AQUARION
Water Company
Stewards of the Environment

September 21, 2018

Ms. Corinne Fitting
Supervising Environmental Analyst
Department of Energy and Environmental Protection
Water Planning & Management Division
Bureau of Water Protection and Land Reuse
79 Elm Street
Hartford, CT 06106-5127

Re: Proposed Stream Flow Classifications – Housatonic, Hudson & Southwest Coastal River Basins

Dear Corinne:

This letter presents Aquarion Water Company's comments on the proposed stream flow classifications in the above referenced basins. The comments are presented by individual stream segment and generally fall into two categories: 1) segments adjacent to overburden wells without diversion permits/registrations or Level A Mapping and 2) segments containing public water supply diversions without impoundments.

Streams Adjacent to Overburden PWS Wells

Aquarion operates several overburden wells that are not large enough to require a diversion permit and/or Level A mapping and are adjacent to streams proposed with stream flow classifications of 1 or 2. A description of each of these wells and their adjacent stream segment is provided below. Aquarion requests that the final classification for the segments adjacent to these wells be Class 3 for the following reasons:

- Although analysis of the impact of withdrawals from these wells on the adjacent streams has not been performed, based on historical well withdrawals as a percent of the stream's natural Q99, the stream flows are likely to support habitats moderately altered from that typically present in a free-flowing stream.
- These are critical sources of supply for the systems that they serve and potential future restriction of their withdrawal rates based on stream classification could result in an inadequate margin of safety. A flow classification of 3 would likely reduce the impact of future restrictions on margin of safety.
- If the wells were a potential future source with significant investment, rather than an existing source with significant investment, the segments would be Class 3.
- If the wells served a population large enough to require Level A mapping the segments would likely be Class 3.

- If the wells were a potential source of water supply, rather than an existing source of water supply, there would be an additional "increaser" factor in the segment classification resulting in a minimum Classification of 2 or 3.
- If the wells required a diversion permit the HSI Diversion Metric for each segment would likely be 3 instead of 1.

Stream Segment 103005982 (proposed Class 1) – This segment is adjacent to Aquarion's Coltsfoot Wellfield in Cornwall. The segment has HSI metrics of 1 for impervious cover, dams, diversions and return flow and no additional factor adjustments. The Coltsfoot wellfield consists of two overburden wells and is the only source of supply for the system. Over the past five years the maximum daily withdrawal from the wellfield has been 0.043 mgd. StreamStats lists the Q99 of the segments as approximately 0.005 mgd, less than the withdrawals from the wellfield.

Stream Segment 103009189 (proposed Class 2) - Aquarion's Kent Well No. 3 is located near the confluence of segments 103009354 (proposed Class 1), 103009499 (proposed Class 1) and the downstream segment 103009189 (proposed Class 2). Well No. 3 has a registered diversion capacity of 0.249 mgd and is the larger of two wells serving the Kent system. Over the past five years the maximum daily withdrawal from Kent Well No. 3 has been 0.181 mgd. StreamStats estimates the Q99 at this stream confluence as 0.017 mgd, less than the withdrawals from the wellfield.

Stream Segment 103015766 (proposed Class 1) - This segment is adjacent to Aquarion's Indian Springs Well in Danbury. The Indian Springs Well is the only source of supply for this system. Since 2015 the maximum daily withdrawal from the well has been 0.015 mgd. StreamStats estimates the Q99 at this point as 0.012 mgd, less than the withdrawals from the wellfield. The stream has an impervious cover HSI metric of 3, a diversion metric of 1, and a class change to less altered due to protected open space.

Stream Segment 103013705 (proposed Class 2) - This segment is adjacent to Aquarion's Indian Ridge Wellfield in New Milford. Over the past five years the maximum withdrawal from the wellfield was 0.013 mgd. The Indian Ridge water system has been consolidated into Aquarion's New Milford system, and this wellfield is now an emergency supply. The stream segment adjacent to the wellfield has an impervious cover metric of 3, dam metric of 2, diversion metric of 3, return flow metric of 3, and a class change to less altered due to anadromous fish and protected open space partially offset by being a C&D growth area. The segment has a large Q99 but, as indicated by the HSI metrics, has significant anthropogenic activity that is altering streamflow.

Stream Segment 102002952 (proposed Class 1) - This segment is approximately 900 feet north of Aquarion's Ridgefield Knolls Wellfield in Ridgefield and flows between two impoundments; Lake Windwing and Wataba Lake. The Ridgefield Knolls Wellfield contains five active production wells; two are bedrock, two are gravel, and one is a combination bedrock/gravel well. This wellfield is the only source of supply to the

system. Withdrawals from the wellfield are permitted under DIV 20120778. Pump testing performed during the permit process indicated that well withdrawals do not impact flow in Bennett's Farm Brook (Segment 102002952). However, the permitted capacity of the wellfield is 0.095 mgd, and StreamStats estimates the Q99 of the segment in the vicinity of the wellfield to be approximately 0.001 mgd. The segment has a proposed dam metric of 3, impervious cover, diversion, and return flow metrics of 1 and a class change to less altered due to the presence of a USGS Index Gage and Protected Open Space.

Segments Containing Public Water Supply Diversions Without Impoundments

Aquarion operates several registered diversions that don't have impoundments, but redirect all, or a portion, of the flow in a stream towards its reservoirs. The streams below these diversions are likely to support habitats moderately altered from that typically present in a free-flowing stream , and should therefore be considered flow classification 3. A flow classification of 3 would likely minimize the impact of potential future regulations on available water from these diversions and, hence, the margin of safety of the systems that they supply.

The diversions are discussed individually below:

Stream Segment 103017739 (proposed Class 2) - Aquarion's Boys Halfway Diversion is a registered diversion (113 mgd) that was constructed on this segment circa 1916 and diverts what was a portion of the Boys Halfway River into Means Brook, and ultimately to the Mean's Brook Reservoir. The watershed of the diversion represents more than 10% of the watershed of the Trap Falls Reservoir System (Trap Falls, Far Mill and Means Brook Reservoirs) and therefore contributes significantly to the systems safe yield. The USGS map shows this diversion as part of the Means Brook watershed with no stream channel below the diversion.

Stream Segment 102002063 (proposed Class 1) – Aquarion's Morehouse Brook Diversion is a registered diversion (0.839 mgd) constructed on this segment circa 1918 and consists of a one - two foot high structure that diverts flow from Morehouse Brook into a canal which carries the water to the East Branch of Cricker Brook and then into the Hemlocks Reservoir. Leakage and flow that exceeds the height of the diversion continues downstream in Morehouse Brook. The diversion represents approximately 1% of the watershed of the Hemlocks Reservoir System (Hemlocks, Aspetuck and Saugatuck Reservoirs).

Stream Segment 102000976 (proposed Class 2) – The North Poorhouse Brook Diversion is a registered diversion (12 mgd) constructed on this segment circa 1981 and diverts water from North Poorhouse Brook through a 24-inch pipeline and ultimately into the North Stamford Reservoir. The diversion represents approximately 2% of the

watershed of the Stamford Reservoir System (North Stamford, Laurel, Mill, Trinity and Siscowit Reservoirs).

Stream Segment 10200514 (proposed Class 2) – The Converse Brook Diversion was constructed circa 1911 and diverts water from this segment through a 6-foot diameter aqueduct that empties into Horseneck Brook upstream of Putnam Reservoir in Greenwich. The reported capacity of the diversion is 46 mgd and leakage rate through the diversion structure was historically estimated at 57 gpm. The watershed above the diversion is 3.64 square miles and includes Converse Lake, an emergency supply. This represents more than 10% of the watershed of the Greenwich Reservoir System (Putnam, Rockwood, Bargh, Brush and Mianus Reservoirs) and therefore contributes significantly to the system's safe yield.

Thank you for your consideration of Aquarion's comments on the proposed Stream Flow Classifications for the Housatonic, Hudson, and Southwest Coastal River Basins. We understand that these classifications are important and complex issues and would welcome the opportunity to meet with the Department to review these comments in more detail.

If you have any questions regarding these comments, please call me at (203) 362-3055.

Sincerely,

Daniel R. Lawrence, P.E.
Director
Engineering and Planning