

# CHAPTER 4

## Findings Concerning Project Alternatives

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### 4.1 Introduction

CEQA requires that an EIR “describe a range of reasonable alternatives to the project or to the location of the project, which could feasibly attain the basic objectives of the project...” CEQA Guidelines Section 15126 (d). If a project alternative will substantially lessen the significant environmental effects of a proposed project, the decision maker should not approve the proposed project unless it determines that specific economic, legal, social, technological, or other considerations,... make the project alternative infeasible.” Public Resources Code Section 21002, CEQA Guidelines Section 15091(a)(3). The EIR evaluated alternative approaches to accomplishing the objectives of the project. The Findings with respect to the alternatives identified in the Draft EIR/EIS are identified in this section.

### 4.2 Proposed Objectives

As presented in Draft EIR/EIS Section 1.1.1, Purpose and Need of the Proposed Action, NBWRA developed the following objectives for the Proposed Action to promote the expanded beneficial use of recycled water in the North Bay region to:

- Offset demands on potable supplies;
- Enhance local and regional ecosystems;
- Improve local, regional, and State water supply reliability;
- Maintain and protect public health and safety;
- Promote sustainable practices;
- Support the sustainable management of groundwater basins, and;
- Implement recycled water facilities in an economically viable manner.

## 4.3 Reasonable Range of Alternatives and Findings

Two action alternatives were analyzed in the Draft EIR/EIS at a project or program level of detail in addition to the “No Project Alternative” and the “No Action Alternative”. Each of the action alternatives (discussed below) were developed to meet the purpose, objectives, and need identified by the North Bay Water Reuse Authority (NBWRA).

- **No Project Alternative:** Discussion of the No-Project Alternative must examine the existing conditions and reasonably foreseeable future conditions that would exist if the project were not approved (CEQA Guidelines Section 15126.6(e)). Under the No Project Alternative, the NBWRP Phase 2 would not be implemented and none of the proposed construction would occur nor would related water supply benefits result.
- **No Action Alternative:** Consideration of the No Action Alternative is required under NEPA. The No Action Alternative represents a “future-without-project” scenario: a continuation of existing conditions for an estimation of the most reasonable future conditions that could occur without implementation of the Proposed Action or Storage Alternative. The No Action Alternative assumes that there is no joint project among the Member Agencies. It represents the “current status” in which additional wastewater treatment capacity and water recycling occurs strictly from the implementation of local plans for expansion, and the potential need to develop additional potable water supplies continues to be a regional challenge. In general, each Member Agency would continue to implement individual water recycling projects, subject to the availability of funding and completion of the environmental review process. The No Action Alternative would likely result in a smaller increment of water recycling projects within the region.
- **Proposed Action:** The NBWRP Phase 2, or Proposed Action, builds upon the NBWRA’s Phase 1 infrastructure investments, which included \$104 million in treatment, distribution, and storage projects to develop recycled water as part of the region’s water supply portfolio. Building on Phase 1 technology and infrastructure investments, the NBWRP Phase 2 would deliver increased yield through expanded treatment, new pipelines, and additional storage projects, while building resiliency into the region’s long-term water supply through the use of recycled water. The Proposed Action would provide 4,885 acre-feet per year (AFY) of recycled water supply through construction of 19.8 miles of pipeline, additional pump stations, 10 acre-feet (AF) of storage and 4.87 million gallons per day (mgd) of WWTP tertiary treatment capacity.
- **Storage Alternative.** The Storage Alternative would include the Proposed Action, as well as additional storage, treatment and distribution facilities to provide additional operational flexibility within individual Member Agency service areas. This alternative would include additional storage of 1,099 AF, treatment (0.85 mgd) and distribution facilities (11.0 miles) beyond the NBWRP Phase 2 to provide additional operational flexibility within individual Member Agency service areas. Implementation of this Alternative would result in an additional 1,934 AFY of recycled water compared to the Proposed Action, providing a total of 6,819 AFY of recycled water supply.

In addition to the alternatives of the project above, Chapter 6, Alternatives, of the Draft EIR/EIS examined the following alternatives to the Phase 2 Program:

- **Importation of Water**
- **Desalination**

### **4.3.1 No Project Alternative**

Discussion of the No-Project Alternative must examine the existing conditions and reasonably foreseeable future conditions that would exist if the project were not approved (CEQA Section 15126.6(e)). Under the No Project Alternative, NBWRA Phase 2 would not implement construction of facilities identified under the Proposed Action to provide a reliable recycled water distribution system to serve the water users in the MMWD, Novato SD, City of Petaluma, SVCSD, Napa SD, and City of American Canyon service areas.

#### ***Relationship to Project Objectives***

Implementation of the No Project Alternative would not provide the benefits of water reclamation which include supporting sustainable groundwater management, offsetting potable water demand, enhancing ecosystems, promoting sustainable practices, achieving economic viability, and protecting human health. Additionally, the No Project Alternative would not improve current water reliability, either locally or regionally, particularly during peak demand periods. The No Project Alternative would not comply with State goals for water recycling, and would not reduce or assist in management of discharges to San Pablo Bay.

#### ***Environmental Impacts***

Implementation of the No Project Alternative would avoid the construction related impacts and operational impacts identified for the proposed project. As identified in Section 3.0, most impacts associated with the proposed project would be reduced to a less than significant level through the incorporation of mitigation measures identified in the Draft EIR/EIS, with the exception of significant and unavoidable impacts for growth inducement (and archaeological resources for Napa SD). The No Project Alternative would not provide the benefits of water reclamation, which include recycled water use, potable supply savings, reduced reliance on surface and groundwater, reduced groundwater pumping, and habitat enhancement. Under current conditions, the No Project Alternative would not assist in alleviating current water reliability – either locally, regionally, or State-wide – particularly during peak demand periods. The No Project Alternative would not comply with State goals for water recycling and would not reduce or assist in management of discharges to San Pablo Bay.

#### ***Findings***

The No Project Alternative fails to achieve any of the project objectives, which are directed at improving water supply reliability, sustainable groundwater management, offsetting potable water demand, enhancing ecosystems, promoting sustainable practices, achieving economic viability, and protecting human health. Because it would not meet any of the project objectives,

and would fail to improve water quality and groundwater overdraft, the No Project Alternative is not considered environmentally superior.

### **4.3.2 No Action Alternative**

In addition to the No Project Alternative, the EIR examines a No Action Alternative, as required under NEPA. The No Action Alternative represents a “future-without-project” scenario: a continuation of existing conditions for an estimation of the most reasonable future conditions that could occur without implementation of any action alternatives. The No Action Alternative assumes that there is no joint project among the Member Agencies. It represents the “current status” in which additional wastewater treatment capacity and water recycling occurs strictly from the implementation of local plans for expansion, and the potential need to develop additional potable water supplies continues to be a regional challenge. In general, each Member Agency would continue to implement individual water recycling projects, subject to the availability of funding and completion of the CEQA process. The No Action Alternative would likely result in a smaller increment of water recycling projects within the region, as noted below. Additionally, the lack of federal funding may delay or preclude the implementation of individual planned projects, due to the need to increase user rates in order to provide funds for implementation. It is anticipated that the Napa Sanitation District (Napa SD) would not implement the Increase Soscol WRF Filter Capacity or the Soscol WRF Covered Storage projects, based upon the lack of funding for construction.

#### ***Relationship to Project Objectives***

Implementation of the No Action Alternative would partially meet some the NBWRP Phase 2 objectives, as it assumes that a smaller subset of recycled water projects, providing approximately 1,187 AFY of recycled water, would be implemented. The No Action Alternative would not satisfy any of the NBWRP Phase 2 objectives to the degree provided by the Proposed Action and Storage Alternative, and would not meet the objective of implementing recycled water facilities in an economically viable manner, as no supplemental State or federal funding would be available to the Member Agencies. The No Action Alternative would have a subset of the impacts identified in Chapter 3 of the Draft EIR/EIS, primarily associated with the construction of the facilities that individual Member Agencies would be able to implement without the benefit of regional coordination or federal funding.

The No Action Alternative would not involve the capital costs associated with the Proposed Action or Storage Alternative (described below). However, it would not be the most economically superior alternative. Financial constraints would limit implementation to local projects (e.g., Petaluma would only implement the Urban Recycled Water Expansion) and these projects would be ineligible for federal or State funding.

#### ***Environmental Impacts***

Under the No Action Alternative, projects in the Novato SD, Petaluma, and American Canyon service areas would likely occur and provide approximately 1,187 AFY of recycled water. This

represents approximately 3 percent of projected treated effluent discharged in 2025. Adverse environmental impacts associated with the construction of pipelines and pump stations would occur under the No Action Alternative, however to a lesser degree than the Proposed Action and Storage Alternative. The impacts would likely be shorter in duration and would affect fewer sensitive receptors than those expected under implementation of the Proposed Action, given the difference in scale between the alternatives. In general, construction-related emissions and impacts to air quality and increased ambient noise would result under the No Action Alternative. Similarly, the No Action Alternative would potentially affect cultural, surface water, or biological resources in these three service areas. The NBWRP service areas would experience some level of beneficial socioeconomic impact for all alternatives, with the exception of the No Project Alternative. However, this beneficial impact would be far more limited under the No Action Alternative.

Although the level of environmental impacts related to construction would be of a smaller scale, the No Action Alternative would not result in the level of potable offset for imported surface water, local surface water, and groundwater supplies that would be provided under the Proposed Action and Storage Alternative. Similarly, it would not substantially reduce the amount of treated effluent discharged to tributaries of North San Pablo Bay. Over time, it is expected that demand pressures on imported surface water, local surface water, and groundwater supplies would increase, and current water supply and delivery reliability issues would be exacerbated as growth under the approved General Plans within the NBWRP service areas occurs. The No Action Alternative would not take full advantage of a local, sustainable, and energy efficient water supply implementation.

## ***Findings***

Because it would not substantially offset potable demand or reduce groundwater pumping, and would not significantly reduce or assist in management of effluent discharge to San Pablo Bay, the No Action Alternative is not considered environmentally superior.

### **4.3.3 Proposed Action – NBWRP Phase 2**

As noted above, the Proposed Action – NBWRP Phase 2 – builds upon the NBWRA’s Phase 1 infrastructure investments, which included \$104 million in treatment, distribution, and storage projects to develop recycled water as part of the region’s water supply portfolio. Building on NBWRP Phase 1 technology and infrastructure investments, the Proposed Action would deliver increased yield through expanded treatment, new pipelines, and additional storage projects, while building resiliency into the region’s long-term water supply through the use of recycled water.

Collectively, the NBWRP Phase 2 would provide 4,885 AF of new recycled water for beneficial use and would include: installation of 19.8 miles of new pipelines, construction of facilities onsite at the existing wastewater treatment plant (WWTPs) to provide an additional 4.87 mgd of tertiary treatment capacity, and development of approximately 10.1 AF of storage, primarily for agricultural use. As with the Phase 1 projects, Phase 2 elements would offset drinking water that would no longer be used for non-potable uses, thus ensuring the highest quality water is reserved

for potable uses. The Proposed Action includes Napa SD's Increase Soscol WRF Filter Capacity and Soscol WRF Covered Storage projects.

### ***Relationship to the Project Objectives***

The Proposed Action would be consistent with the NBWRP Phase 2's stated objectives, as summarized above. From an economic standpoint, projected capital costs associated with the Proposed Action are estimated at \$66.0 million, with annual operations and maintenance costs estimated at \$1.3 million (Brown and Caldwell, 2017). This represents a lower cost than the Storage Alternative (described below).

### ***Environmental Impacts***

Based on the comparison of environmental effects in Appendix 6 of the Draft EIR/EIS, the Proposed Action is the environmentally superior alternative in almost all resource areas. As noted in Draft EIR/EIS Chapters 3 and 5, there would be significant and unavoidable impacts associated with the Proposed Action in the areas of growth and cultural resources. (The significant and unavoidable cultural resource impact would be realized only if Option A of the Soscol WRF Covered Storage project was implemented.) These significant and unavoidable impacts would also occur under the Storage Alternative. Draft EIR/EIS Chapter 3 recommends measures to mitigate any other significant impacts to a less-than-significant level. Effects on natural resources would be in proportion to the size and number of facilities proposed. Most of the adverse environmental impacts would be associated with construction activities. The Proposed Action requires construction of the least amount of infrastructure compared to the Storage Alternative; therefore, it would result in less construction-related impacts. The Proposed Action requires the least amount of storage, making use of existing storage or land available at the WWTPs.

### ***Findings***

The Proposed Action would achieve the project objectives with least environmental impacts and costs, although would not provide the benefits from increased storage that would be offered by the Storage Alternative. The Proposed Action would have the capacity to provide recycled water to offset potable demand and improve water supply reliability. The Proposed Action appears to best meet the stated objectives of the project, for the following reasons:

- 1) The Proposed Action provides offset for urban and agricultural demands on potable supplies, although not to the degree provided by the Storage Alternative.
- 2) The Proposed Action would provide recycled water to enhance local and regional ecosystems, as would the Storage Alternative and to a greater degree than the No Action Alternative.
- 3) The Proposed Action would improve local and regional water supply reliability, although not to the degree provided by the Storage Alternative.
- 4) The Proposed Action would maintain and protect public health and safety, as would all of the alternatives.

- 5) The Proposed Action would promote sustainable practices by providing recycled water, although not to the degree provided by the Storage Alternative.
- 6) The Proposed Action would promote sustainable management of groundwater basins by offsetting groundwater withdrawal, although not to the degree provided by the Storage Alternative.
- 7) The Proposed Action is less expensive than the Storage Alternative, but not the No Action and No Project alternatives.

#### **4.3.4 Storage Alternative**

This alternative would include the Proposed Action, as well as additional storage, treatment and distribution facilities to provide additional operational flexibility within individual Member Agency service areas. The Storage Alternative would include construction of: 1,099 AF of storage facilities in service areas of Novato SD (150 AF of secondary storage), SVCSD (49 AF of tertiary storage at the Mulas site), City of Petaluma (300 AF of secondary storage) and Napa SD (600 AF tertiary storage); additional tertiary treatment capacity at Novato SD RWF (0.85 mgd); and additional distribution facilities (11.2 miles of pipeline). Construction of storage facilities would have a construction footprint of approximately 79 acres. Implementation of this Alternative would result in an additional 1,934 AFY of recycled water supply compared to the Proposed Action, providing a total of 6,819 AFY of additional recycled water supply that would be available for beneficial use.

#### ***Relationship to the Project Objectives***

The Storage Alternative would be consistent with the NBWRP Phase 2 stated objectives, with one exception. It would provide a greater amount of recycled water to offset potable demand and increase water supply reliability. However, from an economic perspective, the Storage Alternative is not considered economically viable, as the storage elements which distinguish this alternative from the Proposed Action would not receive supplemental State and federal funding. This would represent an additional \$125.9 million in construction costs and \$1.9 million in annual operations and maintenance costs which the affected Member Agencies would need to cover with local funds or other undetermined funding sources.

#### ***Environmental Impacts***

The Storage Alternative is not the environmentally superior alternative in most resource areas given the increased physical magnitude of its storage elements. For instance, this alternative would have the potential to disturb an additional 79 acres when compared to the Proposed Action. This would generate more substantial impacts to resources, such as biological resources, cultural resources, and water quality (i.e., erosion). Also, due to additive nature of the Storage Alternative (i.e., the Proposed Action *plus* additional storage reservoirs) and potential for overlapping construction activities, it has been determined that this alternative would have significant and unavoidable impacts to air quality due to the potential exceedance of nitrogen oxides (NO<sub>x</sub>) significance thresholds. There would also be significant and unavoidable impacts associated with the Storage Alternative in the areas of growth and cultural resources. (The significant and

unavoidable cultural resource impact would be realized only if Option A of the Soscot WRF Covered Storage project was implemented.) Therefore, while the nature of the impacts would be of a similar sort as the Proposed Action, the severity of those impacts would be greater under the Storage Alternative.

### ***Findings***

Although it would provide greater offset potable demand or reduce groundwater pumping and reduce or assist in management of effluent discharge to San Pablo Bay, the Storage Alternative is not considered environmentally superior due to the greater magnitude of the potential environmental impacts, as explained above.

### **4.3.5 Importation of Water**

Under this alternative, potable or treated recycled water would be imported to Sonoma, Napa, or Marin counties from another community not participating in the NBWRA, such as Windsor, Yountville, Petaluma, Rohnert Park, Vallejo or Santa Rosa. For recycled water importation, a pipeline would be constructed from a sanitation district of another community to users in Sonoma, Napa, or Marin counties, with booster pump stations to maintain sufficient water pressure.

Even if water were imported from the nearest community, this alternative would require construction of a large conveyance pipeline network to serve the Member Agency services areas. Some pipelines would approach 65 miles in length. This alternative was analyzed for the three criteria that were used to assess the alternatives of the project above.

For potable water importation into the region, expansion of the Department of Water Resources (DWR) North Bay Aqueduct (NBA) would be necessary. The capacity of the NBA is currently fully allocated. This would also entail identification and acquisition of additional State Water Project (SWP) entitlements to serve additional supplies to the NBWRA service areas. For cost comparison, the Phase 1 Feasibility Study (CDM, 2008) included expansion of the NBA to provide 1,937 AFY of imported water to Napa MST area. Facility expansion would require a series of new pipeline alignments and booster pump station from Barker Slough.

### ***Relationship to Project Objectives***

Importation of recycled water into the NBWRP service area would have the potential to meet some of the objectives, in that it would provide a recycled water supply to offset the use of potable supplies for irrigation. However, it is not anticipated that this alternative would provide a more sustainable or cost effective water supply, given the pipeline distances involved.

Fundamentally, this alternative would not offset potable supplies currently used for irrigation. Rather, they would continue to use imported potable supplies to meet irrigation demands. These alternatives would not reduce the amount of treated effluent discharge to tributaries of North San Pablo Bay, and would not provide a reliable habitat enhancement water supply for the Lower Novato Creek or Bel Marin Keys restoration projects. Additional importation of potable supplies



would not improve the reliability to local water supplies, as SWP supplies are subject to drought year reliability.

### ***Environmental Impacts***

Importation of recycled water from an outside community would incur similar impacts as the alternatives discussed above. Impacts associated with pipeline construction would include short-term impacts to aesthetics, air quality, biological resources, cultural resources, hazards and hazardous materials, water quality, land use, noise, public services and utilities, and traffic. Pipeline construction could also result in temporary and permanent disturbance to jurisdictional wetlands and other waters, riparian habitat, special-status plant and animal species, and known or unknown cultural resources.

This alternative would cause lesser impacts to surface hydrology and reduce groundwater pumping; however, these effects would occur outside the NBWRA service areas and would not address groundwater pumping issues within these areas. Similarly, importing recycled water would not reduce wastewater discharge within the NBWRA service areas, since recycled water sources would lie outside these areas.

Importation of potable water would require additional infrastructure, which would result in construction-related environmental impacts and a potential increase in potable demand outside the NBWRA service areas. Importing potable water would not reduce wastewater discharge within these areas.

### ***Economic Feasibility***

Under this alternative, the Member Agencies would face the institutional constraints of developing an agreement to obtain either recycled water or potable water supplies, prepare the cost estimates associated with purchase of the water, and sharing the costs of constructing new distribution infrastructure. Importing water from outside communities to individual service areas could require pipelines in excess of what would be required to develop recycled water supplies for Member Agencies. For example, if water were imported to SVCSD from a community located at greater distances from Napa or Sonoma, such as Santa Rosa or Windsor, approximately 55 to 65 miles of pipeline would need to be constructed. It would require approximately 20 to 30 miles of pipeline to connect SVCSD to the Novato SD Recycled Water Facility, or the Napa SD Soscot Water Recycling Facility. For cost comparison, the Phase 1 Feasibility Study (CDM, 2008) included expansion of the NBA to provide 1,937 AFY of imported water to Napa MST area. Facility expansion would require a series of new pipeline alignments and booster pump station from Barker Slough. The cost of long-term water supply is assumed to be approximately \$12.1 million, a new distribution system cost is approximately \$49.8 million and the NBA expansion cost is approximately \$47.3 million (SCWA/USBR, 2008 updated to 2016 dollars). Napa County also estimates legal and administrative fees to implement this alternative would be approximately \$10 million. Therefore, total costs would be approximately \$119.1 million, which does not include annual O&M and maintenance costs. The costs for 1,937 AF of water to the MST area would be approximately \$2,389 per AF (Brown and Caldwell, 2017).

## ***Findings***

This alternative would not substantially meet the project objectives, would also result in substantial environmental impacts above and beyond those of the Proposed Action, would increase the overall cost of the Phase 2 Program, and would not substantially reduce significant unavoidable impacts that cannot otherwise be mitigated. Therefore, it is not considered feasible or a desirable alternative to the Proposed Action.

### **4.3.7 Desalination**

Desalination of saline water from San Pablo Bay would provide a reliable supply of water for irrigation. Currently, reverse osmosis (RO) treatment is the most cost-effective and feasible treatment option for desalination. The desalination plant could be sized and operated to provide a continuous source of supply. Due to the higher salinity of the source water and depending upon the efficacy of the RO process, the high salinity (approximately 35,000 milligrams per liter of total dissolved solids), a flow of 5,500 AF of source water would produce approximately 2,750 AF of desalinated water.<sup>1</sup> As such, higher feed pressure and need to increase the treatment capacity would result in a high electric power requirement.

The Marin Municipal Water District (MMWD) explored the viability of a desalination project that would provide supply to the MMWD Service Area. Construction of a 5.0-mgd desalination plant was proposed, with the ability to expand capacity in 5.0-mgd increments, up to a maximum capacity of 15 mgd. The source water from San Pablo Bay would undergo several treatment processes in the facility, including solid removal, reverse osmosis, and disinfection and addition of materials for taste. The potable product water generated at the facility would have been 50 percent of the source water flowing into the facility. The brine produced in the RO process would be blended with treated wastewater prior to discharge into the Bay. The solids would be disposed in the Redwood Landfill north of Novato.

### ***Ability to Meet Project Objectives***

This alternative would have the potential to meet some of the Phase 2 Program's stated objectives. However, desalination would not meet objectives to provide a reliable regional and local supply for habitat enhancement, would increase discharges to San Pablo Bay related to brine disposal, and would not improve the long-term sustainability of the regional water system or enhance sensitive ecosystems. Also, the construction of such a facility and follow-on operations and maintenance costs, as well as potential legal costs stemming from potential opposition, would exceed that of either the Proposed Action or Storage Alternative. Additionally, a substantial distribution system would be required to serve all Member Agencies.

### ***Environmental Impacts***

The environmental impacts associated with the desalination alternative would occur during construction of the project facilities similar to other alternatives. Construction activities would

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<sup>1</sup> Assuming 50 percent efficacy, the RO process would generate 50 percent desalinated water of the source water.

include construction of the RO plant, pipeline, and waterside facilities. Environmental impacts to aesthetics, ambient noise, and water quality are typically associated with desalination facilities.

Long-term effects would include water quality impacts from the discharge of the brine generated by the desalination process. The discharge would be dispersed by currents in San Pablo Bay, affecting temperature, nutrients, and turbidity and, therefore, the abundance and diversity of marine organisms. Areas of potential concern in relation to marine water quality include temperature, dissolved oxygen, or salinity; possible localized changes in currents or in turbidity, due to the presence of intake pipes on the ocean bottom or due to the pumping/discharge of effluents from the desalination plant; and possible changes in dispersion of sewage plume effluent due to added discharge of brine effluent from the desalination plant. As such, a desalination project would require a baseline study to establish offshore conditions prior to desalination plant startup; and perform quarterly marine water quality/biological monitoring in accordance with the San Francisco Bay Regional Water Quality Control Board requirements during operational phase. Implementation of a desalination plant would also require construction of new facilities, which would incur construction-related impacts similar to those anticipated under the Proposed Action. Therefore, the desalination alternative would have a similar level of temporary environmental impact when compared to the alternatives examined.

### ***Economic Feasibility***

The capital costs and operations and maintenance costs could be prohibitive: the estimated capital cost of the MMWD plant was estimated at \$121.1 million, with annual operations and maintenance costs as high as \$7.1 million. Further, there are high energy costs associated with this alternative in addition to the costs for land acquisition, construction of seawater intake and potentially a brine water discharge line and brine water outfall. In addition, considering the extremely high cost for desalination, coupled with its greater dependency on large quantities of power, this alternative was not carried forward for further analysis.

### ***Findings***

Because this alternative would not substantially meet the NBWRP Phase 2 objectives, would also result in substantial environmental impacts above and beyond those of the Proposed Action, would increase the overall cost of the Phase 2 Program, and would not substantially reduce significant unavoidable impacts that cannot otherwise be mitigated. Therefore, it is not considered feasible or a desirable alternative to the Proposed Action.

## **4.4 Environmentally Superior Project Alternative**

The Lead Agency is not required by CEQA or NEPA to adopt an environmentally superior alternative that will not feasibly attain project objectives or reduce environmental effects. In the process of selecting the environmentally superior alternative, NBWRA has evaluated several factors, including environmental effects, engineering and operational criteria, system reliability and flexibility, cost, and efficient coordination with other water recycling efforts, in determining which alternative is the best project to approve and implement.

CEQA and NEPA require that a Lead Agency demonstrate why a project or an alternative is selected. This is provided in the findings document. The Proposed Action has been identified as the most environmentally, equitable, and financially sustainable alternative that will effectively fulfill the NBWRP Phase 2 objectives. The Proposed Action would provide adequate conveyance, pumping, and storage capacity that would result in 4,885 AFY of recycled water, thereby offsetting a substantial amount of potable demand and reducing wastewater discharge to San Pablo Bay. The Proposed Action would achieve all of the program objectives with least environmental impacts and costs, although it would not provide the benefits from increased storage provided under the Storage Alternative. The Proposed Action would have the capacity to provide recycled water to offset potable demand and improve water supply reliability. The Proposed Action appears to best meet the stated objectives of NBWRP Phase 2 for the following reasons:

1. The Proposed Action provides offset for demands on potable supplies, although not to the degree provided by the storage elements of the Storage Alternative.
2. The Proposed Action would provide the recycled water to the Lower Novato Creek and Bel Marin Keys restoration projects.
3. The Proposed Action would have reduced facility related impacts, particularly related to new storage facilities. The Proposed Action would avoid potential significant and unavoidable air quality impacts related to the Storage Alternative. Additionally, impacts related to disturbance of approximately 79 acres to construct storage would be avoided. These include impacts in the issue areas of water quality, biological resources, cultural resources, and agricultural resources.
4. The Proposed Action would improve local, regional, and state water supply reliability, although not to the degree provided by the storage elements of the Storage Alternative.
5. The Proposed Action would maintain and protect public health and safety, as would all alternatives.
6. The Proposed Action would promote sustainable practices by providing recycled water, although not to the degree provided by the storage elements of the Storage Alternative.
7. The Proposed Action would promote sustainable management of groundwater basins by providing reliable water supply options for non-potable uses that would otherwise be drawn from local groundwater sources, although not to the degree provided by the storage elements of the Storage Alternative.
8. The Proposed Action is the least expensive, with the exception of the No Action and No Project alternatives.

The Proposed Action would improve water supply reliability with a major emphasis on local water use. Water reuse would provide environmental benefits by offsetting surface and groundwater use, reducing the need to develop additional water supplies, and reducing discharge to the Bay. Although an incrementally smaller amount of recycled water would be available, it would represent an economically feasible alternative. Implementing the Proposed Action would cost 56 percent less than the Storage Alternative. Since the Proposed Action would represent the lower cost Action Alternative and would be implemented with federal and State funding support, it is the most cost-effective for the Member Agencies. The Proposed Action would require the least amount of new storage and rely on increasing treatment capacities at existing facilities and using ponds on existing WWTP sites.

Compared to the Proposed Action, the Storage Alternative would increase regional storage options and provide incrementally more recycled water treatment and distribution facilities, albeit

with greater costs for the Member Agencies, construction impacts, and greater potential for conflict with natural resources. Therefore, the Storage Alternative is not the most environmentally superior alternative.

In general, both the Proposed Action and the Storage Alternative would meet the stated NBWRP Phase 2 objectives and comply with applicable regulations and policies. In relation to the stated program objectives and environmental impacts, the Storage Alternative would involve the greatest capital costs and maximum adverse environmental impacts due to the proportion of facilities that would be required. The benefit of reducing the amount of wastewater discharged to the Bay is counterbalanced by the environmental detriment caused during construction and facility operation; therefore, the Storage Alternative is not considered environmentally superior.

Based on the criteria set previously in this chapter for the alternatives analysis, with respect to its ability to meet the stated NBWRP Phase 2 objectives, its potential environmental impacts, and the cost of implementation, the Proposed Action is identified as the environmentally superior alternative. The Proposed Action would achieve the project objectives, result in lesser environmental impacts, and would incur lower costs. The Proposed Action would thus achieve all of the NBWRP Phase objectives while simultaneously providing a means for Member Agencies to achieve water management goals, meet future water demand, augment surface water use, and sustain environmental and water quality.

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## References

- Brown and Caldwell, 2017. North Bay Water Reuse Program Phase 2 Feasibility Study. June.
- Camp Dresser & McKee (CDM), 2008. U.S. Bureau of Reclamation and Sonoma County Water Agency *Phase 3 Engineering and Economic/Financial Analysis Report for the North San Pablo Bay Restoration and Reuse Project*, June.
- SCWA and USBR. 2008. Phase 3 Engineering and Economic/ Financial Analysis Report for the North San Pablo Bay Restoration and Reuse Project. Prepared by CDM Smith. June.