# 2012 Update - National Green Building Standard™
# Proposed changes to 2008 NGBS
# February 2011

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# TG-4: Water Efficiency

## Chapter 3 – Compliance Method

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| 903 | Steve Williams Buildinggreener LLC Self | 303.1 Green buildings | In Table 303 Water Efficiency the points should be doubled from ~~60~~ to 120 | All of the other categories except for operations are 120 or above. This could help water get more respect on a psychological level. Water efficiency as little in the way of incentives except at the municipal level with the price most people pay for it. | | |

## Chapter 8 – Water Efficiency

| ID | Name Company Entity Represented | Section Number And Requested Action | Proposed Change | Reason | Task Group Action | Reason for TG action |
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| 924 | Bill Klaproth Next Level Glentronics, Inc. | 801.0 Intent (Indoor and Outdoor Water Use) | **Water-Powered Sump Pumps** – water-powered sump pumps or any other device that involves a cross connection between potable water systems, to pump out storm water from a basement sump pit, is prohibited from installation. | during rainstorms, stormwater beneath people's basements build up, and is funneled into basins called "sump pits." From there, a sump pump, pumps this dirty stormwater outside the house. The problem occurs when the power goes out and the primary sump pump (that's plugged into the wall) no longer works. That's when people turn to their water- powered sump pump to get the rising water out of their sump pit before it overflows – flooding a homeowner's basement. Water-powered sump pumps connect directly to the fresh drinking water supply line of a house, or in some circumstances, homeowners connect the pump with a rubber garden hose to a nearby faucet. When the pump is activated, approximately 600 gallons of fresh drinking water per hour is released in the sump pit. Most of these models then pull up 1 gallon of contaminated storm water, for each gallon of fresh water used, and deposits the water outside, right down the sewer. Depending on how often a water-powered sump pump is activated to pump rainwater out of a basement sump pit, it can waste between 10,000 and 32,000 gallons of our precious fresh drinking water per year! There are no official records on how many of these water-powered pumps are in operation in the United States, estimates range from 20,000 to 100,000 units. If we split the difference and say 60,000, and on average each one wastes 15,000 gallons per year, that's 90 million gallons of water wasted: 90 million gallons! The EPA says that the average person must consume 2.5 quarts of water per day to maintain health, which equals 228 gallons per year. If you take 90 million gallons of water wasted, divided by 228, that equals 394,736 people. That's enough fresh drinking water to supply the entire city of Minneapolis with clean drinking water every year!! Not only do they waste precious drinking water, they pose a serious health risk to the homeowner. Since all water-powered pumps must be connected directly to the water supply, they must have backflow protection - unfortunately, many are installed without this. In times of heavy demand, when there's a low pressure situation, contaminated water may be sucked back into the fresh water drinking supply, causing a health risk! In the December 2008 edition of the PHCC (plumbing- heating-cooling contractors) Connection, PHCC president Joe Schmitt alerted contractors to this fact - and explained how backflow and RPZ devices are critical to public health. "A mistake (in installing backflow devices) could take a life, a family, or the whole neighborhood." That's why we feel these pumps MUST not be allowed to be installed – just by the nature of using fresh drinking water to pump out storm water is not smart. These pumps are NOT GREEN they waste water and pose a potential health risk to the homeowner and should be banned. | | |
| 509 | Robert Hill NAHB Research Center | 801.1 Indoor Hot Water Usage Add new as follows | **801.1.1** Indoor hot water usage is reduced by one of the following practices: **(points only awarded for one of the items.)** | Clarify the practice | | |

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| | NAHB Research Center | | **(1)** All hot water piping that runs to the plumbing fixtures in ~~both~~ all ~~the~~ kitchens and bathrooms is 40 feet (12192 mm) or less in length from the water heater and is sized in accordance with the code for the specified application.<br><br>**(2)** All hot water piping that runs to the plumbing fixtures in ~~both~~ all ~~the~~ kitchens and bathrooms is 30 feet (9144 mm) or less from the water heater and is sized in accordance with the code for the specified application.<br><br>**(3)** One of the following piping system designs is implemented:<br>**(a)** use of structured-type plumbing with demand controlled hot water loops, in which the volume of water contained in the pipe and fixture fittings downstream of the recirculating trunk line is a maximum of 4 cups (0.95 liters) (57.75 cubic inches) (0.25 gallons), or<br><br>**(b)** engineered parallel piping system (i.e. manifold system) in which the hot water line distance from the water heater to the parallel piping system is less than 15 feet (4570 mm) and the parallel piping to ~~the~~ any fixture fittings contains a maximum of 8 cups (1.89 liters) (115.50 cubic inches) (0.50 gallons), or<br><br>**(c)** central core plumbing system with all plumbing fixture fittings (e.g., faucets, showerheads) located such that the volume of water contained in each pipe run between the water heater and any fixture fitting is a maximum of 6 cups (1.42 liters) (86.63 cubic inches) (0.38 gallons). | | | |
| 510 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.1 Indoor Hot Water Usage<br>Revise as follows | (1) All hot water piping that runs to the plumbing fixtures in ~~both~~ all the kitchen and bathrooms is 40 feet (12192 mm) or less in length from the water heater and is iszed in accordance with the code for the specified application. | clarify the practice. | | |
| 511 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.1 Indoor Hot Water Usage<br>Revise as follows | (2) all hot water piping that runs to the plumbing fixtures in ~~both~~ all the kitchen and bathrooms is 30 feet (9144 m) or less from the water heater and is sized in accordance with the code for the specified application. | Bob to complete. | | |
| 512 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.1 Indoor Hot Water Usage<br>Revise as follows | (3)(b) engineered parallel piping system (i.e. manifold system) in which the hot water line distance from the water heater to the parallel piping system is less than 15 feet (4570 mm) and the parallel piping to ~~the~~ any fixture fittings contains a maximum of 8 cups (1.89 liters) (115.50 cubic inches)(0.50 gallons), | Bob to complete. | | |
| 513 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.1 Indoor Hot Water Usage<br>Revise as follows | (3)(c) central core plumbing system with all plumbing fixture fittings (e.g., faucets, showerheads) located such that the volume of water contained in each pipe run between the water heater and any fixture fitting is a maximum of 6 cups (1.42 liters) (86.63 cubic inches) (0.38 gallons). | Bob to complete. | | |
| 101 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.1 Indoor Hot Water Usage<br>Revise as follows | 801.1.1 (1) | Run length doesn't work in the field. Distance is better. Plumbers don't usually waste material and take extra long routes but need to coordinate with other trades on the job which sometimes adds a bend or 2 that wasn't forseen on the plan set. Also, reducing the number by 8 feet accounts for the up and downs and the difficulty in being able to do B-lines between the two. (Also, grammatically, "is" should be "are" as the subject is plural). | | |

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| | | | All hot water ~~piping that runs to the~~ plumbing fixtures in both the kitchen and bathrooms ~~is~~ are ~~40~~ 32 feet (~~12,192~~ 9,754 mm) or less in length from the water heater and is sized in accordance with the code for the specified application | | | |
| 102 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.1 Indoor Hot Water Usage<br>Revise as follows | 801.1.1 (2) All hot water ~~piping that runs to the~~ plumbing fixtures in both the kitchen and bathrooms is are ~~30~~ 24 feet (~~9144~~ 7,315 mm) or less from the water heater and is sized in accordance with the code for the specified application. | Run length doesn't work in the field. Distance is better. Plumbers don't usually waste material and take extra long routes but need to coordinate with other trades on the job which sometimes adds a bend or 2 that wasn't forseen on the plan set. Also, reducing the number by 8 feet accounts for the up and downs and the difficulty in being able to do B-lines between the two. (Also, grammatically, "is" should be "are" as the subject is plural). | | |
| 103 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.1 Indoor Hot Water Usage<br>Revise as follows | 801.1.1 (3) (a)use of structured-type plumbing with demand-controlled hot water loops, in which the distance to all plumbing fixtures receiving the hot water is not more than 40 feet from the recirculating trunk line and the smallest diameter pipe allowed by code is used. ~~volume of water contained in the pipe and fixture fittings downstream of the recirculating trunk line is a maximum of 4 cups (0.95 liters) (57.75 cubic inches) (0.25 gallons),~~ or | The cup measure has proven diffult, somewhat for the same reason above and somewhat 'cause the industry isn't used to it. The industry not being used to it is not so much of a reason as they can get used to it but given the realities of what happens in the field, I would again use a distance from equipment to fixture lenght for these. | | |
| 104 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.1 Indoor Hot Water Usage<br>Revise as follows | 801.1.1 (3) (b)<br>engineered parallel piping system (i.e., manifold system) in which the hot water line distance from the water heater to the parallel piping system is less than 15 feet (4570 mm) and the distance to all plumbing fixtures receiving the hot water is not more than ___ feet from the beginning of the parallel piping system and uses the smallest diameter piping allowed by code ~~and the parallel piping to the fixture fittings contains a maximum of 8 cups (1.89 liters) (115.50 cubic inches) (0.50 gallons)~~, or | The cup measure has proven diffult, somewhat for the same reason above and somewhat 'cause the industry isn't used to it. The industry not being used to it is not so much of a reason as they can get used to it but given the realities of what happens in the field, I would again use a distance from equipment to fixture lenght for these. | | |
| 105 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.1 Indoor Hot Water Usage<br>Revise as follows | 801.1.1 (3) (c)<br>central core plumbing system with all plumbing fixture fittings (e.g., faucets, showerheads) located such that the distance between the central core plumbing system and all fixutures receiving hot water is no greater than ___ feet and that the smallest diameter pipe allowed by code is used. ~~volume of water contained in each pipe run between the water heater and fixture fitting is a maximum of 6 cups (1.42 liters) (86.63 cubic inches) (0.38 gallons)~~. | The cup measure has proven diffult, somewhat for the same reason above and somewhat 'cause the industry isn't used to it. The industry not being used to it is not so much of a reason as they can get used to it but given the realities of what happens in the field, I would again use a distance from equipment to fixture lenght for these. | | |
| 106 | Steve Hale | 801.1 Indoor Hot | 801.1.1 (4) | Run length doesn't work in the field. Distance is better. Plumbers don't | | |

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| | Build Green NM<br>Build Green NM | Water Usage<br>Revise as follows | Pipe ~~runs~~ distances between heating equipment and fixtures exceeding 4~~0~~ 32 feet (~~12,192~~ 9,754 mm) from the water heater to fixture locations are aided by one of the following: | usually waste material and take extra long routes but need to coordinate with other trades on the job which sometimes adds a bend or 2 that wasn't forseen on the plan set. Also, reducing the number by 8 feet accounts for the up and downs and the difficulty in being able to do B-lines between the two. | | |
| 107 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.1 Indoor Hot Water Usage<br>Revise as follows | 801.1.1 (4) (b)<br>on-demand hot water recirculation system is installed with a water temperature sensor turn-off. | On-demand can be interpreted as on a timer where it goes on whether or not the hot water is needed. On-demand needs to be defined as with a manual switch of some sort and then it should shut off as soon as the water at the fixture meets a certain temperature. | | |
| 108 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.1 Indoor Hot Water Usage<br>Revise as follows | 801.1.1 (4) (b)<br>Points for Addition Note: ~~Mandatory~~ 0 Additional Points | It doesn't make sense that this items is optional for new construction but mandatory for additions. | | |
| 926 | Jeremy Williams<br>Timber Products Inspection<br>Timber Products Inspection | 801.2 ENERGY STAR Water Conserving Appliances | Multi-family - Laundry facilities are provided on-site where Energy Star or equivalent water conserving appliances are installed. | Points should be awarded to multi family builders who do not provide washing machines in each unit, but who do provide laundry facilities for the entire complex which contain Energy Star washing machines. | | |
| 109 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.2 Water Conserving Appliances<br>Revise as follows | 801.2 (2)<br>washing machine OR | Suggest making this that you can take points for either this item (2) or the next, (3), but not both so someone with a water factor less than 6.0 can't claim 20 points. | | |
| 110 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.2 Water Conserving Appliances<br>Revise as follows | 801.2 (2)<br>Addition and Renovation Note: replace existing washing machine OR | Suggest making this that you can take points for either this item (2) or the next, (3), but not both so someone with a water factor less than 6.0 can't claim 2 additional points. | | |
| 927 | Jeannie Sikora<br>Jeannie Leggett Sikora<br>self | 801.3 Food Waste Disposal | ~~801.3 Food waste disposer at primary kitchen sink.~~ ~~1~~ ~~1~~ | I do not understand how a food waste disposal system contributes to minimizing water use in a home. In fact, because water needs to be run while the disposal is operating, it contributes to unnecessary water use. Further, food in disposals increases the biological oxygen demand on a water treatment plant and, hence, does not seem to merit environmental sustainability points. | | |
| 308 | Craig Conner, Gary Klein<br>Building Quality / Affiliated International Management selves | 801.3 Food Waste Disposers<br>Delete without substitution | Delete 801.3 | This device should not be in the standard unless it can be shown that it actually uses less water than other methods of food waste disposal. Other options, like composting, are preferable. | | |
| 112 | Steve Hale<br>Build Green NM | 801.3 Food Waste Disposers | 801.3 | This does not save water as you have to run the water while the food waste dispenser is operating. Also, it is not recommended for septic | | |

<table>
<tr><th>ID</th><th>Name<br>Company<br>Entity<br>Represented</th><th>Section Number<br>And Requested<br>Action</th><th>Proposed Change</th><th>Reason</th><th>Task Group<br>Action</th><th>Reason for TG action</th></tr>
<tr><td></td><td>Build Green NM</td><td>Delete without substitution</td><td>~~Food Waste Disposers. A minimum of one food waste dispenser is installed at the primary kitchen sink.~~</td><td>systems as it interferes with their breakdown process.</td><td></td><td></td></tr>
<tr><td>342</td><td>Craig Conner, Gary Klein<br>Building Quality / Affiliated International Management<br>selves</td><td>801.4<br>Showerheads<br>Add new as follows</td><td>Replace section 801.4 to 801.6 with text below and add appropriate points.<br>Fixture and fitting flow rates. Fixtures and fitting shall comply withthe maximum flow rates as applicable in Table.<br><br>TABLE: MAXIMUM FIXTURE AND FITTING FLOW RATES<br><table><tr><th>FIXTURE OR FIXTURE FITTING TYPE</th><th>MAXIMUM FLOW RATE</th></tr><tr><td>Showerhead[e]</td><td>2.0 gpm</td></tr><tr><td>Lavatory faucet and bar sink - private</td><td>1.25 gpm</td></tr><tr><td>Lavatory faucet-public (metering)</td><td>0.25 gpc[d]</td></tr><tr><td>Lavatory faucet-public (nonmetering)</td><td>0.5 gpm[e]</td></tr><tr><td>Kitchen faucet-private</td><td>2.2 gpm[e]</td></tr><tr><td>Kitchen and bar sink faucets in other than dwelling units and guest rooms</td><td>2.2 gpm[e]</td></tr><tr><td>Urinal</td><td>0.5 gpf or nonwater urinal</td></tr><tr><td>Water closet</td><td>1.6 gallons per flush[a]</td></tr><tr><td>Water closet-private</td><td>1.28 gpf</td></tr></table>a. The effective flush volume of a dual-flush watercloset is defined as the composite, average flush volume of two reduced flushesand one full flush.<br>d. Gallons per cycle<br>e. Includes hand showers, body sprays, rainfallpanels and jets. Showerhead(s) shall be supplied by automatic compensating valves that comply with ASSE 1016 or ASMEA112.18.1/CSA B125.1 and that are specifically designed to function at the flowrate of the showerheads being used.<br>Reductionprohibited. The flow rates for emergency anddecontamination fixtures and fittings shall not be reduced below the specificationsof ANSI/ISEA Z358.1.<br>Showerheadperformance. Showerheads shall have a manufacturers designation as complying with EPA8**R100**.<br>Watercloset performance. Water closets shall have a manufacturers designation as complying withEPA 800R07010.<br>EPA<br>EPA-800R07010 Water Sense Tank-Type High-EfficiencyToilet Specification, Appendix A: HET Fixture Performance Testing Protocol,Section 4.0 Flush Performance Criteria. Version 1, January 24, 2007.<br>EPA-8**R10*** Water Sense Specification forShowerheads Version 1, March 4, 2010, Appendix A: Spray Force Procedure andAppendix B: Spray Coverage Procedure.</td><td>This expands the fixture and faucet items. Points will need to be assigned. Performance requirements are added for shower heads and toilets. Key specifications for WaterSense are extracted and put directly into the table. This table presumes ICC 700 applies to multifamily.</td><td></td><td></td></tr>
<tr><td>186</td><td>Dan Buuck<br>NAHB<br>NAHB</td><td>801.4<br>Showerheads<br>Revise as follows</td><td><table><tr><td>801.4 Showerheads. Showerheads are in accordance with the following:</td><td></td></tr><tr><td>(1) The total showerhead flow rate at any point in time in each shower compartment is 1.6 to less than 2.5 gpm. The total flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1. Showers are equipped with an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead. (Points awarded per showerhead.)</td><td>1<br><br>3 Points Max</td></tr><tr><td>(2) All showerheads meet the requirements of 801.4(1). In addition, all showerheads are in compliance with either</td><td></td></tr></table></td><td>Editorial change to the section number referred to in the Addition and Renovation Note.</td><td></td><td></td></tr>
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| | | | 801.4(2)(a) or 801.4(2)(b).<br>**(a)** 2.0 to less than 2.5 gpm — **1 Additional Point**<br>**(b)** 1.6 to less than 2.0 gpm — **2 Additional Points**<br>For SI: 1 gallon per minute = 3.785 L/m<br>***Addition Note**: Section 801.4 applies only to additions that include a minimum of one bath or shower.* — ***0 Additional Points***<br>***Renovation Note**: Section 801.4 applies only to renovations that include one or more bathrooms with a bath or shower.* ***(Points awarded per fixture.)*** — ***1 Additional Point***<br>***Addition and Renovation Note**: Existing showerhead is replaced with a showerhead that has a flow rate in accordance with Section ~~804.1.1~~ 801.4.* ***(Points awarded per additional showerhead.)*** — ***1 Additional Point*** | | | |
| 516 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.4<br>Showerheads<br>Revise as follows | **801.4 Showerheads.** The maximum total showerhead flow rate at any point in time in ~~each~~ a shower compartment is in accordance with Section 801.4(1) or 801.4(2). The total flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1. Showers are equipped with an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead.<br>**(1)** 2.0 to less than 2.5 gpm **(Points awarded per ~~showerhead~~ shower compartment.)**<br>**(2)** 1.6 to less than 2.0 gpm **(Points awarded per ~~showerhead~~ shower compartment.)**<br>**(3)** All ~~**showerheads**~~ shower compartments in the dwelling unit are 2.0 to less than 2.5 gpm<br>**(4)** All ~~**showerheads**~~ shower compartments in the dwelling unit are 1.6 to less than 2.0 gpm | Clarify the practice. | | |
| 113 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.4<br>Showerheads<br>Add new as follows | 804.1 (2)<br>Manual shower shutoff (2 points per shutoff) | Suggest new point to encourage "military showers". This keeps the water valves at the desired setting for temperature and just shuts off the flow. | | |
| 521 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.5 Faucets<br>Revise as follows | (1) a bathroom (all faucets in a bathroom must comply)<br>(2) all lavatory faucets in the dwelling unit | Clarify the practice. | | |
| 181 | Susan Gitlin<br>US Environmental Protection Agency<br>US Environmental Protection Agency | 801.5 Faucets<br>Add new as follows | -- All faucets (kitchen *and* lavatory) must be certified under NSF/ANSI 61 and other applicable health-based regulations.<br><br>All in-line plumbing components not considered an “end point device” must meet at a minimum, certification under NSF/ANSI 61 and other applicable state and national standards.<br><br>All plumbing components located within the last 1-L water volume from the tap must be certified under the appropriate sections of NSF/ANSI 61.<br><br>All pipe/tubing must meet NSF/ANSI 61 within and leading to the structure.<br><br>If copper tubing is to be used, influent water quality should not permit copper levels to | This chapter - the entire standard, in fact -- shows no integration of water quality concerns, and the relationship between water conservation and the impact on water contamination brought about by the potential leaching of metals from plumbing components and piping materials in general, and the enhancement of the potential degradation and the increased potential for unhealthy microbial growth brought about by the prolonged contact of the drinking water with the plumbing materials created by the use of water conservation devices. These issues could be incorporated it into the existing chapter and as added sections under a new chapter title of “Water Quality and Efficiency.” The water quality implications of the plumbing material specifications and the operational concerns relate equally to new construction as well as renovations. All of the language that is suggested above should be mandatory practices. | | |

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| | | | exceed 2 mg/L (acute health effects limit, need to get exact reference, possibly from Joyce Donohue) under operational conditions. (Note from author: If you need an approximate guideline, I would offer pH > 7 and alkalinity < 200 mg/L as $CaCO_3$.)<br><br>Operational conditions should not allow the loss of disinfection or the growth of unhealthy biofilms. | | | |
| 522 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.6 Water Closets/Urinals<br>Revise as follows | (~~For water closets,~~ Total points awarded for ~~either~~ both Section 801.6 or 802.2 ~~not both~~ cannot exceed 24 points.) | Clarify the practice and allow a combination of composting and low gpf units. | | |
| 523 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.6 Water Closets/Urinals<br>Revise as follows | (2) A water closet installed with an effective flush volume of 1.28 gallons (4.85 L) or less when tested in accordance with ASME A112.19.2 (all water closets) ~~and~~ or when tested in accordance with ASME A112.19.14 (all dual flush water closets), and is in accordance with EPA WaterSense Tank-Type High-Efficiency Toilet or equivalent. | Clarify the practice. | | |
| 524 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.6 Water Closets/Urinals<br>Revise as follows | (4) All water closets and all urinals in the dwelling unit are in accordance with Section 801.6(2) or Section 801.6(3), as applicable or are composting or waterless units. | Clarify the practice with respect to multi-unit buildings and to allow a combination of composting and low gpf units. | | |
| 114 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.7 Irragation Systems<br>Revise as follows | 801.7.3<br>Group plants with similar watering needs together (htdrozone) and install irrigation system ~~is~~ zoned separately for ~~turf and bedding areas.~~ areas with different watering needs. | This should be more specific and not assume that there is any turf area. You should not have turf in arid climates but you should always hydrozone. | | |
| 115 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.7.4 Irrigation System Smart Controller<br>Revise as follows | 801.7.4 (1)<br>Evapotranspiration (ET) based irrigation controller with a rain sensor OR | Suggest making this that you can take points for either this item (1) or the next two (2) and (3), but not so someone could put in both systems described in (1) and (2) and take 8 points. | | |
| 116 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.7.4 Irrigation System Smart Controller<br>Revise as follows | 801.7.4 (2)Soil moisture sensor based irrigation controller OR | Suggest making this that you can take points for either this item (1) or the next two (2) and (3), but not so someone could put in both systems described in (1) and (2) and take 8 points. | | |
| 117 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.7.4 Irrigation System Smart Controller<br>Revise as follows | 801.7.4 (3) "CHANGE POINTS" ~~15~~ 2 | This shouldn't be so encouraged as this usually means that people hand water or use sprinklers which are typically less efficient than a system that is designed. | | |
| 525 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 801.8 Rainwater Collection and Distribution<br>Revise as follows | Rainwater collection and distribution is provided. | Additional guidance is needed to define the minimum amount/capacity of collection is required to earn these points (e.g. one rain barrel, one barrel at each downspout, x ft3 per ft2 of roof, etc) | | |
| 118 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.8 Rainwater Collection and Distribution<br>Revise as follows | 801.8<br>Rainwater Collection and Distribution. Rainwater collection and distribution is provided that has a minimum storage capacity of 500 gallons. | There should be a minimum size of storage here so a 2 gallon bucket at the end of the downspout doesn't count. | | |
| 119 | Steve Hale<br>Build Green NM<br>Build Green NM | 801.8 Rainwater Collection and Distribution<br>Add new as follows | 801.8 (1)Rainwater is collected and used as follows: (a) 1 gallon per square foot for 100% of the roofed area (12 points) or (b) 1 gallon per square foot for 75% of the roofed area (9 points) or (c) 1 gallon per square foot for 50% of the roofed area (6 points) | Suggest having a graduated point system for larger systems in proportion to the roofed area to encurage greater investment. This is already important for arid areas of the US and is prediced to become more universally important as weather patterns become more extreme and | | |

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| | | | | areas that have rarely seen drought conditions experience them more frequently. | | |
| 929 | Brian Gregson<br>Rainwater Services<br>self | 801.8 Rainwater Collection and Distribution | Capture of at least one-inch rainfall for max points.<br>Pro-rate points based on percentage of municipal water usage mitigated by captured rainwater, calculated on a per annum basis. | Currently minimal parameters for this section. The above are suggested items to be discussed and improved upon for future inclusion. | | |
| 930 | Steve Williams<br>Buildinggreener LLC<br>Self | 801.8 Rainwater Collection and Distribution | *Please add this*<br>*Addition and Renovation*<br>Rainwater is collected and used - 6 points | Rainwater is a much better form of water for irrigation then gray water. Anytime it can be used for irrigation to make up for the impervious surface it is running off of, it should be collected and used. | | |
| 931 | Steve Williams<br>Buildinggreener LLC<br>Self | 801.8 Rainwater Collection and Distribution | Rainwater is collected and used for outdoor use allowing 6 points for 100% rainwater use and 3 points for 50% rainwater use for all outdoor water usage in systems 300 gallons or larger using The American Rainwater Catchment Systems Association *RAINWATER CATCHMENT DESIGN AND INSTALLATION STANDARDS* or similar state guide for guidance. 1 point for rainbarrels up to 300 gallons. Tanks cannot be connected to municipal water for back up. Quantities decided by water bill summer and winter usage difference or by irrigation or landscape designer. | By having a parameter based on percentage will allow different size users be fairly rewarded. People will make up the rules when there are none. Municipalities and non profits in GA only promote rainbarrels and most have bad and potentially hazardous designs. When designed and installed properly rainwater harvesting (RH) the water is clean and clear. It allows better plant growth and when used for washing especially cars RH leaves no spotting. If irrigation is installed in new construction then the seveloper/owner should support the excessive use of water to maintain it. With out some perameters many people will put in small undersized or faulty systems, | | |
| 932 | Steve Williams<br>Buildinggreener LLC<br>Self | 801.8 Rainwater Collection and Distribution | (1) Rainwater is collected and used.<br>(A) Rainwater harvesting system is used to replace 25% of municipal or groundwater 2 points<br>(B) Rainwater harvesting system is used to replace 50% of municipal or groundwater 4 points | Some parameters are need so points will truly earned. By using a percentage then this gives builder wide options as to how to use water to receive points. | | |
| 933 | Mark Harris<br>LifeSource Water Systems<br>LifeSource Water Systems | 801.9 Water Filters | 801.9.1<br>Whole building or whole dwelling water filter unit that has 100% efficiency (does not waste water in production, backwash or regeneration). 2 additional points | The following are the negative environmental facts about these systems: 1. Water softeners waste water. Older technology wastes on average 6000 gallons/year. New technology wastes on average 2500 gallons/year. 2. Water softeners dump chlorides into the waste stream. They have been banned by many communities in California for this reason. See http://www.lacsd.org/info/industrial_waste/chloride_in_santa_clarita/introduction.asp for more info. 3. Since softened water is not safe to drink, reverse osmosis systems are used. These systems waste 3-8 gallons of water for every gallon produced. LifeSource produces an whole house alternative to water softeners, and delivers the following environmental benefits: 1. No salts are chlorides are used. 2. No water is wasted, as the backwash water is potable and directed back into irrigation. 3. Eliminates the need for bottled water, a product which is extremely bad for the environment due to the production and transportation of the plastic bottles, and the fact that over 70% of bottles are not recycled and end up in landfills or the oceans. 4. Our sustainable design is tested and certified to last at least 1.6M gallon, about 16 years for a family of 4. There is no maintenance and no changing and disposing of filter media. | | |
| 526 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 802.1 Gray Water<br>Revise as follows | **802.1 Gray water.** Gray water, as specified in ICC IRC, Appendix O is separated and reused, as permitted by local building code.<br>**(Points awarded for either 802.1(1) or 802.1(2), not both.)**<br>**(1)** each water closet flushed by reclaimed or recycled water<br>**(Points awarded per fixture. Max 12 points)**<br>**(2)** irrigation from reclaimed or recycled gray water on-site | Clarify the practice is limited to recycling gray water and not rain water. A mmaximum point value should be added to (1) since (2) only allows 10 points and this is an either or practice. | | |
| 934 | Steve Williams<br>Buildinggreener LLC<br>Self | 802.1 Gray Water | Irrigation from reclaimed or rectcled water on-site ~~10 point~~ 6 points<br><br>*Addition and Renovation*<br>*Irrigation from reclaimed or rectcled water on-site ~~5 point~~ 3 points* | Gray water should not be of anymore importance then rainwater for irrigation. I find gray water to be an environmental liability and should not be used for irrigation unless treated to a non-toxic substance. Bleach is used in some systems and what is put into the systems could contaminate ground water which could contaminate drinking water. The human factor is the concern. | | |
| 530 | Robert Hill<br>NAHB Research Center | 802.2 Composting or Waterless Toilets/Urinals | Composting or waterless toilets and/or urinals are ~~in accordance with the following~~ installed: | Clarify the practice. | | |

| ID | Name Company Entity Represented | Section Number And Requested Action | Proposed Change | Reason | Task Group Action | Reason for TG action |
|---|---|---|---|---|---|---|
| | NAHB Research Center | Revise as follows | (~~For water closets,~~ Total points awarded for ~~either~~ both Section 802.2 or 801.6, ~~not both~~ shall not exceed 24 points. | | | |
| 120 | Steve Hale<br>Build Green NM<br>Build Green NM | 802.2 Composting or Waterless Toilets/Urinals<br>Revise as follows | 802.3 (Change Points" ~~2~~ 6 | Based on the amount of water that could potentially be saved, this should have more points. | | |
| 531 | Robert Hill<br>NAHB Research Center<br>NAHB Research Center | 802.3 Automatic Shutoff Water Devices<br>Revise as follows | (1) excess water flow automatic shutoff<br>(2) leak detection system with automatic shutoff | Clarify the practice. | | |
| 341 | Craig Conner, Gary Klein<br>Building Quality / Affiliated International Management selves | Add New Section<br>Add new as follows | Rainwater, gray water, and reclaimed water restrictions proposed by Gary Klein and Craig Conner for the IGCC should also be included in ICC 700. | Rainwater, gray water, and reclaimed water represent the "new" sources of water which can work with increase water use efficiency already in the ICC 700. | | |
| 147 | Randall K. Melvin<br>Winchester Homes Inc.<br>Winchester Homes, Inc. | Add New Section<br>Add new as follows | Reciculation Humidifier<br><br>Recirculating humidifier used in lieu of traditional "flow through type. 2 points. | Recirculating humidifies can save up several gallons of water per hour inwhen compared to traditional flow through models. to encourage use of less water and energy efficent humidifier types. | | |
| 236 | Craig Conner, Gary Klein<br>Building Quality / Affiliated International Management selves | Entire Chapter 8<br>Revise as follows | Points for water items should be reassigned based on the estimated water impact. | We are aware that the points for energy were scaled to roughly reflect their overall energy impact. This same principle should be applied to the water points. We understand that this is difficult and requires assumptions. There are many cases in the current language where the points allocated to water related improvements are clearly not related to their impact. A specific example: “801.1 Indoor hot water usage.” This assigns points based on the volume of water in the piping between the water heater and the fixtures, which is the key to actually getting the benefits. One method, structured plumbing, allows 4 cups to the fixtures and gets 6 points. Central core plumbing, allows 6 cups, but gets 8 points. Engineered parallel piping, allows 17.5 cups to each fixture, but also gets 6 points. Points are not proportional to their impact on water waste. If they were, engineered parallel piping would get say 3 points, central core plumbing would get 9 points and structured plumbing would get 13 points. | | |
| 935 | Jennifer Cisneros<br>Bio-Microbics, Inc.<br>self | Other (include section number and title below) | This section does not talk about the use of an advanced wastewater (aerobic) treatment system. | The system produces a high quality secondary effluent at competitive capital and operating costs, which can be sterilized and used for surface irrigation. This allows much greater flexibility in the placement of the leach field (better use of land), as well as cutting the required size of the leach field by as much as half. Other green advantages are energy savings, water savings, and other water re-use options, as well as, nitrogen and phosphorus reduction before this water is reintroduced into the environment. | | |