

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** September 14, 2022  
**SUBJECT:** Five-Year Waiver of Entrance Fee

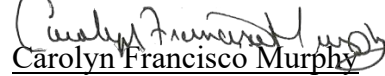
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**COMMITTEE:** Water Policy and Oversight

Matthew Horan, Deputy Director of Finance/Treasurer  
Rebecca Weidman, Director, Env. and Reg. Affairs  
Stephen Estes-Smargiassi, Director, Planning and Sustainability  
Preparer/Title

         INFORMATION

VOTE

  
Carolyn Francisco Murphy

General Counsel

  
David W. Coppes, PE

Chief Operating Officer

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### RECOMMENDATION:

That the Board of Directors approve revisions to MWRA Policy OP.10: Admission of New Community to MWRA Water System, to permit a waiver of MWRA's Entrance Fee, under certain conditions, for communities entering the system or purchasing additional water during the next 5 years, as further set forth herein. The five-year waiver would extend through calendar year 2027. Communities seeking the entrance fee waiver would need to show that they are seeking admission to or additional water supply from MWRA because their local sources are impacted by water quality issues, their water supply is located in a stressed basin, or local economic development is significantly constrained by their existing water supply. Communities will be responsible for the cost of connecting to MWRA's system. A total maximum of 20 million gallons per day would be available under this waiver for communities that are not currently members of MWRA. There is no volume limit for communities that are currently members of the MWRA water system.

### DISCUSSION:

Communities across the Commonwealth are currently faced with a variety of issues related to their local water supplies. Regulations for emerging contaminants such as per- and polyfluoroalkyl substances (PFAS) have resulted in public water suppliers contemplating new or additional water treatment. The Commonwealth is also in the midst of the second drought in six years. Communities in the midst of dealing with water quality or quantity issues have limited opportunity to grow their local economies, including those communities growing in an environmentally sustainable way, when water supplies become limited or unreliable.

MWRA considers itself a resource for all of the Commonwealth, but it has become clear that the current requirement that new communities pay an entrance fee has been a substantial impediment. Recognizing this, after a substantial review and discussion process, the MWRA Advisory Board voted in June to recommend that the entrance fee be waived for those communities entering during a limited time (5 years) and up to a total volume of 20 million gallons per day. (Attachment II is a letter from the MWRA Advisory Board with the exact language of the vote and a link to the extensive materials used during their evaluation of the policy.)

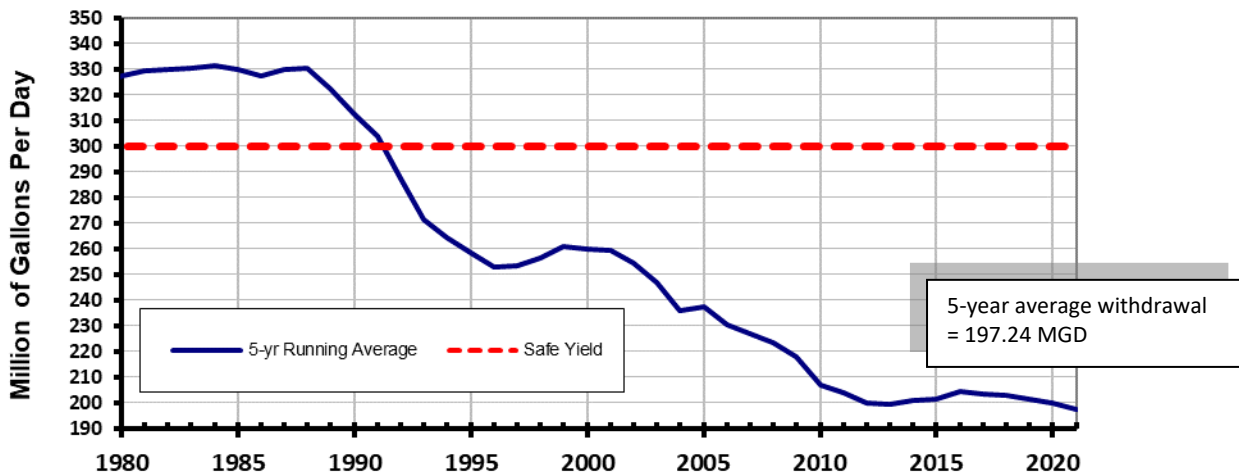
Making this change will help ensure that MWRA is viewed by communities throughout the Commonwealth as a resource available to local water suppliers as they determine long-term solutions for providing safe drinking water into the future.

### The Water is Available: Safe Yield

A key question in any discussion of system expansion is whether there is and will be adequate reliable supply for both our current users and any new users admitted. This question is answered by comparing the system's safe yield with conservative projections of future demand.

The safe yield of the Quabbin Reservoir, Ware River and Wachusett Reservoir system is 300 million gallons per day. This means that the system would be able to continue to supply an average of 300 MGD even during a severe drought: This safe yield was based on modeling of the multi-year drought of the 1960's considered to be about a 1 in 400 year occurrence event<sup>1</sup>. The safe yield modeling accounts for system operations during various weather conditions, and anticipates and accounts for the expected increase in use of MWRA water by our partial users and emergency users during drought conditions.

Water demand on the MWRA system has decreased dramatically since its creation in 1985 due to aggressive demand management programs, increased costs of water, sewer and energy, and national trends toward more efficient appliance and fixtures. Water use has decreased from around 340 MGD in the early 1980's to a 5-year average of 197 MGD in 2021, despite the increases in regional population and employment, and the addition of 8 new communities and the McLaughlin Fish Hatchery to the system during that time<sup>2</sup>.



As part of development of MWRA's Waterworks System Master Plan, staff work with regional planning agencies and others to examine population and employment trends and project future

<sup>1</sup> Staff have also evaluated the expected performance of the reservoir system under future climate change conditions. Modeling indicates that due to the large multi-year storage capacity of the system it will likely see a small increase in safe yield with increased precipitation amounts despite the expected increased variability of "wetter wets and drier dries."

<sup>2</sup> Without the added communities and hatchery demands, the five-year average demand would have been almost nine MGD lower at 188.6 MGD. This further demonstrates the substantial improvements in water use efficiency within the MWRA service area, which has improved system reliability and allowed MWRA to provide service to additional communities in need of that reliable supply.

water use. For the purposes of examining the implications of system expansion, staff use a series of conservative assumptions including that current users will experience no further increases in water use efficiency, that any new population will use the state standard of 65 gallons per person, rather than the region’s current use of 10 to 20 percent lower than that, and that new businesses will be no more water efficient than current businesses. MWRA’s most recent Master Plan (2018) indicates that new growth through 2040 within the service area will use no more than around 29 MGD, and likely less. Staff’s projections also assume that our partial user communities may need to rely on MWRA for additional supply: the Master Plan includes a long term average of 17 MGD for increased use by partial users. This assumes that there may be periods when communities take more water while upgrading treatment and that some sources in more stressed basins may be used less in the future.

The Master Plan estimated that based on the then current 50-year demand of 203 MGD, that over 50 MGD of capacity was available. As demand has continued to decrease, even that figure seems conservative. Staff are comfortable from a supply system reliability perspective with the Advisory Board’s recommendation of no more than a total maximum of 20 MGD for new communities (“Maximum Amount”). Staff are not recommending a specific limit on any additional volumes for existing communities as the Master Plan’s conservative water use projections already incorporate projected new residential and commercial growth in the communities.

**Table 4-6 Summary of Conservative Demand Projections**  
(from 2018 Water Master Plan)

|  |                |
|--|----------------|
| Current demand within the service area (5-year average)                    | 203 MGD        |
| Potential growth due to increased population and employment                | 29 MGD         |
| Contingency for potential increase in demand from partial user communities | 17 MGD         |
| <b>TOTAL PROJECTED DEMAND IN 2040</b>                                      | <b>249 MGD</b> |
| MWRA Supply System Safe Yield  | 300 MGD        |
| <b>AVAILABLE MARGIN</b>  | <b>51 MGD</b>  |

### Costs and Revenue Implications

Many communities exploring admission to MWRA’s water system have indicated that the existing Entrance Fee is an obstacle to joining MWRA. The Entrance Fee alone may be equivalent to the cost of installing additional treatment required to meet drinking water standards. The Entrance Fee does not include the infrastructure costs required to connect to MWRA’s system, which can also be equal to or greater than the Entrance Fee. The following analysis looks at the financial implications of waiving the Entrance Fee.

Each fiscal year, MWRA develops new water and sewer rate revenue requirements that are sufficient to meet its current expenses, which includes debt service and operating costs. The total rate revenue requirement from the member communities is the difference between the total of current expenses less non-rate revenue (i.e. investment income, energy credits, etc.). MWRA calculates water assessments for each community by apportioning the total water rate revenue requirement to each community based on their share of total water use for the most recent calendar year.

As outlined in the next section, the production of additional volumes of water will not increase MWRA costs significantly (the marginal increase in cost for a million gallons is between 2.5%

and 4.1% of our current charge per million gallons). Since the rate revenue assessment is based on each user’s share of the system, when a new community is added all the other communities’ shares are reduced. This system share reduction results in lower assessment for the existing communities. The tables below provide detail on the one-year and 25-year impact of new usage totaling 5 MGD and 20 MGD, based off of the calendar 2021 water usage. More detailed projections prepared during the Advisory Board’s review process for various quantities of use are available at the link in Attachment II. All show that the foregone entrance fee revenue is more than made up by the shift in communities’ shares that will occur with the additional water use of new communities.

|                | <b>Usage</b> | <b>FY23 System Share</b> | <b>Revenue Reallocated</b> | <b>Current Entrance Fee</b> |
|----------------|--------------|--------------------------|----------------------------|-----------------------------|
| <b>1-Year</b>  | 5 MGD        | 2.85%                    | \$ 8,205,923               | \$ 961,045                  |
|                | 20 MGD       | 10.49%                   | \$ 30,241,437              | \$ 3,581,053                |
| <b>25-Year</b> | 5 MGD        | 2.85%                    | \$ 205,148,075             | \$ 21,142,990               |
|                | 20 MGD       | 10.49%                   | \$ 756,035,925             | \$ 78,783,166               |

As shown in the table above, based on calendar year 2021 water usage, new communities using 20 MGD would be charged approximately \$30.2 million, which would proportionally reduce the assessments to the other member communities. Over 25-years that could provide a benefit of \$756 million in reduced assessments to the existing members. Under this proposed change, the entrance fees shown above would not be received by MWRA. For example, the loss in entrance fees over a 25 year period for a new 20 MGD user would be \$78.8 million; this is more than offset by the anticipated reallocation of revenue between existing customers over this period of nearly \$756 million. It is important to note, that to the extent that the entrance fee has frequently been a major impediment causing communities to not join the MWRA system, MWRA communities have neither received the entrance fee nor the beneficial shift in rate revenue shares. Attachment III to this staff summary details the impact of a new 5 MGD and 20 MGD customers to the assessments of each of the existing members based on the FY23 assessment.

Marginal Costs of Suppling More Water

Staff reviewed cost and flow data for fiscal years 2019 to 2021 to develop the estimated marginal (variable) cost of additional water sales. All major cost categories were examined to assess if they would be likely to change with additional water sales to new MWRA communities. Most of the larger cost centers, such as staffing, will not vary; the primary variable costs will be marginal costs of treatment (additional chemicals and utilities) at the John J. Carroll Water Treatment Plant, and the energy cost of pumping in the metropolitan system (assuming some new users would likely be within one of MWRA’s pumped pressure zones). There would also be an incremental, but small, revenue from additional hydroelectric generation as additional water is moved from Quabbin to Wachusett and from Wachusett to the treatment plant.

The net marginal cost of delivering a new million gallons of water to a community in one of the pumped pressure zones would be approximately of \$178 per million gallons. The prevailing rate for water is \$4,387.28 per million gallons, so net marginal costs are around 4.1% of total costs. Delivery to a non-pumped pressure zone would have a lower net marginal cost \$110 per million

gallons or 2.5%. The marginal cost of delivering additional water is minimal for either pumped or non-pumped pressure zones of MWRA's system.

### Bond Disclosures and Credit Rating

The recommended change to the entrance fee policy is not expected to negatively affect MWRA's credit worthiness. Since MWRA's current bond disclosures include a discussion of the entrance fee and due to the potential revenue impact, staff discussed the proposed changes with MWRA's bond counsel, financial advisor and with credit analysts from the rating agencies. The Enabling Act and General Revenue Bond Resolution include provisions requiring the MWRA, in setting its charges, to give account to a number of factors, including reasonable provisions to reflect the local bodies' disproportionate historic investment in the system. After review of those provisions, bond counsel indicated that current withdrawals from the Waterworks System are and have been below the safe yield, which is very different from when MWRA was created (and the Bond Resolution was adopted). As a result, MWRA could determine that in light of these changed circumstances (and possibly others), it is an appropriate time to revisit its admission policy. In revisiting the policy, MWRA would need to consider the factors listed in the Enabling Act and the Bond Resolution, but could weigh these factors differently considering the changed circumstances.

MWRA's financial advisor generally believed that the financial benefit of new members to share in the water systems costs in perpetuity was greater than the potential loss of the entrance fee, particularly if that fee is keeping a community from joining. MWRA's financial advisor also noted that diversifying the rate base with new customers could be seen as a credit positive by the bond markets. Generally the credit rating analysts focused on the potential impact to MWRA's financial metrics, and the potential risks to operations and safe yield from this change in policy. The financial metrics discussion primarily focused on whether these changes would result in significant increases to capital spending or operating costs, which would cause additional rate pressures and reduced operating margins. The rating agency analysts particularly focused on the impact to safe yield capacity and its potential impact on supply and growth on the existing members. Based on the safe yield analysis discussed above, they believed MWRA was monitoring this potential impact. Since providing additional water will likely have limited impact to operating/capital costs or on operations/safe yield, the credit analysts indicated that the proposed change should not impact MWRA's credit ratings adversely.

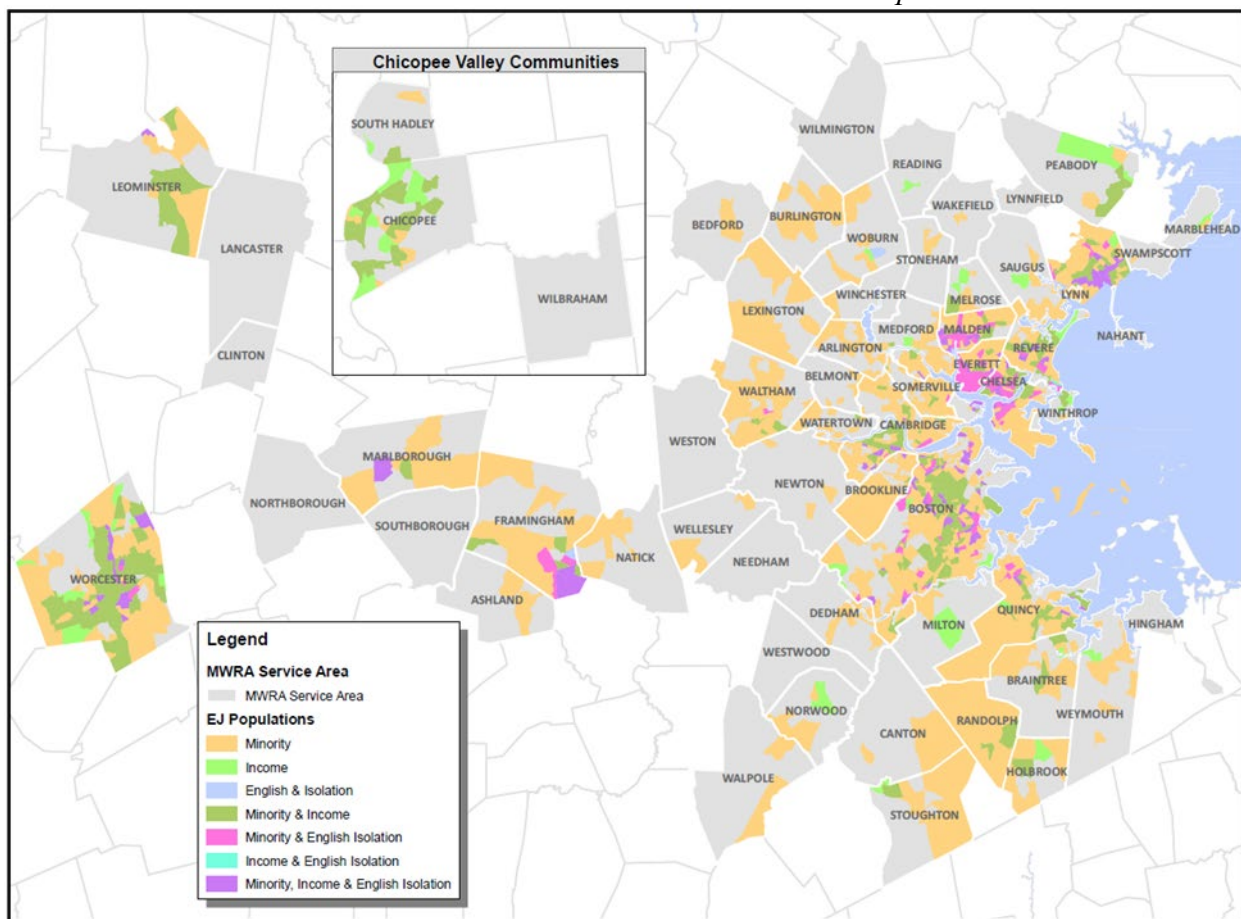
### Environmental Justice and Environmental Sustainability

The admission of a new community to the MWRA system requires a substantive public review process: environmental justice and sustainability concerns will be required to be considered and documented, but initially seem unlikely to be adversely affected by the proposed change in the entrance fee policy.

MWRA's Admission Process, as set forth in Operating Policy #10 (OP.10) requires any community seeking admission to MWRA to receive certification from the Secretary of the Executive Office of Energy and Environmental Affairs that a Massachusetts Environmental Policy Act (MEPA) review has been satisfactorily completed, and an Interbasin Transfer Act approval from the Water Resource Commission (WRC) has been obtained. This information is required to be included in the applicant's admission package and is available for review during the admission process.

The goal of a MEPA review is to avoid, minimize, and mitigate damage to the environment associated with the project to the maximum extent possible. Projects requiring MEPA review require project proponents to take additional measures to improve public participation by Environmental Justice (EJ) populations located within one mile of a project or within five miles of a project if it will impact air quality. Such measures may include reaching out to EJ population contacts identified by the MEPA office, translating key documents, providing translation services at public meetings, and requiring public meetings to be held at locations accessible by public transportation. Additionally, most MEPA filings for projects within close proximity to an EJ population will now require the development of an Environmental Impact Report (EIR). These EIRs must include an assessment of existing unfair or inequitable environmental burden, an analysis of project impacts to determine disproportionate adverse effects, and an analysis of project impacts to determine climate change effects to surrounding EJ populations.

*MWRA Service Area and Environmental Justice Populations*



A significant portion of MWRA’s service area includes EJ populations. Adverse impacts to EJ populations within and outside of our service area are likely to occur only during construction of new infrastructure. Adding additional communities to MWRA’s system will reduce the share of total costs borne by all member communities, as discussed above. This would be a significant benefit to EJ populations designated as such because of income.

Project proponents undergoing the MEPA review process must also complete an assessment using the Massachusetts Climate Resilience Design Standards Tool. This tool provides: a rating of climate change exposure and risk; provides recommended climate resilience design standards for projects with physical assets; and provides guidance of best practices to support implementation. As noted previously, the incremental energy and chemical resources necessary for each additional million gallons of water produced is minimal. This incremental use of resources is likely to be significantly less than the resources required to build, operate, and maintain a new treatment plant or adding additional treatment to an existing facility.

The Massachusetts Interbasin Transfer Act (M.G.L. Ch. 21 §§8B-8D) gives the WRC authority to approve or deny transfers of water or wastewater outside of its river basin of origin. The purpose of the Act is to assure that any transfer of water or wastewater from a river basin is done in a way that protects the water-dependent resources of the donor basin. MWRA maintains releases from both the Quabbin and Wachusett Reservoirs even during drought conditions. Many rivers and streams in the Commonwealth experience chronic low flows which can potentially degrade fisheries, wetlands, water-based recreation and other water-dependent resources. Use of MWRA water to replace or supplement use of local sources can serve to improve conditions in the receiving basin.

The Interbasin Transfer Act requires that the WRC base its decision to approve an Interbasin Transfer, on finding that, at a minimum:

- all reasonable efforts have been made to identify and develop all viable sources in the receiving area of the proposed interbasin transfer;
- all practical measures to conserve water have been taken in the receiving area;
- a MEPA environmental review has been completed for the proposed interbasin transfer;
- a comprehensive forestry management program which balances water yields, wildlife habitat and natural beauty on watershed lands presently serving the receiving area has been implemented; and
- a reasonable instream flow is maintained in the river from which the water is diverted.

In summary, the existing Admission Policy, OP.10 provides a robust assessment of any environmental and EJ population impacts resulting from the admission of a new community, or a request from an existing contract community to purchase additional water.

#### Admission Process and Eligibility for Entrance Fee Waiver Criteria

Any community that has obtained the approval of the MWRA Board of Directors of its Admission Application on or before December 31, 2027, will be eligible for a waiver of the Entrance Fee unless for new communities the Maximum Amount has been reached prior to this date.

MWRA's Admission Process, as set forth in Operating Policy #10 (OP.10), would remain largely unchanged with the exception of the addition of a Rider (Attachment I) which would include the temporary provision for a waiver of the Entrance Fee. Should a community meet at least one of the following criteria (detailed more fully below), it may request a waiver of the Entrance Fee:

- local sources are impacted by water quality issues,
- local sources are located in a stressed basin, and/or
- local economic development is significantly constrained by their existing water supply.

### *Water Quality/Public Health Concerns (e.g., PFAS)*

In reviewing this criterion, staff will consider any documentation developed for a Massachusetts' Drinking Water State Revolving Fund (SRF) application<sup>3</sup> in addition to information developed in community master plans or environmental review documents. Communities seeking a waiver based on a public health concern must be able to document that joining MWRA will help to address or correct:

- an exceedance of a Final or Proposed USEPA or MassDEP Maximum Contaminant Level, Treatment Technique, Maximum Residual Disinfectant Level, Action Level, or MassDEP Office of Research and Standards Guideline Level (SRF Tier V projects)
- an imminent threat to the reliable delivery of drinking water to a population, including threats caused by expected climate change impacts (SRF Tier IV projects) ; or
- water quality conditions as a result of Secondary Maximum Contaminant Level exceedances that make the water currently provided to customers aesthetically unfit to drink and result in consumers using or seeking an alternative water supply (SRF Tier III projects).

### *Stressed Basin*

Communities seeking a waiver based on being located within a stressed basin must be able to establish and document that the community is located within a net groundwater depleted sub basin or basin with significant streamflow alteration due to water withdrawals. Communities should utilize available studies, U.S. Geological Survey stream gauges and GIS mapping tools, such as those provided in the Sustainable Water Management Initiative Interactive Tool<sup>4</sup> to document the status of local water resources.

### *Economic Development*

Communities seeking a waiver based on economic development constraints must be able to establish and document that current water supplies are not adequate to address planned or expanded development within the community. Communities must provide any applicable local Economic Development Plans, regulatory filings, such as a MEPA review, and other relevant documentation, showing the need for additional water supplies to support development. Supporting materials must also include a discussion of how the admission to MWRA supports approved local and regional plans or encourages high-density, transit-oriented development.

### Conclusion

For the reasons and upon the conditions set forth in this staff summary and the supporting materials, staff recommend this temporary waiver of the Entrance Fee. If approved by the Board,

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<sup>3</sup> Drinking Water State Revolving Loan Fund 2023 Construction Evaluation Form. Guidance and Instructions. <https://www.srfmadep.com/state-revolving-fund-applications-forms/dw/dwpef.pdf>.

<sup>4</sup> <https://mass-coeca.maps.arcgis.com/apps/webappviewer/index.html?id=c4fd3ee7ab5544bbaa9d81eb47ffbc7a>



staff will add a Rider to MWRA Policy OP #10, substantially in the form attached as Attachment I, to implement waiver requests. For new communities seeking to join the MWRA water system the Rider will automatically terminate on December 31, 2027 or the day the Maximum Amount has been reached, whichever is sooner. For communities currently members of the MWRA water system that are seeking to purchase additional water the Rider will automatically terminate on December 31, 2027.

**BUDGET/FISCAL IMPACTS:**

Waiving MWRA's Entrance Fee may encourage additional communities to join MWRA. The reallocation of the rate revenue requirement as a result of selling additional water is a significant benefit that will offset the potential loss of the more limited revenue associated with the collection of an Entrance Fee. If a waiver of the Entrance Fee encourages the sale of an additional 5 MGD of water, over a period of 25 years, based on the FY23 rate revenue requirement, this would provide approximately \$204.5 million in revenue from new customers, which would reduce the existing communities' shares of the system.

**ATTACHMENTS:**

Attachment I - Redline version of OP.10 with draft Rider

Attachment II - Letter from MWRA Advisory Board with vote and results

Attachment III - Impact of 5 MGD and 20 MGD on FY23 Assessments by Community



## Admission of New Community to MWRA Water System

### Policy #: OP.10

|   |                                    |
|---|------------------------------------|
| <b>Effective Date:</b> <del>November 12, 2014</del> <sup>1</sup>  | <b>Last Revised:</b><br>11/12/2014 |
| <b>Contact:</b> Planning Department, Operations   | <b>Former Policy #:</b><br>OP.10   |
| <b>Reviewed by Chief Operating Officer:</b> <del>Michael J. Hornbrook</del><br><u>David W. Coppes, P.E.</u> | <b>Date:</b> 11/12/2014            |
| <b>Reviewed by Internal Audit:</b> <del>John A. Mahoney</del><br><u>Claude Cormier</u>                      | <b>Date:</b> 11/12/2014            |
| <b>Approved by Executive Director:</b> Frederick A. Laskey  | <b>Date:</b> 11/12/2014            |

**Purpose** This policy explains the criteria and process the MWRA will use to evaluate a request for admission of a new community to the MWRA water system and requests from state, county, institutional and federal facilities for water service to locations in communities not included in section 8 (d) of MWRA's Enabling Act (St.1984, c.372).

**Eligibility** This policy applies to communities seeking admission to the MWRA water system, and to state, county, institutional, and federal facilities seeking MWRA water for a location outside MWRA's water service area as set forth in section 8 (d) of MWRA's Enabling Act (St.1984, c.372).

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<sup>1</sup> This revision adds "Policy #: OP.10 Rider One --Entrance Fees" dated \_\_\_\_\_.

# Admission of New Community to MWRA Water System (OP.10), Continued

**In this Policy** This policy contains the following parts:

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## Admission of New Community to MWRA Water System (OP.10), Continued

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### Admission Criteria

In evaluating whether to permit the admission of new communities to the MWRA waterworks system, the MWRA must evaluate the following two groups of criteria:

#### A. Enabling Act Criteria

- The MWRA must, in accordance with Section 8 (d) of Chapter 372 of the Acts of 1984, find that the following six criteria are met:
  - The safe yield of the watershed system, on the advice of the MDC, is sufficient to meet the new community's demand.
  - No existing or potential water supply source for the community has been abandoned, unless the Department of Environmental Protection (DEP) has declared that the source is unfit for drinking and cannot be economically restored for drinking purposes.
  - A water management plan has been adopted by the community and approved by the Water Resources Commission.
  - Effective demand management measures have been developed by the community, including the establishment of leak detection and other appropriate system rehabilitation programs.
  - A local water supply source feasible for development has not been identified by the community or DEP.
  - A water use survey has been completed which identifies all users within the community that consume in excess of twenty million gallons a year.
- Admission of the applicant community into the MWRA has received approval from the MWRA Advisory Board, the General Court, and the Governor.
- An applicant community has accepted the extension of MWRA's water system to the community by majority vote of the city council if a city or a majority vote of the town meeting if a town.

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## Admission of New Community to MWRA Water System (OP.10), Continued

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### Admission Criteria continued

- Providing water service to a state, county, institutional or federal facility outside MWRA's water service area has received approval from the MWRA Advisory Board.
- B. Other Criteria
- Any expansion of the MWRA water service system shall strive for no negative impact on the interests of the current MWRA water communities, water quality, hydraulic performance of the MWRA water system, the environment, or on the interests of the watershed communities; shall attempt to achieve economic benefit for existing user communities; and shall preserve the rights of the existing member communities. Any evaluation of the impacts of new communities shall clearly evaluate all changes to system reliability.
  - The applicant community has met all legal requirements for admission; and
  - Upon admission, the applicant community will pay fair compensation for past investment in the MWRA waterworks system by existing user communities.
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### Application Process

A. Application

An applicant shall submit three copies of a completed application to the MWRA Executive Director for review. A copy shall also be submitted to the MWRA Advisory Board. MWRA staff will review and evaluate the completed application to determine whether the requirements of the Enabling Act and additional requirements can be met, and whether water service can be provided by MWRA without jeopardizing standards and requirements set forth in this policy.

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## Admission of New Community to MWRA Water System (OP.10), Continued

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### Application Process, continued

#### B. Requirements

- In a formal application for entrance to the MWRA waterworks system, an applicant community must provide detailed documentation to enable MWRA to make the necessary findings required by MWRA's Enabling Act (Section 8 (d) of St.1984, c.372).

In addition to providing documentation for the Section 8 (d) findings above, the applicant must provide the following.

- Documentation of approvals from the Secretary of Environmental Affairs in the MEPA process, the Water Resources Commission in the Interbasin Transfer Act process, the MWRA Advisory Board, the DEP on local source feasibility, the General Court, and the Governor. Prior to a formal application to MWRA, MWRA will strive to streamline the approval process, by review of application material concurrently with other approval processes, and by coordination with state agencies to document environmental and hydraulic impacts on MWRA's system.
- A detailed description of the water conservation and water accountability programs undertaken by the community and other entities including: leak detection and repair, commercial and industrial water conservation, residential water conservation efforts, large meter downsizing, meter replacement, municipal facility conservation, unaccounted-for water analysis (present data for UAW levels in last 3 years), true cost pricing and conservation based pricing for water and sewer service.
- Communities shall provide a plan for water conservation. MWRA encourages communities to have a plan that adheres to the Commonwealth's water conservation standards, including guidelines for lawn and landscapes. (Enforcement shall be the responsibility of the Water Resources Commission (WRC), Department of Environmental Protection (DEP) and other Commonwealth agencies.)
- A description (and copy) of municipal zoning and non-zoning measures designed to protect local sources of supply with a comparison showing how they meet DEP's regulations and policies for adequate water supply protection measures.

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## Admission of New Community to MWRA Water System (OP.10), Continued

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### Application Process, continued

- Copies of any studies conducted on existing and potential local water source safe yield, protection needs, contamination threats, and water demand forecasts. If no studies are available on a potential local source known to the community or DEP, then the applicant should prepare documentation on estimated safe yield, protection needs and contamination threats, even for those sources previously determined to be infeasible to develop.
- A disaggregation of the community's total water consumption by customer class: residential, industrial, commercial, municipal facilities, unaccounted-for, other, and agricultural. A listing of large customers using over one million gallons a year should be provided.
- A Local Water Supply Management Plan if the applicant is a community. For a plan contents, refer to Attachment A. A Water Management Plan approved by the Water Resources Commission will also satisfy MWRA's Local Water Supply Management Plan requirement. A community's application must address how the requested connection is consistent with the stated objectives of the community's Local Water Supply Management Plan.

All other applicants (*i.e.*, state, county, institutional, and federal facilities) must address how the proposed water connection/water use is consistent with a Local Water Supply Management Plan, if it exists. MWRA also reserves the right to reject applications for those cases in which the community does not have a Local Water Supply Management Plan.

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## Admission of New Community to MWRA Water System (OP.10), Continued

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### Application Process, continued

#### C. MWRA Review of Application

Upon receipt of an application for admission to the waterworks system the MWRA will:

- Review the application's documentation on the necessary findings required by the MWRA's Enabling Act, and other criteria listed in the Admission Criteria.
- Review documentation submitted pursuant to the Requirements section of this Policy (Section B.) to help determine if MWRA can make the findings required listed in Admission Criteria.
- Analyze the applicant's demand impact on the MWRA waterworks system and consider the projected long-term demand of the system with the new community and contrast it to the MWRA's operations through average, wet and drought scenarios. The analysis must include the possibility of increased usage of MWRA supplies by partially supplied and non-MWRA communities due to drought conditions. Impacts on service to other community connections under various hydraulic conditions and to reservoir and watershed conditions must also be evaluated.
- Upon the request of the applicant, and subsequent to the completion of application review by MWRA staff and following consultation with the Advisory Board, submit a status report to the Board of Directors to inform it of the request, staffs' review and the status of other pending permits or approvals.

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## Admission of New Community to MWRA Water System (OP.10), Continued

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### Application Process, continued

#### D. Concurrent Reviews

Other regulatory approvals or permits may be required before a request for service may be approved. It is the responsibility of the applicant to obtain all such approvals. Copies of all applications or requests for regulatory approval shall be submitted to the MWRA as early as practicable to facilitate MWRA review of the request. MWRA will cooperate with other regulatory agencies to coordinate its review where possible, and will review and comment in other regulatory processes as appropriate. Final action by MWRA cannot be taken until the following regulatory approvals, where required, have been obtained.

- Massachusetts Environmental Policy Act – Executive Office of Environmental Affairs
- Interbasin Transfer Act - Water Resources Commission
- Local water supply source feasibility - Massachusetts Department of Environmental Protection

#### E. Legislation

Legislation is required to extend MWRA's water system to a local body not listed in Section 8 (d). Proposed legislation should be submitted to MWRA for review before filing. MWRA may require that certain conditions be included in the proposed legislation.

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*Continued on next page*

## Admission of New Community to MWRA Water System (OP.10), Continued

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### **Water Supply Agreement**

If MWRA approves the request for new service, it will establish appropriate terms and conditions of service in the form of a water supply agreement for an initial term of five years. The agreement will be consistent with MWRA's Continuation of Contract Water Supply regulations (360 CMR 11.00). Before contract renewal, MWRA will reevaluate and assess the status of the community's demand management efforts.

The agreement will set forth as appropriate:

- Firm limits on usage, including average and maximum daily use of MWRA water and a stipulation that any increase beyond the stated amounts would require a contract revision and recalculation of the entrance fee. Any significant increase will also require new approval by the MWRA Advisory Board and MWRA Board of Directors.
- A requirement that the applicant assume all costs of connection and pay an entrance fee.
- A requirement that the applicant continue to use all local non-MWRA sources of water to the maximum feasible extent.
- A requirement that the applicant continue to implement all practicable conservation measures. Communities shall be encouraged to adhere to the Commonwealth's water conservation standards, including guidelines for lawn and landscapes, and follow the MWRA's regulations for Leak Detection (360 C.M.R. 12.00).
- A requirement that the community protect local sources of supply in accordance with DEP's guidelines for water supply protection measures.
- Other conditions as may be appropriate.

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*Continued on next page*

## **Admission of New Community to MWRA Water System (OP.10),** Continued

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**Waivers**     The MWRA may, in its discretion, waive any of the conditions or requirements set forth in this Policy and Procedure, not otherwise mandated by law or regulation, if it finds that the community has demonstrated unusual factors or extraordinary circumstances which would make imposition of the condition or requirement upon that community unfair or inappropriate and finds that the proposed action will not jeopardize the MWRA's ability to supply its water communities.

Connection Costs and Entrance Fees outlined in the following sections shall not be waived.

**Entrance Fees**

The MWRA will charge an entrance fee to cover the new community’s fair share of the costs of the waterworks system in place at the time user joins. The entrance fee may be paid in one lump sum, or may be paid pursuant to up to a 25-year, interest-free payment plan with a grace period for the first three years, with payments to be made in years 4-25. The 25-year, interest-free payment plan shall be subject to review by the Board of Directors every five years. To be eligible for this multi-year, interest-free payment plan, a new community must take substantive steps toward admission to the MWRA prior to the adoption of any revised policy by the Board of Directors. Substantive steps include any of the following: affirmative vote to join MWRA by Town Meeting, City Council or Board of Directors, or submission of MEPA documentation indicating MWRA is the preferred option and subsequent completion of MEPA process in a timely manner.

New communities joining the MWRA waterworks system as well as communities admitted to the MWRA since 2002 who desire to increase their MWRA-approved withdrawal shall be eligible for the interest-free payment plan. The entrance fee recovers the new user's proportional share of the waterworks system's asset base, which has already been paid for by the existing users of the system. The net asset value charge will be determined through allocating 25% of the net asset value to peak use and the remaining 75% to average use.

MWRA system average annual use and peak six-month average use will be based upon the prior five calendar years of average of water consumption. The user’s projected need for MWRA water will be based upon a detailed analysis of local supplies and shortfalls. Its average annual use and peak six-month average use may be based upon its projected need, but in no case shall the projected need be more than the amount approved under MEPA and the Interbasin Transfer Act. Firm contract limits will be established based upon the usage volumes used in the entrance fee calculation.

The formula is as follows:

75% of NAV Allocated to Average Use +25% of NAV Allocated to Peak Six-month system use = Total Entrance Fee

*Average Use*

$$\frac{\text{New user's projected MWRA "average use" needs}}{\text{System "average use"}} \times \text{NAV of Total Waterworks System}$$

*Peak Use*

$$\frac{\text{New user's projected MWRA "peak use" needs}}{\text{System "peak use"}} \times \text{NAV of Total Waterworks System}$$

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**Entrance Fees,  
continued**

If the applicant community has purchased MWRA water under an emergency supply agreement and has paid charges, which include asset value contributions, then those contributions will be treated as credits against the total entrance fee. Payments of premium charges under an emergency supply agreement are not credited against the entrance fee.

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**Connections  
and Connection  
Costs**

All new community water system connections shall be made directly to the MWRA transmission system wherever practical. The applicant community must pay all the costs of providing the connection. The MWRA will charge the costs to the new user as they are incurred, and as well as expenditures by MWRA for outside services necessary to make the connection. These costs may include, but are not limited to, costs of preliminary and final design, land acquisition, environmental review, pumping and storage facilities, and actual construction including construction services and resident inspection. The new user will pay only the connection cost incurred to serve its own needs. If other existing users will benefit from the new pipelines and facilities, the MWRA will assume an appropriate portion of the connection costs that will be added to the overall capital costs for water.

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**Application of  
Individual  
Users**

The MWRA Enabling Act allows for arrangements involving the extension of the waterworks system to any local body, institution, agency or facility of the commonwealth or federal government if MWRA finds that the additional demand will not jeopardize the delivery of water to existing users and the MWRA Advisory Board approves arrangements beyond six months in length. All requests from state, county, institutional, and federal facilities outside the water service area will be subject to the policies and procedures outlined above, including the payment of entrance fees and connection costs. Connections and withdrawals by private entities outside the water service area shall remain prohibited. In the event exceptions arise to this prohibition, the applicant will be subject to the policies and procedures outlined above and shall obtain approval from: the receiving community; the transporting community; regulatory bodies, where required; the MWRA Advisory Board; the MWRA Board of Directors; and the Governor and General Court.

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*Continued on next page*

## **Admission of New Community to MWRA Water System (OP.10),** Continued

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**Annual Update** MWRA staff shall provide an annual update to the MWRA Board of Directors on the status of any new connections (connections approved within the preceding five years) into the MWRA system. This annual update shall at a minimum include information regarding the proponent entity's compliance with the conditions of approvals as stipulated within the water supply agreement and/or other affiliated contractual arrangements with the MWRA; and the status of payments due to either the MWRA or the proponent entity.

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## **Attachment A**

### **Local Water Supply Management Plan Outline**

#### **Water Supply**

- Identify existing and potential water supplies in the community, zone II delineations, Interim Wellhead Protection Zones, and/or Zones A and B delineations for surface water sources, and watershed boundaries.
- Describe source water protection program, including compliance with DEP source water protection regulations.
- Identification of all water supply options, including compliance with DEP water protection regulations.
- Identification of all water supply options, including local, regional and conservation options.

#### **Regional Plans**

- Describe any existing regional or watershed plans and how these plans relate to the plans of the local community. Refer to reports and plans developed by regional planning agencies, local watershed associations, and other appropriate regional and/or non-governmental agencies.

#### **Future Plans**

- Analysis of existing zoning and master plan, including EOEAs build-out analyses available from Massachusetts GIS.
- Identification of future water and wastewater needs and various alternatives for meeting these needs.
- Summary and evaluation of water infrastructure plans based on build-out and future needs.
- Overall summary based on above information.

#### **Analysis and Conclusions**

- An action plan, with timetables for implementation of the recommendations of the plan, a budget, and identification of people responsible for implementation.

**DRAFT**

**Policy #: OP.10 Rider One--Entrance Fees**

**Dated: \_\_\_\_\_**

In accordance with the terms of this Policy #: OP.10 Rider One (“Rider”), and notwithstanding anything to the contrary in Policy #: OP.10, MWRA may, in its sole discretion, waive the Entrance Fee for: (a) one or more new communities to join the MWRA water system (“New Communities”); and (b) for one or more communities that are currently members of the MWRA water system to purchase additional water (“Additional Purchase Communities”).<sup>2</sup> This waiver is limited to a maximum total amount of 20 million gallons per day of water by one or more New Communities seeking entrance to the MWRA water system, which also seek a corresponding waiver of the Entrance Fee as reflected in a MWRA Board of Directors-approved Admission Application (“Maximum Amount”). The calculation of the Maximum Amount shall not include any amounts of water that may be approved by the MWRA Board of Directors for the Additional Purchase Communities. This Rider is effective as of \_\_\_\_\_, 2022. For New Communities seeking to join the MWRA water system this Rider shall automatically terminate on December 31, 2027, or the day the Maximum Amount has been reached, whichever is sooner. For Additional Purchase Communities that are seeking to purchase additional water this Rider shall automatically terminate on December 31, 2027.

**Admission Process and Eligibility Criteria:**

New Communities and Additional Purchase Communities requesting a waiver of the Entrance Fee must otherwise comply with MWRA Policy #: OP.10. New Communities and Additional Purchase Communities will be responsible for the cost of connecting to MWRA’s water system. New Communities and Additional Purchase Communities that have obtained the approval of the MWRA Board of Directors of its Admission Application on or before December 31, 2027 will be eligible for a waiver, unless for New Communities the Maximum Amount has been reached prior to this date. Additionally, New Communities and Additional Purchase Communities requesting a waiver of the Entrance Fee shall demonstrate that they meet one or more of the following eligibility criteria, as more fully described below:

1. local sources of water supply are impacted by water quality/public health concerns;
2. local sources of water supply are located in a stressed basin; and/or
3. local economic development is significantly constrained by their existing water supply.

1. Water Quality/Public Health Concerns (e.g., PFAS)

In reviewing for Entrance Fee waiver eligibility under this criterion, MWRA staff will consider any New Community or Additional Purchase Community documentation developed for a Massachusetts’

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<sup>2</sup> The Additional Purchase Communities each have been admitted to the MWRA water system under Policy #: OP.10, prior to the effective date of the Rider. The Additional Purchase Communities have Water Supply Agreements with MWRA, which contain conditions requiring, among other requirements, a revision to the applicable Entrance Fee if the community seeks an increase to volume of water that the community wishes withdraw from the MWRA water system. The Additional Purchase Communities are limited to the following municipalities: Ashland, Burlington, Dedham (Dedham Westwood Water District), Reading, Stoughton, Westwood (Dedham Westwood Water District), and Wilmington.



Drinking Water State Revolving Fund (“SRF”) application<sup>3</sup> in addition to information developed in community master plans or environmental review documents. New Communities and Additional Purchase Communities seeking an Entrance Fee waiver based on a public health concern must be able to document that joining MWRA will help to address or correct:

- an exceedance of a Final or Proposed EPA or Commonwealth of Massachusetts Maximum Contaminant Level, Treatment Technique, Maximum Residual Disinfectant Level, Action Level, or MassDEP Office of Research and Standards Guideline Level (SRF Tier V projects);
- an imminent threat to the reliable delivery of drinking water to a population, including threats caused by expected climate change impacts (SRF Tier IV projects); or
- water quality conditions as a result of Secondary Maximum Contaminant Level exceedances that make the water currently provided to customers aesthetically unfit to drink and result in consumers using or seeking an alternative water supply (SRF Tier III projects).

## 2. Stressed Basin

New Communities and Additional Purchase Communities seeking a waiver of the Entrance Fee based on being located within a stressed basin criterion must be able to establish and document that the community is located within a net groundwater depleted sub basin or basin with significant streamflow alteration due to water withdrawals. New Communities and Additional Purchase Communities should utilize available studies, U.S. Geological Survey stream gauges and GIS mapping tools, such as those provided in the Sustainable Water Management Initiative Interactive Tool<sup>4</sup> to document the status of local water resources.

## 3. Economic Development

New Communities and Additional Purchase Communities seeking a waiver of the Entrance Fee based on the economic development criterion, must be able to establish and document that current water supplies are not adequate to address planned or expanded development within the community. New Communities and Additional Purchase Communities must provide any applicable local Economic Development Plans, regulatory filings, such as a MEPA review, and other relevant documentation, showing the need for additional water supplies to support development. Supporting materials must also include a discussion of how the admission to MWRA supports approved local and regional plans or encourages high-density, transit-oriented development.

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<sup>3</sup> [Drinking Water State Revolving Loan Fund 2023 Construction Evaluation Form. Guidance and Instructions.](https://www.srfmadep.com/state-revolving-fund-applications-forms/dw/dwpef.pdf)

<sup>4</sup> <https://mass-coeca.maps.arcgis.com/apps/webappviewer/index.html?id=c4fd3ee7ab5544bbaa9d81eb47ffbc7a>



# Advocacy & Accountability

Representing Over 3 Million People in Massachusetts Communities Since 1985

June 24, 2022

## By email

Bethany A. Card, Chair, MWRA Board of Directors and Secretary of Energy & Environmental Affairs  
Frederick A. Laskey, Executive Director, MWRA

Re: Proposal to Modify MWRA Policy #OP.10

Dear Madam Secretary and Mr. Laskey:

At its meeting on June 16, 2022, the MWRA Advisory Board voted to recommend to the MWRA Board of Directors modifications to MWRA Policy #OP.10 – Admission of New Community to MWRA Water System. The language voted by the Advisory Board is as follows:

*Within five years from adoption by the MWRA Board of Directors...*

*...communities outside the MWRA service area seeking entrance into the MWRA water system, who are dealing with water quality/public health concerns (such as PFAS levels, restoration/protection of a depleted River Basin), or for the opportunity for increased economic development within the community and Commonwealth),...*

*shall be eligible for an entrance fee waiver...*

*...provided that any costs associated with connecting to the MWRA's water system are not to be funded or paid by MWRA, and the amount of new water sold shall not exceed 20 MGD.*

Discussion on this matter began at the MWRA's Executive Committee in the fall of 2021 and represented a thorough and active debate amongst the committee's members. After each discussion, there were additional requests for information, which Advisory Board staff provided in coordination with MWRA staff. At its February 11, 2022 meeting, the Executive Committee voted 11 members in favor and 5 opposed to bring the proposal to the full Advisory Board for discussion and a potential vote.

Discussion at the Advisory Board was similarly thorough, with new concerns and questions being raised. The Advisory Board, again in coordination with MWRA staff, provided responses to these requests, and the motion was made at the June 16<sup>th</sup> Advisory Board meeting. This vote was conducted as a weighted vote of the Advisory Board with voting members totaling 61.64% of total vote share present. Of the quorum present, 97.14% voted in favor (19 members) 2.013% opposed (2 members), and 0.825% abstained (1 member) to recommend these modifications to the MWRA Board of Directors for their consideration.

The detailed packet of information that was provided to Advisory Board members can be found on our website here:

<https://www.mwraadvisoryboard.com/document-library/information-packet-proposal-to-amend-mwra-policy-op-10-admission-of-a-new-community-to-mwra-water-system/>



## Advocacy & Accountability

*Representing Over 3 Million People in Massachusetts Communities Since 1985*

On behalf of the Advisory Board, I respectfully request that this proposal be brought to the MWRA Board of Directors for consideration, discussion, and hopefully adoption.

Please do not hesitate to contact Advisory Board staff with any questions.

Sincerely,

A handwritten signature in black ink that reads "Lou Taverna".

Lou Taverna

Chairman, MWRA Advisory Board

cc: MWRA Board of Directors  
MWRA Advisory Board Executive Committee

**Massachusetts Water Resources Authority**  
**Annual Impact of Additional Water Use: 5 MGD Customer**

FY23 Water Utility Rate Revenue Requirement \$288,304,865  
 Annual Entrance Fee Revenue \$961,045 (25 year payback, 3 year grace)  
 FY23 Water Utility Rate Revenue Requirement **\$287,343,820**

**Based On Current Customers**

**Based On Current Customers Plus  
 Additional 5 MGD Customer**

| MWRA WATER CUSTOMER       | Fiscal Year 2023      |                            | Calendar Year 2021         |                    | Fiscal Year 2023     | Calendar Year 2021    |  | Assessment Impact of New Water Use |                            |                    |
|---------------------------|-----------------------|----------------------------|----------------------------|--------------------|----------------------|-----------------------|--|------------------------------------|----------------------------|--------------------|
|                           | Base Water Assessment | Share of System Assessment | Adjusted Water Use (MG/YR) | Share of Water Use |                      | Base Water Assessment | Share of System Water Use and Assessment |                                    | Adjusted Water Use (MG/YR) | Share of Water Use |
| ARLINGTON                 | \$5,648,095           | 1.96%                      | 1,220.385                  | 1.96%              | \$5,469,043          | 1.90%                 | 1,220.385                                | 1.90%                              | -\$179,051                 | -3.2%              |
| ASHLAND                   | 0                     | 0.00%                      | 0.000                      | 0.00%              | 0                    | 0.00%                 | 0.000                                    | 0.00%                              | 0                          | #DIV/0!            |
| BELMONT                   | 3,134,847             | 1.09%                      | 677.347                    | 1.09%              | 3,035,469            | 1.06%                 | 677.347                                  | 1.06%                              | -99,378                    | -3.2%              |
| BOSTON (BWSC)             | 99,390,504            | 34.47%                     | 21,475.329                 | 34.47%             | 96,239,704           | 33.49%                | 21,475.329                               | 33.49%                             | -3,150,800                 | -3.2%              |
| BROOKLINE                 | 8,018,472             | 2.78%                      | 1,732.553                  | 2.78%              | 7,764,276            | 2.70%                 | 1,732.553                                | 2.70%                              | -254,195                   | -3.2%              |
| BURLINGTON                | 1,253,355             | 0.43%                      | 270.813                    | 0.43%              | 1,213,622            | 0.42%                 | 270.813                                  | 0.42%                              | -39,733                    | -3.2%              |
| CANTON                    | 2,022,211             | 0.70%                      | 436.940                    | 0.70%              | 1,958,104            | 0.68%                 | 436.940                                  | 0.68%                              | -64,107                    | -3.2%              |
| CHELSEA                   | 5,460,876             | 1.89%                      | 1,179.933                  | 1.89%              | 5,287,760            | 1.84%                 | 1,179.933                                | 1.84%                              | -173,116                   | -3.2%              |
| DEDHAM-WESTWOOD W.D.      | 256,078               | 0.09%                      | 55.331                     | 0.09%              | 247,960              | 0.09%                 | 55.331                                   | 0.09%                              | -8,118                     | -3.2%              |
| EVERETT                   | 6,422,774             | 2.23%                      | 1,387.770                  | 2.23%              | 6,219,164            | 2.16%                 | 1,387.770                                | 2.16%                              | -203,610                   | -3.2%              |
| FRAMINGHAM                | 9,531,024             | 3.31%                      | 2,059.370                  | 3.31%              | 9,228,879            | 3.21%                 | 2,059.370                                | 3.21%                              | -302,145                   | -3.2%              |
| LEOMINSTER                | 0                     | 0.00%                      | 0.000                      | 0.00%              | 0                    | 0.00%                 | 0.000                                    | 0.00%                              | 0                          | 0                  |
| LEXINGTON                 | 8,493,467             | 2.95%                      | 1,835.185                  | 2.95%              | 8,224,213            | 2.86%                 | 1,835.185                                | 2.86%                              | -269,253                   | -3.2%              |
| LYNN (LWSC)               | 187,732               | 0.07%                      | 40.563                     | 0.07%              | 181,781              | 0.06%                 | 40.563                                   | 0.06%                              | -5,951                     | -3.2%              |
| LYNNFIELD W.D.            | 865,543               | 0.30%                      | 187.018                    | 0.30%              | 838,104              | 0.29%                 | 187.018                                  | 0.29%                              | -27,439                    | -3.2%              |
| MALDEN                    | 8,758,033             | 3.04%                      | 1,892.350                  | 3.04%              | 8,480,393            | 2.95%                 | 1,892.350                                | 2.95%                              | -277,640                   | -3.2%              |
| MARBLEHEAD                | 2,941,372             | 1.02%                      | 635.543                    | 1.02%              | 2,848,127            | 0.99%                 | 635.543                                  | 0.99%                              | -93,245                    | -3.2%              |
| MARLBOROUGH               | 6,733,069             | 2.34%                      | 1,454.816                  | 2.34%              | 6,519,622            | 2.27%                 | 1,454.816                                | 2.27%                              | -213,446                   | -3.2%              |
| MEDFORD                   | 7,666,268             | 2.66%                      | 1,656.452                  | 2.66%              | 7,423,238            | 2.58%                 | 1,656.452                                | 2.58%                              | -243,030                   | -3.2%              |
| MELROSE                   | 3,499,715             | 1.21%                      | 756.184                    | 1.21%              | 3,388,770            | 1.18%                 | 756.184                                  | 1.18%                              | -110,945                   | -3.2%              |
| MILTON                    | 4,022,582             | 1.40%                      | 869.160                    | 1.40%              | 3,895,062            | 1.36%                 | 869.160                                  | 1.36%                              | -127,521                   | -3.2%              |
| NAHANT                    | 578,355               | 0.20%                      | 124.965                    | 0.20%              | 560,021              | 0.19%                 | 124.965                                  | 0.19%                              | -18,335                    | -3.2%              |
| NEEDHAM                   | 1,484,186             | 0.51%                      | 316.367                    | 0.51%              | 1,417,769            | 0.49%                 | 316.367                                  | 0.49%                              | -66,416                    | -3.2%              |
| NEWTON                    | 14,157,661            | 4.91%                      | 3,059.049                  | 4.91%              | 13,708,846           | 4.77%                 | 3,059.049                                | 4.77%                              | -448,815                   | -3.2%              |
| NORTHBOROUGH              | 1,508,715             | 0.52%                      | 325.988                    | 0.52%              | 1,460,887            | 0.51%                 | 325.988                                  | 0.51%                              | -47,828                    | -3.2%              |
| NORWOOD                   | 4,502,690             | 1.56%                      | 972.897                    | 1.56%              | 4,359,949            | 1.52%                 | 972.897                                  | 1.52%                              | -142,741                   | -3.2%              |
| PEABODY                   | 3,781,670             | 1.31%                      | 817.106                    | 1.31%              | 3,661,786            | 1.27%                 | 817.106                                  | 1.27%                              | -119,884                   | -3.2%              |
| QUINCY                    | 13,856,502            | 4.81%                      | 2,993.977                  | 4.81%              | 13,417,234           | 4.67%                 | 2,993.977                                | 4.67%                              | -439,268                   | -3.2%              |
| READING                   | 2,807,828             | 0.97%                      | 606.688                    | 0.97%              | 2,718,817            | 0.95%                 | 606.688                                  | 0.95%                              | -89,012                    | -3.2%              |
| REVERE                    | 6,348,919             | 2.20%                      | 1,371.812                  | 2.20%              | 6,147,651            | 2.14%                 | 1,371.812                                | 2.14%                              | -201,268                   | -3.2%              |
| SAUGUS                    | 5,020,868             | 1.74%                      | 1,084.860                  | 1.74%              | 4,861,700            | 1.69%                 | 1,084.860                                | 1.69%                              | -159,168                   | -3.2%              |
| SOMERVILLE                | 9,471,778             | 3.29%                      | 2,046.569                  | 3.29%              | 9,171,511            | 3.19%                 | 2,046.569                                | 3.19%                              | -300,267                   | -3.2%              |
| SOUTHBOROUGH              | 984,014               | 0.34%                      | 212.616                    | 0.34%              | 952,820              | 0.33%                 | 212.616                                  | 0.33%                              | -31,194                    | -3.2%              |
| STONEHAM                  | 3,289,382             | 1.14%                      | 710.738                    | 1.14%              | 3,185,105            | 1.11%                 | 710.738                                  | 1.11%                              | -104,277                   | -3.2%              |
| STOUGHTON                 | 118,822               | 0.04%                      | 25.674                     | 0.04%              | 115,055              | 0.04%                 | 25.674                                   | 0.04%                              | -3,767                     | -3.2%              |
| SWAMPSCOTT                | 2,552,649             | 0.89%                      | 551.551                    | 0.89%              | 2,471,727            | 0.86%                 | 551.551                                  | 0.86%                              | -80,922                    | -3.2%              |
| WAKEFIELD                 | 2,617,209             | 0.91%                      | 565.501                    | 0.91%              | 2,534,240            | 0.88%                 | 565.501                                  | 0.88%                              | -82,969                    | -3.2%              |
| WALTHAM                   | 11,044,210            | 3.83%                      | 2,386.325                  | 3.83%              | 10,694,096           | 3.72%                 | 2,386.325                                | 3.72%                              | -350,115                   | -3.2%              |
| WATERTOWN                 | 4,147,401             | 1.44%                      | 896.130                    | 1.44%              | 4,015,924            | 1.40%                 | 896.130                                  | 1.40%                              | -131,478                   | -3.2%              |
| WELLESLEY                 | 3,325,451             | 1.15%                      | 718.531                    | 1.15%              | 3,220,030            | 1.12%                 | 718.531                                  | 1.12%                              | -105,421                   | -3.2%              |
| WESTON                    | 2,456,156             | 0.85%                      | 530.702                    | 0.85%              | 2,378,293            | 0.83%                 | 530.702                                  | 0.83%                              | -77,863                    | -3.2%              |
| WILMINGTON                | 716,510               | 0.25%                      | 154.817                    | 0.25%              | 693,796              | 0.24%                 | 154.817                                  | 0.24%                              | -22,714                    | -3.2%              |
| WINCHESTER                | 1,943,817             | 0.67%                      | 420.001                    | 0.67%              | 1,882,196            | 0.66%                 | 420.001                                  | 0.66%                              | -61,621                    | -3.2%              |
| WINTHROP                  | 1,918,276             | 0.67%                      | 414.482                    | 0.67%              | 1,857,464            | 0.65%                 | 414.482                                  | 0.65%                              | -60,812                    | -3.2%              |
| WOBURN                    | 5,385,782             | 1.87%                      | 1,163.707                  | 1.87%              | 5,215,046            | 1.81%                 | 1,163.707                                | 1.81%                              | -170,736                   | -3.2%              |
| <b>NEW 5 MGD CUSTOMER</b> |                       |                            |                            |                    | <b>8,178,569</b>     | <b>2.85%</b>          | <b>1,825,000</b>                         | <b>2.85%</b>                       | <b>8,178,569</b>           |                    |
| <b>TOTAL</b>              | <b>\$288,304,865</b>  | <b>100.0%</b>              | <b>62,294.098</b>          | <b>100.0%</b>      | <b>\$287,343,820</b> | <b>100.0%</b>         | <b>64,119.098</b>                        | <b>100.0%</b>                      | <b>-\$961,045</b>          | <b>-0.3%</b>       |

**Additional Daily Water Use: 5.000 mg**

**5 mgd Entrance Fee (FY22): 21,142,998**

**Massachusetts Water Resources Authority**  
**Annual Impact of Additional Water Use: 20 MGD Customer**

FY23 Water Utility Rate Revenue Requirement \$288,304,865  
 Annual Entrance Fee Revenue \$3,581,053 (25 year payback, 3 year grace)  
 FY23 Water Utility Rate Revenue Requirement \$284,723,812

**Based On Current Customers**

**Based On Current Customers Plus  
 Additional 20 MGD Customer**

| MWRA WATER CUSTOMER        | Fiscal Year 2023      |                            | Calendar Year 2021         |                    | Fiscal Year 2023     | Calendar Year 2021    |  | Assessment Impact of New Water Use |                            |                    |
|----------------------------|-----------------------|----------------------------|----------------------------|--------------------|----------------------|-----------------------|--|------------------------------------|----------------------------|--------------------|
|                            | Base Water Assessment | Share of System Assessment | Adjusted Water Use (MG/YR) | Share of Water Use |                      | Base Water Assessment | Share of System Water Use and Assessment |                                    | Adjusted Water Use (MG/YR) | Share of Water Use |
| ARLINGTON                  | \$5,648,095           | 1.96%                      | 1,220,385                  | 1.96%              | \$4,992,847          | 1.75%                 | 1,220,385                                | 1.75%                              | -\$655,247                 | -11.6%             |
| ASHLAND                    | 0                     | 0.00%                      | 0,000                      | 0.00%              | 0                    | 0.00%                 | 0,000                                    | 0.00%                              | 0                          | #DIV/0!            |
| BELMONT                    | 3,134,847             | 1.09%                      | 677,347                    | 1.09%              | 2,771,167            | 0.97%                 | 677,347                                  | 0.97%                              | -363,680                   | -11.6%             |
| BOSTON (BWSC)              | 99,390,504            | 34.47%                     | 21,475,329                 | 34.47%             | 87,860,001           | 30.86%                | 21,475,329                               | 30.86%                             | -11,530,503                | -11.6%             |
| BROOKLINE                  | 8,018,472             | 2.78%                      | 1,732,553                  | 2.78%              | 7,088,232            | 2.49%                 | 1,732,553                                | 2.49%                              | -930,240                   | -11.6%             |
| BURLINGTON                 | 1,253,355             | 0.43%                      | 270,813                    | 0.43%              | 1,107,950            | 0.39%                 | 270,813                                  | 0.39%                              | -145,404                   | -11.6%             |
| CANTON                     | 2,022,211             | 0.70%                      | 436,940                    | 0.70%              | 1,787,610            | 0.63%                 | 436,940                                  | 0.63%                              | -234,601                   | -11.6%             |
| CHELSEA                    | 5,460,876             | 1.89%                      | 1,179,933                  | 1.89%              | 4,827,348            | 1.70%                 | 1,179,933                                | 1.70%                              | -633,528                   | -11.6%             |
| DEDHAM-WESTWOOD W.D.       | 256,078               | 0.09%                      | 55,331                     | 0.09%              | 226,369              | 0.08%                 | 55,331                                   | 0.08%                              | -29,708                    | -11.6%             |
| EVERETT                    | 6,422,774             | 2.23%                      | 1,387,770                  | 2.23%              | 5,677,654            | 1.99%                 | 1,387,770                                | 1.99%                              | -745,120                   | -11.6%             |
| FRAMINGHAM                 | 9,531,024             | 3.31%                      | 2,059,370                  | 3.31%              | 8,425,310            | 2.96%                 | 2,059,370                                | 2.96%                              | -1,105,714                 | -11.6%             |
| LEOMINSTER                 | 0                     | 0.00%                      | 0,000                      | 0.00%              | 0                    | 0.00%                 | 0,000                                    | 0.00%                              | 0                          | 0                  |
| LEXINGTON                  | 8,493,467             | 2.95%                      | 1,835,185                  | 2.95%              | 7,508,122            | 2.64%                 | 1,835,185                                | 2.64%                              | -985,345                   | -11.6%             |
| LYNN (LWSC)                | 187,732               | 0.07%                      | 40,563                     | 0.07%              | 166,953              | 0.06%                 | 40,563                                   | 0.06%                              | -21,779                    | -11.6%             |
| LYNNFIELD W.D.             | 865,543               | 0.30%                      | 187,018                    | 0.30%              | 765,130              | 0.27%                 | 187,018                                  | 0.27%                              | -100,414                   | -11.6%             |
| MALDEN                     | 8,758,033             | 3.04%                      | 1,892,350                  | 3.04%              | 7,741,995            | 2.72%                 | 1,892,350                                | 2.72%                              | -1,016,038                 | -11.6%             |
| MARBLEHEAD                 | 2,941,372             | 1.02%                      | 635,543                    | 1.02%              | 2,600,137            | 0.91%                 | 635,543                                  | 0.91%                              | -341,235                   | -11.6%             |
| MARLBOROUGH                | 6,733,069             | 2.34%                      | 1,454,816                  | 2.34%              | 5,951,951            | 2.09%                 | 1,454,816                                | 2.09%                              | -781,118                   | -11.6%             |
| MEDFORD                    | 7,666,268             | 2.66%                      | 1,656,452                  | 2.66%              | 6,776,888            | 2.38%                 | 1,656,452                                | 2.38%                              | -889,380                   | -11.6%             |
| MELROSE                    | 3,499,715             | 1.21%                      | 756,184                    | 1.21%              | 3,093,705            | 1.09%                 | 756,184                                  | 1.09%                              | -406,009                   | -11.6%             |
| MILTON                     | 4,022,582             | 1.40%                      | 869,160                    | 1.40%              | 3,555,914            | 1.25%                 | 869,160                                  | 1.25%                              | -466,668                   | -11.6%             |
| NAHANT                     | 578,355               | 0.20%                      | 124,965                    | 0.20%              | 511,259              | 0.18%                 | 124,965                                  | 0.18%                              | -67,096                    | -11.6%             |
| NEEDHAM                    | 1,484,186             | 0.51%                      | 316,367                    | 0.51%              | 1,294,322            | 0.45%                 | 316,367                                  | 0.45%                              | -169,863                   | -11.6%             |
| NEWTON                     | 14,157,661            | 4.91%                      | 3,059,049                  | 4.91%              | 12,515,201           | 4.40%                 | 3,059,049                                | 4.40%                              | -1,642,460                 | -11.6%             |
| NORTHBOROUGH               | 1,508,715             | 0.52%                      | 325,988                    | 0.52%              | 1,333,686            | 0.47%                 | 325,988                                  | 0.47%                              | -175,029                   | -11.6%             |
| NORWOOD                    | 4,502,690             | 1.56%                      | 972,897                    | 1.56%              | 3,980,323            | 1.40%                 | 972,897                                  | 1.40%                              | -522,367                   | -11.6%             |
| PEABODY                    | 3,781,670             | 1.31%                      | 817,106                    | 1.31%              | 3,342,950            | 1.17%                 | 817,106                                  | 1.17%                              | -438,720                   | -11.6%             |
| QUINCY                     | 13,856,502            | 4.81%                      | 2,993,977                  | 4.81%              | 12,248,980           | 4.30%                 | 2,993,977                                | 4.30%                              | -1,607,522                 | -11.6%             |
| READING                    | 2,807,828             | 0.97%                      | 606,688                    | 0.97%              | 2,482,086            | 0.87%                 | 606,688                                  | 0.87%                              | -325,742                   | -11.6%             |
| REVERE                     | 6,348,919             | 2.20%                      | 1,371,812                  | 2.20%              | 5,612,368            | 1.97%                 | 1,371,812                                | 1.97%                              | -736,552                   | -11.6%             |
| SAUGUS                     | 5,020,868             | 1.74%                      | 1,084,860                  | 1.74%              | 4,438,386            | 1.56%                 | 1,084,860                                | 1.56%                              | -582,482                   | -11.6%             |
| SOMERVILLE                 | 9,471,778             | 3.29%                      | 2,046,569                  | 3.29%              | 8,372,937            | 2.94%                 | 2,046,569                                | 2.94%                              | -1,098,841                 | -11.6%             |
| SOUTHBOROUGH               | 984,014               | 0.34%                      | 212,616                    | 0.34%              | 869,857              | 0.31%                 | 212,616                                  | 0.31%                              | -114,158                   | -11.6%             |
| STONEHAM                   | 3,289,382             | 1.14%                      | 710,738                    | 1.14%              | 2,907,774            | 1.02%                 | 710,738                                  | 1.02%                              | -381,608                   | -11.6%             |
| STOUGHTON                  | 118,822               | 0.04%                      | 25,674                     | 0.04%              | 105,037              | 0.04%                 | 25,674                                   | 0.04%                              | -13,785                    | -11.6%             |
| SWAMPSCOTT                 | 2,552,649             | 0.89%                      | 551,551                    | 0.89%              | 2,256,511            | 0.79%                 | 551,551                                  | 0.79%                              | -296,138                   | -11.6%             |
| WAKEFIELD                  | 2,617,209             | 0.91%                      | 565,501                    | 0.91%              | 2,313,581            | 0.81%                 | 565,501                                  | 0.81%                              | -303,628                   | -11.6%             |
| WALTHAM                    | 11,044,210            | 3.83%                      | 2,386,325                  | 3.83%              | 9,762,948            | 3.43%                 | 2,386,325                                | 3.43%                              | -1,281,262                 | -11.6%             |
| WATERTOWN                  | 4,147,401             | 1.44%                      | 896,130                    | 1.44%              | 3,666,252            | 1.29%                 | 896,130                                  | 1.29%                              | -481,149                   | -11.6%             |
| WELLESLEY                  | 3,325,451             | 1.15%                      | 718,531                    | 1.15%              | 2,939,658            | 1.03%                 | 718,531                                  | 1.03%                              | -385,793                   | -11.6%             |
| WESTON                     | 2,456,156             | 0.85%                      | 530,702                    | 0.85%              | 2,171,212            | 0.76%                 | 530,702                                  | 0.76%                              | -284,944                   | -11.6%             |
| WILMINGTON                 | 716,510               | 0.25%                      | 154,817                    | 0.25%              | 633,386              | 0.22%                 | 154,817                                  | 0.22%                              | -83,124                    | -11.6%             |
| WINCHESTER                 | 1,943,817             | 0.67%                      | 420,001                    | 0.67%              | 1,718,311            | 0.60%                 | 420,001                                  | 0.60%                              | -225,506                   | -11.6%             |
| WINTHROP                   | 1,918,276             | 0.67%                      | 414,482                    | 0.67%              | 1,695,733            | 0.60%                 | 414,482                                  | 0.60%                              | -222,543                   | -11.6%             |
| WOBURN                     | 5,385,782             | 1.87%                      | 1,163,707                  | 1.87%              | 4,760,966            | 1.67%                 | 1,163,707                                | 1.67%                              | -624,816                   | -11.6%             |
| <b>NEW 20 MGD CUSTOMER</b> |                       |                            |                            |                    | <b>29,865,806</b>    | <b>10.49%</b>         | <b>7,300,000</b>                         | <b>10.49%</b>                      | <b>29,865,806</b>          |                    |
| <b>TOTAL</b>               | <b>\$288,304,865</b>  | <b>100.0%</b>              | <b>62,294,098</b>          | <b>100.0%</b>      | <b>\$284,723,812</b> | <b>100.0%</b>         | <b>69,594,098</b>                        | <b>100.0%</b>                      | <b>-\$3,581,053</b>        | <b>-1.2%</b>       |

**Additional Daily Water Use: 20.000 mg**

**20 mgd Entrance Fee (FY22): 78,783,168**