover sprinkler and drip/micro-irrigation components  
35 according to the expected size of larger specimen plants through a minimum three-year  
36 establishment period for shrubs and 10 years for trees.

1 *History Note: Authority G.S. 89G-5;*  
2 *Eff. August 1, 2011;*  
3 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
4 *22, 2014;*  
5 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0402

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 11 – add a comma after “(PE)”*

*Line 15 – add “the” before “intended”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0402 is amended as published in 30:03 NCR 297 as follows:

2  
3 **21 NCAC 23 .0402 PIPING**

4 (a) The following rules of maximum safe flow rate apply to irrigation systems connected to municipal and  
5 community water suppliers, with the lowest safe flow rate prevailing as the design minimum standard:

- 6 (1) The maximum allowable pressure loss through the meter shall be less than 10 percent of the static  
7 pressure at the meter.  
8 (2) The maximum flow rate through the meter shall not exceed 75 percent of the maximum safe flow  
9 rate through the meter.  
10 (3) Piping in irrigation systems shall be designed and installed so that the flow of water in the pipe  
11 will not exceed a velocity of five feet per second for polyvinyl chloride (PVC), polyethylene (PE)  
12 and high density polyethylene (HDPE) pipe and seven feet per second for metal pipe.

13 (b) When designing an irrigation system, an ~~An~~ irrigation contractor shall ~~follow~~ use the following criteria for  
14 piping:

- 15 (1) The manufacturer's recommendations for ~~all pipe usage and fabrication shall be followed.~~ intended  
16 application.  
17 (2) The minimum PVC pipe thickness shall be PR200 — (SDR21) with sch40 fittings.  
18 (3) PVC piping from the above-grade backflow to below grade shall be a minimum of sch80.  
19 (4) All PVC risers shall be a minimum thickness of sch80.  
20 (5) Thrust blocking details and locations shall be included when bell and gasket pipe is used.  
21 (6) Exposed PVC piping shall be protected from UV degradation per the manufacturer's  
22 recommendations.

23  
24 *History Note: Authority G.S. 89G-5;*  
25 *Eff. July 1, 2011;*  
26 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
27 *22, 2014;*  
28 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0404

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 5 – it appears a space is missing before “10”*

*Line 7 – is the phrase “specify pressure regulation” understood by your regulated public?*

*Lines 9-10 – replace “minimum operation pressure for the” with “minimum pressure for operating the” or “minimum operational pressure for the” if that is what is meant.*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0404 is amended as published in 30:03 NCR 297 as follows:

2

3 **21 NCAC 23 .0404 WATER PRESSURE**

4 (a) For systems on a municipal or community water supply, an irrigation contractor shall provide allowances in the  
5 design for a reduction in static pressure of up to 10 pounds per square inch (psi) to accommodate possible ~~expansion~~  
6 loss of pressure in the supply network.

7 (b) Where variable or excessive static pressure exists, an irrigation contractor shall specify pressure regulation.

8 (c) ~~At the maximum design flow rate of the system an irrigation contractor shall specify the recommended~~  
9 ~~operating pressure for the irrigation system.~~ An irrigation contractor shall specify the recommended minimum  
10 operation pressure for the irrigation system at the maximum design flow rate.

11

12 *History Note: Authority G.S. 89G-5;*

13 *Eff. August 1, 2011;*

14 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
15 *22, 2014;*

16 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0405

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Throughout these rules, is the correct term "micro irrigation" or "microirrigation"? Please be consistent.*

*Throughout these rules, it appears that there is no single drip/micro irrigation" system; instead, it seems you refer to two systems: "drip or micro irrigation." A variety of terms are used to refer to these systems - please choose a single term that accurately conveys your meaning and use that term consistently.*

*Lines 5, 6, 8, 10, and 16 – do not capitalize the first word of these lines.*

*Line 6 – replace "drip/microirrigation" with whatever term you propose to use consistently.*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016



1 21 NCAC 23 .0405 is amended as published in 30:03 NCR 297 as follows:

2

3 **21 NCAC 23 .0405 DRIP/MICROIRRIGATION**

4 For zones with drip or microirrigation, when designing an irrigation system, an irrigation contractor shall:

5 (1) ~~provide~~ Provide a means of filtration at the ~~master control~~ valve to remove particulate matter;

6 (2) Use separate drip/microirrigation zones where differing plant water requirements and root zone  
7 depths make such zones practical;

8 (3) ~~To improve overall uniformity specify~~ Specify ~~pressure-compensated~~ compensating ~~devices;~~  
9 devices to improve overall uniformity;

10 (4) Specify pressure regulation upstream from the drip/microirrigation components to anticipate  
11 periodic increases in the pressure of municipal or community water sources when there is flushing  
12 or other maintenance on the water supply system. Pressure regulating devices may be omitted  
13 only when the maximum possible pressure is known to be lower than the maximum allowable  
14 pressure for all drip/microirrigation components; and

15 ~~(5) To improve system uniformity connect (loop) the ends of individual laterals; and~~

16 ~~(6)-(5) To minimize ingestion of soil and other contaminants into the emitters, use~~ Use air release valves  
17 to minimize ingestion of soil and other contaminants into the emitters.

18

19 *History Note: Authority G.S. 89G-5;*

20 *Eff. July 1, 2011;*

21 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
22 *22, 2014;*

23 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0406

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Do not capitalize the first word of each sub-item under Items (4), (7), and (12). Because Item (11) is written differently, you may diverge from the usual practice of not capitalizing the first words of sub-items.*

*Page 1, line 17 – add a comma after “issues”*

*Page 2, line 16 – replace “in such a way” with “so as”*

*Page 2, line 22 – replace “in such a way as” with “so as”*

*Page 2, line 27 – replace “hand trenching” with “hand-trenching”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0406 is amended as published in 30:03 NCR 297 as follows:

2  
3 **21 NCAC 23 .0406 COMPONENTS AND ZONE DESIGN**

4 When designing an irrigation system, an irrigation contractor shall:

5 (a) ~~An irrigation contractor shall design~~ Design the layout of heads and other emission devices to reduce  
6 evaporation loss, reduce surface run-off, and limit overspray across or onto a street, public driveway or sidewalk,  
7 parking area, building, fence, or adjoining property.

8 ~~(b) When changes are required an irrigation contractor shall specify in the plan notes that any required equipment~~  
9 ~~shall meet or exceed the design standards of the system.~~

10 ~~(c) An irrigation contractor shall design~~ Design sprinkler head spacing with an approximate "head-to-head"  
11 ~~coverage. coverage, unless the coverage is designed for wind derating. Wind derating shall be based on wind~~  
12 ~~criteria for the time period that the system is normally operated.~~

13 ~~(d) An irrigation contractor shall use~~ Use separate stations or zones (~~hydrozones~~) for areas with dissimilar  
14 environmental conditions or dissimilar water or scheduling requirements (hydrozones). These conditions or  
15 requirements include sun exposure, plant type, soil type, varying wind conditions, grades, and dimensional issues.  
16 When not practicable due to accessibility, dimensional issues or other constraints, practical modifications to this  
17 standard may be acceptable.

18 ~~(e) An irrigation contractor shall, when~~ When selecting system components:

- 19 (1) Select components to avoid surface runoff;
- 20 (2) Select components to keep the sprinkler precipitation rate below the infiltration rate of the soil;
- 21 (3) Specify the use of repeat cycles to allow the water to soak into the root zone; and
- 22 (4) Specify stations or zones for sprinklers at the top and toe of sloped areas.

23 ~~(f) An irrigation contractor shall locate~~ Place sprinkler heads based on an evaluation of physical, environmental,  
24 and hydraulic site conditions, including typical wind conditions during the normal irrigation period.

25 ~~(g) An irrigation contractor shall divide the irrigation systems into zones consistent with the types of sprinkler~~  
26 ~~heads and nozzles being used in order to achieve an approximate matched precipitation rate. Select sprinkler heads~~  
27 ~~and nozzles to achieve an approximate matched precipitation rate within each zone.~~

28 ~~(h) An irrigation contractor shall utilize water conserving equipment as follows:~~ Plan to use the following water  
29 conserving equipment:

- 30 (1) Check valves to minimize low-head drainage when grades exceed five percent;
- 31 (2) Pressure regulators or pressure compensating devices when pressures exceed manufacturer's  
32 recommendations;
- 33 (3) Rain sensors to suspend irrigation during rain or other forms of precipitation;
- 34 (4) A controller that has multi-program capability with at least four start times (for multiple repeat  
35 soak cycles) and run time adjustments in one-minute increments; ~~and~~
- 36 (5) Low-trajectory sprinkler nozzles and modified head spacings to mitigate the effects of ~~wind.~~ wind;  
37 and

1           (6)       Components that do not mist when manufacturer's pressure specifications are met.

2 ~~(i) An irrigation contractor shall select components that do not mist when manufacturer's pressure specifications are~~  
3 ~~met.~~

4 ~~(j) An irrigation contractor shall design irrigation systems with control wire splices made with a waterproof wire~~  
5 ~~splice kit that is UL listed for underground applications. The design shall specify the manufacturer's recommended~~  
6 ~~splice kits for two wire control systems.~~

7 ~~(k) (h) An irrigation contractor shall offset turf grass sprinklers from pavement edges a minimum of two inches to~~  
8 ~~allow for edging of the turf. Offset turf grass sprinklers a minimum of two inches from pavement edges to allow for~~  
9 ~~edging of the turf.~~

10 ~~(l) (i) An irrigation contractor shall offset~~ Offset sprinklers from vertical walls to limit spray on the walls.

11 ~~(m) (j) An irrigation contractor shall locate~~ Ensure that valves are located in such a way valves to allow reasonable  
12 access for maintenance or service.

13 ~~(n) (k) An irrigation contractor shall protect~~ Ensure that the roots of existing trees are protected by:

14           (1)       Planning pipe system layout to limit its effect on existing trees and other planting.

15           (2)       When necessary to trench into the root zone of an established plant in order to provide irrigation  
16 within the root zone:

17                   (a)       planning to dig ~~digging~~ the trench in such a way as to minimize the effect on the roots  
18 (for example, by digging the trench in a straight line towards the base of the tree or shrub  
19 such that, if the line of the trench were extended, it would intersect with the base of the  
20 tree or shrub); or

21                   (b)       planning to use ~~using~~ direct boring or hand-trenching. An irrigation contractor shall use  
22 hand trenching techniques that dig a trench without damaging roots having a diameter of  
23 one-half inch or more.

24           (3)       In the event of trenching, maintaining a distance of one foot from the tree trunk for every inch of  
25 tree diameter at a height of four feet six inches above the ground. For example, piping shall be  
26 kept at least 20 feet away from the trunk of a tree having a 20 inch diameter at four feet six inches  
27 above the ground.

28           (4)       In the event of boring, maintaining a distance of at least one-half foot from the tree trunk for each  
29 inch of tree diameter at a height of four feet six inches above the ground and, in any event,  
30 maintaining a distance of at least five feet from the tree trunk. When direct boring, an irrigation  
31 contractor shall bore to a minimum of 36 inches.

32           (5)       Avoiding placing sprinklers in a position to directly spray water on tree trunks of mature trees by  
33 placing them no closer to a tree than one-third of the sprinkler spray radius.

34 ~~(o) An irrigation contractor shall use the appropriate size American Wire Gauge ("AWG") wire, as noted by the~~  
35 ~~manufacturer, to operate a valve.~~

36 ~~(p) (l) An irrigation contractor shall:~~ With respect to wiring:

37           (1)       Install control wires in the same trench along the side of the main line piping;

- 1 (2) Allow slack in the wiring; ~~and~~
- 2 (3) Bundle an expansion coil for all wires at each valve ~~location~~; location;
- 3 (4) Use the appropriate size American Wire Gauge ("AWG") wire, as noted by the manufacturer, to
- 4 operate a valve;
- 5 (5) Indicate common wiring (wire that runs through the entire circuit of valves) by using a different
- 6 colored wire from all other wire connections;
- 7 (6) Provide additional wire along the irrigation wire path for future expansion or replacement of
- 8 damaged wires;
- 9 (7) Design irrigation systems with control wire splices made with a waterproof wire splice kit that is
- 10 UL listed for underground applications. For two-wire control systems, the design shall specify the
- 11 manufacturer's recommended splice kits; and
- 12 (8) Follow the manufacturer's recommendation for all wiring and grounding, including two-wire
- 13 control systems.

14 ~~(q) An irrigation contractor shall indicate common wiring (wire that runs through the entire circuit of valves) by~~

15 ~~using a different colored wire from all other wire connections.~~

16 ~~(r) An irrigation contractor shall provide additional wire along the irrigation wire path for future expansion or~~

17 ~~replacement of damaged wires.~~

18 ~~(s) (m) An irrigation contractor shall use~~ Use valve boxes that are large enough to provide sufficient space for

19 servicing the valve housed inside. ~~For single valve boxes, valve~~ Valve boxes shall be at least 10 inches in diameter

20 for both manual and automatic valves.

21 ~~(t) An irrigation contractor shall follow the manufacturer's recommendation for all wiring and grounding, including~~

22 ~~two wire control systems.~~

23

24 *History Note: Authority G.S. 89G-5;*

25 *Eff. August 1, 2011;*

26 *Readopted Eff. January 1, 2016;*

27 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0501

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 6 – replace “the design” with “a design”*

*Line 8 – replace “minimum standard violations” with “violations of minimum standards”*

*Line 8 – add “shall” after “and”*

*Line 11 – add a comma after “requirements” and before “and”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0501 is amended as published in 30:03 NCR 297 as follows:

2  
3 **SECTION .0500 - IRRIGATION SYSTEM INSTALLATION MINIMUM STANDARDS**

4  
5 **21 NCAC 23 .0501 GENERAL REQUIREMENTS**

6 (a) When an irrigation contractor determines that the design provided by others does not meet the minimum  
7 standards set forth by the rules of this Chapter or local requirements, the irrigation contractor shall notify the  
8 designer in writing of such ~~deficiencies.~~ minimum standard violations and not complete the job until all such  
9 minimum standards are met.

10 (b) All irrigation system components shall be installed in accordance with manufacturer's specifications, local code  
11 requirements and the requirements of the rules of this Section.

12  
13 *History Note: Authority G.S. 89G-5;*

14 *Eff. July 1, 2011;*

15 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
16 *22, 2014;*

17 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0502

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 5 – add a comma after “areas” and don’t capitalize “right of way”*

*Line 6 – replace “address and note” with “consider” if this is what is intended.*

*Line 7 – add “or her” after “his” and “or she” after “he”*

*Line 12 – replace “out buildings” with “out-buildings”*

*Line 12 – add “and” at the end of this line*

*Line 18 – delete “what” and “are”*

*Lines 20, 21, and 22 – begin each line with “the”*

*Line 25 – what does “grades” mean? If it is the same concept as “slope” (see .0401(a)(2)), please choose one word for this concept and use that term consistently throughout these rules. (See also .0504(e) and .0602(c)(3))*

*Line 28 – add a comma after “zones”*

*Line 31 – replace “impact” with “affect”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016



1 21 NCAC 23 .0502 is amended as published in 30:03 NCR 297 as follows:

2  
3 **21 NCAC 23 .0502 SITE CONSIDERATIONS**

4 (a) An irrigation contractor shall confirm all property corners and lines that will determine the borders of  
5 landscaped or irrigated areas including any Right of Way (local, state or federal).

6 (b) The irrigation contractor shall address and note any encroachment agreements and other easement requirements.

7 (c) Before the irrigation contractor and those working under his supervision do any excavation he shall call 1-800-  
8 632-4949 or 811 or go to [www.ncocc.org](http://www.ncocc.org) to have major utilities located on the subject property by the appropriate  
9 utility companies. Installation shall not be started until all underground utilities are located and marked.

10 (d) An irrigation contractor shall review the site where the irrigation system is to be installed with the owner to  
11 identify private underground lines or structures and locate those that present a potential problem before digging (~~i.e.~~  
12 e.g. ~~Low~~ low voltage lighting wires, propane gas tanks and lines, private power lines to out buildings, drainage lines,  
13 septic field lines and tanks).

14 (e) In the case of new landscape construction where a landscape plan is provided, an irrigation contractor shall  
15 verify that the landscape plan is the most current plan available and is not subject to change before starting the  
16 installation.

17 (f) If no landscape plan exists or the landscaping is in place, an irrigation contractor shall review the site with the  
18 owner or landscape designer to determine what the irrigation needs of the site are. The irrigation contractor shall  
19 address specific issues, including:

- 20 (1) plant water needs;  
21 (2) soil type;  
22 (3) root depth;  
23 (4) microclimates; and  
24 (5) grades.

25 (g) An irrigation contractor shall inform the owner or landscape designer of the importance of designing the  
26 irrigation system to meet the needs of the landscape.

27 (h) An irrigation contractor shall review planting plans prior to installation of the irrigation system to minimize  
28 conflicts between larger plants, existing root zones and irrigation heads and review construction plans for conflicts  
29 between hardscape and sprinkler head placement.

30 (i) An irrigation contractor shall inform the property owner and irrigation designer of unusual or abnormal soil  
31 conditions which may impact the design and management of the irrigation system.

32 (j) Where deviations from the design are required (e.g., routing pipe around a tree or other structure or adding  
33 sprinklers to an area larger than the plan shows), an irrigation contractor shall consult with the designer prior to  
34 making the change to ensure that the change is within the design performance specifications.

35  
36 *History Note: Authority G.S. 89G-5;*  
37 *Eff. July 1, 2011;*

1                    *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
2                    *22, 2014;*  
3                    *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0503

**DEADLINE FOR RECEIPT: October 6, 2016**

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In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 5 – add a comma after “rate”*

*Lines 8-9 – move the phrase “on all new installations” to the beginning of Paragraph (c):  
“On all new installations, if a master valve...”*

*Lines 13-14 – move the phrase “after July 1, 2009” to immediately after “recorded” and before “in the office”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0503 is amended as published in 30:03 NCR 297 as follows:

2

3 **21 NCAC 23 .0503 WATER SUPPLY**

4 (a) Before commencing installation, an irrigation contractor shall verify that the point of connection, water supply,  
5 flow rate and static and dynamic pressures meet design criteria.

6 (b) All new irrigation systems that have a pressurized water supply under continuous pressure must include an  
7 isolation valve. The isolation valve's location must be in the main line before the first zone valve or quick coupler.

8 (c) If a master valve is used, it shall be installed on the discharge side of the backflow prevention device on all new  
9 installations.

10 (d) If the water supply is potable water, an irrigation contractor shall verify that a backflow prevention device is  
11 installed upstream of the irrigation system before pressurizing the irrigation mainline.

12 (e) For local government water systems and large community water systems, an irrigation contractor shall, when  
13 required by local code, install a separate meter for new in-ground systems on lots platted and recorded in the office  
14 of the register of deeds in the county or counties in which the real property is located after July 1, 2009.

15

16 *History Note: Authority G.S. 89G-5; G.S. 143-355.4;*

17 *Eff. July 1, 2011;*

18 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
19 *22, 2014;*

20 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0504

**DEADLINE FOR RECEIPT: October 6, 2016**

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In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Lines 6, 8, and 9 – please consistently use the same term for “microirrigation” (or “micro irrigation”). See also .0301, .0401, and .0405.*

*Lines 6 and 11 – delete “The”*

*Line 8 – add a comma after “types”*

*Line 18 – add commas after “wood” and “sidewalks”*

*Line 19 – add a comma after “drift”*

*Line 24 – delete “the”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0504 is amended as published in 30:03 NCR 297 as follows:

2  
3 **21 NCAC 23 .0504 SYSTEM LAYOUT**

4 (a) An irrigation contractor shall install the irrigation system's components according to the design specifications  
5 and manufacturer's performance standards.

6 ~~(b) The spacing of microirrigation devices shall be selected~~ The microirrigation devices shall be installed at a  
7 spacing to meet the maximum irrigation requirements of the plants being irrigated. The flow rate of the  
8 microirrigation devices, soil types and plant types must all be considered in selecting the spacing of the  
9 microirrigation devices.

10 ~~(c) The maximum spacing between sprinklers must not exceed the radius listed in the manufacturer's specifications.~~  
11 The sprinklers shall be installed such that the spacing between sprinklers results in approximate "head-to-head"  
12 coverage, but in no event shall the spacing exceed the radius listed in the manufacturer's specifications. An  
13 irrigation contractor shall determine the radius by referring to the manufacturer's specifications for a sprinkler at a  
14 specific operating pressure.

15 ~~(d) An irrigation contractor shall determine the radius by referring to the manufacturer's specifications for a~~  
16 ~~sprinklers at a specific operating pressure.~~

17 ~~(e)~~ (d) Irrigation systems shall be installed such that they do not spray water onto or over surfaces made of concrete,  
18 asphalt, brick, wood or any other continuous impervious material, such as walls, fences, sidewalks and streets. The  
19 irrigation system as installed may spray water onto such surfaces due to irregularly-shaped hardscapes, wind drift or  
20 fixed spray patterns of sprinklers.

21 ~~(f) An irrigation contractor shall insure that no water is allowed to run off a site onto impervious surfaces where the~~  
22 ~~water flows for a distance of more than 15 feet during any irrigation day or into a storm water inlet.~~

23 ~~(g)~~ (e) Under sloping conditions, All an irrigation systems shall be installed with use check valves ~~and stronger~~  
24 ~~springs~~ to hold the water in the piping system.

25 ~~(h) When the irrigation contractor determines that water pressure at the head is too low to operate a sprinkler he~~  
26 ~~shall correct this problem with a solution in accordance with Paragraph (a) of this Rule.~~

27 ~~(i) An irrigation contractor shall provide an irrigation schedule to the property owner or his agent that limits the~~  
28 ~~amount of water applied in any one given time period.~~

29  
30 *History Note: Authority G.S. 89G-5;*

31 *Eff. July 1, 2011;*

32 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
33 *22, 2014;*

34 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0505

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Lines 6-7 – replace “such that he protects the root systems of the trees on the site by not” with “without”*

*Lines 18-21 – revise as follows:*

(f) The main line and lateral line piping shall be installed to provide a minimum of 12 inches between the top of the pipe and the natural grade. However, if a utility, man-made structure, or roots create an unavoidable obstacle that makes this 12-inch depth coverage requirement impractical, the piping shall be installed at a minimum of 6 inches between the top of the pipe and the finish grade.

*Renumber the following paragraphs accordingly.*

*Line 22 – add “and level” after “smooth” if this is what is intended.*

*Line 30 – add “the” before “manufacturer’s” and move the period to the end of the line.*

*Lines 32-33 – Do the capitalized words need to be capitalized?*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0505 is amended as published in 30:03 NCR 297 as follows:

2  
3 **21 NCAC 23 .0505 TRENCHING AND PIPING**

4 (a) All portions of an irrigation system that do not meet the standards in this Rule shall be noted on the record  
5 drawing.

6 (b) An irrigation contractor shall install an irrigation system such that he ~~protects~~ protects the root systems of the  
7 trees on the site by not trenching across the established root systems of existing trees and shrubs.

8 (c) Notwithstanding the requirement in Paragraph (b) of this Rule, when the irrigation contractor finds that it is  
9 necessary to trench into the root zone of an established plant in order to provide adequate irrigation to the  
10 surrounding area within the root zone, he shall dig the trench in such a way as to minimize the effect on the roots  
11 (for example, by digging the trench in a straight line towards the base of the tree or shrub such that, if the line of the  
12 trench were extended, it would intersect with the base of the tree or shrub).

13 (d) An irrigation contractor shall cut damaged roots cleanly at right angles.

14 (e) Piping in irrigation systems shall be ~~designed and installed~~ selected so that the flow velocity of water in the pipe  
15 will not exceed ~~a velocity of~~ five feet per second for polyvinyl chloride (PVC), polyethylene (PE), and high density  
16 polyethylene (HDPE) pipe and seven feet per second for metal pipe.

17 (f) The main line and lateral line piping shall be installed to provide a minimum of 12 inches between the top of the  
18 pipe and the natural grade.

19 (g) If a utility, man-made structure, or roots create an unavoidable obstacle that makes the 12 inch depth coverage  
20 requirement impractical, the piping shall be installed at a minimum of 6 inches between the top of the pipe and the  
21 finish grade.

22 ~~(g)~~ (h) The bottom of the trench shall be smooth and provide a flat bed on which to rest the pipe.

23 ~~(h)~~ (i) The irrigation contractor shall clean backfill material of any debris that may damage the pipe.

24 ~~(i) If a utility, man-made structure, or roots create an unavoidable obstacle that makes the 12 inch depth coverage~~  
25 ~~requirement impractical, the piping shall be installed inside a larger section of pipe for added protection.~~

26 (j) When swing joints are used, the depth of the pipe shall allow the swing joint to operate as designed.

27 (k) All trenches and holes created during installation of an irrigation system shall be backfilled and compacted to  
28 the final grade. The trench shall be compacted in lifts no greater than six inches to insure proper compaction.

29 (l) All PVC connections installed in new irrigation systems that are installed using PVC shall be prepared according  
30 to manufacturer's recommendations. (e.g. priming and glue application) ~~prior to connection.~~

31 ~~(m) When the irrigation contractor uses PR-200 pipe, the manufacturer's directions shall be followed.~~

32 ~~(m)~~ (m) The irrigation contractor shall use the manufacturer's approved lubricant when assembling Bell and Gasket  
33 Pipe and Fittings.

34 ~~(n)~~ (n) The irrigation contractor shall use Teflon tape on all threaded fittings, wrapping the tape around the pipe  
35 three times to insure a proper seal.

36 ~~(o)~~ (o) When the irrigation system uses reclaimed water, the irrigation contractor shall use purple pipe or mark the  
37 pipe with purple tape placed above all piping in the system. Tape shall be within six inches of the top of the pipe.



1 The irrigation contractor shall use purple valve box covers and purple quick coupler flaps and place an eight inch by  
2 eight inch sign with purple background stating "RECLAIMED WATER-DO NOT DRINK," and "AGUA DE  
3 RECUPERION-NO BEBER."  
4

5 *History Note: Authority G.S. 89G-5(15); 89G-5(16);*  
6 *Eff. July 1, 2011;*  
7 *Amended Eff. April 1, 2015;*  
8 *Readopted Eff. January 1, 2016;*  
9 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0506

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 5 – add a comma after “maintenance”*

*Line 5 – replace “under” with “pursuant to”*

*Lines 8, 9, 11, and 13 – replace “must” with “shall”*

*Line 8 – is “underground use” clearer than “burial underground”?*

*Line 14 – replace “two wire” with “two-wire” if it does not change the intended meaning.*

*Line 18 – delete “size”*

*Line 19 – replace “water proofs” with “waterproofs” and “outer most” with “outermost”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0506 is amended as published in 30:03 NCR 297 as follows:

2

3 **21 NCAC 23 .0506 ELECTRICAL**

4 (a) This Rule applies to irrigation control wiring ~~of thirty (30) volts or less, or~~ where the installation, construction,  
5 maintenance or repair of devices is exempt from the requirement of licensure as an electrical contractor under G.S.  
6 87-43.1 and 21 NCAC 18B .0805.

7 (b) Underground electrical wiring used to connect an automatic controller to any electrical component of the  
8 irrigation system must be listed by Underwriters Laboratories (UL) as acceptable for burial underground.

9 (c) Electrical wiring that connects any electrical components of an irrigation system must be sized according to the  
10 manufacturer's recommendation.

11 (d) Electrical wire splices which are exposed to moisture must be waterproofed using a UL ~~Listed~~ listed device.

12 (e) Underground electrical wiring that connects an automatic controller to any electrical component of the irrigation  
13 system must be buried with a minimum of twelve inches of backfill.

14 (f) The wire connections on the two wire path of two wire control systems shall be made using devices rated for the  
15 higher voltage of the control system.

16 (g) ~~Multi strand wire may be used if the material exposed is of rated minimum wire size of 18 AWG for~~  
17 ~~underground application and if the splicing device used water proofs the outer most casing of the wire.~~ An irrigation  
18 contractor may splice a multi-wire cable in underground applications when the wire is a minimum size of 18 AWG  
19 and when the splicing device water proofs the outer most casing of the wire.

20

21 *History Note: Authority G.S. 89G-5;*

22 *Eff. July 1, 2011;*

23 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
24 *22, 2014;*

25 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0507

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 5 – add a comma after “maintenance”*

*Line 6 – replace “under” with “pursuant to”*

*Line 7 – replace “per” with “according to”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0507 is amended as published in 30:03 NCR 297 as follows:

2

3 **21 NCAC 23 .0507            GROUNDING**

4 (a) This Rule applies to irrigation control wiring and components ~~of thirty (30) volts or less, or~~ where the  
5 installation, construction, maintenance or repair of devices exempt from the requirement of licensure as an electrical  
6 contractor under G.S. 87-43.1 and 21 NCAC 18B .0805.

7 (b) An irrigation contractor shall ground all components of the irrigation system per manufacturers'  
8 recommendations.

9

10 *History Note: Authority G.S. 89G-5;*

11 *Eff. July 1, 2011;*

12 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*

13 *22, 2014;*

14 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0508

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 10 – replace “per” with “according to”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0508 is amended as published in 30:03 NCR 297 as follows:

2

3 **21 NCAC 23 .0508 SPRINKLERS**

4 (a) ~~Emission devices must be installed to operate at or above the minimum and not above the maximum sprinkler~~  
5 ~~head pressure as published by the manufacturer for the nozzle and emission device spacing that is used. An~~  
6 ~~irrigation contractor shall select sprinklers such that the operating pressure at each sprinkler location is within the~~  
7 range published by the manufacturer of the sprinkler nozzles.

8 (b) Sprinklers shall be set perpendicular to the grade. In turf areas sprinklers shall be set at a height recommended  
9 by the manufacturer. Sprinklers installed on athletic fields shall be equipped with rubber covers on the sprinkler and  
10 the sprinklers shall be installed at or below the grade per the manufacturer's specifications.

11

12 *History Note: Authority G.S. 89G-5;*

13 *Eff. July 1, 2011;*

14 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
15 *22, 2014;*

16 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0509

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Lines 4 and 6 – replace “must” with “shall”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016



1 21 NCAC 23 .0509 is amended as published in 30:03 NCR 297 as follows:

2

3 **21 NCAC 23 .0509           CONTROLLER**

4 All automatically controlled irrigation systems must include sensor or other technology designed to inhibit or  
5 interrupt operation of the irrigation system during periods of either adequate soil moisture or rainfall. Rain or  
6 moisture shutoff technology must be installed according to the manufacturer's published recommendations.

7

8 *History Note:    Authority G.S. 89G-5;*

9 *Eff. July 1, 2011;*

10 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
11 *22, 2014;*

12 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0510

**DEADLINE FOR RECEIPT: October 6, 2016**

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In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Line 9 – add “the” before “point”*

*Line 10 – add “the” before “sprinklers”*

*Line 13 – add commas after “wood” and “sidewalks”*

*Line 17 – add “or her” after “him”*

*Line 18 – add “that” after “and”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0510 is amended as published in 30:03 NCR 297 as follows:

2

3 **21 NCAC 23 .0510 INITIAL SYSTEM START UP**

4 (a) An irrigation contractor shall perform a post installation inspection to verify that the system meets the design  
5 criteria including static water pressure at point of connection, working (dynamic) water pressure at sprinklers, head  
6 radius, head adjustment, that all sensors are operational and that there are no leaks in the system. operates as  
7 designed by:

8 (1) flushing the system;

9 (2) checking the static water pressure at point of connection;

10 (3) checking the operating pressure at sprinklers;

11 (4) checking and adjusting sprinkler head wetted radius as needed;

12 (5) ensuring that the system does not spray water onto or over surfaces made of concrete, asphalt,  
13 brick, wood or any other continuous impervious material, such as walls, fences, sidewalks and  
14 streets;

15 (6) verifying that all sensors are operational; and

16 (7) checking that there are no leaks in the system.

17 (b) An irrigation contractor shall educate the end user of the irrigation system, informing him that plant material  
18 water needs change during the year and the watering schedule should change accordingly.

19

20 *History Note: Authority G.S. 89G-5;*

21 *Eff. July 1, 2011;*

22 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
23 *22, 2014;*

24 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0511

**DEADLINE FOR RECEIPT: October 6, 2016**

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The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Page 1, line 4 – replace “which” with “that”*

*Page 1, line 5 – add a comma after “number”*

*Page 1, line 6 – replace “must” with “shall”*

*Page 1, line 9 – add a comma after “system”*

*Page 1, line 20 – add “the” as the first word, do not capitalize “manufacturer’s” and end the line with a semicolon instead of a period*

*Page 1, line 21 –do not capitalize “winterization” and replace the period with a semicolon and the word “and”*

*Page 1, line 27 –do not capitalize “the”*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0511 is amended as published in 30:03 NCR 297 as follows:

2  
3 **21 NCAC 23 .0511 OWNER'S MANUAL**

4 (a) A permanent sticker which contains the irrigation contractor's name, license number, company name and  
5 telephone number and date of completion of the installation ~~and the dates of the warranty period~~ shall be affixed to  
6 each automatic controller installed by an irrigation contractor. The information contained on the sticker must be  
7 printed with waterproof ink.

8 (b) The irrigation contractor shall, upon completion of any irrigation system or addition to an existing irrigation  
9 system provide an ~~owners~~ owner's manual to the owner ~~of or~~ owner's representative containing each the following:

10 (1) ~~— A maintenance checklist of items such as the nozzles, heads, microirrigation components, pumps,~~  
11 ~~and filters that require maintenance and the recommended frequency for the service to insure that~~  
12 ~~the irrigation system remains in good working order.~~

13 (2) ~~— A report on the system's specifications and a performance by station or zone that includes the plant~~  
14 ~~type, soil type, average root zone depth, precipitation rate, target gallons per minute flow rate,~~  
15 ~~recommended operating pressure range, and maximum recommended cycle run time without~~  
16 ~~runoff. The irrigation contractor shall also maintain a copy of this report at his place of business~~  
17 ~~for a period not less than three years.~~

18 (3) ~~— A seasonal watering schedule based on monthly historical reference evapotranspiration (historical~~  
19 ~~ET) data, monthly effective rainfall estimates, plant landscape coefficient factors, and site factors.~~

20 (4) ~~(1)~~ Manufacturer's manual for the automatic controller and all sensors.

21 (5) (2) Winterization instructions and precautions on protection of the potable water supply.

22 (6) ~~— A written explanation regarding the operation of the irrigation controller, valves, sensors, pressure~~  
23 ~~regulators, backflow prevention device and sprinklers. An irrigation contractor shall review~~  
24 ~~advanced programming features such as multi cycle irrigation to prevent run off and the use of the~~  
25 ~~percentage water increase or decrease function. An irrigation contractor shall educate the owner on~~  
26 ~~features and capabilities of the system including the maintenance requirements.~~

27 (7) (3) The irrigation record drawing, ~~that accurately portray the site, and is legible and reproducible. Site~~  
28 ~~information shall include all development (e.g. building edges, walks, walls, roads,), irrigated~~  
29 ~~areas, turf areas, and planted areas. The drawings shall show the sprinkler system as it is installed.~~  
30 ~~An irrigation contractor shall include locations and product information regarding the location of~~  
31 ~~the emergency shut off valve, meters, backflow devices, valves, controllers, pumps, wire paths,~~  
32 ~~wire splice locations and main line piping. All manual and automatic valve locations shall be~~  
33 ~~shown with actual measurements to permanent reference points so they may be easily located in~~  
34 ~~the field. Examples of permanent reference points include buildings, drainage inlets, sidewalks,~~  
35 ~~curbs, light poles. The statement, "This irrigation system has been designed and installed in~~  
36 ~~accordance with all applicable state and local laws, ordinances, rules, regulations or orders. I have~~  
37 ~~tested the system and determined that it has been installed according to the Irrigation Plan and is~~

1 ~~properly adjusted for the most efficient application of water at this time" shall be included in the~~  
2 ~~irrigation drawing record. The irrigation contractor shall provide a plan to scale that includes~~  
3 ~~locations and product information regarding the lateral piping, sprinklers, and rain switches or~~  
4 ~~sensors.~~

5  
6 *History Note: Authority G.S. 89G-5;*  
7 *Eff. July 1, 2011;*  
8 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
9 *22, 2014;*  
10 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0601

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*This Rule is merely explanatory and does not impose any requirements or confer any rights on any entity. The Rule is not necessary and should be repealed.*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0601 is amended as published in 30:03 NCR 297 as follows:

2

3 **SECTION .0600 - IRRIGATION SYSTEM MANAGEMENT FOR WATER EFFICIENCY STANDARDS**

4

5 **21 NCAC 23 .0601 PURPOSE**

6 This Section sets minimum standards for irrigation contractors who are hired to maintain an irrigation system. ~~water~~  
7 ~~efficiency.~~ The purpose of irrigation system management is to ensure that the irrigation system performs optimally,  
8 ensuring efficient and uniform distribution of water.

9

10 *History Note: Authority G.S. 89G-5;*

11 *Eff. July 1, 2011;*

12 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*

13 *22, 2014;*

14 *Amended Eff. November 1, 2016.*



REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0602

**DEADLINE FOR RECEIPT: October 6, 2016**

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In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Page 1, line 4 – add a comma after “testing”*

*Page 1, line 5 – replace “on” with “the”*

*Page 1, line 7 – replace “minimum standards violations” with “violations of minimum standards”*

*Page 1, lines 27, 28, 31, 33, 34, 35 and Page 2, lines 1, 3, 5, 7, and 10 – do not capitalize the first word in each of these lines.*

*Page 1, line 29 delete the comma*

*Page 1, line 31 add a comma after “level”*

*Page 2, line 3 – replace “originally specified” with “originally-specified” and add “their” before “equivalent”*

*Page 2, line 7 – add a comma after “add”*

*Page 2, line 10 – add a comma after “components”*

*Page 2, line 17 – replace “thirty-two (32)” with “32”*

*Page 2, line 21 – replace “pressurization of the irrigation system, and inspection” with “pressurization and inspection of the irrigation system”*

*Page 2, line 22-23 – what does “whenever possible” mean - regardless of cost, with or without the owner’s permission, if convenient? This requirement seems undefined and very broad.*

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0602 is amended as published in 30:03 NCR 297 as follows:

2  
3 **21 NCAC 23 .0602 BASIC SYSTEM MAINTENANCE PRACTICES**

4 (a) An irrigation contractor shall establish a systematic maintenance schedule for inspecting, testing and reporting  
5 on performance conditions of the irrigation system to the owner.

6 (b) An irrigation contractor shall ~~report any deviations from the original design to the owner.~~ inform the owner of  
7 any minimum standards violations observed in the irrigation system.

8 ~~(c) As part of a systematic maintenance program, an irrigation contractor shall tell the owner to:~~

9 (1) ~~Check, adjust and repair irrigation equipment at least once a year;~~

10 (2) ~~Post irrigation schedules, zone location map and other relevant programming information in each~~  
11 ~~controller or identify for the irrigation contractor and his employees where information is kept;~~

12 (3) ~~Inspect the irrigation system after annual activation in the spring, and bring the system up to~~  
13 ~~intended operating conditions;~~

14 (4) ~~Maintain irrigation systems to keep water off impervious surfaces;~~

15 (5) ~~Repair all leaks immediately or shut off a zone or zones with leaks. If leaks are in main line the~~  
16 ~~owner shall turn water off at the point of connection. Signs of leakage include overgrown or~~  
17 ~~particularly green turf areas, soggy areas around spray heads and above ground hoses, jammed~~  
18 ~~spray heads and torn hoses. In drip systems, leakage problems may be due to damaged tubing~~  
19 ~~from foot traffic or gnawing by animals. The irrigation contractor shall flush pipes, valves,~~  
20 ~~sprinklers, drip components and filters after repairs are completed; and~~

21 (6) ~~As plants mature move sprinklers to preserve system performance. The irrigation contractor shall~~  
22 ~~add additional sprinklers or other hardware as required to compensate for blocked spray patterns~~  
23 ~~or changes in the irrigation needs of the landscape. The owner shall ensure that system~~  
24 ~~modifications are in keeping with design specifications and do not cause landscape water demand~~  
25 ~~to exceed the hydraulic capacity of the system.~~

26 ~~(d)~~ (c) An irrigation contractor who provides monthly inspections shall:

27 (1) Verify that the water supply and pressure are adequate for proper operation;

28 (2) Adjust valves and flow regulators for proper pressure and flow operation. Valves must shut off  
29 tightly to prevent leakage, and operate without abruptly opening or closing to prevent damage to  
30 the irrigation system caused by water hammer and pressure surges;

31 (3) Verify that sprinklers are properly adjusted—check the nozzle, arc, radius, level and attitude with  
32 respect to ~~slope~~; slope and ensure that water is not spraying on impervious surfaces;

33 (4) Verify that sensors are working properly; ~~properly and are within their calibration specifications;~~

34 (5) Look for debris (e.g., rocks, sand, and soil) lodged in sprinklers and drip emitters;

35 (6) Examine filters and clean filtration elements at least once a year or when the irrigation system fails  
36 to operate properly due to clogged filters;

- 1 (7) Verify proper operation of the controller. Confirm correct date and time input and functional  
2 back-up battery at least once a year;
- 3 (8) Repair or replace broken hardware and pipelines with originally specified materials or equivalent,  
4 ~~equal~~, thereby restoring the system to the original design specifications;
- 5 (9) Check for leaks and ~~Complete~~ complete repairs to support the integrity of the irrigation design and  
6 to minimize the waste of water;
- 7 (10) Move, adjust, add or remove sprinklers or other hardware as required to compensate for blocked  
8 spray patterns or changes in the irrigation needs of the landscape; and
- 9 ~~(10) Notify the end user (or owner) of any deviations from the original design; and~~
- 10 (11) Test all ~~repairs~~ repairs and flush pipes, valves, sprinklers, drip components and filters as needed.

11 ~~(e) An irrigation contractor shall ensure that the replacement hardware used for system repairs matches the existing~~  
12 ~~hardware specifications, and is in accordance with the design.~~

13 (d) In the event an irrigation contractor makes any changes to the irrigation system, he shall amend the irrigation  
14 record drawing to reflect those changes.

15 ~~(e)~~ (e) An irrigation contractor shall establish a "winterization" protocol in areas where low temperatures will  
16 damage an irrigation system. Winterization consists of removing enough water from the irrigation system and  
17 equipment so that no damage occurs to any part of the irrigation system during temperatures below thirty-two (32)  
18 degrees Fahrenheit. This is accomplished by turning off the main water supply, opening all drains, and if necessary  
19 using compressed air to remove water from the irrigation system.

20 ~~(f)~~ (f) An irrigation contractor shall establish an "activation/start-up" protocol. Activation consists of re-  
21 pressurization of the irrigation system, and inspection.

22 ~~(g)~~ (g) Whenever possible, an irrigation contractor shall update and retrofit existing irrigation systems with new  
23 technology that will reduce overall water ~~consumption~~ use.

24  
25 *History Note: Authority G.S. 89G-5;*

26 *Eff. July 1, 2011;*

27 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
28 *22, 2014;*

29 *Amended Eff. November 1, 2016.*

REQUEST FOR TECHNICAL CHANGE

AGENCY: Irrigation Contractor's Licensing Board

RULE CITATION: 21 NCAC 23 .0603

**DEADLINE FOR RECEIPT: October 6, 2016**

***NOTE WELL: This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.***

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made. Approval of any rule is contingent upon making technical changes as set forth in G.S. 150B-21.10.

*Lines 5, 10, 12, 16, 17, and 20 – do not capitalize the first word in each of these lines.*

*Line 11 – add a comma after “times”*

*Lines 16 and 17 – what does “zone” mean – climate zone, irrigation zone, sprinkler zone?  
Please specify.*

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Jason S. Thomas  
Commission Counsel  
Date submitted to agency: September 22, 2016

1 21 NCAC 23 .0603 is amended as published in 30:03 NCR 297 as follows:

2  
3 **21 NCAC 23 .0603 SCHEDULING**

4 (a) An irrigation contractor shall recommend to the owner or his representative that:

- 5 (1) The owner ~~manage~~ adjust the irrigation schedule and automatic controller to respond to the  
6 changing water and seasonal requirements for ~~plant water needs in the landscape~~; of the landscape;  
7 ~~(2) The owner reset automatic controllers according to the seasonal plant needs;~~  
8 ~~(3) The owner adjust controllers upon completion of the grow in phase of a landscape or new plant~~  
9 ~~material and should be changed, as soon as possible;~~  
10 ~~(4) (2)~~ (2) The owner inspect irrigation controllers at least monthly to change irrigation frequencies or run  
11 times as needed; and  
12 ~~(5) (3)~~ (3) The owner should avoid irrigation during rain events.

13 ~~(b) An irrigation contractor shall recommend to the owner or his representative that he understand the capabilities~~  
14 ~~of the irrigation controller and use these features to efficiently irrigate.~~

15 ~~(c)~~ (b) An irrigation contractor shall:

- 16 (1) Identify soil ~~type~~ type, microclimates, and root depths of plants in each zone;  
17 (2) Calculate the run-time of each zone to supply the needed water based upon precipitation rate of the  
18 sprinkler zones, the water-holding capacity of the soil, the changing weather conditions and the  
19 plant's water requirements; and  
20 (3) Set initial run times and intervals to minimize runoff.

21 ~~(d) An irrigation contractor shall advise the owner to periodically verify that the plant material is healthy and that~~  
22 ~~soil moisture is adequate. An irrigation contractor shall use a soil probe to visually inspect root depth, soil structure~~  
23 ~~and moisture.~~

24 ~~(e) An irrigation contractor shall educate the end user of the irrigation system, informing him that plant material~~  
25 ~~water needs change during the year and the watering schedule should change accordingly.~~

26  
27 *History Note: Authority G.S. 89G-5;*

28 *Eff. July 1, 2011;*

29 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. September*  
30 *22, 2014;*

31 *Amended Eff. November 1, 2016.*