

Text of USGBC LEED CIR ruling, as posted on

## CSv2.0. IDc1 Innovation in Design (3/16/2009) Credit Interpretation Request

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**Title:** Whole Building Double Water Filtration to Obviate the Need for Bottled Water

**Intent:** To minimize or eliminate the use of plastic water bottles in buildings by providing the purity levels afforded by bottled water through comprehensive building water filtration.

The bottled water industry has grown substantially in the past decade. About 74% of Americans drink bottled water; one in five drinks only bottled. Demand is outstripping recycling capacity. According to the Container Recycling Institute, each year an ever smaller proportion of plastic bottles are recycled; from 2 out of 5 in the mid '90s, to only 1 out of 7 today. Seventy million water bottles are disposed of each day, with 60 million going into landfills, oceans or incinerators.

Our project plans to implement a two-stage water filtration system that provides water purity equal to or better than bottled water. Implementing water filtration technology is an answer to the severe environmental impact of bottled water, because it reconciles people's desire for pure, safe drinking water with the imperative of reducing waste.

By installing two-stage water filtration - first at the main (point-of-entry, POE) and then downstream within kitchen cabinets (point-of-use, POU) - and educating our occupants about the health and environmental advantages of the system, we anticipate a dramatic reduction in the purchase of bottled water in our building and associated waste. The two-stage configuration, and the specific equipment selected, are designed so as to minimize environmental impact by 1) at POE using negligible water for self-cleaning, and 2) at POU achieving significant filter cartridge longevity.

### Requirements:

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Provide building-wide point-of-entry water filtration that removes particulate contamination equal to or smaller than 10 microns; AND  
Provide point-of-use water filtration at 0.2 micron (fine enough to remove bacteria) and NSF/ANSI Standard 42 and 53 certified; AND  
Educate building occupants about the system, how it works and its substantial environmental benefits.

### Benefits:

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- Obviate the need for bottled water by providing high performance and low impact two-stage water filtration that will substantially reduce the amount of plastic water bottles going to waste from our building.
- Reduce the exposure to potentially harmful waterborne contaminants for the entire population through universal access to filtered water.
- Reduce the energy required to heat water by screening out particulates that over time negatively impact system efficiency.
- Reduce the amount of pollutants released in the manufacture and transportation of bottled water attributable to our building.

## Calculations:

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There are 70 million bottles of water consumed in the US per day. Dividing that number by the total population of approximately 306,000,000 means that 23% of the US population is drinking one bottle of water a day.

We believe this estimate to be conservative and that widespread adoption of two-stage water filtration could have a much bigger impact, especially in areas with known water quality problems. We estimate that our 1200 apartment project will have 2130 occupants. Therefore, 23% of 2130 = 479 people drinking one bottle of water a day times 365 days/yr = 174,835 bottles for this one building resulting in a reduction of 149,858 (6 out of 7) bottles going to landfill, oceans or incineration.

New occupants will be given an orientation session at the time of lease by the property manager explaining the dual system, the POU maintenance requirements and why the cost and environmental impact of bottled water can be avoided in the building. The tenant environmental guideline will also detail the environmental impact of bottled water and describe the system benefits and performance. The filtration system will be a highlighted feature on all leasing and green building tours.

## Final Ruling:

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Installation of a water filtration system, with the intent of eliminating the use of plastic water bottles is an acceptable effort for achieving an Innovation in Design credit, as long as calculations and policy/program descriptions are provided as required by posted CIR ruling dated 11/15/2007, showing the quantifiable benefits that may result from the reduction of waste and transportation.

Please provide the policy/program document which details the environmental impact of bottled water use and describes the system benefits and performance. Policy/program descriptions must also confirm that the building-provided filtered water will be available at 100% of kitchen sinks throughout the building, and that maintenance of all filtration system components and point-of-use filter replacement will be provided by the building owner per manufacturer's guidelines. For core and shell projects, these requirements will need to be part of a legally binding agreement with the tenants, such as a tenant lease or sales agreement. As part of the program/policy document project team will be required to outline an orientation program to educate building occupants about this sustainable feature of the building and the expected use of filtered water from sinks instead of bottled water; consider adding other green features on the building to this orientation.

Documentation of the filtration system, education policy, and sales or lease agreement will need to be provided for certification.