CALIFORNIA
Water Boards

SUPPLEMENTAL APPENDIX:
INTERIM SOLUTIONS COST ESTIMATE METHODOLOGY

LAST UPDATED: JUNE 2024

This supplemental appendix is related to the Drinking Water Needs Assessment's Cost Assessment Component. Learn more here: Appendix: Cost Assessment Methodology.

CONTENTS

INTRODUCTION

The *Drinking Water Needs Assessment's* Cost Assessment methodology utilizes a model to estimate the financial costs of both necessary **interim measures** and longer-term solutions to bring Failing list systems into compliance and address the challenges faced by High-Risk state small water systems and domestic wells as identified via the Risk Assessment. The goal of the Cost Assessment is to inform the prioritization of the spending of existing funding sources, particularly via the SB 200-mandated annual *Safe and Affordable Drinking Water Fund Expenditure Plan*, as well as to identify potential additional funding sources to leverage, and to estimate the size of the current funding gap to continue to advance the Human Right to Water for all Californians.

The goal of the SAFER Program is to help address Failing and At-Risk water systems – building local capacity to ensure water systems are able to operate sustainably and achieve the Human Right to Water (HR2W). The State Water Board recognizes that it may take many months or years to implement long-term sustainable solutions. Planning and construction timelines can vary dramatically due to the complexity of a project, public participation needs, funding availability, permitting schedules, labor, material availability, etc. Therefore, interim solutions may be needed to ensure communities have access to safe drinking water during this timeframe.

The Cost Assessment Model includes estimated interim needs for disadvantaged communities (DAC) and severely disadvantaged communities (SDAC). This appendix includes an in-depth overview of which systems are assessed for interim assistance needs and the underlying cost assumptions.

It is important to note that the Cost Assessment is not intended to identify actual interim solutions that should be implemented for a given system or community. An evaluation of each system will be needed to identify and cost a range of potential real-world interim solutions.

INTERIM NEEDS METHODOLOGY DEVELOPMENT

The Cost Assessment Model's development and enhancement process is designed to encourage public and stakeholder participation, providing opportunities for feedback and recommendations. The additional long-term needs analysis included in the Cost Assessment Model has gone through two iterations, incorporating feedback from 16 public workshops. The first interim needs analysis was conducted for the 2021 Drinking Water Needs Assessment. The second iteration of the interim needs analysis was updated and enhanced for the 2024 Drinking Water Needs Assessment. The following sections provide an overview of the work.

VERSION 1.0 (2021)

The first iteration of the interim needs analysis was conducted for the *2021 Drinking Water Needs Assessment.* It was developed by the State Water Board, in partnership with the University of California, Los Angeles Luskin Center for Innovation, Corona Environmental Consulting, and Sacramento State University Office of Water Programs. Three public

workshops were hosted to solicit public feedback on the Cost Assessment's methodology and underlying cost assumptions:

May 10, 2019: *Cost Analysis Workshop*

- Public Notice
- Agenda
- Webcast Recording
- Consolidation-Related Presentation PDFs:
  - SWRCB DDW, D. Polhemus
  - Corona Environmental Consulting, T. Henrie
  - UCLA, Y. Cohen
  - Los Angeles County Sativa, D. Lafferty

August 28, 2020: *Cost Estimate: Overview of Approach and Update*

- Public Notice
- White Paper
- Webinar Recording

November 20, 2020: *Cost Estimate: In-Depth Cost Methodology Discussion Webinar*

- Public Notices: English | Spanish
- White Paper
- Presentation
- Webinar Recording

In addition to the public feedback solicited during the workshops, the State Water Board received a handful of comment letters throughout this effort and some adjustments to the Cost Assessment methodology were made as a result. Additional details that were requested in the comment letters were added to the 2021 Cost Assessment Methodology Appendix.[1]

More information can be found on the State Water Board's Drinking Water Needs Assessment website.[2]

VERSION 2.0 (2024)

From 2022 – 2023, the State Water Board hosted a series of four webinar workshops to solicit stakeholder feedback on updates and enhancements to the Cost Assessment Model. The workshop dates and corresponding white papers, presentations, and webinar recording are provided below. The fourth workshop was solely focused on the proposed updates to the interim needs analysis.

August 8, 2022: *Proposed Changes for the Cost Assessment*

- Public Notices: English | Spanish

[1] 2021 Drinking Water Needs Assessment
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2021_needs_assessment.pdf

[2] Drinking Water Needs Assessment Website
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/needs.html

- White Paper
- Presentation
- Webinar Recording

July 14, 2023: ***Proposed Updates to the Drinking Water Cost Assessment Model – Workshop 1: Physical Consolidation Analysis***

- Public Notices: English | Spanish
- White Paper
- Presentation
- Webinar Recording

October 5, 2023: ***Proposed Updates to the Drinking Water Cost Assessment Model – Workshop 2: Modeled Treatment Analysis***

- Public Notice: English | Spanish
- White Paper
- Presentation
- Webinar Recording

December 20, 2023: ***Proposed Updates to the Drinking Water Cost Assessment Model – Workshop 3: Other Essential Infrastructure, Administrative Needs, and Interim Solutions***

- Public Notice: English | Spanish
- White Paper
- Presentation
- Webinar Recording

Below is a brief summary of the changes made to the additional long-term needs analysis compared to the methodology used in the 2021 Cost Assessment:

- Updated unit cost assumptions and multipliers to 2023 market prices.
- Updated eligibility criteria and duration assumptions for interim assistance (decentralized treatment and bottled water) for Failing public water systems and high-risk state small water systems and domestic wells.
    - For Failing public water systems, decrease estimated duration of interim assistance from 6 years to 5 years.
    - For high-risk state small water systems, decrease estimated duration of interim assistance from 9 years to 5 years.
    - For high-risk domestic wells, decrease estimated duration of interim assistance from 9 years to 2 years.

The following sections in this supplemental appendix detail the current interim needs analysis methodology and cost assumptions.

SUMMARY OF CURRENT MODELED INTERIM NEEDS ANALYSIS METHODOLOGY

A core component of the Cost Assessment Model is the selection and cost estimation of interim needs for Failing public water systems, high-risk state small water systems and domestic wells. The following is a summary of the steps taken by the Cost Assessment Model to conduct the interim needs analysis:

STEP 1: Match System Challenges to Modeled Interim Solutions.

STEP 2: Calculate Estimated Interim Solution Capital and O&M Costs.

STEP 3: Add Interim Solution Costs to Other Modeled Long-Term Solution Costs.

The following sections and corresponding appendices provide a detailed guide for how the interim solution analysis is conducted within the Cost Assessment Model.

MODELED INTERIM SOLUTION ANALYSIS METHODOLOGY

STEP 1: MATCHING SYSTEM CHALLENGES TO MODELED INTERIM SOLUTIONS

The Cost Assessment Model assesses potential interim solution needs for Failing public water systems and high-risk state small water systems and domestic wells. At-Risk public water systems are excluded from the analysis because these communities currently have access to safe, reliable drinking water. Therefore, communities served by At-Risk public water systems do not need interim access to alternative sources of clean potable water.

Cost data for interim drinking water solutions is limited; therefore, the Cost Assessment Model is only able to assign decentralized treatment and bottled water interventions because there is limited data on other potential solutions such as vended and hauled water.

Decentralized Treatment
Decentralized treatment, such as Point-of-Use (POU) and Point-of-Entry (POE) devices, are often installed at individual homes or businesses. Decentralized treatment is included in the Cost Assessment Model as both a modeled long-term solution and interim solution option. Systems that have either physical consolidation or centralized treatment as their modeled long-term solution will be assessed for interim decentralized treatment. Available and modeled water quality data for these systems is used to determine if decentralized treatment is viable. If water quality data indicates decentralized treatment may not be viable, the system is assessed for interim bottled water assistance. Learn more about the proposed matching criteria and cost

assumptions in Supplemental Appendix: Decentralized Treatment Cost Estimate Methodology.[3]

Bottled Water
Bottled water is a possible interim solution where either decentralized treatment is the modeled long-term solution or where interim decentralized treatment[4] is not viable due to water quality. Interim bottled water is also modeled for systems modeled for a new private well. Learn more about the proposed matching criteria and cost assumptions in Supplemental Appendix: Additional Long-Term Solutions Cost Estimate Methodology.[5]

FAILING PUBLIC WATER SYSTEMS

Interim assistance, which is defined as receiving a temporary source of potable water, may be needed for Failing public water systems implementing sustainable long-term solutions. The Cost Assessment Model includes an estimate of interim decentralized treatment and bottled water costs for disadvantaged Failing public water systems with water-quality based violations (primary MCL, secondary MCL, *E. coli*, and treatment technique violations).

Modeled interim solutions are based on the water system's modeled long-term solution and water quality information. Table 1 summarizes the Cost Assessment Model's matching criteria.

Table 1: Summary of Matching Modeled Interim Solutions to Failing Systems

System Type	Long-Term Modeled Solution	Interim Modeled Solution
Failing System	• Physical consolidation • Centralized treatment	• Decentralized treatment • Bottled water if modeled water quality exceeds Decentralized Treatment viability[6]
Failing System	• Decentralized treatment	• Bottled water

[3] Supplemental Appendix: Decentralized Treatment Cost Estimate Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2024/2024costassessment-decentralized-treatment.pdf

[4] Failing public water systems and high *Water Quality* risk state small water systems and domestic wells that have either physical consolidation or centralized treatment as their modeled long-term solution will be assessed for interim decentralized treatment first, If the system's water quality data indicates interim decentralized treatment may not be viable, the system is assessed for interim bottled water assistance.

[5] Supplemental Appendix: Additional Long-Term Modeled Solutions Cost Estimate Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2024/2024costassessment-add-longterm-solutions.pdf

[6] Any systems with nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; *E. coli*, Surface Water Treatment Rule (SWTR), Groundwater Rule (GWR), or turbidity violations are considered exceeding decentralized treatment viability.

STATE SMALL WATER SYSTEMS & DOMESTIC WELLS

Similar to the approach for Failing public water systems, the Cost Assessment Model assesses viable interim solutions for state small water systems and domestic wells based on the model-selected long-term solutions and modeled water quality data. Table 2 summarizes the Cost Assessment Model's matching criteria for high-risk state small water systems and domestic wells.

Table 2: Summary of Matching Modeled Interim Solutions to High-Risk State Small Water Systems (SSWS) & Domestic Wells (DW)

System Type	Long-Term Modeled Solution	Interim Modeled Solution
High *Water Quality* Risk SSWS/DW	• Physical consolidation	• Decentralized treatment • Bottled water if modeled water quality exceeds Decentralized Treatment viability[7]
High *Water Quality* Risk SSWS/DW	• Decentralized treatment • Bottled water if modeled water quality exceeds decentralized treatment viability[8]	• Bottled water[9]
High *Water Shortage* Risk SSWS/DW	• Physical consolidation; or • New private well	• Bottled water
Both High *Water Shortage* & *Water Quality* Risk SSWS/DW	• Physical consolidation	• Decentralized treatment • Bottled water if modeled water quality exceeds Decentralized Treatment viability[10]
Both High *Water Shortage* & *Water Quality* Risk SSWS/DW	• Decentralized treatment or bottled water if modeled water quality data exceeds	• Bottled water

[7]Any state small water systems or domestic wells with modeled nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; are considered exceeding decentralized treatment viability.

[8] Any systems with nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; *E. coli*, SWTR, GWR, or turbidity violations are considered exceeding decentralized treatment viability.

[9] Interim bottled water is not considered if a SSWS/DW has bottled water as a long-term solution since the time frame for long-term bottled water should cover the timeline for interim bottled water.

[10] Any systems with nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; *E. coli*, SWTR, GWR, or turbidity violations are considered exceeding decentralized treatment viability.

System Type	Long-Term Modeled Solution	Interim Modeled Solution
	decentralized treatment viability[11]; and • New private well	

STEP 2: CALCULATE ESTIMATED INTERIM SOLUTION CAPITAL AND O&M COSTS

The Cost Assessment Model utilizes a set of assumptions to develop estimates for interim solution capital and operational costs. The Cost Assessment Model's underlying cost assumptions were updated in 2023 to reflect current market values. The cost assumptions were derived from extensive internal and external outreach:

- Reviewed 2021 Cost Assessment Model documentation.
- Consulted with vendors and consulting firms.
- Reviewed State Water Board funding projects.
- Reviewed U.S. EPA Work Breakdown Structure (WBS) Models.
- Reached out to water systems to collect and confirm cost data.
- Consulted with an internal workgroup of Division of Drinking Water engineers and Division of Financial Assistance staff.
- Solicited public feedback and recommendation through public webinar workshops.

Learn more about the 2023 interim needs cost assumption updates in the following white papers:

- *Proposed Updates to the Drinking Water Cost Assessment Model: Modeled Treatment Analysis*[12]
- *Proposed Updates to the Drinking Water Cost Assessment Model: Other Essential Infrastructure, Admin Needs, and Interim Solutions*.[13]

The appendix of this paper provides an overview of the decentralized treatment and bottled water interim needs cost assumptions and modeling methodology.

[11] Any systems with nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; *E. coli*, SWTR, GWR, or turbidity violations are considered exceeding decentralized treatment viability.

[12] Proposed Changes for Modeled Long-Term Treatment https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/modeled-treatment-draft-whitepaper.pdf

[13] Proposed Updates to the Drinking Water Cost Assessment Model: Other Essential Infrastructure, Admin Needs, and Interim Solutions: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2023/2023-cost-assessment-model-workshop-3-white-paper.pdf

STEP 3: ADD ADDITIONAL LONG-TERM NEED COSTS TO OTHER MODEL-SELECTED LONG-TERM SOLUTION COSTS

The Cost Assessment Model estimates costs for modeled long-term solutions for Failing public water systems, At-Risk public water systems, high-risk state small water systems, and high-risk domestic wells. These other modeled solutions are documented in the following supplemental Appendices:

- Supplemental Appendix: Physical Consolidation Cost Estimate Methodology
- Supplemental Appendix: Centralized Treatment Cost Estimate Methodology
- Supplemental Appendix: Decentralized Treatment Cost Estimate Methodology
- Supplemental Appendix: Additional Long-Term Modeled Solutions Cost Estimate Methodology

The Cost Assessment Model will add the estimated capital and operational costs from the modeled interim solutions analysis to the estimated long-term solution needs. These final cost estimates are then used to illustrate the results of the Needs Assessment's Cost Assessment results.

APPENDIX A: INTERIM DECENTRALIZED TREATMENT

INTERIM DECENTRALIZED TREATMENT

Providing decentralized treatment to customers served by Failing water systems, high- *Water Quality* risk state small water systems or domestic wells may be a viable interim solution option to address contaminants that exceed water quality standards.

Point-of-Use (POU) treatment is considered for the most commonly occurring inorganic contaminants (for example, nitrate or arsenic)[14] and radionuclides. POU is not recommended when bacteriological contaminants exist, or when nitrate concentrations exceed 25 mg/. POU treatment is not acceptable for any contaminant that has a risk pathway beyond ingestion.

Point-of-Entry (POE) treatment must be considered in the case of volatile organic chemicals (VOCs) or synthetic organic chemicals (SOCs) such as, 1,2,3-trichloropropane (1,2,3-TCP), to address potential health impacts of inhaling the compounds during exposure in the shower for example. POE treatment is also considered for treating disinfection byproducts (DBPs).

Table 3 lists the contaminants that require treatment of this type, as determined in consultation with State Water Board staff. In communities where nitrate levels exceed 25 mg/L filtration is no longer an effective option and bottled water must be provided as the interim solution.

Table 3: Contaminants Treated by POU and POE in the Cost Assessment Model

Decentralized Treatment Technology	Contaminant	
POU	• Antimony • Arsenic • Barium • Beryllium • Cadmium • Chromium • Copper • Cyanide • Fluoride • Gross Alpha particle activity	• Gross Beta particle activity • Lead • Mercury • Nickle • Nitrate • Nitrite • Perchlorate • Radium 228, Radium 226 • Selenium • Uranium
POE	SOCs, s*ome examples include*: • 1,2,3-Trichloropropane (1,2,3-TCP)	

[14] POU is not considered as an interim solution for Failing systems with iron/manganese contamination due to reverse osmosis membrane fouling. Bottled water is selected in this case.

Decentralized Treatment Technology	Contaminant
	• Dibromochloropropane (DBCP) • Ethylene Dibromide (EDB) VOCs, s*ome examples include*: • 1,1-Dichloroethylene (1,1-DCE) • Trichloroethylene (TCE) DBPs: • Total Trihalomethanes (TTHM) • Haloacetic Acids (five) (HAA5)

SYSTEMS ASSESSED FOR INTERIM DECENTRALIZED TREATMENT

The Cost Assessment Model assesses interim decentralized treatment needs for disadvantaged (DAC) populations served by Failing public water systems and high *Water Quality* risk state small water systems and domestic wells. Systems that have either physical consolidation or centralized treatment as their modeled long-term solution will be assessed for interim decentralized treatment. Available and modeled water quality data for these systems is used to determine if decentralized treatment is viable. If the system's water quality data indicates decentralized treatment may not be viable, the system is assessed for interim bottled water assistance.

Table 4: Systems Assessed for Interim Decentralized Treatment

System Type	Systems Included
Failing Public Water System	• System is Failing for a water-quality related violation; and • Where the modeled long-term solution is either physical consolidation or centralized treatment; and • Where modeled water quality meets decentralized treatment viability[15]; and • Less than 3,300 service connections; and • Disadvantaged community (DAC) status.
High *Water Quality* Risk SSWS/DW	• Where the modeled long-term solution is physical consolidation; and • Where modeled water quality meets decentralized treatment viability[16]; and

[15] Any systems with nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; *E. coli*, SWTR, GWR, or turbidity violations are considered exceeding decentralized treatment viability.

[16] Any systems with nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; *E. coli*, SWTR, GWR, or turbidity violations are considered exceeding decentralized treatment viability.

System Type	Systems Included
	• Disadvantaged community (DAC) status.
High *Water Shortage* Risk SSWS/DW	• Excluded – Not Applicable

CAPITAL COST ESTIMATE FOR INTERIM DECENTRALIZED TREATMENT

The Cost Assessment Model utilizes the underlying capital cost assumptions developed for decentralized treatment in Cost Assessment's Supplemental Appendix: Decentralized Treatment Cost Estimate Methodology.[17]

OPERATIONS & MAINTENANCE FOR INTERIM DECENTRALIZED TREATMENT

The Cost Assessment Model utilizes the underlying operations and maintenance cost assumptions developed for decentralized treatment in Cost Assessment's Supplemental Appendix: Decentralized Treatment Cost Estimate Methodology.[18]

DURATION OF INTERIM DECENTRALIZED TREATMENT RELIANCE

The Cost Assessment Model assumes interim decentralized treatment assistance needs are for 5 years for Failing public water systems, 5 years for high-risk state small water systems and 2 years for high-risk domestic wells. These estimated durations were based on recommendations from an internal workgroup of the Division of Drinking Water and Division of Financial Assistance staff. Staff reviewed existing interim assistance projects and timelines associated with implementing long-term solutions to develop these recommendations for the Cost Assessment Model.

Table 5: Duration of Modeled Interim Decentralized Treatment Assistance

System Type	Duration
Failing Public Water System	**5 Years**
High-Risk State Small Water System	**5 Years**
High Risk Domestic Well	**2 Years**

[17] Supplemental Appendix: Decentralized Treatment Cost Estimate Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2024/2024costassessment-decentralized-treatment.pdf

[18] Supplemental Appendix: Decentralized Treatment Cost Estimate Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2024/2024costassessment-decentralized-treatment.pdf

APPENDIX B: INTERIM BOTTLED WATER

The Cost Assessment Model includes bottled water as either a possible modeled interim or long-term solution for some communities. Modeled long-term bottled water needs are detailed on the Cost Assessment's Supplemental Appendix: Additional Long-Term Solutions Cost Estimate Methodology[19]

INTERIM BOTTLED WATER

For the purposes of the Cost Assessment, bottled water is defined as "any water that is placed in a sealed container at a water-bottling plant to be used for drinking, culinary, or other purposes involving a likelihood of the water being ingested by humans."[20]

State and Federal emergency preparedness plans include bottled water as an emergency water source when traditional water sources are unusable or inaccessible.[21] Types of bottled water provided by the State Water Board are typically either 1-gallon or 5-gallon bottles.

SYSTEMS ASSESSED FOR MODELED INTERIM BOTTLED WATER RELIANCE

In the Cost Assessment Model, interim bottled water needs are only estimated for disadvantaged (DAC) populations served by Failing public water systems and high *Water Quality* risk state small water systems and domestic wells where modeled decentralized interim solutions are not viable. High *Water Shortage* risk DAC state small water systems and domestic wells are assessed for interim bottled water assistance as well. Table 6 summarizes the scenarios where interim bottled water may be assessed by the Cost Assessment Model.

Table 6: Systems Assessed for Interim Bottled Water

System Type	Long-Term Modeled Solution	Interim Modeled Solution
DAC Failing Public Water System	• Physical consolidation • Centralized treatment	• Bottled water if modeled water quality exceeds

[19] Supplemental Appendix: Additional Long-Term Modeled Solutions Cost Estimate Methodology https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2024/2024costassessment-add-longterm-solutions.pdf

[20] California Health and Safety Code Section 111070.

[21] United States Environmental Protection Agency, "Planning for an Emergency Drinking Water Supply." (2011); California Governor's Office of Emergency Services, "Emergency Drinking Water Procurement & Distribution Guidance." (2014)

System Type	Long-Term Modeled Solution	Interim Modeled Solution
		modeled decentralized treatment viability[22]
DAC Failing Public Water System	• Decentralized treatment	• Bottled water
DAC High *Water Quality* Risk SSWS/DW	• Physical consolidation	• Bottled water if modeled water quality exceeds modeled decentralized treatment viability[23]
DAC High *Water Quality* Risk SSWS/DW	• Decentralized treatment	• Bottled water[24]
DAC High *Water Shortage* Risk SSWS/DW	• Physical consolidation • New private well	• Bottled water
DAC Both High *Water Shortage* & *Water Quality* Risk SSWS/DW	• Physical consolidation	• Bottled water if modeled water quality exceeds modeled decentralized treatment viability.[25]
DAC Both High *Water Shortage* & *Water Quality* Risk SSWS/DW	• Decentralized treatment or bottled water • New private well	• Bottled water

COST ASSUMPTIONS FOR INTERIM BOTTLED WATER

The State Water Board provides funding to support bottled water deliveries to communities. In 2023, the State Water Board utilized data from these projects to update the unit cost components for bottled water:

[22] Any systems with nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; *E. coli*, SWTR, GWR, or turbidity violations are considered exceeding decentralized treatment viability.
[23] Any systems with nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; *E. coli*, SWTR, GWR, or turbidity violations are considered exceeding decentralized treatment viability.
[24] Interim bottled water is not considered if a SSWS/DW has bottled water as a long-term solution since the time frame for long-term bottled water should cover the timeline for interim bottled water.
[25] Any systems with nitrate concentration above 25 mg/L; iron/manganese, aluminum, bromate, or thallium contamination; *E. coli*, SWTR, GWR, or turbidity violations are considered exceeding decentralized treatment viability.

Table 7: Summary Comparison of Bottled Water Costs

Component	Cost Estimate
Cost per Gallon	$1.25 per gallon
Volume per Connection	60 gallons per month = $75 a month
Delivery Fee per Connection (2x a month)	$22 per month
Hand Pump per Connection	$11 (one time cost)

DURATION OF BOTTLED WATER RELIANCE

The Cost Assessment Model assumes interim bottled water needs are for 5 years for Failing public water systems, 5years for high-risk state small water systems and 2 years for high-risk domestic wells. These estimated durations were based on recommendations from an internal workgroup of the Division of Drinking Water and Division of Financial Assistance staff. Staff reviewed existing interim assistance projects and timelines associated with implementing long-term solutions to develop these recommendations for the Cost Assessment Model.

Table 8: Duration of Modeled Interim Bottled Water Assistance

System Type	Duration
Failing Public Water System	**5 Years**
High-Risk State Small Water System	**5 Years**
High Risk Domestic Well	**2 Years**