Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Amador Canal Water Conservation Project

Project Location: Amador County in the vicinity of Pine Grove (38° 23' 58.299" N Lat 120° 40' 4.46" W Long) Lake Tabeaud (38° 20' 57.71" N Lat 120° 39' 29.12" W Long), and Jackson (38° 23' 4.115" N Lat 120° 42' 31.401" W Long.)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Provides conservation to open channel canals

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Avoids stormwater sediment and contaminants loading.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Eliminates evaporation and percolation water losses.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Creates very high efficiencies in water transport.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Creates very high efficiencies in water transport.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Lower water wastage.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Conserves raw water for beneficial uses and minimizes losses.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☒ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☒Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☒Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☒Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☒Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The Amador Canal provides raw water to the Tanner WTP and customers. The water flows both in an uncovered earthen canal and a 120 year old riveted pipe. This untreated water system has extensive leaks, excessive percolation and is a tremendous waste of water. A conservative estimate is piping the Amador Canal would save approx. 1,600 A.F. / year. This annual raw water savings equates to conservation if that the water that is not lost through leaks and evaporation is available to make its way down the watershed providing a need elsewhere. Unmitigated leaks along the canal also have the potential to erode embankments above waterways and is subject to contamination simply because parts of the lower Amador Canal are exposed to the environment. Eroded embankments are subject to increased failure from heavy rainfalls, creating the possibility of landslides, mudslides, and/or flooding. Alternatives will be considered for the project.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☒ Planning/Initial Study
- ☐ Conceptual Design
- ☐ In Design
- ☐ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

- ☒ Yes
- ☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Study on the Feasibility of Supplying Potable Water to Customers Along the Upper Section of the Amador Canal in Central Amador County, Ken Zeier, P.E., 2009.
Standard design from American Water Works Association and Fire Code, and Industry practice for 20 psi at minimum flow rate from a 6-inch pipeline or greater.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 500,000

Annual O&M Costs: $ Click here to enter text.

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): Click here to enter text.

Cost Basis (if not 2021dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Higher efficiencies in water transport is extremely valuable because of increased beneficial flows that it provides.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Piping the Amador Canal is a responsible counter-measure to climate change as it dramatically reduces and / or eliminates the water lost due to evaporation and leakage it currently experiences. Reduced energy demand and thus a reduction in greenhouse gases is anticipated because less water will now be pumped out of the river to meet demand.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Piping the Amador Canal is a responsible counter-measure to climate change as it dramatically reduces and / or eliminates the water lost due to evaporation and leakage it currently experiences. Reduced energy demand and thus a reduction in greenhouse gases is anticipated because less water will now be pumped out of the river to meet demand.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

AWA serves the Jackson Band of Mi-Wuk Native American tribe at Jackson Rancheria and improving the infrastructure strengthens the system and controls water losses for more efficient operation and more storage to provide water for drinking and fighting fires.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Piping the Amador Canal is a responsible counter-measure to climate change as it dramatically reduces and / or eliminates the water lost due to evaporation and leakage it currently experiences. Reduced energy demand and thus a reduction in greenhouse gases is anticipated because less water will now be pumped out of the river to meet demand.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Permitting obstacles are minimal and many permits are already in place. No implementation risks are known at this time.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

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Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Ione Canal Water Conservation Project

Project Location: Amador County in the vicinity of Pine Grove (38° 23' 58.299" N Lat 120° 40' 4.46" W Long) Lake Tabeaud (38° 20' 57.71" N Lat 120° 39' 29.12" W Long), and Jackson (38° 23' 4.115" N Lat 120° 42' 31.401" W Long.)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Provides conservation to open channel canals

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Avoids stormwater sediment and contaminants loading.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Eliminates evaporation and percolation water losses.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Creates very high efficiencies in water transport.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Creates very high efficiencies in water transport.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Lower water wastage.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Conserves raw water for beneficial uses and minimizes losses.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☒ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☒Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☐Conjunctive Management & Groundwater Storage

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☐Recycled Municipal Water

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☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☒Urban Stormwater Runoff Management

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☒Ecosystem Restoration

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☐Water and Culture

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☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The Ione Canal provides raw water to a handful of agricultural customers. The water flows both in an uncovered earthen canal and a 120 year old riveted pipe. This untreated water system has extensive leaks, excessive percolation and is a tremendous waste of water. A conservative estimate is piping the Ione Canal would save approx. 650 A.F. / year. This annual raw water savings equates to conservation if that the water that is not lost through leaks and evaporation is available to make its way down the watershed providing a need elsewhere. Unmitigated leaks along the canal also have the potential to erode embankments above waterways and is subject to contamination simply because parts of the Ione Canal are exposed to the environment. Eroded embankments are subject to increased failure from heavy rainfalls, creating the possibility of landslides, mudslides, and/or flooding. Alternatives will be considered for the project.

Construction is included and could proceed almost immediately.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☐ Planning/Initial Study
- ☐ Conceptual Design
- ☒ In Design
- ☐ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

- ☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Standard design from American Water Works Association and Fire Code, and Industry practice for 20 psi at minimum flow rate from a 6-inch pipeline or greater.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 500,000

Annual O&M Costs: $ Click here to enter text.

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): Click here to enter text.

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Higher efficiencies in water transport is extremely valuable because of increased beneficial flows that it provides.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Piping the Ione Canal is a responsible counter-measure to climate change as it dramatically reduces and / or eliminates the water lost due to evaporation and leakage it currently experiences. Reduced energy demand and thus a reduction in greenhouse gases is anticipated because less water will now be pumped out of the river to meet demand.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

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More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

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13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

AWA serves the Jackson Band of Mi-Wuk Native American tribe at Jackson Rancheria and improving the infrastructure strengthens the system and controls water losses for more efficient operation and more storage to provide water for drinking and fighting fires.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

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17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

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Permitting obstacles are minimal and many permits are already in place. No implementation risks are known at this time.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
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- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Surface Storage Feasibility Study

Project Location: Amador and Calaveras Counties

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Could potentially include Calaveras County Water District, East Bay MUD, San Joaquin County, Amador County, Jackson Valley Irrigation District and other GBA participants

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Expand capacity for additional water storage

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Reliable storage of water to provide more water as climate change makes it more difficult to find more source water for potable use.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Look at new surface water storage facilities to store more water

☒ Goal: Develop appropriate drought mitigation measures.

Description: Reliable storage of water to provide more water as climate change makes it more difficult to find more source water for potable use.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Study potential new sites for new storage reservoirs for more AWA source water storage.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☒Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☒Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed

Agriculture, Snow Fences, Waterbag
Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

This project would conduct a regional assessment to evaluate the feasibility of constructing additional surface storage – including both on-stream and off-stream storage opportunities- in Amador and Calaveras Counties. The study would include discussions on location, technical feasibility, economic feasibility, and legal feasibility.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☒ Planning/Initial Study
- ☐ Conceptual Design
- ☐ In Design
- ☐ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

- ☒ Yes
- ☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Click here to enter text.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 250,000

Annual O&M Costs: $

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): 100

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

These projects could provide many million kilowatt hours of clean energy as well as more water storage to combat climate change and extreme drought events.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your

project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

This projects could provide millions of kilowatt hours of clean energy. Additional surface water storage will provide relief to groundwater usage and pumping, especially when groundwater will need to be pumped and cause greenhouse gas emissions.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

CCWD, EBMUD, PG&E, JVID, CPUD, San Joaquin County and other GBA participants

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Any new storage options will serve the Jackson Band of Mi-Wuk Indians.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Additional water storage is required to combat climate change and lower snow runoff volumes for longer periods of time.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☐ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☒ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The Water Agency would investigate the potential to construct additional surface storage facilities, however any additional reservoir storage project is difficult to plan, design and

construct without educating the public on climate change and extreme drought that make any additional water storage vital to sustaining public health and the right of potable water to all.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Camanche Area Regional Water Supply Project Phase II (CARWSP II)

Project Location: Lake Camanche Village, CA (38°17'50.488"N Lat 120°57'17.725"W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: By combining water sources, both surface and groundwater, AWA can reduce contaminants naturally occurring in the groundwater and provide safe, adequate, and economically viable potable water to the community.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Project adds additional source water to the community.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Project adds reliability to the water system with two sources of water with the existing groundwater source quality questionable at various well sites.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Title 22 water will be utilized for irrigation and ranch water.

☒ Goal: Develop appropriate drought mitigation measures.

Description: By utilizing two water sources for the community, AWA can better handle drought conditions.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Conserve the groundwater aquifer by combining with surface water.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☒Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☒Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☒Groundwater and Aquifer Remediation

☒Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

In 2011, the Amador Water Agency (AWA) partnered with East Bay MUD (EBMUD) and Calaveras County Water District (CCWD) to prepare the Camanche Area Regional Water Supply Plan (CARWSP). CARWSP identified preferred regional projects that would correct the critical drinking water quality issues in the Camanche Area. The overall purpose of the initial phase of CARWSP was to identify water supply sources potentially available to improve the water supply reliability to meet both current and future water demand.

Through discoveries made in identifying sources of supply it was determined conjunctive use would best serve the Amador Water Agency. AWA could make use of surface water supply from East Bay MUD's new water treatment plant, which is being installed during CARWSP Phase I, to blend with its current groundwater supply in order to meet current and future demands. This project seeks to implement CARWSP Phase II.

Amador Water Agency's groundwater system in Lake Camanche consists of 4 wells, 6 tanks (0.58MG), and 4 booster pump stations. Wells 6, 9, and 12 and their associated redwood tanks were installed over 25 years ago. Well 14 is our newest well and was installed in 2007. All of these wells have exhibited sporadic reliability over the years with Wells 6 and 12 losing a dramatic amount of flow in the early 2000's. Well 12's flow rate went from 300+GPM to 100 gpm. Well 6 went from 250+ GPM down to 130 and also suffers from large drawdowns in summer, and due to storage and pressurization problems it can only run for a portion of each day. Wells 9 and 14 are the best producing wells with flows of 300 gpm and 270 gpm respectively but both wells will fail bacteriologic samples when pumped at higher flow rates and well 14 also has increasing levels of iron and iron bacteria. These well issues, greatly inhibit the Amador Water Agency's Lake Camanche system from being able to meet both near and long term peak demand requirements for approved development. A treated surface water source (CARWSP II) will allow the Amador Water Agency to reduce growing demands on groundwater.

CARWSP Phase II would connect to EBMUD's treated surface water via an intertie valve and would pump the water to two 0.5 MG storage tanks at the Tank 9 site. AWA would then be able to abandon wells 6 and 12 and reduce the output of wells 9 and 14 and blend surface water with groundwater. This project would eliminate the contamination issues associated with well over draft, allow the aquifer to recharge, manage groundwater resources, and provide an adequate supply with better quality to the ratepayers of Lake Camanche in both the short and long term.

This project could also be implemented in phases. These phases could be - Phase IIA – intertie EBMUD's treated surface water to AWA's well distribution system at Unit 6 and add some of AWA's capacity to the new EBMUD water treatment plant (CARWSP I). Phase IIB –

Install a pump station and pipeline to feed Tank 9 allowing blended surface and well water to gravity flow throughout the entire system. Phase IIC – Install a pipeline from an area near Well 14 to the Tank 8 and 10 service areas. Phase IID – Install a new 0.5MG tank at the Tank 9 site which will eliminate tank and pump station 6 and allow tank and pump station 12 to be turned off and only used as back up supply. Phase IIE – Upsizing of selected distribution mains for distribution system flow improvements.

Lake Camanche Hills Estates (38° 17' 50.488" N Lat 120° 57' 17.725" W Long).

Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☒ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

5) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

6) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

2012 CARWSP Alternatives Evaluation Tammy Quails, P.E. - RMC Lindsey Wilcox - RMC 2013 Camanche Area Regional Water Supply Plan (CARWSP) Feasibility Study and Conceptual Design Lindsey Wilcox – RMC 2015 CARWSP II Design and environmental in progress - Marc Nakamoto RMC

7) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 6,500,000

Annual O&M Costs: $ 70,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): 50

Cost Basis (if not 2021 dollars): 2012

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Based on Engineering Estimates from RMC.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

8) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

9) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Climate change has a direct effect on the recharge of the aquifer. The more efficient the groundwater is utilized, the longer that source water will be available for the public. By replacing some of the groundwater with surface water, the groundwater source will last longer.

10) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Climate change has a direct effect on the recharge of the aquifer. The more efficient the groundwater is utilized, the longer that source water will be available for the public. By replacing some of the groundwater with surface water, the groundwater source will last longer.

More Information

11) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

This project would benefit the EBMUD as they are the other entity at Lake Camanche servicing wastewater needs.

12) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

13) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

14) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

15) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Treatment of wastewater for recycling is a best management practice for reuse of this vital resource. The existing wastewater treatment facility is under Cease and Desist Orders and the WWTF has difficulty treating the wastewater and disposing of the treated effluent via spray irrigation and insufficient storage during the wet winter months for large storm events of 100 years or greater.

Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Treatment of wastewater for recycling is a best management practice for reuse of this vital resource. The existing wastewater treatment facility is under Cease and Desist Orders and the WWTF has difficulty treating the wastewater and disposing of the treated effluent via spray irrigation and insufficient storage during the wet winter months for large storm events of 100 years or greater.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Ione Treatment Relocation Planning Study

Project Location: Ione WTP (38°21'2.072"N Lat 120°55'3.680"W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Make best use of source water and treat potable water as efficiently as possible with a reliable system

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Rehabilitation of the Tanner WTP will provide years of reliable potable water service.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Continue with efficient drinking water treatment design and operation

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Conserve water by treating the raw water as efficiently as possible.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The Ione WTP is a refurbished plant located on top of a small hill and is site constrained for further expansion. The Ione WTP is an old conventional treatment plant updated in 1986. The plant is at or near its rated capacity. Future demand on this existing plant will place excessive strain on already aging parts, causing increased risk of failure to provide safe drinking water. If these parts fail, pipes and tanks could quickly go dry, risking a loss of firefighting water supply for the service area. A new water treatment plant with a larger capacity is needed to meet the future needs of the service area. The new water treatment plant would be able to expand capacity on-site as needed, with all water treatment being consolidated to the new WTP after construction of the new WTP.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☒ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

2021 – Amador Water Agency Water Master Plan (Keller Associates, Inc.)

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 500,000

Annual O&M Costs: $NA

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): NA

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With climate change there will be a decrease of source water and the Ione WTP will need to process drinking water as efficiently as possible.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

The existing facilities will be rehabilitated on AWA property at the Ione Reservoir site.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

The City of Ione and potentially JVID would benefit from a new WTP at the Ione Reservoir.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

The water agency believes that a new water treatment facility, with incremental capacity expansions, and improved chemical usage with conventional treatment technology that this is the best project to meet social and environmental perspectives once all existing or incremental water treatment capacity is exhausted. The economic perspective is dependent on funding sources beyond existing customers.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The Amador Water Agency owns the parcel of land anticipated for the new water treatment plant which is adjacent to the Ione Reservoir. The California Department of Public Health under the jurisdiction of DWR would be responsible for issuing the water permit. The proposed treatment plant would use the same conventional treatment technology and equipment. The Amador Water Agency does not expect any permitting barriers for this project. A new plant with increased efficiency will reduce the operation and maintenance costs. Growth inducement is a typical area of controversy and this project is designed to accommodate incremental capacity expansions so capacity would occur only as needed. This method of incremental capacity should help to minimize the concerns of growth inducement. The economic downturn slowed new construction, however most recently new population growth has substantially increased in Ione. The Amador Water Agency will maximize capacity of existing facilities at Ione WTP and make interim improvements that will cover immediate treated water needs until the construction is completed for a new WTP at the Ione Reservoir, at which time all capacity would be consolidated to the new WTP at the Ione Reservoir.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Upper-Lower Water System Reliability Intertie Project

Project Location: Ridge Road (38° 24'1.508" N Lat 120° 43' 57.014" W Long) New York Ranch Road (38° 23' 59.389" N Lat 120° 43' 56.937" W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Emergency intertie from the CAWP and AWS water systems.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Maintaining water supply and/or fire demand water available during a catastrophic failure of the AWS water system

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The Upper-Lower Water System Intertie would allow for emergency water from the CAWP system to be transferred to the AWS system in a catastrophic failure of the Tanner WTP. The Tanner WTP is an aging WTP with significantly limited storage capacity. Due to it's age, the Tanner WTP regularly must shutdown due to unexpected failures. If shutdowns last more than a few hours, pipes could go dry and drinking water would not be provided to the City of Jackson, City of Plymouth, Drytown City of Sutter Creek, Amador City and the Martell area. This loss of potable water could also cause the failure of the sole water storage tank and contamination of the sole drinking water supply for the cities and areas listed above. In addition a multitude of regulatory violations could result. The study would look at the cost vs benefit of pumping water up to the CAWP system from the AWS system as that type of transfer would be much more expensive than gravity flow down to the AWS system.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Click here to enter text.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 300,000

Annual O&M Costs: $ TBD

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): Click here to enter text.

Cost Basis (if not dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With climate change there will be an increase in forest fires and the increased need to meet minimal fire flow requirements throughout. By constructing an intertie, AWA would have an emergency source of water from the CAWP to the AWS system and potentially an emergency source pumped from the AWS system to the CAWP system.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Click here to enter text.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Ione, Plymouth, Jackson, Sutter Creek, Martell, Amador City, Drytown, and Pine Grove would benefit from an emergency intertie between the AWS and CAWP systems.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

AWA serves the Jackson Band of Mi-Wuk Native American tribe at Jackson Rancheria and improving the infrastructure strengthens the system and controls water losses for more efficient operation, especially in an emergency.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

An emergency intertie with a way of metering flow is a feature a lot of communities require for added protection in case of a major catastrophe.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☐ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☒ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Pipelines, pressure reducing valves, and possible pumping stations would be required to transfer emergency water up or down the hill.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Lake Camanche Transmission Main Planning Project

Project Location: Lake Camanche Village, CA (38°15'55.964"N Lat 120°59'15.295"W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: By combining water sources, both surface and groundwater, AWA can reduce contaminants naturally occurring in the groundwater and provide safe, adequate, and economically viable potable water to the community.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: By adding a main transmission line, several tanks and pumping stations can be eliminated from the system and the water quantity and pressure more guaranteed.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Project minimizes infrastructure by reducing the number of tanks and pumping stations needed and provides more reliable pressure and flow to the community

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: By adding a main transmission line, several tanks and pumping stations can be eliminated from the system and the water quantity and pressure more guaranteed.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Project will provide more efficient use of limited potable water resource, especially during drought events.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Project will enhance the groundwater natural resource by providing a more efficient system and more reliability for flow and pressure.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☐Water Transfers

☒Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☒Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

This project will conduct planning reports, acquire land and perform environmental reviews required for the design of a transmission pipeline from well 14 to Tank 10. This transmission line will eliminate for tanks 8, 10, and their associated pump stations, in the distribution system and will provide additional supply, fire flow protection, and storage for the Front Village during peak and summer demands. Currently, in order to allow water to flow into Tanks 8 and 10, their respective booster pump stations must be turned off which reduces domestic pressure and fire protection. This creates fluctuating system water quality and leaves the system vulnerable during firefighting events. This system will convey water by gravity and the elimination of the booster pump stations at 8 and 10 will reduce energy consumption and Greenhouse Gas Emissions. This transmission line will greatly facilitate the objective of providing a uniform water supply throughout the subdivision while eliminating aging and failing infrastructure. Tanks 8 and 10 have a history of water loss and are constructed of redwood and other materials now approaching the end of their useful life. The Amador Water Agency recently provided a short extension of life by placing liners in the tanks. These are expected to have a life expectancy of less than 10 years. **:** Lake Camanche (38° 15’ 55.964” N Lat 120° 59’ 15.295” W Long).

Readiness to Proceed

Please indicate your project’s readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☒ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

5) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

6) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

2009 Technical Information Engineering Report for the Camanche System
2020 Amador Water Agency Water Master Plan Study (Keller Associates, Inc.)

7) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 500,000

Annual O&M Costs: $

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years):

Cost Basis (if not 2021dollars):

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Based on Engineering Estimates from 2009 Technical Information Engineering Report and 2020 Amador Water Agency Water Master Plan Study (Keller Associates, Inc.).

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

8) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

9) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

This project will plan, acquire land, and perform environmental reviews to convey water by gravity and eliminate two (2) booster pump stations, thereby reducing energy consumption and Greenhouse Gas Emissions.

10) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

This project will plan, acquire land, and perform environmental reviews to convey water by gravity and eliminate two (2) booster pump stations, thereby reducing energy consumption and Greenhouse Gas Emissions.

More Information

11) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

This project would benefit the EBMUD as they are the other entity at Lake Camanche servicing water needs.

12) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

13) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

14) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

15) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

This project will plan, acquire land, and perform environmental reviews to install a main transmission line to eliminate several water storage tanks that have reached the end of life and eliminating booster pumping stations and providing better control of water flow and pressure from a gravity system of higher tanks will provide the community with a much improved system that is in need of replacement.

Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

This project will plan, acquire land, and perform environmental reviews to replace or remove existing infrastructure and place a new transmission pipeline into existing utility alignments for a new, gravity feed system.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Mt. Crossman Tanks Replacement and Consolidation Project

Project Location: Mace Meadows area (38°24'20.441"N Lat 120°38'46.505"W Long) down to Sunset Heights area (38°24'51.084"N Lat 120°41'43.801"W Long) along HWY 88

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

X Goal*:* Reduce sources of contaminants.

Description: By reducing the overall number of aged tanks the Agency will thereby reduce the potential for contamination overall both from failing, aged tanks (metals) and point source contamination points. (leaks, failing roofs, vents, etc.)

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Add adequate storage in the right locations and consolidate smaller tanks for fewer smaller ones for fire flow requires sufficient firm yield water supply

☒ Goal: Maintain and improve water infrastructure reliability.

Description: To maintain low pressure fire flow requires adequate water storage in tanks at the right locations in the system.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: By eliminating some tank sites, that ground can be restored

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☒ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Eliminated storage tank sites could provide public access opportunities

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The Central Amador Water Project (CAWP) is a combination of water systems that have been consolidated over time to form the CAWP system. The distribution system for CAWP has 27 tanks totaling 4.8 MG of available storage serving AWA's retail customers and two wholesale customers, First Mace Meadows Water District and Pine Grove CSD. Many of these tanks within this system have reached the end of their useful life. The structural steel of some of these tanks have reached a point where their structural integrity is questionable and they have developed leaks and leaks continue to develop at an increasing rate over time. Because of these facts, the California Department of Drinking Water has urged the Amador Water Agency to find ways to replace and eliminate tanks within the CAWP system not only to reduce the threat of potable water contamination due to contaminants entering the tank which can introduce animal feces from birds, bats, rats and other small animals, but also tank leakage resulting in water losses. This project will improve fire protection and eliminate the many safety hazards associated with failing infrastructure.

To feed the water distribution systems in the upper Pioneer area, treated water is transferred from the Buckhorn Water Treatment Plant to the Mt. Crossman pump station. This pump station then feeds four water tanks operated by AWA, serving the Ridgeway Pines, Silver Lake Pines and Mace service areas. There are approximately 345 service connections and 40 stand-by connections within these subdivisions, 2 distribution pump stations, 2 hydro-pneumatic tanks, and four pressure reducing vaults.

This project would include construction of a replacement 600,000 gallon tank, upgrades to the Mt. Crossman pump station and interconnection piping, facilitating the removal of all four existing tanks, 2 distribution pump stations and 2 hydro-pneumatic tanks.

The Mt Crossman Tank replacement project would to comply with the Department of Public Health's recommendation to eliminate failing tanks within the CAWP system with new, reliable infrastructure thus eliminating sources of potable water contamination, and safety hazards all while greatly reducing O&M costs associated with tank and appurtenance maintenance Pioneer area (38° 25' 54.678" N Lat 120° 34' 18.738" W Long).

Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☒ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

5) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

6) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Standard design from American Water Works Association for steel storage tanks and all are existing water storage tank sites.

7) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 11,298,427

Annual O&M Costs: $ 5,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): 50

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Ballpark conceptual stage numbers based on other system upgrades

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

With wildfires increasing in California with climate change, there will be an increased need to have adequate fire flow to give communities a chance at fighting these fires.

8) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

9) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With climate change there will be an increase in forest fires and the increased need to meet minimal fire flow requirements throughout. By increasing pipeline sizes and storage sizes, adequate water can be provided to protect the communities.

10) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

More efficient larger potable water storage tank will allow AWA to provide service with less tanks and require less pumping to meet peak hourly demand as the tank volumes will handle that demand.

More Information

11) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

This project would benefit the Amador Water Agency's retail customers as well as wholesale customers First Mace Meadows Water District and Pine Grove CSD.

12) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

13) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

14) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

15) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Fire flow and necessary minimal pressure is a public safety issue and a high purpose

16) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Replacing existing pipelines so areas of construction have already been impacted.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Ione Clearwell Cover Hypalon Replacement Project

Project Location: Ione WTP (38°21'2.072"N Lat 120°55'3.680"W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Animals get entrapped in the liner and claw their way out or die, causing damage to the liner and introducing contaminants to the water.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: The floating covers will melt immediately in a fire event. By replacing the plastic covers with aluminum or steel covers, the water supply will remain intact for a longer period of time.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

This project would replace the aging floating cover at the Ione Water Treatment Plant (WTP) treated water storage facility. This cover is made of hypalon (chlorosulphonated polyethylene) and is prone to pinhole leaks on the surface and cracks in the folds where water, debris, bacteria, and dead animals can collect. These contaminates then leach into the drinking water, potentially causing unhealthy side effects. These issues can compromise the public water supply and are possible sources of contamination as identified in various CA DPH annual inspections. The California Department of Public Health no longer allows floating covers to be installed on treated water storage supplies. To maintain this cover, it is necessary to keep small, submersible pumps on top of these covers in order to pump off rain water and reduce the potential for contaminant infiltration through these leaks. Debris from trees, birds, animals, etc. can mix with the standing water on these covers which in turn creates a potent source of contamination for the water supply. This project s a regulatory requirement and a safety hazard in need of immediate replacement to allow the system to continue to provide safe reliable water.

Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☐ Planning/Initial Study
- ☐ Conceptual Design
- ☒ In Design
- ☐ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

Click here to enter text.

5) Planning Horizon

Is the project expected to be completed by 2027?

- ☒ Yes

☐ No

6) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Standard design from American Water Works Association for steel storage tanks and is an existing water storage tank.

7) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 500,000

Annual O&M Costs: $ 6,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): 50

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Ballpark conceptual stage numbers based on other system upgrades

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

8) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

9) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With more extreme weather and higher temperatures, the existing cover has had more integrity issues. Replacing the cover now will reduce the amount of water lost due to leakage through the cover, thus reducing electricity consumption and greenhouse gas emissions.

10) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

With more extreme weather and higher temperatures, the existing cover has had more integrity issues. Replacing the cover now will reduce the amount of water lost due to leakage through the cover, thus reducing electricity consumption and greenhouse gas emissions.

More Information

11) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

This project would benefit the Amador Water Agency's retail customers, as well as commercial and industrial customers in and around Ione such as Mule Creek State Prison, CalFire Training Center, and Specialty Granules Inc.

12) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

13) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

14) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

15) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

The covers represent a high potential for contamination and damage during a fire.

16) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The replacement cover at the Ione WTP will mitigate any environmental concerns.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Lake Camanche Water Service Replacement – Phase IV

Project Location: Lake Camanche, CA (38°14'58.396"N Lat 120°56'59.928"W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan ~~2018~~ Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan ~~2018~~ Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal: Reduce sources of contaminants.

Description: Laterals feed each house potable drinking water. With the failures of the lateral pipelines, the potential for contamination goes up and therefore these defective service laterals need to be replaced.

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Leaking service laterals contribute to stormwater and transport of sediment and contaminants.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Replacement of defective service laterals provides system reliability.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Replacement of defective service laterals provide an efficient system that helps reach water conservation goals.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Provides more water as less is lost.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Bad water service laterals need to be replaced to prevent health and safety issues and improve the efficiency of the system to avoid unneeded system losses.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☒Matching Water Quality to Use

☒Pollution Prevention

☒Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☒Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed

Agriculture, Snow Fences, Waterbag
Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

Lake Camanche Water Improvement District No. 7 (WID #7) is a groundwater system with a series of wells, storage tanks, hydro-pneumatic tanks and booster pumping stations with an estimated yearly production of 100 million gallons that serves approximately 1,700 people in the severely disadvantaged community of Camanche Village.

This project proposes to replace approximately 90 of the remaining 353 polyethylene ("poly-tube") service laterals within the system. These laterals were originally installed in the late 1970's with a poly-tube that has a tremendously high failure rate and is no longer constructed. These laterals become very brittle and are subject to severe longitudinal cracking. Thus, they regularly leak and fail, causing significant damage to other infrastructure and substantial water losses. Often times these leaks cause underground streams that do not surface and go unnoticed for years. Agency crews, on average, repair and replace twenty laterals each year as they fail. Total replacement of the remaining poly-tube service laterals is needed.

Approximately 540 service connections ~~will~~ have been replaced with the completion of previous projects in this area. This has reduced system losses by an estimate of over 3.4 million gallons annually, increasing the water supply by an additional 10.4 AFY. This project is anticipated to increase annual water savings by an additional ~~3~~0.76 million gallons annually for an additional annual water savings of 2.3~~9.2~~ acre feet of water per year.

Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☐ Planning/Initial Study
- ☐ Conceptual Design
- ☐ In Design
- ☒ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

Click here to enter text.

5) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

6) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Standard design from American Water Works Association for service laterals.

7) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ ~~2,328~~600,000

Annual O&M Costs: $ 1~~5~~,25~~00~~0

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): every 50-80 years

Estimated Project Life (Years): 50

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Based on past Phase I - III system upgrades, and AWA's 2020 Water Master Plan Study by Keller & Associates.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

The service laterals are failing and need to be replaced as soon as practical to avoid Health and Safety issues as well as conservation goals with the climate change factors limited water supply. AWA's 2020 Water Master Plan Study by Keller & Associates

8) Financing

How will your project be financed? What are the funding sources for your project?

Unknown. Grants and loans?

9) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Climate change has a direct effect on the recharge of the aquifer. The more efficient the groundwater is utilized, the longer that source water will be available for the public.

10) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Climate change has a direct effect on the recharge of the aquifer. The more efficient the groundwater is utilized, the longer that source water will be available for the public.

More Information

11) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

This project would benefit the EBMUD as they are the other entity at Lake Camanche servicing potable water needs.

12) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

13) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

14) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

15) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

No other alternatives exist to replacing leaking laterals that provide the same levels of service to the existing ratepayers. Additionally, by reducing water loss, the treatment and distribution costs for the ratepayers should be reduced proportionally.

Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

No other alternatives exist to replacing leaking laterals that provide the same levels of service to the existing ratepayers. Additionally, by reducing water loss, the treatment and distribution costs for the ratepayers should be reduced proportionally.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Amador Water Agency Treated Water Supply Study

Project Location: Amador County in the vicinity of Pine Grove (38° 23' 58.299" N Lat 120° 40' 4.46" W Long) Lake Tabeaud (38° 20' 57.71" N Lat 120° 39' 29.12" W Long), and Jackson (38° 23' 4.115" N Lat 120° 42' 31.401" W Long.)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Provide drinking water to raw water only service connections

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Provide drinking water and avoid stormwater sediment and contaminants loading to the existing raw water service connections.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Connecting homes with raw water only source to a potable water system that will provide sufficient drinking water to their homes.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Connecting homes with raw water only source to a potable water system that will provide sufficient drinking water to their homes and provide adequate fire protection of flow and pressure to their homes.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Potable water for drinking water and raw water for agricultural/irrigation uses.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Lower water usage on metered water for potable water use is well documented.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Conserve raw water for irrigation uses and provide drinking water to households without proper drinking water.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☒ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☒Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☒Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☒Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☒Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

Historically, some residents of Amador County along the Amador Canal have utilized untreated (raw) water in their homes for domestic use. They have no access to a potable water supply. This study would look at options to bring a treated water pipeline and in turn provide treated water to those residents. The project would also bring fire flow to the households to provide adequate flow and pressure during a fire. Supplying treated water will eliminate the potential health hazards / concerns that arise from using untreated (raw) water for domestic use. This project encompasses areas within the vicinity of Jackson, Lake Tabeaud, and Pine Grove in Amador County. Amador County in the vicinity of Pine Grove (38° 23' 58.299" N Lat 120° 40' 4.46" W Long) Lake Tabeaud (38° 20' 57.71" N Lat 120° 39' 29.12" W Long), and Jackson (38° 23' 4.115" N Lat 120° 42' 31.401" W Long.)

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☒ Planning/Initial Study
- ☐ Conceptual Design
- ☐ In Design
- ☐ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

- ☒ Yes
- ☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Study on the Feasibility of Supplying Potable Water to Customers Along the Upper Section of the Amador Canal in Central Amador County, Ken Zeier, P.E., 2009
Standard design from American Water Works Association and Fire Code, and Industry practice for 20 psi at minimum flow rate from a 6-inch pipeline or greater.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 100,000 (study)

Annual O&M Costs: $ TBD

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): 50

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Everyone deserves potable drinking water as a human right.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With climate change, raw water for irrigation will become less available and drinking water will become a priority for indoor water use. This project will provide drinking and fire protection water to households that presently only have raw water connections off of the canal.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

With climate change, raw water for irrigation will become less available and drinking water will become a priority for indoor water use. This project will provide drinking and fire protection water to households that presently only have raw water connections off of the canal.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

AWA serves the Jackson Band of Mi-Wuk Native American tribe at Jackson Rancheria and improving the infrastructure strengthens the system and controls water losses for more efficient operation and more storage to fight fires.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all. All people have a right to drinking water at their households.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Drinking water and fire flow are a public safety issue and a human right

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Most options in the study would utilize the existing canal right-a-way

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Community Leachfield Groundwater Nitrate Study

Project Location: Amador County – (Pine Grove (38° 24' 48."066 N Lat 120° 39' 32.873" W Long) and Pioneer (38° 25' 54.678" N Lat 120° 34' 18.738" W Long) areas

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Minimize nitrate contamination of groundwater

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Making sure groundwater sources are protected from nitrate contamination.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Study impact of nitrates in groundwater on existing infrastructure.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Study would look at recycling of the wastewater to minimize nitrate impact to groundwater.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Long-term water availability from wells without contamination of nitrates.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Potential recycling of the wastewater to minimize nitrates in groundwater.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☒Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☒Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☒Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☒Salt and Salinity Management

☐Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☒Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The Amador Water Agency operates nine small community leachfield systems. Some of these systems' monitoring wells (particularly Wildwood Estates Leachfield System) have showed continuing nitrate level increases over time. The Agency would like to complete a study that analyzes nitrate level rise in all of the community leachfield systems they operate to develop a course of action for the best possible long term solution to minimize nitrate level rise in the systems which might otherwise exceed state levels. Amador County – (Pine Grove (38° 24' 48."066 N Lat 120° 39' 32.873" W Long) and Pioneer (38° 25' 54.678" N Lat 120° 34' 18.738" W Long) areas.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☒ Planning/Initial Study
- ☐ Conceptual Design
- ☐ In Design
- ☐ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

- ☒ Yes
- ☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Click here to enter text.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 100,000

Annual O&M Costs: $ TBD

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): Click here to enter text.

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Everyone deserves potable drinking water as a human right.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With climate change, groundwater quality and wastewater recycling will become even more important.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Project would potentially include renewable energy sources for water and wastewater treatment.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all. All people have a right to drinking water at their households.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Groundwater must be protected from contamination of nitrates that exceed the States MCL

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Study would look at options on existing AWA property or right of ways.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Martell Wastewater Lift Station Reduction Project

Project Location: Martell (38° 22' 0.686" N Lat 120° 47' 45.768" W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Reducing number of lift stations reducing changes of leaks and spillage

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Reducing the number of lift stations reduces the opportunity of receiving additional flows from stormwater I/I

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Minimizing lift stations removes additional O&M that is required to operate the system reliable.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Power conservation with higher efficiency equipment and less of it.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☒Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☒Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

Martell's wastewater collection system consists of 6 lift stations that convey the wastewater collected from the homes and businesses in Martell to Sutter Creek for treatment and disposal. At least 2 of the lift stations in Martell are at least 35 years old and require an ever increasing amount of maintenance and repair to keep operational. Wastewater in parts of Martell is also pumped twice – from lift station to lift station before being sent to Sutter Creek for treatment and disposal.

This project seeks to eliminate double pumping of wastewater by reducing the number of lift stations within the Martell area and expanding the ones that would remain. This would save pumping costs, improve infrastructure reliability and in the end save the Amador Water Agency and its customers money.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☒ Planning/Initial Study
- ☐ Conceptual Design
- ☐ In Design
- ☐ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

- ☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Click here to enter text.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 150,000

Annual O&M Costs: $ TBD

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): 50

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Everyone deserves potable drinking water as a human right.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Double pumping would be eliminated and therefore the carbon footprint minimized.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Double pumping would be eliminated and therefore the carbon footprint minimized .

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Poor design and uneven buildout has left AWA with a sewage lift station system that pumps sewage twice in some locations and does not provide the customers with a more efficient system with lower costs of O&M.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

All facilities are existing.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Regional Wastewater Treatment and Recycling Project

Project Location: Jackson (38° 20' 55.688" N Lat 120° 26' 26.766" W Long) Martell (38° 22' 0.686" N Lat 120° 47' 45.767" W Long) Sutter Creek (38° 23' 34.683" N Lat 120°48' 8.768" W Long) Amador City (38° 25' 9.679" N Lat 120° 49' 26.77" W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: One regional wastewater treatment and recycling plant will eliminate multiple locations of potential contaminant releases.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Recycled water can replace potable drinking water for outdoor irrigation and industrial usages.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Minimizing number wastewater treatment facilities removes additional O&M that is required to operate the systems reliable.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Replace some potable water uses with recycled water

☒ Goal: Develop appropriate drought mitigation measures.

Description: Additional water source with recycled water

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Conserve water with recycling of wastewater.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☒Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☒Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☒Salt and Salinity Management

☒Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☒Ecosystem Restoration

☐Forest Management

☒Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The communities of Jackson, Martell, Sutter Creek, and Amador City all have independently operated wastewater facilities. All of the facilities are old (with the exception of the Jackson upgrade), and in need of repair and upgrades. With this in mind, coupled with the understanding that reclaimed wastewater has become a reliable, sustainable, and currently untapped water resource in Amador County, the Amador Water Agency (AWA) developed this Regional Wastewater Reuse Project. Given the size, location, and number of cities in Amador County, a regional approach to reclamation facilities is the best method take advantage of the potentially available reclaimed water. Ultimately Amador County will need additional water supplies and reclaimed water needs to become a part of the portfolio for meeting those water needs. In 2013 AWA accepted the "*Regional Approach for Reuse"* study and wishes to seek funding to provide environmental review and critical implementation steps. Overall, the project will reduce potable water demand by providing recycled water for land disposal on parks, schools, shopping centers, medians, ball fields, golf courses, and various other recreational facilities. This project will further define pipeline alignments, storage sites, pump station layouts, and required upgrades to existing WWTP's. It will also provide engineering cost estimates, and enough information for an environmental review. Providing recycled water improves wastewater treatment efficiency, meets regulatory requirements, and protects surface /ground water resources. This regional plan may involve facility upgrades and will also utilize existing facilities for each existing community. The project will rely heavily on reclamation and reuse for effluent disposal. Jackson (38° 20' 55.688" N Lat 120° 26' 26.766" W Long) Martell (38° 22' 0.686" N Lat 120° 47' 45.767" W Long) Sutter Creek (38° 23' 34.683" N Lat 120°48' 8.768" W Long) Amador City (38° 25' 9.679" N Lat 120° 49' 26.77" W Long)

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☒ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Amador County Regional Wastewater Management Plan
2013 – A Regional Approach for Reuse – Aegis Engineering

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 100,000

Annual O&M Costs: $ TBD

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): Click here to enter text.

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

This project, when fully realized, will reduce the need for raw water by supplementing AWA's water supply with tertiary water. This project maximizes the available water resources available and makes complete use of the raw water taken out of the watershed. All of these are direct adaptions to climate change and reflect resource stewardship relative to it.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Environmental: This project would consolidate treatment facilities, reduce surface water discharge and maximize water reuse. This is the most environmentally friendly and responsible option when compared to continually operating multiple facilities with minimal water reuse. Social: In light of the current drought, and with water reuse gaining traction statewide, this project would be met with positive feedback. Economic: This project has higher capital costs versus maintaining the existing plants, however, as those plants require replacement, this then becomes the least costly alternative. Additionally, the pooling of resources between entities for a regional approach may lessen the economic impact to the ratepayers.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Potentially beneficial to all communities in the AWA service area.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Recycling has become a high priority with climate change and limited source water quality and quantity.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Regulatory barriers would include CADPH, SWRCB, and RWQCB, but should be reasonable given the plethora of entities throughout the state engaging in reuse. Environmental barriers have not been addressed and are unknown at this time. Permitting obstacles should be minimal as the facilities will represent the recommendations of state agencies at the outset. Once again, in light of the current drought and California's water situation overall this project should be met with minimal social controversy. Each of the potential partners currently run their own facilities and may be resistant to relinquish control. Furthermore, the partners are pursuing independent

solutions to meet their regulatory obligations. Although they continue to take individual approaches, this project can still complement their efforts and will continue to become more viable in the future.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Lake Camanche Regional Wastewater System

Project Location: Lake Camanche, CA (38°14'58.396"N Lat 120°56'59.928"W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Combine wastewater flows for treatment at a central location for better, more cost effective removal of contaminants in the water and reuse options.

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Improve conveyance of the wastewater to prevent overflow or inflow with stormwater and the excessive movement of sediments or prevent the release of contaminants to the environment instead of to the wastewater treatment facility.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: With tertiary treatment, a reuse by recycling the water for irrigation needs.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Construction and operation of a new tertiary treatment facility will provide for reliable treatment and will replace an antiquated pond treatment cell that has difficulties spray irrigating the complete flow during the winter months.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Title 22 water will be utilized for irrigation and ranch water.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Title 22 will replace part of the potable water quantity utilized for outside irrigation.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Conserve the groundwater aquifer and future surface water needs by recycling the wastewater.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☐Water Transfers

☒Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☒Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☒Groundwater and Aquifer Remediation

☒Matching Water Quality to Use

☒Pollution Prevention

☒Salt and Salinity Management

☐Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☒Ecosystem Restoration

☐Forest Management

☒Land Use Planning and Management

☒Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The Lake Camanche Village Wastewater Treatment Plant serves approximately 400 homes in the Lake Camanche Village Development. The existing storage and spray irrigation system was unable to handle the effluent loading during the spring storms of 2005 and 2006. The Amador Water Agency is currently complying with the Regional Water Quality Control Board (RWQCB) Cease and Desist Order#R5-20030126 by choosing and implementing long term improvements to the WWTP. EBMUD and AWA are considering a joint project to build a regional reclamation system with tertiary treatment for EBMUD's North Shore facilities and the AWA Lake Camanche Village system. The technology to be utilized is anticipated to be a Membrane Bio Reactor (MBR) system. Reclaimed water will be used for irrigation during the dryer months and surface water discharges during wetter months.

This project will upgrade the treatment facility to MBR or an equivalent and provide a new lift station and collection line for EBMUD's North Shore Recreation Area. The project will also develop surface discharge and reclamation opportunities, particularly in the JVID service area for agricultural purposes. JIVID's seasonal irrigation demand is sufficient to utilize all of the reclamation water. Jackson Valley Irrigation District (JVID) does not have an adequate water supply for all users in their system. This reclaimed supply will reduce their total needed demand and will provide a reliable and sustainable agricultural water supply.

Storm water impacts will be minimized through BMP's. This project will enhance and protects wetlands by avoiding spills. Finally, agencies will achieve regulatory compliance and prevent water quality degradation. By preventing spills during storms, water quality will be protected and improved. Potential health risks will also be avoided. This project will cost approximately $14 million. Other variations are also under consideration.

In addition to the existing wastewater customers, approximately 400 additional existing homes are on individual on-site septic systems. The Amador County Environmental Health Department has urged the Amador Water Agency to proceed with a project that could be expanded as a substantial number of these existing on-site wastewater systems have or are expected to fail. The County requires that all new on-site wastewater systems in this area be an "engineered system", which are quite expensive and can range from $20,000 to $60,000. There are also approved parcels that are in need of wastewater service. The Water Agency is not accepting new wastewater applications until an acceptable wastewater solution can be implemented. Lake Camanche, CA 38° 14' 58.396" N Lat 120° 56' 59.928" W Long.

Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☒ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

5) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

6) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Similar designs and concepts used throughout Western USA. CCWD has a MBR Membrane Bioreactor tertiary treatment wastewater plant. Lots of Title 22 Recycling projects throughout California.

7) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 17,100,000

Annual O&M Costs: $ TBD

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): 50

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Based on similar projects like the MBR at CCWD.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

8) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

9) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Climate change has a direct effect on the recharge of the aquifer. The more efficient the groundwater is utilized, the longer that source water will be available for the public. By replacing some of the groundwater with recycled water, the groundwater source will last longer.

10) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Climate change has a direct effect on the recharge of the aquifer. The more efficient the groundwater is utilized, the longer that source water will be available for the public. By replacing some of the groundwater with recycled water, the groundwater source will last longer.

More Information

11) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

This project would benefit the EBMUD as they are the other entity at Lake Camanche servicing wastewater needs.

12) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

13) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

14) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

15) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Treatment of wastewater for recycling is a best management practice for reuse of this vital resource. The existing wastewater treatment facility is under Cease and Desist Orders and the WWTF has difficulty treating the wastewater and disposing of the treated effluent via spray irrigation and insufficient storage during the wet winter months for large storm events of 100 years or greater.

Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Treatment of wastewater for recycling is a best management practice for reuse of this vital resource. The existing wastewater treatment facility is under Cease and Desist Orders and the WWTF has difficulty treating the wastewater and disposing of the treated effluent via spray irrigation and insufficient storage during the wet winter months for large storm events of 100 years or greater.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Tanner Water Treatment Plant Tanner Filter Media Replacement Project

Project Location: Sutter Creek area (38° 22' 56.785" N Lat 120°47' 19.056" W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): City of Jackson, City of Sutter Creek, City of Plymouth, Amador City, Martell, Drytown

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Make best use of source water and treat potable water as efficiently as possible with a reliable system.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Rehabilitation of the Tanner WTP will provide years of reliable potable water service.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Continue with efficient drinking water treatment design and operation

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Conserve water by treating the raw water as efficiently as possible.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

Tanner Water Treatment Plant (WTP) Filter Media Replacement Project (Project)

The Agency Water System is owned and operated by the Amador Water Agency and includes of a gravity diversion from the Mokelumne River at PG&E's Lake Tabeaud to a 9 mile, 30" CMLC Steel pipeline to the Tanner WTP. The existing WTP is a conventional plant with an ultimate treatment capacity of 5 MGD and provides treated water on a wholesale basis to the City of Jackson, City of Plymouth, and Drytown County Services District. The Tanner WTP also provides water for retail sale to the cities of Sutter Creek, Amador City and the Martell area.

The Tanner WTP is a refurbished plant that was reconstructed 30-40 years ago with used materials that were decommissioned and beyond their useful life in a Bay Area water treatment facility. The Tanner plant is in need of major improvements which include all control valves, computer control, and other equipment. It was determined that the best long term solution is to rehabilitate the WTP at the Tanner site.

The filter media at the water plant was installed around 2003 and no longer filters the water reliably, causing failures which cause the water treatment plant to shutdown. If shutdowns last more than a few hours, pipes could go dry and drinking water would not be provided to the City of Jackson, City of Plymouth, Drytown City of Sutter Creek, Amador City and the Martell area. This loss of potable water could also cause the failure of the sole water storage tank and contamination of the sole drinking water supply for the cities and areas listed above. In addition a multitude of regulatory violations could result. The old filter media is in immediate need of replacement or catastrophic failure of the sole potable water supply for the area could be lost.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☐ Planning/Initial Study
- ☐ Conceptual Design
- ☒ In Design
- ☐ Design Complete
- ☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

AWA's 2020 Water Master Plan Study, Keller & Associates

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 430,000

Annual O&M Costs: $5,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): 20

Estimated Project Life (Years): 20

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

AWA's 2020 Water Master Plan Study, Keller & Associates

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

9) Financing

How will your project be financed? What are the funding sources for your project?

A grant, hopefully.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With climate change there will be a decrease of source water and the Tanner WTP will need to process drinking water as efficiently as possible.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

The existing facilities will be rehabilitated on AWA property at the Tanner WTP site.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Plymouth, Jackson, Sutter Creek, Martell, Amador City, and Drytown would benefit from a reliable source of drinking water.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

The Tanner Water Treatment Facility serves the Jackson Band of Mi-Wuk Indians who will realize the benefit of a reliable source of drinking water.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Click here to enter text.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

The water agency believes that with rehabilitation of the facility is the best project to meet social and environmental perspectives. The economic perspective is dependent on funding sources beyond existing customers.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The Water Agency owns the parcel of land at the Tanner WTP. The California Department of Public Health under the jurisdiction of DWR would be responsible for issuing the water permit. The Water Agency does not expect any permitting barriers for this project. Rehabilitation and increased efficiency will reduce the operation and maintenance costs.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Tanner Water Treatment Plant PLC Upgrade Project

Project Location: Sutter Creek area (38° 22' 56.785" N Lat 120°47' 19.056" W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): City of Jackson, City of Sutter Creek, City of Plymouth, Amador City, Martell, Drytown

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Make best use of source water and treat potable water as efficiently as possible with a reliable system.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Rehabilitation of the Tanner WTP will provide years of reliable potable water service.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Continue with efficient drinking water treatment design and operation

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Conserve water by treating the raw water as efficiently as possible.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

Tanner Water Treatment Plant (WTP) PLC Upgrade Project (Project)

The Agency Water System is owned and operated by the Amador Water Agency and includes of a gravity diversion from the Mokelumne River at PG&E's Lake Tabeaud to a 9 mile, 30" CMLC Steel pipeline to the Tanner WTP. The existing WTP is a conventional plant with an ultimate treatment capacity of 5 MGD and provides treated water on a wholesale basis to the City of Jackson, City of Plymouth, and Drytown County Services District. The Tanner WTP also provides water for retail sale to the cities of Sutter Creek, Amador City and the Martell area.

The Tanner WTP is a refurbished plant that was reconstructed 30-40 years ago with used materials that were decommissioned and beyond their useful life in a Bay Area water treatment facility. The Tanner plant is in need of major improvements which include all control valves, computer control, and other equipment. It was determined that the best long term solution is to rehabilitate the WTP at the Tanner site.

The programmable logic controllers at the water treatment plant fail on a regular basis, causing the water treatment plant to shutdown. If shutdowns last more than a few hours, pipes could go dry and drinking water would not be provided to the City of Jackson, City of Plymouth, Drytown City of Sutter Creek, Amador City and the Martell area. This loss of potable water could also cause the failure of the sole water storage tank and contamination of the sole drinking water supply for the cities and areas listed above. In addition a multitude of regulatory violations could result. These 30+ year old computer systems are currently be repaired with used parts purchased off of EBay, as they are no longer in production, but they are becoming almost impossible to find. The programmable logic controllers are in immediate need of replacement or catastrophic failure of the sole potable water supply for the area could be lost.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☐ Conceptual Design

☒ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

AWA's 2020 Water Master Plan Study, Keller & Associates

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 250,000

Annual O&M Costs: $3,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): 25

Estimated Project Life (Years): 25

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

AWA's 2020 Water Master Plan Study, Keller & Associates

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

9) Financing

How will your project be financed? What are the funding sources for your project?

A grant, hopefully.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With climate change there will be a decrease of source water and the Tanner WTP will need to process drinking water as efficiently as possible.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

The existing facilities will be rehabilitated on AWA property at the Tanner WTP site.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Plymouth, Jackson, Sutter Creek, Martell, Amador City, and Drytown would benefit from a reliable source of drinking water.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

The Tanner Water Treatment Facility serves the Jackson Band of Mi-Wuk Indians who will realize the benefit of a reliable source of drinking water.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Click here to enter text.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

The water agency believes that with rehabilitation of the facility is the best project to meet social and environmental perspectives. The economic perspective is dependent on funding sources beyond existing customers.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The Water Agency owns the parcel of land at the Tanner WTP. The California Department of Public Health under the jurisdiction of DWR would be responsible for issuing the water permit. The Water Agency does not expect any permitting barriers for this project. Rehabilitation and increased efficiency will reduce the operation and maintenance costs.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: New York Ranch Reservoir Conservation and Management Study

Project Location: Amador County off Ridge Road (38° 23' 58.905" N Lat 120° 43' 12.957" W Long)

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Stormwater runoff enters the Amador Canal and then the New York Reservoir

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Volume at New York Reservoir utilized for downstream customers still on raw water laterals

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Reservoir still utilized for downstream raw water customers until those customers can get potable water supply.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Storage is needed to provide downstream raw water users their water. The study will analysis getting potable water to the raw water users so they will have potable drinking water.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Utilize existing storage reservoir until such time that downstream raw water users get potable drinking water.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☒ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Analyze public access opportunity for the New York Reservoir and Amador Canal.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☒ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☒Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☒Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☒Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☒Ecosystem Restoration

☐Forest Management

☒Land Use Planning and Management

☐Recharge Area Protection

☒Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

New York Ranch Reservoir is a balancing reservoir in the AWA canal system. New York Ranch Reservoir is five miles east of Sutter Creek, just south of the Ridge and Climax Roads intersection. It currently serves as a holding basin for water flowing in the Amador Canal from Lake Tabeaud to the Tanner Reservoir.

In 2005, the Amador Water Agency entered into an agreement with Central Sierra Resource Conservation and Development, Inc., the Foothill Conservancy, and the California Department of Fish and Game regarding the conservation management of the New York Ranch Reservoir to ensure that the reservoir site is preserved for its cultural, historic, and educational value. In this way, the site will continue to be a resource for people to learn about wetlands, wildlife, plants, surrounding culture, and local history. The Amador Water Agency will place a permanent conservation easement over the New York Ranch Reservoir and property which will be held by an outside party approved by the California Department of Fish and Game (now California Department of Fish and Wildlife) once the Amador Transmission Pipeline Project is complete. A portion of the project (a 9-mile 30-inch pipeline) was completed in 2007, but the remainder of the project which includes placing a small diameter pipe in the canal and eliminating surface flow in the canal has not yet been completed. Currently, there is no specific date for completion of the Amador Transmission Pipeline Project, however, the Water Agency would like to develop management plans in preparation for the planned permanent conservation easement.

A Natural Resource Conservation & Management Plan was completed in 2010. This study identified the need to further investigate water diversions from the upper gulch, role of groundwater, maintenance of existing structures and facilities, dry season conditions, a water management strategy, enhancing conditions for special status species, and upland habitat enhancement. In addition to investigating these key resource management issues, the Water Agency wishes to develop a public access plan and long-term management plan to protect cultural resources. The Water Agency's project is to prepare a study to address these items In the future, an environmental review will be required to implement the plan and is not a part of this study or project. The estimated costs for this study is $150,000.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Click here to enter text.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 150,000

Annual O&M Costs: $ 5,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): 50 years

Cost Basis (if not 2021 dollars):

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

2006 Integrated Regional Water Management Plan

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With climate change there will be a decrease of source water for AWA.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

By reducing the percolation of water in the Amador Canal, water efficiency will increase and provide more available water for consumption and this will limit the need for new water sources potentially pumped from groundwater. Less pumping means less greenhouse gas emissions.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

The County of Amador would benefit from long-term water storage options.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Any increase in water volume with decrease in percolation in the canal will serve the Jackson Band of Mi-Wuk Indians.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

The Water Agency already has agreements in place to discontinue the use of the New York Reservoir contingent on the installation of potable water laterals to the raw water only users along the Amador Canal. Another project is to study ways to get these customers potable water.

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17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☐ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☒ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The Water Agency already has agreements in place to discontinue the use of the New York Reservoir contingent on the installation of potable water laterals to the raw water only users along the Amador Canal. Another project is to study ways to get these customers potable water.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

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Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Rehabilitation and Expansion of Reservoirs – Twin, Meadow, Upper & Lower Blue, and Upper & Lower Bear Lakes

Project Location: Amador County PG&E Reservoir Facilities

Submitting Entity / Project Proponent: Amador Water Agency

Other Participating Agencies (if applicable): PG&E

Contact Name for Project Proponent: Larry B. McKenney, General Manager

Mailing Address for Project Proponent: 12800 Ridge Road, Sutter Creek, CA 95685

Phone Number for Project Proponent: 209.257.5245

Email Address for Project Proponent: lmckenney@amadorwater.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Lease space in PG&E reservoirs for additional water storage

☒ Goal: Maintain and improve water infrastructure reliability.

Description: Reliable storage of water to provide more water as climate change makes it more difficult to find more source water for potable use.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Use existing facilities to store more water

☒ Goal: Develop appropriate drought mitigation measures.

Description: Reliable storage of water to provide more water as climate change makes it more difficult to find more source water for potable use.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Utilize existing storage reservoirs to lease space for more AWA source water storage.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☒System Reoperation

☒Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☒Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☒Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed

Agriculture, Snow Fences, Waterbag
Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The Agency Water System is owned and operated by the Amador Water Agency. AWA has agreements in place to utilize the water right for the drinking water of its communities and store that water in PG&E reservoirs. AWA intends to study the potential of rehabilitating and expanding the upper reservoirs for increase water storage capacity in light of climate change and the higher temperatures and less source drinking water available with decrease snow melt.

Drought conditions have restricted the available water supply and storage in the CAWP water system, potentially leaving the water system without a water source. Expanding storage would increase drought reliability and supply.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☒ Planning/Initial Study
- ☐ Conceptual Design
- ☐ In Design
- ☐ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

- ☒ Yes
- ☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Click here to enter text.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 150,000

Annual O&M Costs: $

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): NA

Estimated Project Life (Years): 50

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and loans

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

With climate change there will be a decrease of source water for AWA.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Additional surface water storage will provide relief to groundwater usage and pumping. Surface water storage is transferred via gravity to AWA facilities whereas groundwater will need to be pumped and cause greenhouse gas emissions.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

The County of Amador would benefit from long-term water storage options.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Any new storage options will serve the Jackson Band of Mi-Wuk Indians.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

Yes, there is fair treatment and meaningful involvement of all.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Additional water storage is required to combat climate change and lower snow runoff volumes for longer periods of time.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☐ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☒ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The Water Agency already has agreements in place to utilize volume storage at existing PG&E reservoirs and would investigate the potential to rehabilitate the upper reservoirs and expand the storage capacity.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 17, 2021

Questions and completed forms should be directed to:
Katie Cole
Woodard & Curran
415-321-3420
kcole@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Mokelumne High Country Meadow Restoration

Project Location: Upper Mokelumne watershed east of West Point and Pioneer

Submitting Entity / Project Proponent: Foothill Conservancy

Other Participating Agencies (if applicable): Point Blue Conservation Science, Amador-Calaveras Consensus Group, U.S. Forest Service, American Rivers, Upper Mokelumne River Watershed Authority and its member agencies, state and federal wildlife agencies.

Contact Name for Project Proponent: Megan Fiske

Mailing Address for Project Proponent: 35 Court Street, Suite 1 Jackson CA 95642

Phone Number for Project Proponent: 2092233508

Email Address for Project Proponent: megan@foothillconservancy.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Healthy meadows act as filtration systems for point and non point source pollutants

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Healthy meadows attenuate stormwater flows and reduce sediment transport

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Healthy meadows act as sponges to store more water through the summer months.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: This project is intended to assess meadow restoration projects in the watershed, which will benefit native flora and fauna.

☒ Goal: Minimize adverse effects on biological and cultural resources.

Description: This project intends to restore biological resources which would further minimize adverse effects on both biological and cultural resources.

☒ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Restored meadows may provide public access and other recreational benefits.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☒Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☒Ecosystem Restoration

☒Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☒Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☒Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The High-Country Meadow Restoration program would develop an implementation/prioritization plan for upper elevation meadows in the Mokelumne River Watershed and move at least 2-5 projects to the conceptual design stage. This would accelerate the rate that meadow restoration projects are completed along the Upper Mokelumne River Watershed because it would make it easier for agencies to identify high-priority meadows that can provide multiple benefits if restored. Developing a meadow assessment system could also help generate support and funding for meadow restoration projects by identifying the benefits that can come from restoration.

Phase 1: compile existing meadow assessments within the watershed and create system to assess the conditions of the remaining meadows

Phase 2: develop a method to prioritize meadow restoration projects based on these assessments

Phase 3: identify which projects to implement and fund conceptual design through environmental analysis

The overall goal is to restore high-elevation meadows to approximate natural function to provide water supply, water storage, and ecosystem enhancement benefits. Meadow restoration will also help our community be more resilient in the face of climate change. The program would involve identifying and assessing potential meadows for restoration through coordination with local groups such as the Amador-Calaveras Consensus Group and U.S. Forest Service who are actively involved in meadow restoration projects in the watershed, and other organizations including Point Blue Conservation Science, which has been working on similar Mokelumne projects.

Benefits of restoration of this type could come in many forms depending on the location, ownership, need, and function of each identified meadow. Previously completed meadow restorations in the Sierra Nevada have shown benefits to ecological function, water quality, attenuation of peak flows, fire suppression, wildlife and bird habitat, groundwater recharge, recreation opportunities, and high-country grazing for livestock. This means that many groups would benefit from this project including the Forest Service, water agencies along the Mokelumne River, conservation agencies, wildlife, and even ranchers.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

We estimate that the assessments could be done in year 1 of the project, and the design and NEPA/CEQA work completed by the end of year 3.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Similar evaluations have been completed that show technical feasibility of such a project. See American Rivers' 2012 "Evaluating and Prioritizing Meadow Restoration in the Sierra," which created a process that could greatly accelerate future work that needs to be done. See: https://www.americanrivers.org/threats-solutions/restoring-damaged-rivers/mountains-meadows/ and/or

http://s3.amazonaws.com/american-rivers-website/wp-content/uploads/2016/06/21173412/1-Evaluating-and-Prioritizing-Meadow-Restoration-in-the-Sierra.pdf

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 1.5 M

Annual O&M Costs: $ N/A

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): N/A

Estimated Project Life (Years): Many years

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Estimates prepared for Pt. Blue Conservation Science on other watersheds.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

The project is feasible if funding is available for it. The National Fish and Wildlife Foundation published a business plan in March 2010 to guide their prioritization of grant-making for Sierra Nevada meadow restoration. It has general evaluation of costs/benefits to water supply, water quality, natural resources and other metrics resultant of meadow restoration work. See http://www.nfwf.org/sierranevada/Documents/Sierra_Meadow_Restoration_business_plan.pdf

9) Financing

How will your project be financed? What are the funding sources for your project?

IRWMP and other state grants, UMRWA assistance, U.S. Forest Service funds for projects on FS lands.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

The project will lead to restoration of meadows and change the timing, quality and intensity of runoff. Healthy meadows are more resilient to climate change, especially extended periods of drought.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Healthy meadows mitigate drought by storing water and regulating flows. Meadows mitigate GHG emissions by sequestering carbon – healthy meadows sequester more carbon. Healthy meadows create cleaner water, which in turn requires fewer resources to treat that water for consumption. .

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☐ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☐ No

Please provide a rationale for your response.

Click here to enter text.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☐ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Click here to enter text.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☐ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Click here to enter text.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Jeff Davis Water Treatment Plant Backwash Recycle Project

Project Location: Jeff Davis Water Treatment Plant & Reservoir Railroad Flat, CA

Submitting Entity / Project Proponent: Calaveras Public Utility District (CPUD)

Other Participating Agencies (if applicable): N/A

Contact Name for Project Proponent: John Kingsbury, CPUD Interim General Manager

Mailing Address for Project Proponent: PO BOX 666, San Andreas, CA 95249

Phone Number for Project Proponent: (209)754-9442

Email Address for Project Proponent: jkingsbury@cpud.org or mroberts@cpud.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Implementation of this project will reduce sources of contaminants by improving the quality of water currently discharged by the Water Treatment Plant to the downstream water course.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Implementation of this project ensures sufficient firm yield water supply by using readily available recycled backwash water to supplement CPUD's raw water reservoir, which lower's demand on the source and increases source availability to other users.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Implementation of this project promotes water conservation by recycling and reusing the readily available filtered backwash to supplement CPUD's raw water source which is treated and used for potable water. This supports conservation, recycling and reuse for urban uses.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Implementation of this project directly supports drought mitigation by recycling readily available backwash water to supplement CPUD's raw water reservoir, which increases drought resilience.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Implementation of this project supports this goal by recycling readily available backwash water, using it to supplement raw water source, and improving the water quality of discharges made by the Water Treatment Plant.

☒ Goal: Minimize adverse effects on biological and cultural resources.

Description: Implementation of this project will minimize adverse effects on biological resources by improving the WTP discharge water quality which is routed back to the Mokelumne River.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☒ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐ Agricultural Water Use Efficiency

☒ Urban Water Use Efficiency

☐ Flood Management

☐ Conveyance – Delta

☐ Conveyance – Regional/local

☒ System Reoperation

☐ Water Transfers

☐ Conjunctive Management & Groundwater Storage

☐ Desalination – Brackish and Sea Water

☒ Recycled Municipal Water

☐ Precipitation Enhancement

☐ Surface Storage – CALFED

☒ Surface Storage – Regional/local

☒ Drinking Water Treatment and Distribution

☐ Groundwater and Aquifer Remediation

☒ Matching Water Quality to Use

☒ Pollution Prevention

☐ Salt and Salinity Management

☐ Urban Stormwater Runoff Management

☐ Agricultural Lands Stewardship

☐ Ecosystem Restoration

☐ Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

This project proposes to build the infrastructure necessary to recycle approximately 28 million gallons per year of filter backwash water at the Jeff Davis Water Treatment Plant (WTP). The proposed project location is at CPUD's Jeff Davis WTP in Railroad Flat/Mokelumne, CA. GPS Coordinates 38°20'36.4"N 120°32'34.4"W.

The District's current water treatment process takes raw water from its sole source, a pump station located at the confluence of the South Fork Mokelumne and Licking Fork. Water is pumped from this location to the Jeff Davis Reservoir located at the District's WTP property. Jeff Davis Reservoir has a capacity of approximately 2,000 acre-feet and is fed to the water treatment plant located immediately downstream of the reservoir's dam. Once water passes through the treatment train it is piped to an onsite clearwell until it is ready to be delivered to the system. The WTP houses 6 gravity flow media filters that require backwash 2-3 times a week depending on demand and water quality. The filters are backwashed simultaneously, and all backwash wastewater is currently routed to two onsite settling ponds which work in series to settle sediment before water is discharged to a downstream watercourse. Over time, the settling ponds have become less effective due to a number of factors including changes to the treatment, demand increase, and increased need for backwashing. As these ponds have become less effective, lower quality water has been discharged to the downstream waterway.

The proposed recycled backwash project will consist of constructing a pump station and force main pipeline from the backwash ponds to the Jeff Davis Reservoir. Additionally, it will install measures to improve the efficiency of the backwash ponds.

The regional area and entities dependent on flow of the Mokelumne River will benefit from construction of this project as the District's burden on the river source will be less by approximately 28 million gallons per year. Additionally, the region benefits from improved downstream water quality discharged from the CPUD WTP. Savings in energy are presented as less total energy is needed to pump the backwash water to Jeff Davis Reservoir than is needed to pump water from the source location, resulting in less greenhouse gases.

This project proves feasible in that the project is located in an already established facility site which has minimal environmental and legal risks. Planning for this project is being conducted to understand the full requirements of the regulating bodies.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Anticipated Schedule for this project pending funding agreements currently underway:

-Planning/Initial Study – Anticipated completion Fall 2022

-Permits/Environmental Documentation – Anticipated completion Fall 2022

-Construction – Anticipated Start – Spring/Summer 2023

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

CPUD Jeff Davis Water Treatment Plant Evaluation (Mead & Hunt, 2015)

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 2 Million

Annual O&M Costs: $ TBD

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): N/A

Estimated Project Life (Years): 50 years

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

The capital project cost was prepared in the initial planning stage based upon historical costs for similar systems. Additional costs will be identified as part of the planning process.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

A benefit/cost analysis has not yet been completed for this project. However, the economic feasibility of this project can be highlighted by identifying that recycling water already present in the region is substantially less costly than developing a new source.

9) Financing

How will your project be financed? What are the funding sources for your project?

The District plans to fund Project Planning/Environmental work with a Drinking Water State Revolving Fund (DWSRF) Planning Application that is anticipated to be funded by Summer 2022. CPUD is requesting funding for construction of this project. Additional supplemental funding sources like DWSRF, will be evaluated for construction as the project progresses through the planning phases.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Implementation of this project helps the region adapt to be more resilient to drought driven by climate change by recycling approximately 28 million gallons per year of readily available filtered backwash water to the Jeff Davis raw water reservoir. This recycled water will directly supplement the District's sole source, which will in turn assist in lowering dependency on the South Fork of the Mokelumne River.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Implementation of this project will lower dependency on the District's sole water source and also provide a decrease in energy consumption for pumping. The recycled backwash water will be pumped to a smaller elevation change than the sole water source is pumped. By offsetting 28 million gallons per year of water needed at the sole water source and using recycled backwash water, substantial conservation of energy will be realized which results in less greenhouse gas emissions due to pumping.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Agencies with water rights from the Mokelumne River directly benefit from both improved water quality discharges into the South Fork of the Mokelumne River and less demand on the Licking Fork/South Fork Mokelumne Pump Station. This project optimizes water use which can be benefited from a regional perspective.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Implementation of this project benefits all CPUD users (including in DAC locations) because it impacts the District's only water treatment facility which provides potable water to all customers.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

The District will conduct a CEQA review for the proposed project in a manner that facilitates and encourages community involvement and ensures fair treatment and meaningful involvement of all people regardless of race, color, sex, national origin, or income.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Implementation of this project maximizes water recycling, increases operational capacity for drought preparedness, enhances flows in the Mokelumne River, increases the source capacity of Jeff Davis Reservoir, conserves water and energy, reduces GHGs and is the best economic long-term alternative.

There are no project alternatives that provide a long-term solution to recycling the filter backwash water. Other alternatives such as recycling the backwash water for agricultural use are not feasible due to the WTP being located substantially far from those types of demands coupled with the fact that pre-treatment would still be required.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☐ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☒ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Regulatory Barriers: Although preliminary conversations have been conducted with regulatory agencies and they commonly accept and support recycled backwash projects similar to this project, there is moderate implementation risk until analysis of the backwash water quality is evaluated in full. Full scope of pre-treatment before recycled won't be known until this happens.

Environmental & Permitting Barriers: CEQA analysis and documentation has been conducted on this project's site regularly as part of WTP upgrades. This project will be built on ground already established and disturbed according to past CEQA documentation and environmental risks are expected to be very low.

Controversy & Potential Legal Challenge: Risks in this category are expected to be very low as the backwash recycle project has been a regular topic to the District, the Board of Directors, and even to the public. It has been included in past Capital Improvement Plans. Additionally, the District owns the land in which the project will be constructed limiting legal challenges typically related to land acquisition.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY NOVEMBER 15, 2021

Questions and completed forms should be directed to:
Arthella Vallarta
Woodard & Curran
213-223-9463
MVallarta@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Middle Fork Pump Station Retrofit and Raw Water Pipeline Replacement Project - Phase 1: Intake Improvements, Phase 2: Supply Pipeline Upgrade, and Phase 3: Additional Control Systems.

Project Location: West Point, Calaveras County, California

Submitting Entity / Project Proponent: Calaveras County Water District (CCWD)

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Damon Wyckoff, CCWD Director of Operations

Mailing Address for Project Proponent: 120 Toma Court, San Andreas, CA 95249

Phone Number for Project Proponent: (209) 754-3306

Email Address for Project Proponent: damonw@ccwd.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the MAC IRWMP?

☒ Yes *(Adopted 12/12/2018, per CCWD Board Resolution No. 2018-73)*

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Improvements to Middle Fork Pumping Station (Middle Fork PS) intake and conveyance infrastructure increases ability of CCWD to provide water supplies to its West Point Service Area (West Point) – containing economically-disadvantaged communities (DACs) - when needed from this facility. Operational and inefficiency challenges (e.g., conveyance losses) currently limit CCWD's ability to reliably use the Middle Fork PS without significant seasonal operations and maintance efforts or relying on inconsistent infrastructure for distribution (i.e., two varying pipe sizes from the Middle Fork PS constricts CCWD's ability to delvier water from the pumping plant). Additional SCADA and instrumentation controls would also drastically improve CCWD's operation and management of this water supply system.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: West Point relies on the Middle Fork PS as a supplemental water supply its primary Bear Creek diversions are unavailable – typically during late-summer and autumn months – or when drought conditions require utilization of previously stored water via CCWD water supply agreements with external agencies. With the frequency of dry hydrologic conditions increasing, the Middle Fork PS and other associated West

Point system facilities require the contemplated improvements to increase their reliability and to function properly when needed.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Replacement of known inefficient (leaky) raw water distribution infrastructure and upgrading CCWD control systems promotes indirect water conservation (i.e., fixing known distribution inefficiencies), thereby decreasing the amount of raw water intake by CCWD but ultimately not being supplied to customer end-users.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Upgrades to these key raw water intake facilities allows CCWD to better respond to drought when supplemental supplies, or previously stored water, are needed from the Middle Fork Mokelumne River. Oftentimes Bear Creek is dry in drought years and CCWD is compelled to rely exclusively on the Middle Fork PS for supply intake to West Point.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description:

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

- ☐ Matching Water Quality to Use
- ☐ Pollution Prevention
- ☐ Salt and Salinity Management
- ☐ Urban Stormwater Runoff Management
- ☐ Agricultural Lands Stewardship
- ☐ Ecosystem Restoration
- ☐ Forest Management
- ☐ Land Use Planning and Management
- ☐ Recharge Area Protection
- ☐ Sediment Management
- ☐ Watershed Management
- ☐ Economic Incentives
- ☐ Outreach and Engagement
- ☐ Water and Culture
- ☐ Water-Dependent Recreation
- ☐ Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

Calaveras County Water District's (CCWD) Middle Fork Mokelumne Pumping Station (Middle Fork PS) conveys raw water diverted from the Middle Fork Mokelumne River to the West Point Water Treatment Plant for use in CCWD's West Point Service Area (West Point). The Middle Fork PS is a key supplemental water supply for West Point when its primary Bear Creek diversions are unavailable – typically during late-summer and autumn months – or when drought conditions require utilization of previously stored water via CCWD water supply agreements with external agencies. The Middle Fork Pump Station Retrofit and Raw Water Pipeline Replacement Project (Project) is comprised of the following three phases:

Phase 1 (Intake Improvements): Repair portions of the Middle Fork PP intake in the riverbed, as well as to clean out potential sediments loads to improve raw water intake efficiencies.

Phase 2 (Supply Pipeline Upgrade): Install a uniformly upgraded raw raw water supply pipeline from the Middle Fork PP to the West Point Water Treatment Plant, to reduce distribution redundancies and other system inefficiencies (e.g., Acorn Pumping Plant booster pump).

Phase 3 (Additional Control Systems): Installation of SCADA, telemetry, and other instrumentation systems for increased West Point monitoring and control capabilities for the Middle Fork PP and connected Bummerville Regulating Reservoir and Bear Creek Diversion.

Note Phases 1 through 3 need not be sequential in order to achieve the anticipated Project benefits for West Point. West Point is also an economically-disadvantaged community (DAC).

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☐ Planning/Initial Study
- ☒ Conceptual Design *(Phase 3)*
- ☐ In Design
- ☒ Design Complete *(Phases 1 and 2)*
- ☐ In Environmental Review

☐ Environmental Review Complete

Note: Design mostly completed, estimated shovel-ready 4 to 6 months.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes *(All Phases)*

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

CCWD's Engineering Department developed a Project Engineering Report in 2020 to investigate options to retrofit and improve the Middle Fork PP, including scope of work, scheduling, and preliminary budget concepts for Phases 1 and 2. Phase 3 concepts are detailed in other similar scoped efforts by CCWD to upgrade SCADA, telemetry, and other instrumentation systems.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ $2.5M (*Phase 1*), $1.02M (*Phase 2*), $400 (*Phase 3*); $3.92M Total Cost

Annual O&M Costs: $ *Reduction of current Middle Fork PP O&M Costs (removal of Acorn Pumping Plant).*

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): Click here to enter text.

Cost Basis (if not 2021 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Cost estimate for Phases 1 and 2, and Middle Fork PP components of Phase 3, prepared with 2020 Project Engineering Report. Phase 3 additional system costs based on similar efforts by CCWD to upgrade SCADA, telemetry, and other instrumentation systems.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Additional details to be provided with future IRWM grant applications.

9) Financing

How will your project be financed? What are the funding sources for your project?

CCWD's Capital Improvement Program (CIP) includes funds for Middle Fork PP upgrades. Given the DAC nexus, CCWD hopes to secure enough funding to pay for a majority of this project with the remainder covered by CCWD's CIP.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

The effects of climate change are expected to increase the frequency of dry year and drought events in California. Having more-reliable supplemental supply for West Point helps CCWD better prepare for conditions where its primary Bear Creek supply is unavailable - typically during late-summer and autumn months – or when drought conditions require utilization of previously stored water via CCWD water supply agreements with external agencies. Note the Middle Fork PP facilitates use of West Point's only source of non-direct diversion stored water supply in such condtions.

In addition, drier and higher temperature conditions may also lead to more intense and frequent wildfire events in California's more wooded mountainous regions. The areas surrounding West Point are likely to be impacted by these conditions under anticipated climate change conditions. As West Point's key supplemental water supply, upgrades to the Middle Fork PS and control systems could allow CCWD to better match fire suppression needs via West Point fire hydrants or other fire control measures. Upgraded distribution system capacity could prevent undue loss of livelihoods and infrastructure in already potentially devastating wildfire risk conditions.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Click here to enter text. Click here to enter text.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

The Middle Fork PP serves the communities of West Point and Wilseyville within West Point Service Area. These communities are designated DACs with Calaveras County.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

West Point water supplies are provided to local native american tribes near and within the communities of West Point and Wilseyville. For example, the Calaveras Band of Mi-Wuk Indians are active in the West Point area.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Redwood Tank size (storage capacity) is adequate to serve areas of Ebbetts Pass system. Replacement of the redwood-lining with steel resolves the aforementioned issues in a relatively cost-effective manner, as seen from the FEMA Grant Project.

16) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☐ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☒ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Potential barriers for Phase 1 and 2 contruction within Middle Fork Mokelumne River watershed and related protected environmental areas.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Soil Health & Climate Resilient Agriculture Education Program

Project Location: Amador County

Submitting Entity / Project Proponent: Amador Resource Conservation District

Other Participating Agencies (if applicable): Main Project Partners: Climate Cycle Institute, and University Cooperative Extension

Contact Name for Project Proponent: Amanda Watson

Mailing Address for Project Proponent: 12200 B Airport Road, Jackson CA 95655

Phone Number for Project Proponent: 916 612 5163

Email Address for Project Proponent: amanda@amadorRCD.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☒ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☒Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The "Soil Health & Climate Resilient Agriculture Education" project will provide assistance to farmers and ranchers in Amador County to develop and implement carbon farm planning projects. The Amador RCD will work with landowners and partners to provide education and develop demonstration projects to be used to study the effectiveness of management practices. The project will provide education, such as farm tours and workshops about soil health and carbon farm planning.

Rangelands and other agricultural lands support the livelihoods of agriculturists; these lands also contribute to carbon sequestration, water quality, groundwater recharge, and wildlife habitat. These lands have the potential to remove significant amounts of carbon dioxide from the atmosphere. Working with the private ranching community to optimize carbon sequestration and the ecosystem services that take place on their lands is important to safeguarding many of our natural resources. Promoting intensive grazing methods, applying compost, and maintaining a balance between soil capacity and maximum yield are all elements of rangeland and other agricultural operation Best Management Practices that enhance carbon capture.

Achieving enhanced carbon sequestration on Amador County's rangelands and other agricultural lands has a greater likelihood of success through the use of management practices that correspond to natural ecological processes. In other words, actions consistent with the 'way things work' principle will be more successful than solely trying to engineer ourselves out of unfavorable conditions. For example, compost application on California's livestock grazing land is a relatively inexpensive, low tech approach to capturing and absorbing carbon emissions that works with natural processes.

The Soil Health & Climate Resilient Agriculture Education project will investigate the potential for specific land management practices to enhance sequestration of atmospheric carbon dioxide as organic matter in rangeland and agricultural soils in the county. Increasing soil organic matter has innumerable benefits in addition to helping to slow or reverse global warming. Improved water holding capacity, fertility, tilth and water quality decreased need for petroleum-based pesticides and fertilizers, decreased erosion and increased production are all known effects of increasing soil organic matter.

Ranchers and farmers in Amador County are interested in implementing these agricultural practices, but multiple barriers to adoption exist. Project data will help producers assess the costs and benefits of carbon farming practices, both in the bottom line of their operation and in marketing their products. It will also provide information for regulators and policy makers to better understand the potential for agriculture to address climate issues.

The project proposes to work with PT Ranch, an agricultural operation in Amador County, and other willing agricultural operators. The owners and operators of PT Ranch are dedicated to land stewardship in the region and committed to encouraging carbon farm planning and implementation in Amador County. The project will implement practices of carbon farm planning

in various crop-type and micro-climate demonstration sites over the course of the four-year project. This study will test the effectiveness of these practices in increasing soil health, plant productivity, and water holding capacity. This study will provide real world-local data for farmers and ranchers in Amador County and help the RCD to provide increased technical assistance in developing farm plans.

In coordination with the Carbon Cycle Institute and the University Cooperative Extension the Amador RCD will work with PT Ranch and other agricultural operations to develop a Carbon Farm Plan and implement a demonstration project. Education opportunities will be offered to ranchers and farmers to provide information about soil health, climate resiliency and carbon farm planning. Education opportunities will include a farm tour, workshops and a lector series. The Amador RCD will use information gained from the demonstration sites to assist additional ranchers and farmers to prepare Carbon Farm Plans.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Carbon Farming Leaflet, Pelayo Alvarez, January 2018 http://www.carboncycle.org/wp-content/uploads/2018/01/carbon-farming-brochure-Jan2018-CCI.pdf
Marin Carbon Project: This project has been a successful project to prove the positive effects of best management practices to increase carbon sequestration on agricultural lands (ongoing project).

https://www.marincarbonproject.org/about
Impacts of organic matter amendments on carbon and nitrogen dynamics in grassland soils (2014): Ryals_et_al_2014
Effects of organic matter amendments on net primary productivity and greenhouse gas emissions in annual grasslands (2013): Ryals-and-Silver-EcoApps2013

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 70,000

Annual O&M Costs: $ 180,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): N/A

Estimated Project Life (Years): 4 years

Cost Basis (if not 2018 dollars): N/A

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

The Amador RCD is requesting $250,000 for the implementation of this 4-year project. This cost is based off the equipment and materials cost as well as the staff time and project management needed to accomplish the project. These cost will include: the development of a Carbon Farm Plan on PT Ranch and at least one other locations in Amador County. The capitol costs of this project include purchasing equipment and implementing the demonstration projects. The Amador RCD will work with UCCE and Carbon Cycle Institute to test the effectiveness of the management practices, this will include staff time, soil testing, and maintenance costs. Project cost also include hosting of multiple educational opportunities over the four-year period. This project will also allow the Amador RCD to offer Carbon Farm Planning technical assistance and plan writing for interested farmers and ranchers over the project timeframe.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

This project will provide much needed education and data collection in Amador County to help ranchers and farmers increase soil health and work toward climate resiliency. This project is economically feasible through the use of IRWM funding and additional grant and foundation funding.

9) Financing

How will your project be financed? What are the funding sources for your project?

The Integrated Regional Water Management Plan funding will be the main source of funding for this project. UCCE and PT Ranch will provide in-kind services on this project. The Amador RCD and the Climate Cycle Institute are working to apply for some foundation funding for this project. The Natural Resource Conservation Service (NRCS) provides funding for best management practices. The Amador RCD and PT Ranch will work with NRCS to attempt to bring in this federal funding to implement best management practices identified in the Carbon Farm Plan developed.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Soil health and the implementation of carbon farm planning projects on agricultural lands can increase the health of soils, which increase water holding capacity of soils. Greater water holding capacity and increased soil health will increase the likely hood that agricultural lands will be able to be sustainable in longer drier periods. Increased soil health and the development and implementation of carbon farm plans is a step in the process of preparing agricultural landowners to be adaptive to climate change.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Agriculture and working lands play a significant role in climate change, both as a source of roughly one-quarter of global emissions, but maybe more importantly as a potential sink to reduce atmospheric CO2 through sequestration in agricultural soils and biomass. Building upon existing programs in the agricultural sector, climate-beneficial agricultural practices, through a comprehensive Carbon Farm Planning process, can play a key role in significantly reducing atmospheric GHG, while simultaneously improving the

productivity, resilience and ecological sustainability of agricultural landscapes and improving environmental health. Click here to enter text.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☐ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☒ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

There are no negative environmental justice impacts of this project. The project will provide much needed assistance to the agricultural community.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

This project provides much needed education and data collection to assist the agricultural community in addressing climate change. Soil health education and climate farm planning is a cost effective solution to increase water holding capacity and help agricultural lands and agricultural economy stay viable in the face of climate change.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

This is a voluntary program for agricultural landowners. This program encourages soil health and is not a controversial issue. There is little risk associated with this project.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Sheep Ranch Drinking Water Treatment & Distribution Compliance Project

Project Location: 11719 Armstrong Road, Sheep Ranch, CA 38 12 39.13”N,120 27 19.53W

Submitting Entity / Project Proponent: Calaveras County Water District

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Peter Martin

Mailing Address for Project Proponent: PO Box 846, San Andreas, CA 95249

Phone Number for Project Proponent: 209-754-3094

Email Address for Project Proponent: peterm@ccwd.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: The Sheep Ranch Drinking Water Treatment & Distribution Compliance Project involves upgrading the small water treatment plant and distribution system serving about 100 people, which is currently out of compliance. The Sheep Ranch Water Treatment Plant (WTP) currently produces 30 gallons per minute using an out-of-date, non-compliant pressure filter, according to the California Department of Public Health (CA DPH). CCWD was first notified in 1993 that the current system is out of compliance and not an approved technology. CA DPH recommends current technology to include a membrane filter system with sodium hypochlorite disinfection.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: The current water treatment plant filtration technology cannot treat water to drinking water standards during storm events when turbidity levels increase. When water supply is severely restricted by drought, the plant also struggles to remove organics, which lead to taste and odor problems. During these times, the WTP must slow, or shut down. Installing a modern filter would ensure safe, reliable water could be provided to the Sheep Ranch Community, even during drought and storm events. Additionally, the plant's output

and water distribution infrastructure do not meet fire-flow standards, and firefighters cannot rely upon this system to combat wildfires in Central Calaveras.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☒System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☒Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

38 12 39.13N, 120 27 19.53 W

The small, historic town of Sheep Ranch is a remote, rural, severely disadvantaged community in central Calaveras County between Mountain Ranch and Murphys. The Sheep Ranch Improvement District was formed on March 2, 1960 and serves about 100 people.

The community water supply is obtained from one source, that being White Pines Lake, which is an onstream dam on San Antonio Creek near Arnold. CCWD stores water in White Pines, releases it into the San Antonio Creek and diverts it from the creek about 6 miles downstream of the dam. The water flows through an old mining-era ditch in a remote location with a history of catastrophic failure due to erosion, rock slides and destruction by wildfire.

The existing Sheep Ranch water system consists of a raw water pump, small 4-foot diameter x 5-foot tall pressure filter (with 40-inches of granular media) packaged treatment plant with a 30-gpm capacity, sodium hypochlorite disinfection and a 100,000-gallon steel water storage tank. No improvements have been made to the system since 1997, and the system is in relatively poor condition and in need of replacement and modernization. The existing 100,000-gallon painted steel water storage reservoir is severely corroded on the interior and needs to be replaced and/or repaired. The storage tank and water distribution system piping do not have capacity to meet ISO standards typically requiring a 1,000 to 1,500 gpm fire flow for minimum of 4 hours. The existing packaged plant is more than 20 years old and near end of its useful lifecycle and ultimately needs to be replaced. The source water in San Antonio creek often has higher turbidity than the pressure filter is capable of treating, and during these times the filter must be shut down and rely upon minimal storage reserve in the one storage tank. During times of drought, the system is unable to remove organics that cause taste and odor issues. In the past, the District has had to haul/import water from outside of the system by truck, which leads to the possibility of water supply shortages and unnecessary risk to human health and welfare.

The Sheep Ranch Road and Avery-Sheep Ranch Road serves as a key route for firefighters on the southeast perimeter of the recent Butte Fire and other historic fires in the area. The fire perimeter was held at Sheep Ranch and stopped from progressing into the Stanislaus River Canyon. During the Butte Fire, the firefighters used the community's water system as an emergency water source, but the system was quickly overwhelmed and drained due to its limited reliability and capacity. The community's water system was not significantly damaged due to the outstanding efforts of the firefighters, but the system was in disarray and non-operational; boiled water notices were issued to all Sheep Ranch community members using

CCWD water until the system could be disinfected/tested and placed back into regular service and water had to be hauled/delivered by trucks to serve the community.

The Sheep Ranch Drinking Water Compliance Project involves upgrading the small water treatment plant that is out of compliance with the State. The Sheep Ranch Water Treatment Plant (WTP) currently produces 30 GPM of treated water via an out-of-date, non-compliant pressure filter, according to the California Department of Public Health (CA DPH). CCWD was first notified in 1993 that the current system is out of compliance and not an approved technology. CADPH recommends current technology to include a membrane filter system with sodium hypochlorite disinfection.

Points of consideration

• The existing system is in deteriorating condition, is not reliable, and does not meet current standards; complete replacement of the package treatment plant, storage tank and distribution system is proposed provide more fire water storage and system reliability.

• New water plant and associated electrical systems and backup generator could be contained within a fire-resistant structure to increase its likelihood of surviving a fire and would increase the chances of protecting critical potable water facilities from wildfire damage. A more reliable, safeguarded potable water system in this remote location could be a helpful resource for firefighting crews during a future wildfire event.

• The existing water distribution system is obsolete and consists of a variety of materials with the majority being very old 2-inch galvanized steel, which is not capable of delivering fire flows.

• The existing water filter is incapable of treating periodic high raw water turbidity from the San Antonio Creek diversion. A new packaged treatment system must be capable of treating the higher turbidity waters in order to maintain a continuous water supply.

• Raw water storage in White Pines/Blagen Mill Pond during the summer months has been reduced by sediment accumulation and the District has been evaluating options to restore and assure a reliable raw water supply through the summer months; the situation was worse and more apparent during recent drought conditions.

• In order to store larger amounts of potable water, there are challenges with water age is an important water quality concern. As water ages, disinfection byproducts are more likely to form as organics react with chlorine in the system; significant measures will need to be taken to assure disinfection byproducts are prevented or removed to meet mandated water quality standards.

• The nearest alternate water source is 6-miles or more from Sheep Ranch, a transmission pipeline would be costly, approximately $4-to-$5 million, and may not be practicable solution given the long distance and difficult terrain/topography.

• A small, rural, disadvantaged community of 100 customers cannot alone pay cost for needed water supply, treatment, distribution, transmission and other system improvements.

Recommendations/Remediation Solutions

The District is proposing a $4,000,000 project for a new water plant, reliable fire water storage, and distribution system improvements for the community of Sheep Ranch. The District proposes to do the following potable water system projects:

1) Replace the existing, obsolete pressure filter with a modern package potable water treatment unit that can handle higher turbidity levels in the raw source water and likewise provide a higher level of treatment in an effort to remove more organics from the water, which otherwise react to form disinfection byproducts. The treatment unit would be nominal 50 gpm and have built-in redundancy per State requirements. The entire new treatment unit including electrical equipment, controls and backup generator would be located inside a fire-resistant concrete masonry unit structure with tile or metal roof. The system would be automated and capable of being operated, monitored and controlled via SCADA radio from a remote location.
2) Two large water storage tanks would be installed to capacity of 350,000 gallons or greater of water storage, (more than tripling the existing storage). Tanks will be fire-resistant welded steel construction in accordance with current water works standards. The tanks can be designed with enhanced tank mixing and in-tank diffused air aeration systems in an effort to minimize and eliminate formation of disinfection byproducts with greater water age.
3) All major portions of the water distribution system throughout the town of Sheep Ranch will be replaced with new materials meeting current NSF-61 potable water standards including new 6-inch and 8-inch water mains sized for 1,000 gpm fire flow, new gate valves and fire hydrants. These will replace an obsolete distribution system consisting of largely 2-inch galvanized steel. The new system would not only provide reliable fire flows to protect Sheep Ranch but would serve as a critical asset for firefighters battling wildfires in central Calaveras County.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☒ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

This project was designed by the CCWD Engineering Department. Because of the small size of this plant and remote location, the Engineering Department is certain that this design is the best and most cost-effective option to bring the plant into compliance with state regulations governing water treatment standards and fire flows.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 4,000,000

Annual O&M Costs: $ No additional O&M costs above current costs as a result of this project.

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): No additional costs above current costs.

Estimated Project Life (Years): 50 years

Cost Basis (if not 2018 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

The projects costs were developed in 2015 when the District first developed a grant application for this project.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

This project is economically feasible if grant funding is provided by the MAC IRWM. The District could come up with a matching component using funds from the District's 2018 Water Capital Renovation and Replacement Program fund.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grant funds from the MAC with matching funds from the District's Water Capital Renovation and Replacement Fund, which is funded by customer rates.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

As the climate warms, droughts and floods are likely to become much more common. Water quality often suffers in times of both these extremes. When droughts occur, water supplies are reduced and water stored in reservoirs often becomes stagnant and warm, which leads to an increase in organic materials that can lead to taste and odor problems. During times of severe flooding, water supplies often become increasingly turbid. The current water treatment plant at Sheep Ranch is not properly equipped to treat water containing high levels of organics or highly turbid water. Upgrading the Sheep Ranch water system would help ensure that the community has access to a safe, reliable water supply, during increasingly extreme water supply conditions.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Upgrading the Sheep Ranch Water Treatment Plant and distribution infrastructure will provide firefighters with a reliable source of water to help fight fires in the central portion of Calaveras County. At this time, there is no public water supply with hydrants in this part of Calaveras County that firefighters can rely upon. This project will give firefighters the ability to stop wildland fires more quickly and therefore reduce the amount of vegetation burned, which will reduce the greenhouse gas emissions and reduce emergency consumption used to fight fires that get out of control and last longer. A more efficient plant with upgraded treatment technology will also have a more favorable ratio of energy used per gallon of water treated.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Per the Department of Water Resources map, Sheep Ranch is a disadvantaged community. The installation of a new water treatment plant and distribution system would provide safe, reliable water to the community, even during storms and droughts that currently make the water difficult to treat.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☒ Yes

☐ No

Please provide a rationale for your response.

The Sheep Ranch community is disadvantaged and has a much lower income that other areas of the state. The community is lacking financial resources and community capacity to replace the water treatment plant on its own or through a special assessment. Grant funding is the only viable solution to fund the much-needed treatment and distribution upgrades.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

The staff at CCWD strongly believe that this is the best project alternative. As outlined in the project description, bringing potable water in from the Ebbetts Pass corridor would require a 6-mile pipeline that would be cost prohibitive to construct and maintain. There are no other reliable water sources other than the San Antonio Creek to serve Sheep Ranch. The plant CCWD's Engineers have outlined is the best solution for a small, rural community with a relatively low population. This project is clearly the best approach to solving the water treatment and disribution problems impacting Sheep Ranch residents.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The District believes this project would have minimal implementation risk in terms of environmental permitting, community controversy and legal challenges. The community of Sheep Ranch, and fire departments throughout the county, have been asking CCWD to find a way to provide adequate fire flows to this critical location in Central Calaveras County. We would expect there would be widespread support for this project. As for environmental, we do not expect there will be any barriers that are outside the normal process through which any project of this type goes through.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: West Point Automated Meter Reading Project

Project Location: West Point service area, including West Point, Wilseyville and Bummerville

Submitting Entity / Project Proponent: Calaveras County Water District

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Peter Martin

Mailing Address for Project Proponent: P.O. Box 846, San Andreas, CA 95249

Phone Number for Project Proponent: 209-754-3094

Email Address for Project Proponent: peterm@ccwd.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: The District has many meters in the West Point service area that are 20 or 30+ years old. As meters age, they generally become less reliable and allow more water to pass through than what is actually recorded. It is very hard to identify meter failure, especially when it occurs slowly over a long period of time. This inaccuracy causes the District to receive less revenue, and it does not give customers an accurate picture of their water use, which is needed to have a clear picture of water use efficiency. When radio read meters malfunction or fail, the District can be alerted through the software program used to process meter reading data, which will allow the District to immediately address the problem. Replacing all antiquated meters with new, radio read meters will greatly improve the water delivery infrastructure and reliability.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: The District currently manually reads water meters once every two months. If a leak occurs shortly after the meter reader has visited the property, the District may not be aware of it until 2-3 months after it occurs when the water consumption data is being reviewed. When District staff sees an unusually high reading, the customer is alerted that they may have a water leak. While the District does its best to keep customers informed of possible water leaks, the current system is slow, inefficient and allows massive quantities of water to be wasted via leaks prior to customer notification.

Many of these problems would be solved with the installation of an automated meter reading system (AMR). Instead of reading meters every two months, the District could read meters monthly using drive-by reading technology. Water usage data can be tracked by the minute, hour or day using AMR-equipped meters, and that data can be provided to customers to help inform their efforts to use water more efficiently. As soon as the meter reading data comes in from the field, it could be run through a software program that will identify possible leaks, failed meters and water waste. Automatic emails or phone calls can be sent to customers to inform them of the suspected water waste, along with guidelines to fix the problems. We believe this system will lead to a significant reduction in water lost to leaks, give our customers the tools they need to conserve water and encourage our customers to make water conservation a way of life, per the Governor's direction.

☒ Goal: Develop appropriate drought mitigation measures.

Description: AMR technology will help the District identify leaks more quickly and encourage customers to use water more efficiently. These are especially important in times of drought when water can become scarce, and there may be water conservation state mandates in place.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐ Agricultural Water Use Efficiency ☒ Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☒Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

38.4000602, -120.529259

The District serves six separate water service areas within the county of Calaveras as shown in the Service Area Map (see Attachment #1), which are owned, operated, and maintained by the District. The water meters the District uses are a mix as follows: 21% of Neptune, 52% of Sensus, 22% Rockwell, and 5% Badger, none of which have automatic meter reading (AMR) capabilities. Existing meters are located in a variety of boxes from plastic to concrete with a plastic, concrete, or metal lid. Two meter-reading staff members drive Jeeps to every customer property, park, get out, walk/hike to the meter, lift the lid, clean out the cobwebs and scoop out the dirt, flip up the meter cap, clean the glass, and type in the meter read to a handheld computer called a Sensus AR5002. That data is later transferred to the District's billing system (Springbrook) after meter routes are completed. This is not an efficient system. It is the District's intent to convert all six of its service areas from the existing, antiquated technology to AMR-equipped units that can be wirelessly read from a vehicle as it drives down the street.

The District intends to begin this process in West Point as a "pilot project". Lessons learned from this project will be applied to meter replacements in the rest of the county. The District completed an audit of the West Point area where there about 584 meters serving more than 1,000 people. The District is in the process of putting out an RFP for the West Point pilot project that will include the hardware, software, programming, setup and installation of a radio read meter system for all District meters in West Point.

This project is listed in the District's Water Capital Renovation and Replacement fund project list, and matching funds are available. The District is confident this project will save water, promote conservation, save energy, provide better customer service, increase staffing efficiencies and provide much-needed help for disadvantaged communities to reduce their water bills.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☒ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

The installation of AMR hardware is becoming increasingly common throughout California and the United States, as water providers see the clear benefits of such systems. There are many companies that specialize in helping agencies make this transition. There is a clear blueprint for agencies to follow for streamlined AMR implementation, and we do not believe there will be any technical feasibility issues with this project. As CCWD moves forward with an RFP and selects a contractor to do the work, more technical details will be available.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 500,000

Annual O&M Costs: $ To be determined.

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Meters are expected to last 20+ years.

Estimated Project Life (Years): 20-30 years

Cost Basis (if not 2018 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

The cost was developed by the CCWD Engineering Department as part of the 2018-2019 Capital Improvement Program budget.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

This analysis not been performed.

9) Financing

How will your project be financed? What are the funding sources for your project?

Financing is available from the Water Capital Renovation and Replacement Fund, which is funded by customer rates that are specifically reserved for capital improvements. Ideally these funds would be used as the matching component of a grant.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Click here to enter text.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

This project would help the District identify water leaks much more quickly than the current, antiquated meters that are being used. It would also help inform customers of water waste and inefficiencies and provide them with the tools and knowledge to conserve water. Stopping leaks quickly and helping customers conserve water means the water treatment plant doesn't have to treat as much water, which saves energy and reduces GHG emissions.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

The West Point / Wilseyville service area qualifies as a severely disadvantaged community under Prop. 1. The installation of AMR infrastructure will help us notify customers of leaks much more quickly, which could save them hundreds or thousands of dollars in unnecessary water consumption fees. Additionally, using the AMR data to help our customers conserve water will also help reduce their bills, which can make a huge difference to community members who live on low and fixed incomes. We believe this project will provide immense benefits to this disadvantaged community.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Click here to enter text.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

CCWD staff has evaluated the alternatives to this project, and we are confident that installing AMR technology is the best option. While automated metering infrastructure (AMI) works well in some areas, the topography of the West Point area makes this approach economically infeasible. Keeping the status quo is also not preferred, due to the large amount of leakage that goes undetected for months at a time and the lack of data we need to help educate and inform our customers to encourage water conservation. The District must embrace new technologies to save energy, water and provide excellent customer service, and this project fulfills all of these goals.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Because this work would be done within CCWD's existing utility easements and is merely a modification of existing infrastructure, there should be minimal to no institutional barriers. We do not anticipate this project creating controversy within the community, and we will hold community meetings to ensure our customers understand and embrace this new technology.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: West Point Water Treatment Plant Drinking Water Compliance Project

Project Location: Smitty Lane West Point, California

Submitting Entity / Project Proponent: Calaveras County Water District

Other Participating Agencies (if applicable): Click here to enter text.

Contact Name for Project Proponent: Peter Martin, Manager of Water Resources

Mailing Address for Project Proponent: P.O. Box 846, San Andreas, CA 95249

Phone Number for Project Proponent: 209-754-3094

Email Address for Project Proponent: peterm@ccwd.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: The new water filter would provide a state-of-the-art water treatment, which would greatly reduce sources of contaminants in the raw water supply coming from the Middle Fork of the Mokelumne River.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☒ Goal: Maintain and improve water infrastructure reliability.

Description: The West Point / Wilseyville water treatment plant currently has only one filter with no back up, which is a violation of CA DPH policy and puts firefighting efforts in jeopardy if the single filter were to fail during a wildland fire.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☒Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☒Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The West Point Drinking Water Compliance Project is designed to address a current violation with the CA Department Public Health (CA DPH) regarding the lack of a backup filter system for an economically disadvantaged community of more than 1,000 people. Currently, the water treatment process is an absorption clarifier followed by sodium hypochlorite disinfection. However, the West Point Water Treatment Plant does not include a backup water filtration system, as required by CA DPH. The West Point backup filtration system is required to produce potable water for a period of at least two weeks per year. Since there is no backup system, the District is unable to produce potable water if the water plant is taken offline. As a result, the community of West Point was out of potable water for three days during a treatment plant outage through the Fourth of July weekend in 2008, risking both the health and safety of the community and its ability to combat a high risk of wildfire.

The region is a densely wooded area at risk to a large devastating fire with a probability of fire identified as 100-percent chance in any given year. According to the Tuolumne-Calaveras Unit Pre-Fire Management Plan, completed in 2005 by the Tuolumne-Calaveras Unit (TCU) of the California Department of Forestry and Fire protection (CDF), the fire environment in Calaveras County, and more specifically in the West Point area, is conductive to large, catastrophic fires, as evidenced by the 2015 Butte Fire that burned more than 70,000 acres and hundreds of homes. Fire history in combination with the occurrence of hazardous fuels, topography, and weather create conditions that are likely to result in damaging fires on a regular basis in the proposed project area. Without the quick access to fire hydrants served by the potable water supply, the risk of a catastrophic fire is extreme.

Throughout the implementation of this project, CCWD would be actively engaged with the community served by this backup filter. The District would hold community meetings, arrange for education about water treatment and potentially treatment plant tours and continue to keep the community updated and informed on the status of its water supply and treatment capabilities.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☒ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Click here to enter text.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 1,250,000

Annual O&M Costs: $ 10,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): 40

Cost Basis (if not 2018 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Project cost was updated by CCWD's District Engineer in early 2018 and was included in CCWD's 2018 Capital Improvement Program annual report.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

An economic analysis has not been completed. The project is designed to address a current violation with the CA Department Public Health regarding the lack of a backup filter system for the West Point Water Treatment Plant. A backup filtration system is required to produce potable water for a period of at least two weeks per year, which the plant cannot currently meet. The lack of a backup system is a risk to both the health and safety of the community and its ability to combat fires in a high fire risk area.

9) Financing

How will your project be financed? What are the funding sources for your project?

CCWD has cost share funds available in the Water Capital Renovation and Replacement Fund and Operations Budgets.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Click here to enter text.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Click here to enter text. Click here to enter text.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

The West Point / Wilseyville communities served by the back-up filter are disadvantaged based on the Prop. 1 criteria. It is absolutely critical that these communities have a backup filter to ensure a safe, reliable water supply, especially in times of wildfire. These communities would not be able to pay for a backup filter without grant assistance.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

A significant Native American population exists in the West Point community. This project will ensure that they have access to safe, reliable potable water and fire protection.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Click here to enter text.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Installing a backup water filter to serve the West Point / Wilseyville communities is a long-overdue project that continues to create a CA DPH violation. CCWD is eager to move forward with this project, if grant funding can be secured. This is a critical project for this disadvantaged community to have a reliable water supply and wildfire protection.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The backup water filter can be built on the existing footprint of the West Point / Wilseyville water treatment plant, and we do not expect there to be any significant institutional barriers that would complicate or delay this project. The District hopes to remedy the CA DPH violation as soon as possible, and we are certain this project will enjoy strong community support and controversy will be virtually nonexistent. We do not expect there will be any permitting challenges that are out of the ordinary for this type of project.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Wilson Dam Meadow Restoration and Habitat Enhancement Plan

Project Location: Bear Creek, Tributary to the Middle Fork of the Mokelumne River/ West Point, Calaveras County Lat: 38.432380 Long: -120.465213

Submitting Entity / Project Proponent: Calaveras County Water District

Other Participating Agencies (if applicable): Sierra Pacific Industries

Contact Name for Project Proponent: Peter Martin, Manager of Water Resources

Mailing Address for Project Proponent: P.O. Box 846

Phone Number for Project Proponent: (209) 754-3094

Email Address for Project Proponent: peterm@ccwd.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: A restoration of the upland areas of Wilson Dam would restore natural functions of the watershed and capacity for pollutant load reductions

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: This could result in a project that would focus on the restoration of the natural function of the surrounding riverine habitat and meadow functions in the terrestrial area above Wilson Dam

☒ Goal: Minimize adverse effects on biological and cultural resources.

Description: There are opportunities to restore suitable habitat for special species of concern in the area, including Mountain yellow legged frogs.

☒ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Consideration should be given to include planning for public access and historical preservation activities.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☒Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☒Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

38.432380 Long: -120.465213

Wilson Lake, which is located on the Bear Creek drainage, tributary to the Mokelumne River, is one of two raw water storage reservoirs owned by Calaveras County Water District (CCWD) to serve the customers of West Point, Wilseyville and Bummerville. The lake was created by an earthen embankment (Wilson Dam) constructed by a timber mining company in the 1940s and is approximately 25 feet high and 150 feet long. Water from Bear Creek flows into Wilson Lake and then continues downstream to the Bear Creek Diversion structure which services CCWD's customers in Bummerville, West Point, and Wilseyville.

Although Wilson Dam was designed to store up to 40-acre-feet of water, the estimated amount of useable storage in Wilson Lake is significantly diminished due to the fact that the dam was not designed with a seepage cutoff and has no functional outlet controls. The lakeside (upstream) face of the dam has historically had weathering that slumped into the lake required temporary repairs. CCWD has developed some limited concepts and plans to restore the functionality of the Dam, but has not pursued an actual project due to a proven limited benefit to customers in the way of practical storage.

Directly upstream of Wilson Lake is what is considered restorable montane meadow habitat that resides on Sierra Pacific Industries' land. The upstream areas consist of a flat topography with some grassy meadow area that has been taken over by dense conifers due to a lack of water supply. CCWD is interested in determining the best alternative to retrofitting, restoring, or decommissioning Wilson Dam and utilizing connectivity of the riverine habitat to conjunctively restore the upstream meadow habitat. The meadow habitat would require some targeted clearing of conifers and invasive vegetation, and additional for potential creek bed restoration. CCWD believes that evaluating these alternatives in partnership with Sierra Pacific Industries could provide plans to restore invaluable habitat for targeted species in the watershed. Conjunctively, CCWD also believes that this provides significant opportunity to benefit the downstream customers' water supply by restoring the functionality of the meadow for the purposes of water retention, water quality and extending the release of supplies in dry seasons and drought years.

With this proposal CCWD would develop a comprehensive feasibility study, alternatives analysis, preliminary design plans, and necessary environmental documentation for a future project anticipated to rehabilitate historic Wilson Lake and conjunctively restore the mountain meadow habitat upstream. As part of the final outcome of the effort, CCWD would submit all required permits to implement a preferred alternative project, establishing a phased approach to

final constructing a project. After the completion of planning phase proposed in this grant, CCWD would be able to continue to seek funding through other opportunities to implement and construct the preferred alternative.

Objectives

Based on the background of the issues stated above, the objectives of the proposal for a planning grant are as follows:

- Develop a preferred concept and plan to: 1) determine the best available approach to addressing the functionality issues at Wilson Dam and Lake 2) determine the potential for upstream restoration of mountain meadow habitat adjacent to Wilson Lake,
- Establish necessary background technical information to execute a future project through the completion of feasibility, environmental, cultural, and biological analyses,
- Establish a preliminary design and final project report based on the preferred alternative to rehabilitate Wilson Lake and restore the upland meadow habitat,
- Develop all necessary environmental documentation and obtain permit approvals for the preferred alternative project ,
- Prepare a complete planning and environmental package in order to be competitive for future grants to implement and construct a future project.

Approach to Address Recognized Objectives

Through the completion of the proposed planning effort, CCWD would eventually have the following: a comprehensive project feasibility and alternatives analysis, 2) preliminary project design and final report, and 3) environmental documentation permit submittal in order to implement and construct a future preferred project. CCWD would act as the administrator of project and oversee the work of a selected consultant team in the development of various tasks to complete these objectives.

1) Comprehensive Project Feasibility and Alternatives Analysis

CCWD would consult with staff from Sierra Pacific Industries throughout the development of this planning effort. The following is a list of tasks associated with this Objective:

A) **Preliminary Outreach Efforts** - CCWD would likely need to establish an outreach effort to stakeholders in the watershed and neighboring communities as part of this project objective.
B) **Land Survey and Hydrologic Analysis** – The contract team would complete a full land survey and hydrologic analysis to determine the landscape and hydrologic potential and storage needs to rehabilitate Wilson Dam and the upstream meadow habitats.
C) **Initial Studies to lead into environmental documentation**
D) **Establish a Feasibility and Alternatives Analysis** – The contract team will develop a feasibility and alternatives analysis for addressing the needs to rehabilitate Wilson Lake

and restoring the upstream meadow habitat. Based on a variety of selected factors, a best alternative will be selected.

2) Preliminary Project Design and Final Report

Based on the preferred alternative completed in the project feasibility and alternatives analysis, the consultant team would develop a preliminary project design and final report. This final report would include costs and preliminary design for future implementation of a preferred project alternative.

3) Environmental Documentation and Permitting Submittal

With the Final Project Report completion, CCWD and the consultant team would prepare the necessary environmental documentation and permit applications to submit to the appropriate regulatory agencies. Here is a list of the anticipated environmental documentation and permits necessary for a future project that would be developed as part of this proposal:

A) California Environmental Quality Act Documentation preparation – Initial Statement and Mitigated Negative Declaration are anticipated for this project
B) U.S. Army Corps of Engineers Section 404 Permit
C) State Water Resources Control Board 401 General Water Quality Certification for Small Habitat Restoration Projects
D) California Department of Fish and Wildlife Section 1600 Lake or Streambed Alteration Agreement,
E) Potential for California Department of Fish and Wildlife Incidental Take Permit, or Consistency Determination
F) Potential for opportunity to apply for the streamlined permitting under provisions of the Habitat Restoration and Enhancement Act of 2014

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Calaveras County Mokelumne River Long-Term Water Needs Study (2017) CCWD and CPUD, ECORP Consulting, West Point Water Supply Master Plan (Draft) 2018, ECORP Consulting

All reports can be found under the "About" and "Publications" tabs on the district's website: www.ccwd.org.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ $290,000

Annual O&M Costs: $ 0

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): 0

Estimated Project Life (Years): 50 years

Cost Basis (if not 2018 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

CCWD developed a project budget for a grant proposal under CDFW's Meadow Restoration Program for Proposition 1 funds in 2015.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

This is a planning study only and cost-benefit would be developed as part of the project and evaluation of project alternatives.

9) Financing

How will your project be financed? What are the funding sources for your project?

CCWD has cost share funds available in the Water Capital Renovation and Replacement Fund and Operations Budgets.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

As project alternatives are evaluated in the study, a high value would be placed on restoration activities in the meadow upstream purposes of water retention, water quality and extending the release of supplies in dry seasons and drought years. CCWD has a municipal diversion downstream of the proposed project area and given that climate change projections could change the timing of water supply deliveries, this would help bolster the water supply for the areas of West Point.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Unknown, study could determine cost-benefit and GHG benefits

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

The project would benefit CCWD's water supply for the West Point Water System, which serves the areas of West Point, Wilseyville, and Bummerville. These are designated as DACs as defined by Prop 1.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Click here to enter text.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

CCWD is confident that the best course of action for addressing the growing concerns regarding Wilson Lake is to develop a comprehensive feasibility study, alternatives analysis, preliminary design plans, and necessary environmental documentation for a future project anticipated to rehabilitate historic Wilson Lake and conjunctively restore the mountain meadow habitat upstream. This study is critical to making sure the District identifies the preferred alternative and that the communities of West Point, Wilseyville and Bummerville are included in this process every step of the way. This analysis will ensure the preferred alternative aligns with social, environmental and economic realities of the community and project site.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The District is confident that the proposed study and subsequent project plan will reflect a careful analysis of institutional barriers and the result of the study will recommend a project that enjoys widespread support from both community organizations and regulatory agencies.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Amador Household Water Efficiency Project

Project Location: Amador Water Agency and other water retailers' service areas

Submitting Entity / Project Proponent: Foothill Conservancy

Other Participating Agencies (if applicable): Potentially Amador Water Agency, Jackson Valley Irrigation District, City of Jackson, Amador-Tuolumne Community Action Agency, Central Amador Water Project-area retail agencies

Contact Name for Project Proponent: Katherine Evatt

Mailing Address for Project Proponent: 35 Court St, Ste 1 Jackson, CA 95642

Phone Number for Project Proponent: 209-296-5734

Email Address for Project Proponent: Katherine@mokeriver.com

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Reducing demand helps extend available supply.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Project is intended to focus on demand-side reduction in urban uses.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Implementing urban conservation helps in times of drought.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☒ Goal: Minimize adverse effects on biological and cultural resources.

Description: Water saved from the project can remain in the Mokelumne River where it benefits aquatic organisms.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☒ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☒Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☒Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☒Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The Amador Household Water Efficiency Project is intended to implement and expand on the conservation program adopted by the Amador Water Agency in 2010, much of which has not been implemented due to lack of funds. The conservation program is intended to ensure optimal use of the county's developed water supplies while saving ratepayers money on water and energy. It will include the following components:

• Residential surveys and assistance

• High-efficiency washer rebate program

• Ultra low-flush toilet replacement program

• School education programs

• Turf replacement program

• Rainwater capture program

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☒ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

The project is in the planning stage. We need to design the full program and then implement it. There is no environmental documentation required.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

The project would rely on AWA's water conservation study, the Pacific Institute's 2017 analysis of AWA's Long-Term Water Needs Study, and well-established conservation and efficiency best practices and measures, including those developed by the California Urban Water Conservation Council.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ $695,000

Annual O&M Costs: $ 35,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): 30 years

Cost Basis (if not 2018 dollars): 2010 dollars

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Amador Water Agency conservation study, 2015 program estimates

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Project is feasible if funding is available.
Water Supply Avoided Costs
Avoided Water Treatment Costs: $61,000
Avoided Costs of New Supplies: $300,000 (est cost of new storage needed for water saved @$10,000 per afa x 30 years)

9) Financing

How will your project be financed? What are the funding sources for your project?

Funding sources will include state IRWMP and other grants, EPA grants, foundation and corporate funding

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Upgrading household appliances and fixtures, replacing turf, and capturing rainwater all help our region's residents live with less water in a world where climate change may serious affect our available water supply.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Water efficiency and conservation measures reduce the need for GHG-emitting, large construction projects like dams and major diversions, and will reduce the energy needed to treat and convey consumptive water and wastewater.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

The project will expand on, complement, and coordinate with the Amador Water Agency's existing conservation program. AWA and other water retailers will benefit from the additional system conservation at no direct cost for implementation, while ratepayers benefit from reduced bills for water and power. The project will also help water agencies meet state requirement for water conservation and comply with the new "conservation as a way of life" statutes. In addition, the project will coordinate with and complement the low-income energy conservation programs currently implemented by the Amador-Tuolumne Community Action Agency and benefit the agency's low-income clientele by reducing their household expenses for water and power.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

DAC residents will benefit from reduced water and energy costs.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Water efficiency frees up more water for instream uses, including benefits to fish and plants native communities harvest from our rivers and streams.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Does not adversely affect any group or community.

Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

The project is far less expensive than building new water storage projects and much less environmentally harmful. It will benefit the local economy by providing an incentive for purchasing new fixtures and appliances from local businesses, by providing work for local contractors and tradespeople, and by freeing up ratepayer funds now spent on water and power for other expenditures in the local economy. It will benefit families by reducing the amount they pay for water and adding to the value of their homes with updated, efficient fixtures, landscaping and appliances. The program has lasting community benefits in its education component, which will help instill water-saving habits over time. The program will also have indirect and induced community economic and government revenue benefits resulting from the increased local purchases of fixtures, appliances and landscaping materials. The rebates for fixtures and appliances will be limited to items purchased from locally owned businesses.

16) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

There is minimal implementation risk in this program. It uses widely accepted and endorsed water conservation/efficiency measures that have proven to be effective throughout California. There are no regulatory, environmental or permitting obstacles, there's no foreseeable legal basis for challenging the program because participation is fully voluntary, and the AWA partner has an incentive to join because of its mandate to reduce overall water use.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Upper Mokelumne Watershed Landowner Guide

Project Location: Upper Mokelumne River Watershed in Amador and Calaveras counties

Submitting Entity / Project Proponent: Foothill Conservancy

Other Participating Agencies (if applicable): Potential: Amador and Calaveras County Resource Conservation Districts, Natural Resource Conservation Service, East Bay Municipal Utility District, cattlemen's association, Farms of Amador, Upper Mokelumne River Watershed Authority, Amador-Calaveras Consensus Group, state and federal land and wildlife agencies, Amador Fire Safe Council, Calaveras Foothills Fire Safe Council, UC Cooperative Extension

Contact Name for Project Proponent: Amanda Nelson

Mailing Address for Project Proponent: 35 Court St, Ste 1, Jackson, CA 95642

Phone Number for Project Proponent: 209-223-3508

Email Address for Project Proponent: Amanda@foothillconservancy.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: The landowner guide would be intended to help property owners in the watershed understand how to better manage their land to avoid sedimentation, pollutant runoff, and other contaminants.

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: The landowner guide would be intended to help property owners in the watershed understand how to better manage their land to avoid sediment and contaminant transport to the river and its tributaries.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☒ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: The landowner guide would include information on ways to conserve water and capture and use rainwater.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: The landowner guide would help landowners understand how to protect, enhance and restore important resources on their land.

☒ Goal: Minimize adverse effects on biological and cultural resources.

Description: The landowner guide would help landowners learn to better manage their watershed lands to avoid adverse effects on biological resources.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☒Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☒Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☒Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☐Ecosystem Restoration

☒Forest Management

☒Land Use Planning and Management

☐Recharge Area Protection

☒Sediment Management

☒Watershed Management

☐Economic Incentives

☒Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☒Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The project would focus on developing a Landowner's Guide to the Upper Mokelumne Watershed, similar to watershed landowner guides produced in other areas. We would involve diverse stakeholders to develop an illustrated, plain-language guide that would help landowners understand how to reduce sediment and pollution runoff, maximize irrigation efficiency, avoid destructive wildland fires, capture rainwater, adapt to climate change, control noxious weeds, and in general, manage their lands in ways that benefit the water quality and ecosystems of the upper Mokelumne River. The landowner guide would be made available in digital and printed form free of charge to local landowners.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

This is a project concept that will need to be fleshed out with stakeholder involvement. It will not require permits, environmental review, or construction. We believe the project could be completed in 1-2 years or less.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

This is not a technically complex project, and myriad examples exist.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ $50,000

Annual O&M Costs: $ $500 for updates

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): n/a

Estimated Project Life (Years): 5 years

Cost Basis (if not 2018 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Estimated cost to hire project coordinator, editor, and designer and print 250 copies at a cost of $4 per copy.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Feasible provided funds can be secured.

9) Financing

How will your project be financed? What are the funding sources for your project?

Potential funding sources include state grants, foundation and corporate grants, and in-kind donations of time by agency staff.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

The project will help local landowners better understand how to manage their lands in response to climate change.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Providing landowners with information on effective rainwater capture can reduce the energy required to convey and treat water and reduce energy demand for groundwater pumping.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

The project is not linked directly to other projects, but would dovetail nicely with local water conservation programs. Municipal water suppliers would benefit from reduced sedimentation and other pollution as well as lower fire risk, and fishery managers and river users would benefit from maintenance or improvement of water quality.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Many landowners in local DACs live within the watershed. The project would provide them with a single source of information that could help the better manage their home and land water use.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Native communities in the watershed would benefit from reduced pollution runoff to the river and potentially, eradication of noxious weeds that compete with culturally valuable plants.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Does not adversely affect any group or community.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Publications, and especially web publications, are a cost-effective way to distribute information to people in a community. Since this would be developed by local people, it's likely to have a higher level of landowner acceptance than a state or federal or agency publication, and all printing and other professional work would be done in our communities, if at all possible.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

There are few obvious obstacles to implementation. Minimizing controversy would require that the steering committee for the project include respected local landowners and organizations trusted by the landowner community.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Upper Mokelumne River Watershed Authority

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Jackson Creek Sewer Line Relocation – Conceptual Design/Feasibility Study

Project Location: Jackson Creek (including North & South Forks)

Submitting Entity / Project Proponent: City of Jackson

Other Participating Agencies (if applicable): None

Contact Name for Project Proponent: Yvonne Kimball, City Manager

Mailing Address for Project Proponent: 33 Broadway, Jackson, CA 95642

Phone Number for Project Proponent: 209.223.1646

Email Address for Project Proponent: ykimball@ci.jackson.ca.us

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☐ Yes

☒ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: During storm events wastewater and storm water have the potential to come into contact with each other because of the location and condition of the City's existing sewer mains. Replacement and relocation of the sewer lines will significantly reduce the potential for storm water to be polluted by municipal waste water.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Relocation of the City's sewer mains will restore the creek to a more natural state.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☒Ecosystem Restoration

☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☒Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

When the City's sewer lines were installed in the 1930s, the obvious location was the City's creek beds because they provided the necessary gradient difference to affectively transport wastewater to the treatment plant (see attached Sewer Map). These lines were upgraded in the 1970's however over time these lines have degraded so that during storm events there is the potential for municipal wastewater contamination of the water in the creek. Maintenance of these sewer lines is difficult because of their location in the creek – repairs have to be done during the summer or fall when the water level is low. Additionally, the repairs are disruptive to the flora and fauna in the riparian area. The City has embarked in a robust monitoring and maintenance program for identifying and repairing deficiencies with the sewer mains, however the risk of potential contamination of the creek will remain high as long as the lines are located below the high water mark.

The City would like to have a conceptual design and feasibility study prepared to review the possibility removing approximately 10,300 linear feet of sewer mains from Jackson Creek. The objective is two-fold: First, to reduce the potential pollution that can result from wastewater mixing with the creek water. Second, replacement and relocation of the sewer lines will restore the creeks to their natural state.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

- ☒ Planning/Initial Study
- ☐ Conceptual Design
- ☐ In Design
- ☐ Design Complete
- ☐ In Environmental Review
- ☐ Environmental Review Complete

The City is seeking grant funds to initiate a conceptual design and feasibility study for this project.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

To be completed.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ $200,000

Annual O&M Costs: $ n/a

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): n/a

Estimated Project Life (Years): n/a

Cost Basis (if not 2018 dollars): n/a

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Estimated cost of the conceptual design and feasibility study was provided by West Yost Associates based on similar work for other clients.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

An economic analysis will be incorporated into the feasibility study. It is anticipated that the benefit will considerably outweigh the cost. Replacing and relocating the sewer lines will correct deficiencies in the system and reduce the amount of effluent to the WWTP thereby reducing treatment costs. Additionally, the cost to address contamination and potential fines from the Regional Water Quality Control Board will also reduce costs to the City's rate payers.

9) Financing

How will your project be financed? What are the funding sources for your project?

The City's sewer enterprise fund in conjunction with grant funds.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Click here to enter text.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Click here to enter text. Click here to enter text.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☐ Yes

☒ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Click here to enter text.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☐ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☒ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race,

color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Relocation of the sewer lines out of the creek benefits all City citizens by reducing potential pollution and restoring the creek to its natural state.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Without a professionally prepared feasibility study the City would be unable to implement removal of the aging sewer lines from Jackson Creek.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

The Feasibility Study will document implementation risk in order to mitigate them. There is no implementation risk associated with preparation of the study.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
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- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California's water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Hemlock Forest Restoration Water Yield Project Study

Project Location: The 12,000-acre landscape-restoration project is located in the Stanislaus National Forest and Mokelumne River basin in Calaveras County, California.

Submitting Entity / Project Proponent: Upper Mokelumne River Watershed Authority

Other Participating Agencies (if applicable): Sierra Nevada Research Institute at the University of California, Merced in partnership with the Bureau of Reclamation, the US Forest service and the University of California at Berkley.

Contact Name for Project Proponent: Ms. Karen Quidachay

Mailing Address for Project Proponent: Landmark Environmental, Inc., 2864 Ray Lawyer Drive, Suite 205 Placerville, California 95667

Phone Number for Project Proponent: 530-295-8124

Email Address for Project Proponent: karenq@innercite.com

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☒ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Click here to enter text.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☒ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☐ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☒ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☒Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☐Ecosystem Restoration

☒Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The ten-year Hemlock Forest Restoration Water Yield Project is the first comprehensive, quantitative assessment of the water-cycle consequences (both positive and negative) of forest restoration in a Sierra Nevada mixed-conifer forest. The 12,000-acre landscape-restoration water-yield project is located in the Stanislaus National Forest and Mokelumne River watershed, which is an area that Congress has authorized the Bureau of Reclamation to undertake for feasibility studies for water storage and improved water-management reliability. The Stanislaus National Forest expects that their forest restoration actions will improve watershed functions by creating different forest-stand structures and densities; reducing the forest's susceptibility to insect, disease, and drought-related mortality; reducing surface fuels, increasing the height to canopy, and decreasing crown density; retaining large, fire-resistant trees; maintaining and enhancing wildlife habitat; enhancing the extent and connectivity of aspen stands; and improving resource and watershed conditions. These actions are also expected to enhance water-supply reliability by restoring the fraction of precipitation that leaves the basin as runoff versus evapotranspiration; guard against erosion, water-quality problems and snowpack losses associated with wildfire; and maintain water and forest health as the climate warms and evaporative demand increases.

The Sierra Nevada Research Institute has initiated the Hemlock Project to blend strategically placed in-situ measurements with broad-coverage satellite and aircraft measurements allowing estimates of snowpack, soil moisture, vegetation state, energy balance, and snowmelt. The Hemlock Project is the first comprehensive, quantitative assessment of the water-cycle impacts of forest restoration in the Sierra Nevada mixed-conifer forest.

The Hemlock Project has been designed to quantitatively evaluate the effects of differences in forest tree stand structure on fire resiliency and water yield from catchments in the snow-rain transition zone. The fundamental goal of this investigation is to provide quantitative, credible assessments of the water-cycle impacts of forest vegetation density, structure, disturbance and management actions that can be scaled across the Sierra Nevada (and other forests).

To fulfill project goals requires an on-the-ground measurement and assessment program that generates data and information specific to the Sierra Nevada. Three main hydrologic hypotheses that are to be tested under this project are:

- Changes in stand structure to a lower stand density will enhance snow retention, affect runoff timing, and increase the overall water yield.
- The magnitude of these changes can be detected and verified using a combination of field measurements in paired catchments and hydrologic modeling.
- Periodic vegetation treatments will be required to sustain changes in water cycle.

Management objectives in the Hemlock Project include multiple factors that affect future fire intensity and severity, including reducing surface fuels, increasing the height to canopy, severity.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☐ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☒ Environmental Review Complete

The Hemlock Project NEPA Decision Notice was signed in October 2015, and the first contract for thinning was issued in 2016. In 2017, UC Merced installed two complete weather stations, three soil moisture, metric potential, and snow monitoring clusters, and four water-stage recorders. This project is currently in the Phase 2 implementation stage.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

An ecosystems management strategy for Sierra mixed-conifer forests. General Technical Report PSW-GTR-220. U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Albany, California, USA. 2 Collins, B. M., Everett, R. G., & Stephens, S. L. (2011)

Impacts of fire exclusion and recent managed fire on forest structure in old growth Sierra Nevada mixed-conifer forests. Ecosphere, 2(4): 1-14. 3 Podolak, K., Edelson, D., Kruse, S., Aylward, B., Zimring, M., & Wobbrock, N. (2015)

Estimating the Water Supply Benefits from Forest Restoration in the Northern Sierra Nevada. An unpublished report of The Nature Conservancy prepared with Ecosystem Economics. San Francisco, CA. 4 Final California Water Plan Update 2013

A restoration framework for federal forests in the Pacific Northwest. Journal of Forestry, 110(8), 429-439. 6 Seymour, R. S., & White, A. S. (2002).

Natural disturbance regimes in northeastern North America - evaluating silvicultural systems using natural scales and frequencies. Forest Ecology and Management, 155(1), 357-367. 7 Covington, W.W. (2000)

Helping western forests heal. *Nature,* 408:135-136. 8 Chmura, D. J., Anderson, P. D., Howe, G. T., Harrington, C. A., Halofsky, J. E., Peterson, D. L., ... & Clair, J. B. S. (2011).

Forest responses to climate change in the northwestern United States: ecophysiological foundations for adaptive management. Forest Ecology and Management, 261(7), 1121-1142. 9 Harrison, B. & Bales, R.C. (2015).

Forests and water in the Sierra Nevada: Sierra Nevada watershed ecosystem enhancement project. Sierra Nevada Research Institute Report, 11. 12 Goulden, M. L., & Bales, R. C. (2014)

Mountain runoff vulnerability to increased evapotranspiration with vegetation expansion. Proceedings of the National Academy of Sciences, 111(39), 14071-14075. 13 Sierra Nevada Adaptive Management Project. http://snamp.cnr.berkeley.edu. 14 Kings River Experimental Watersheds Project, Pacific Southwest Research Station.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: Previously funded

Annual ~~O&M~~ Study Costs: $ 275,000 per year @ two years = $550,000

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): 2 years (out of total 10-year study period)

Cost Basis (if not 2018 dollars): 2018 dollars

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Project Budget & Schedule:

The Hemlock Project is envisioned as a ten-year program. Most of the “Year 1” funding was devoted to installing measurement instrumentation. This project proposal provides support for enhancing the measurement instrumentation, conducting on-the-ground vegetation surveys, and data processing in years 2 and 3. Project proponents plan to do the initial on the ground and LiDAR vegetation surveys in year 3 and then again in year 5 or 6 following treatment. Results addressing the core project will be produced annually, following initiation of the regional analysis and modeling task. Definitive results addressing the harder validation questions would depend

in part on post-thinning data and modeling. It is assumed that forest thinning would occur in years 4-5, allowing for 3-4 years of pre-treatment measurements.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Not available.

9) Financing

How will your project be financed? What are the funding sources for your project?

Year 1 project funding was awarded by the Bureau of Reclamation. Additional funding was also awarded through a forest resiliency grant from PG&E. Through a partnership with Blue Forest Conservation efforts are underway to secure private capital.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

The results of this study will inform land managers as to the multi-year impacts of landscape-scale vegetation treatments in wet versus dry years. It will inform water managers of the quantitative benefits of watershed management in source-water areas, and stimulate their further participation in both restoration and longer-term management. It will provide quantitative tools for assessment, backed by solid measurements, which will enable extending the assessments to larger scales. It will provide feedback for adaptive management for watershed enhancement, wildfire risk reduction through forest thinning, prescribed fire and other forest-health treatments. This project fills a critical gap in our knowledge base around water, climate and forest management; and it has the potential to be transformative in bringing the dialog and inter-agency, multi-stakeholder cooperation to a new level.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Click here to enter text. Click here to enter text.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Amador and Calaveras water suppliers that rely on the Mokleumne River, along with east Bay MUD, could benefit from improved forest management and increased water supply as a result of this study.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☐ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☒ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

☒ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Click here to enter text.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Click here to enter text.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Upper Mokelumne River Watershed Authority

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

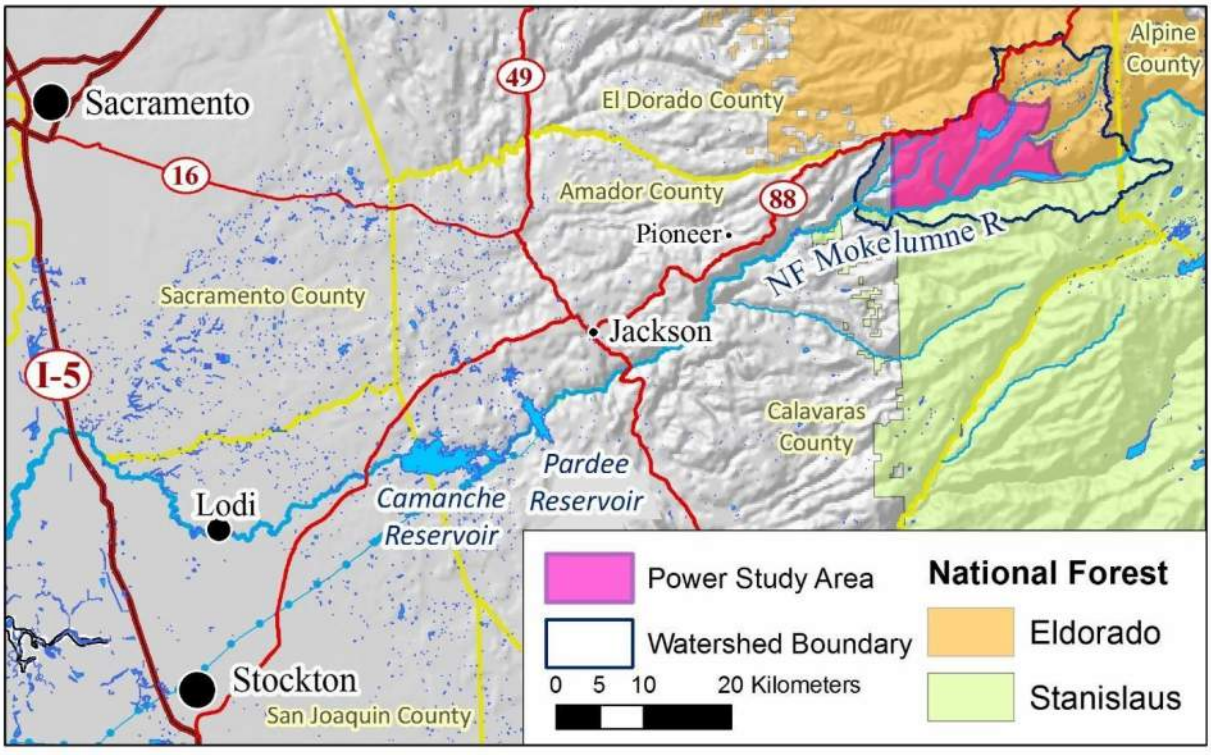
PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

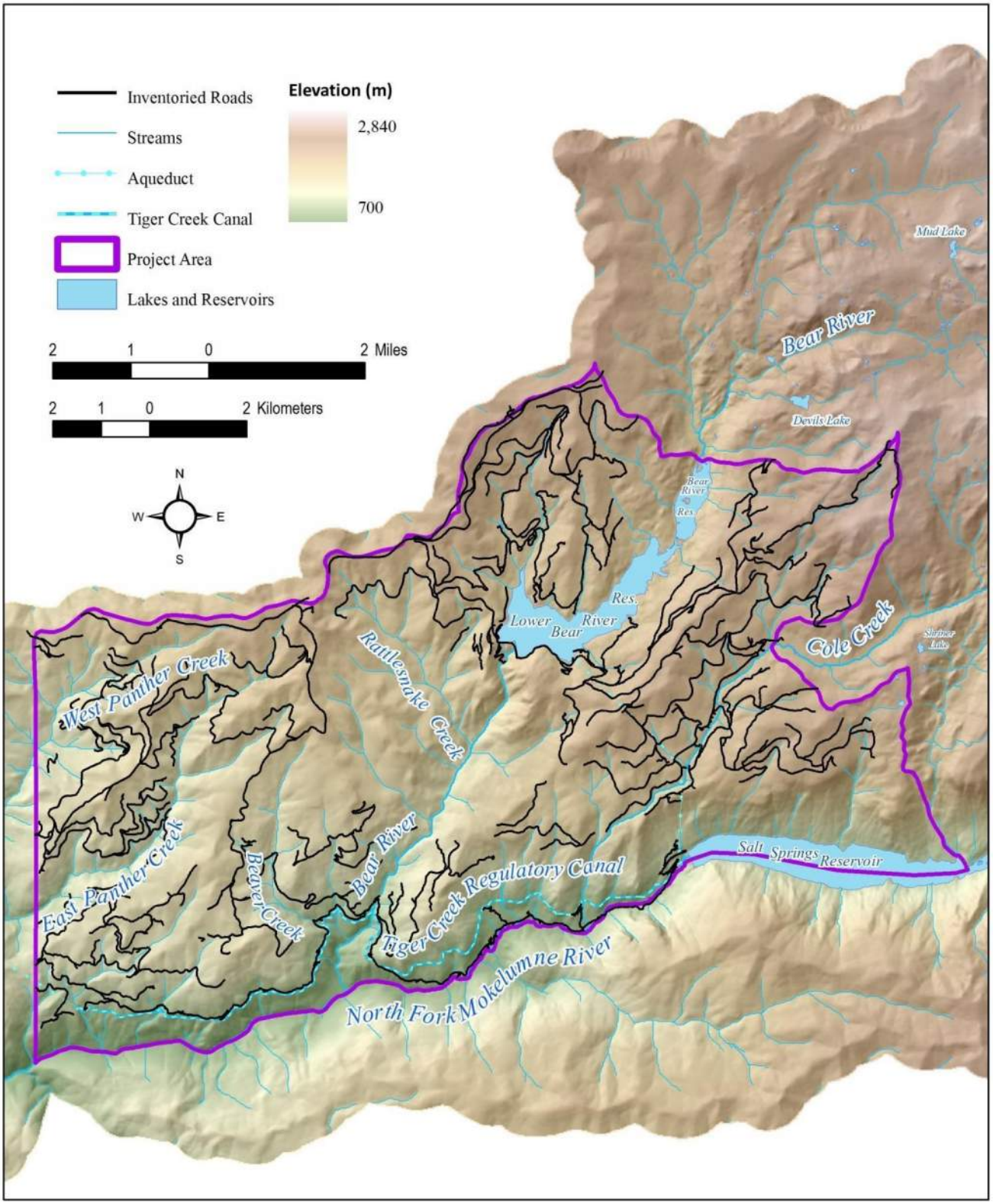
Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: North Fork Mokelumne Watershed Erosion Control & Water Quality Restoration Plan.

Project Location: Upper North Fork Mokelumne River watershed (see 2 figures below).




Inventoried Roads
Streams
Aqueduct
Tiger Creek Canal
Project Area
Lakes and Reservoirs
Elevation (m)
2,840
700
2 1 0 2 Miles
2 1 0 2 Kilometers
N
W
E
S
Mud Lake
Bear River
Devils Lake
Bear River Res.
Lower Bear River Res.
Cole Creek
Shirttail Lake
West Panther Creek
Rattlesnake Creek
East Panther Creek
Beaver Creek
Bear River
Tiger Creek Regulatory Canal
Salt Springs Reservoir
North Fork Mokelumne River

Submitting Entity / Project Proponent: UMRWA

Other Participating Agencies (if applicable): Eldorado National Forest

Contact Name for Project Proponent: Rob Alcott

Mailing Address for Project Proponent: POB 383, Sea Ranch, CA 95497

Phone Number for Project Proponent: 707-785-1008

Email Address for Project Proponent: robalcott@aol.com

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

X☐ Yes

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

XX☐ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

XX☐ Goal*:* Reduce sources of contaminants.

Description: Project erosion control improvements will correct and control surface water flows to minimize and/or eliminate undesirable water quality and environmental impacts.

XX☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Project erosion control improvements will correct and control surface water flows to minimize and/or eliminate undesirable water quality and environmental impacts.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

XX☐ Goal: Maintain and improve water infrastructure reliability.

Description: Project erosion control improvements will correct and control surface water flows to minimize and/or eliminate impediments to natural surface water flows.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

XX☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Project erosion control improvements will correct and control surface water flows to minimize and/or eliminate undesirable water quality and environmental impacts.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

XX☐ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

XX☐ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

XX☐ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

XX☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

XX☐ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

XX☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

XX☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

XX☐Ecosystem Restoration

XX☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

XX☐Sediment Management

XX☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

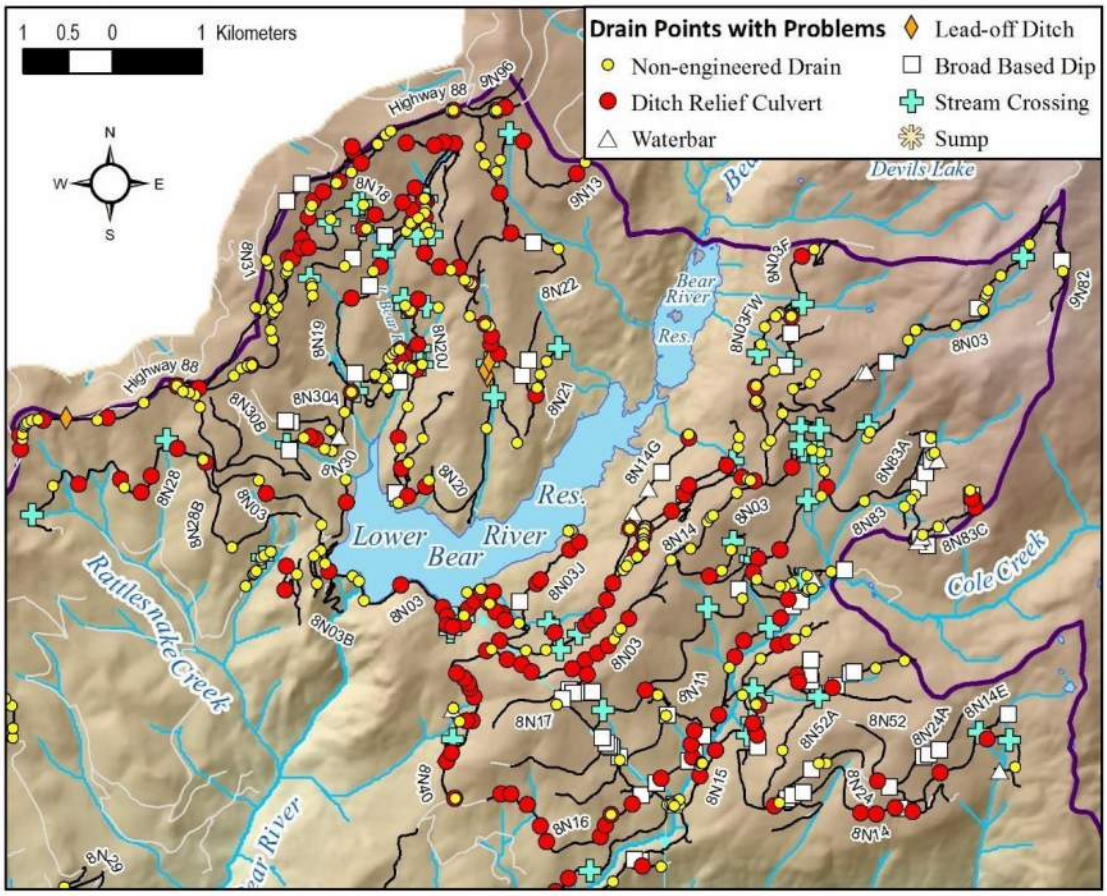
Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

The result of this project will be a planning report entitled “North Fork Mokelumne Watershed Erosion Control and Water Quality Restoration Plan”, associated CEQA/NEPA documentation, and construction bid documents. This project will advance the recommendations made in the 2016 report *Power Fire GRAIP Watershed Road Assessment*. The GRAIP (Geomorphic Road Analysis and Inventory Package) study, prepared by the USFS Rocky Mountain Research Station (Boise, ID), was designed to address the following: (1) Identify the current level of fine sediment delivery from roads to streams in the Bear River, Panther Creek, and upper North Fork Mokelumne River watersheds; (2) Identify the types and sources of road-related hydrogeomorphic risk in the watersheds; (3) Locate and quantify sediment sources and contributions to streams; (4) Select and prioritize future restoration actions to improve watershed conditions.

The GRAIP study provides guidance on two potential alternative restoration approaches. One is based on hydrologic connectivity. Since native roads with rocky surfaces, and non-engineered drains, broad based dips, stream crossings, and ditch relief represent the largest percentage of total road surface sediment delivered, remediation efforts for these focus on reducing contributing road length and, upon road upgrade or new construction, installing drain point types that have been shown to be most effective. The other approach is to focus remediation efforts throughout the road system where there are potential threats to infrastructure access and usability from erosion at certain locations. This approach focuses on drain point problems such as blocked or partially blocked ditch relief and stream crossing culverts, dips that do not drain, any areas with flow diversion along the road surface, or where important roads are blocked or compromised by landslides or gullies. The study provides abundant information (as an example, the figure below is one of forty two contained in the GRAIP report; this figure displays drain point problems in the northern reaches of the project area) regarding the locations and conditions of road infrastructure in the project area for use by hydrologists and engineers to develop a prioritized infrastructure improvements plan.



Thus, the proposed North Fork Mokelumne Watershed Erosion Control and Water Quality Restoration Plan will be developed to include three products:
(1) Preliminary and final engineering for best-suited erosion control improvements, prioritization of those improvements based on cost/benefit analysis and USFS guidance, maps and cross-sections, construction and material specifications.
(2) Environmental documentation to fully address CEQA and NEPA requirements
(3) Construction bid packages and cost estimates

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

XX☐ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

XX☐ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Power Fire GRAIP Watershed Roads Assessment, USFS Rocky Mountain Research Center, April 2016

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital (**Planning, Engineering and Environmental**) Cost: $ 225,000

Annual O&M Costs: $ N/A

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): N/A

Estimated Project Life (Years): N/A

Cost Basis (if not 2018 dollars): N/A

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Click here to enter text.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

N/A

9) Financing

How will your project be financed? What are the funding sources for your project?

Grant funding with USFS participation

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☐ Yes

XX☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Click here to enter text.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☐ Yes

XX☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Click here to enter text. Click here to enter text.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

XX☐ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

No other linked project(s), however implementation of this project will benefit the Eldorado National Forest AND downstream water users PG&E, AWA and EBMUD.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☐ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

XX☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

XX☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

XX☐ No

Please provide a rationale for your response.

Click here to enter text.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

XX☐ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Click here to enter text.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

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Click here to enter text.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
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- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

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- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
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- Protect key habitat of the Salton Sea through local partnership
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- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
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- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

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- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

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Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Upper Mokelumne River Watershed Authority

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

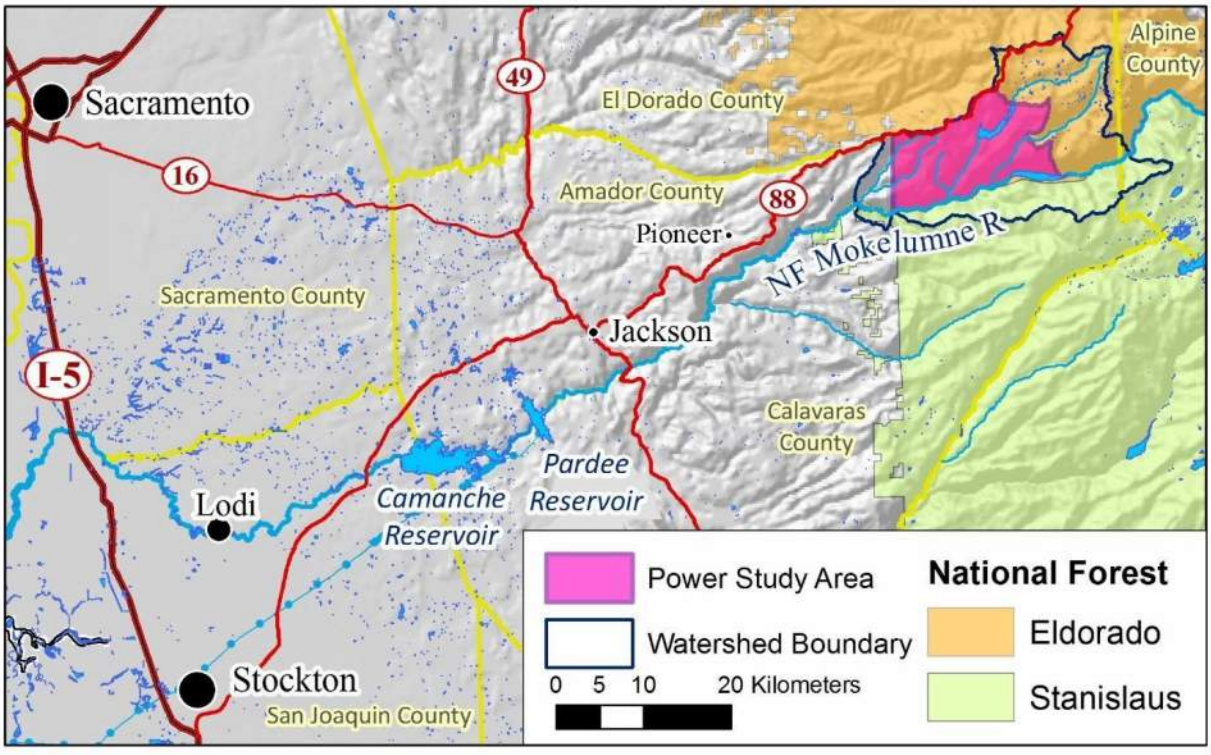
PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

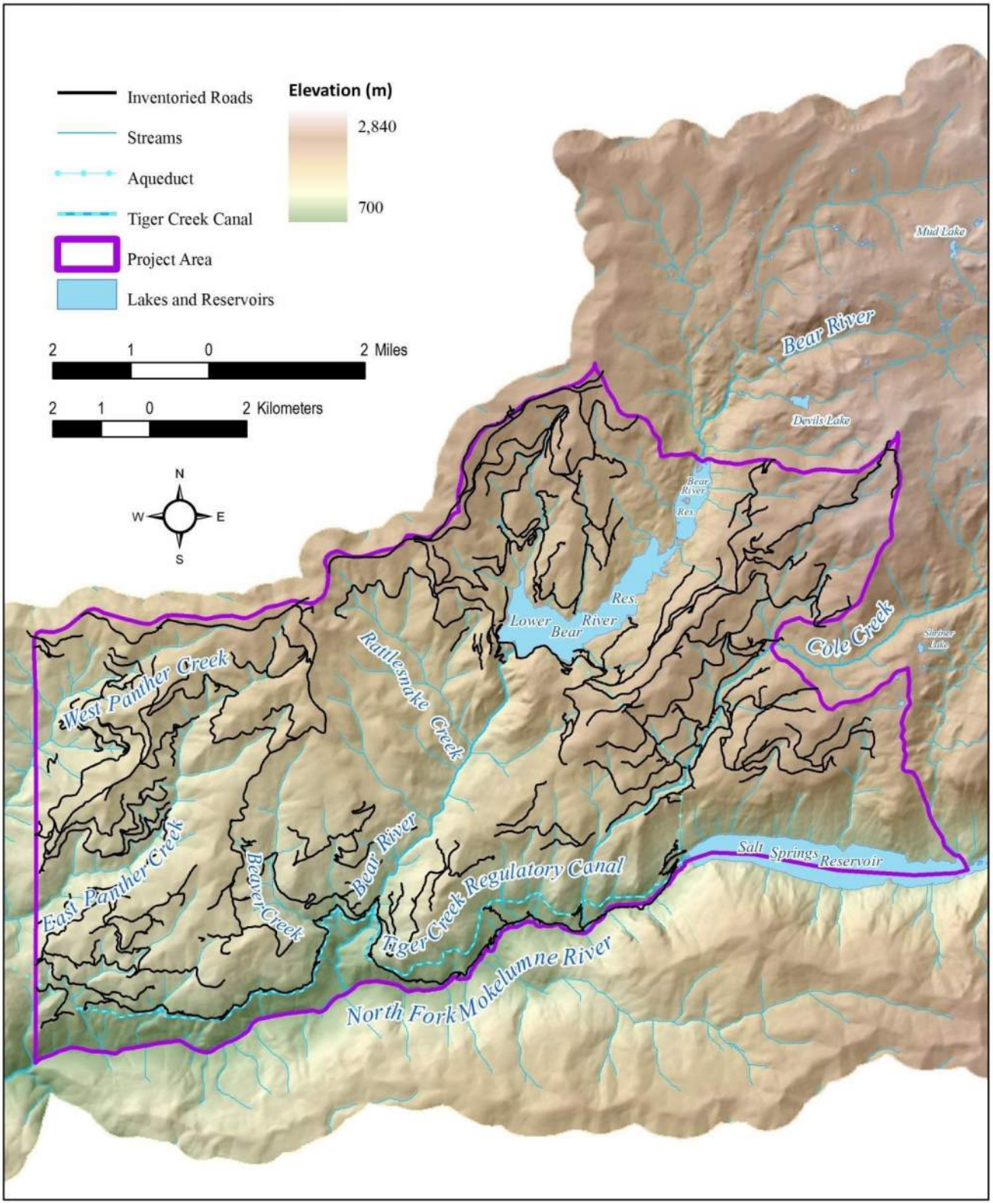
Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: North Fork Mokelumne Watershed Erosion Control & Water Quality Restoration Project.

Project Location: Upper North Fork Mokelumne River watershed (see 2 figures below).




Inventoried Roads
Streams
Aqueduct
Tiger Creek Canal
Project Area
Lakes and Reservoirs
Elevation (m)
2,840
700
2 1 0 2 Miles
2 1 0 2 Kilometers
N
W
E
S
Mud Lake
Bear River
Devils Lake
Bear River Res.
Lower Bear River Res.
Cole Creek
Shirttail Lake
West Panther Creek
Rattlesnake Creek
East Panther Creek
Beaver Creek
Bear River
Tiger Creek Regulatory Canal
Salt Springs Reservoir
North Fork Mokelumne River

Submitting Entity / Project Proponent: UMRWA

Other Participating Agencies (if applicable): Eldorado National Forest

Contact Name for Project Proponent: Rob Alcott

Mailing Address for Project Proponent: POB 383, Sea Ranch, CA 95497

Phone Number for Project Proponent: 707-785-1008

Email Address for Project Proponent: robalcott@aol.com

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

X☐ Yes

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

XX☐ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

XX☐ Goal*:* Reduce sources of contaminants.

Description: Project erosion control improvements will correct and control surface water flows to minimize and/or eliminate undesirable water quality and environmental impacts.

XX☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Project erosion control improvements will correct and control surface water flows to minimize and/or eliminate undesirable water quality and environmental impacts.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

XX☐ Goal: Maintain and improve water infrastructure reliability.

Description: Project erosion control improvements will correct and control surface water flows to minimize and/or eliminate impediments to natural surface water flows.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☐ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Click here to enter text.

XX☐ Goal: Minimize adverse effects on biological and cultural resources.

Description: Project erosion control improvements will correct and control surface water flows to minimize and/or eliminate undesirable water quality and environmental impacts.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

XX☐ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

XX☐ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

XX☐ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

XX☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

XX☐ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

XX☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

XX☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

XX☐Ecosystem Restoration

XX☐Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

XX☐Sediment Management

XX☐Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

This project will implement the erosion control and water quality improvements recommended in the final "North Fork Mokelumne Watershed Erosion Control and Water Quality Restoration Plan". In conjunction with the development of that plan, the associated CEQA/NEPA requirements will be fulfilled and construction bid documents prepared.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

XX☐ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

XX☐ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

Power Fire GRAIP Watershed Roads Assessment, USFS Rocky Mountain Research Center, April 2016

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 2,000,000

Annual O&M Costs: $ N/A

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): N/A

Estimated Project Life (Years): N/A

Cost Basis (if not 2018 dollars): N/A

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Educated guess.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

N/A

9) Financing

How will your project be financed? What are the funding sources for your project?

Grant funding with USFS participation

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☐ Yes

XX☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Click here to enter text.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☐ Yes

XX☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Click here to enter text. Click here to enter text.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

XX☐ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

No other linked project(s), however implementation of this project will benefit the Eldorado National Forest AND downstream water users PG&E, AWA and EBMUD.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☐ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

XX☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

Click here to enter text.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☐ Yes

XX☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Click here to enter text.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

XX☐ No

Please provide a rationale for your response.

Click here to enter text.

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

XX☐ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Click here to enter text.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

XX☐ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

Click here to enter text.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
- Manage headwaters for multiple benefits
- Protect key habitat of the Salton Sea through local partnership
- Restore coastal watersheds
- Continue restoration efforts in the Lake Tahoe Basin
- Continue restoration efforts in the Klamath Basin
- Water for wetlands and waterfowl
- Eliminate barriers to fish migration
- Assess fish passage at large dams
- Enhance water flows in stream systems statewide

Manage and Prepare for Dry Periods

- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

- Revise operations to respond to extreme conditions
- Encourage healthy soils

Expand Water Storage Capacity and Improve Groundwater Management

- Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft.
- Provide essential data to enable Sustainable Groundwater Management
- Support funding partnerships for storage projects
- Improve Sustainable Groundwater Management
- Support distributed groundwater storage
- Increase statewide groundwater recharge
- Accelerate clean-up of contaminated groundwater and prevent future contamination

Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Upper Mokelumne Erosion and Water Quality Assessment and Restoration Plan

Project Location: Upper Mokelumne River Watershed

Submitting Entity / Project Proponent: UMRWA

Other Participating Agencies (if applicable): USFS, BLM, Amador or Calaveras Counties

Contact Name for Project Proponent: Rob Alcott

Mailing Address for Project Proponent: PO box 383, Sea Ranch, CA 95497

Phone Number for Project Proponent: 707-888-1701

Email Address for Project Proponent: robalcott@aol.com

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☒ Goal*:* Reduce sources of contaminants.

Description: Minimize man-made sediment runoff in watershed

☒ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Reduce and minimize man-made sediment runoff in the Mokelumne watershed

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☒ Goal: Ensure sufficient firm yield water supply.

Description: Volume at New York Reservoir utilized for downstream customers still on raw water laterals. Watershed improvements will enhance water yield.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: .

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: Enhance the watershed to improve water quality & wildlife

☒ Goal: Minimize adverse effects on biological and cultural resources.

Description: Reduce and prevent erosion and sedimentation runoff from roads from impacting aquatic wildlife

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description:

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☒ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☒ Provide Safe Water for All Communities

☐ Increase Flood Protection

☒ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☒Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☒Drinking Water Treatment and Distribution

☒Groundwater and Aquifer Remediation

☒Matching Water Quality to Use

☒Pollution Prevention

☐Salt and Salinity Management

☒Urban Stormwater Runoff Management

☐Agricultural Lands Stewardship

☒Ecosystem Restoration

☒Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☒Sediment Management

☒Watershed Management

☐Economic Incentives

☐Outreach and Engagement

☐Water and Culture

☐Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed

Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

This goal of this project is to reduce sedimentation in watershed streams and other water bodies and the associated adverse impacts to water quality and aquatic resources from by eliminating or mitigating sources of erosion. The project would develop a three-phase program in the 380,000-acre Mokelumne River Watershed upstream of Pardee Reservoir. Gullies from road and trail drainage (open and closed for use) and any other eroding surfaces that deliver significant amounts of sediment to watershed streams will be the primary targets for this program as they typically are the biggest contributors to water quality degradation and adverse impacts on river aquatic resources.

The program would consist of six elements: (1) establish an inter-agency work group of federal (e.g. USFS) state (e.g. F&W) and local (counties/water agencies) and interested stakeholders e.g. ACCG) to serve as an advisory committee, (2) review existing literature, available ariel photography and other sources of relevant information and develop an inventory and assessment methodology, (3) conduct the inventory and assessment, (4) prepare restoration/improvement strategies and plans, (5) set priorities and develop an implementation and restoration action plan, and (6) seek partners and funding for implementation projects.

[This project is conceived in part based on the 2016 report *Power Fire GRAIP Watershed Road Assessment*. The GRAIP (Geomorphic Road Analysis and Inventory Package) study, prepared by the USFS Rocky Mountain Research Station (Boise, ID) for the USFS Amador Ranger District, evaluated the 2004 Power Fire burn area, which affected 17,000 acres within the upper Mokelumne watershed. The methodology and results of that 2016 study have guided the conceptual development of this proposed project.]

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☒ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

This project is conceived in part based on the 2016 report *Power Fire GRAIP Watershed Road Assessment*. The GRAIP (Geomorphic Road Analysis and Inventory Package) study, prepared by the USFS Rocky Mountain Research Station (Boise, ID)

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital (**Planning and Engineering**) Cost: $ $250,000

Annual O&M Costs: $

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): Click here to enter text.

Cost Basis (if not 2018 dollars): 2015 Mokelumne Watershed Interregional Sustainability Evaluation (MokeWISE) Program

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

This is an expansion of the USFS GRAIP Roads Assessment into uninventoried areas of the North, Middle, & South Fork Mokelumne River watersheds. The estimated cost is an educated guess.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

Click here to enter text.

9) Financing

How will your project be financed? What are the funding sources for your project?

Grants and participating agency contributions.

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

This study will help determine future direction in watershed soil erosion mitigation and it is not anticipated to face obstacles for its implementation

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☐ Yes

☒ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

This project is partially in a wildfire area restoration area that will mitigate the negative effects of soil erosion on the region's surface water supply. Outside of the fire restoration area there is increased wildfire and erosion potential occurring with climate change. Reducing erosion and sedimentation will help adapt to effects of climate change. Restoration of meadows can increase water yield and improve (lower) water temperature to counter temperature increases due to climate change.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

This project would coordinate with Amador County, Calaveras County, US Forest Service, and BLM. The USFS has developed NEPA for some projects in the fire rehabilitation area. The BLM has NEPA for some of their lands in the Mokelumne Watershed.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

This project would benefit the disadvantaged communities within the upper Mokelumne River watershed: Pioneer, Pine Grove, Jackson, Sutter Creek, Ione, Amador City, and Drytown.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

This project will benefit the Jackson Rancheria Band of Mi-Wuk Native Americans.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Yes, this project provides fair treatment and meaningful involvement of all customers and beneficial uses, including for aquatic wildlife. The focus on water quality and quantity will provide safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

Reducing erosion and sedimentation and increasing water yield provide protection of water quality and supply needed for the health needs of people and wildlife dependent on the Mokelumne Watershed for their livelihood. Maintaining and improving the high quality of Mokelumne water also helps keep the cost of treating water to the lowest possible level.

The project will help protect and restore important ecosystems by restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions, restore key mountain meadow habitat, and manage headwaters for multiple benefits.

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17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

There is minimal implementation risk in this program. Watershed improvements are not controversial and have no institutional barriers given that it is widely accepted and endorsed that watershed protection is effective throughout California. There is virtually no potential for a legal challenge given that the participation by end users is voluntary, and there is no uncertainty among project partners in implementing the projects included in the program. In light of climate change, it is expected that this program will be seen as a proactive way to adapt to its effects.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

Achieve Co-Equal Goals for the Delta

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Protect and Restore Important Ecosystems

- Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions.
- Restore key mountain meadow habitat
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- Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California’s water system more resilient.

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Provide Safe Water for All Communities

- Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes.
- Consolidate water quality programs
- Provide funding assistance for vulnerable communities
- Manage the supply status of community water systems
    - Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Increase Flood Protection

- Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.
- Improve access to emergency funds
- Better coordinate flood response operations
- Prioritize funding to reduce flood risk and improve flood response
- Encourage flood projects that plan for climate change and achieve multiple benefits

Increase Operational and Regulatory Efficiency

- This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Identify Sustainable and Integrated Financing Opportunities

- This action is directed towards State agencies and the legislature.

Mokelumne/Amador/Calaveras (MAC)
Integrated Regional Water Management Plan Update
Project Information Sheet

PLEASE SUBMIT COMPLETED FORMS BY AUGUST 6, 2018

Questions and completed forms should be directed to:
Rachel Gross
Woodard & Curran
415-321-3424
rgross@woodardcurran.com

Proposed Project and Responsible Agency Information

Project Title: Riparian Noxious Weed Abatement Plan

Project Location: Amador and Calaveras counties

Submitting Entity / Project Proponent: Foothill Conservancy

Other Participating Agencies (if applicable): Potential partners: UC Cooperative Extension, Amador and Calaveras County Resource Conservation Districts, PG&E, East Bay MUD, Natural Resource Conservation Service, Bureau of Land Management, private landowners.

Contact Name for Project Proponent: Amanda Nelson

Mailing Address for Project Proponent: 35 Court St, Ste 1, Jackson, CA 95642

Phone Number for Project Proponent: 209-223-3508

Email Address for Project Proponent: Amanda@foothillconservancy.org

To the best of your knowledge, do you anticipate that your agency will adopt/approve the 2018 MAC IRWMP?

☒ Yes

☐ No

Eligibility

In order to be considered for inclusion in the MAC Plan 2018 Update, the project must meet at least one MAC Plan Goal, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the MAC Plan 2018 Update.

MAC Plan Update Goals

1) Does your project advance one or more of the MAC IRWM goals?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which goal and explain how.

Policy 1: Maintain and Improve Water Quality

☐ Goal*:* Reduce sources of contaminants.

Description: Click here to enter text.

☐ Goal: Manage stormwater flows and transport of sediment and contaminants.

Description: Click here to enter text.

Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand

☐ Goal: Ensure sufficient firm yield water supply.

Description: Click here to enter text.

☐ Goal: Maintain and improve water infrastructure reliability.

Description: Click here to enter text.

☐ Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.

Description: Click here to enter text.

☐ Goal: Develop appropriate drought mitigation measures.

Description: Click here to enter text.

Policy 3: Practice Resource Stewardship

☒ Goal: Identify opportunities to conserve, enhance and restore the region's natural resources.

Description: The project is intended to develop a plan for addressing the proliferation of noxious weeds that harm habitat and wildlife by crowding out native plants.

☒ Goal: Minimize adverse effects on biological and cultural resources.

Description: The project will explore low-impact, low-or-no chemical solutions for eradicating noxious weeds along waterways.

☐ Goal: Identify opportunities for public access, open spaces, trails, and other recreational benefits.

Description: Click here to enter text.

Policy 4 is not included here because it is more relevant to the MAC Plan than to individual projects.

Policy 5 is incorporated in Questions 10 and 11 below.

Statewide Priorities

2) Does your project advance one or more of the Statewide Priorities?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which priorities. Check all that apply. More information on each priority is included on the last two pages of this form.

☐ Make Conservation a California Way of Life

☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

☐ Achieve Co-Equal Goals for the Delta

☒ Protect and Restore Important Ecosystems

☐ Manage and Prepare for Dry Periods

☐ Expand Water Storage Capacity and Improve Groundwater Management

☐ Provide Safe Water for All Communities

☐ Increase Flood Protection

☐ Increase Operational and Regulatory Efficiency

☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies

3) Does your project address two or more of the Resource Management Strategies?

☒ Yes

☐ No (if No, the project is ineligible)

If yes, please indicate which strategies. Check all that apply to your project.

☐Agricultural Water Use Efficiency

☐Urban Water Use Efficiency

☐Flood Management

☐Conveyance – Delta

☐Conveyance – Regional/local

☐System Reoperation

☐Water Transfers

☐Conjunctive Management & Groundwater Storage

☐Desalination – Brackish and Sea Water

☐Recycled Municipal Water

☐Precipitation Enhancement

☐Surface Storage – CALFED

☐Surface Storage – Regional/local

☐Drinking Water Treatment and Distribution

☐Groundwater and Aquifer Remediation

☐Matching Water Quality to Use

☐Pollution Prevention

☐Salt and Salinity Management

☐Urban Stormwater Runoff Management

☒Agricultural Lands Stewardship

☒Ecosystem Restoration

☒Forest Management

☐Land Use Planning and Management

☐Recharge Area Protection

☐Sediment Management

☒Watershed Management

☐Economic Incentives

☒Outreach and Engagement

☐Water and Culture

☒Water-Dependent Recreation

☐Other Strategies (Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, Snow Fences, Waterbag Transport/Storage Technology

Project Description

4) Project Description

Please provide a description of your project, including the project location (please provide GPS coordinates if available), area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach a copy of all relevant project literature.

Especially in recent years, noxious and nonnative weeds and plants have been proliferating along Amador and Calaveras County waterways. They include yellow star thistle, oblong spurge, poison hemlock, brooms, and Himalayan blackberry. The nonnative plants are a nuisance to river recreators, can be highly flammable and/or toxic, and can crowd out native plant species that are important for native wildlife, birds and insects. This project proposes to develop maps of noxious weed infestations along local waterways and to work with community and river/water stakeholders to explore eradication options and develop an eradication plan.

5) Readiness to Proceed

Please indicate your project's readiness. In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.

☒ Planning/Initial Study

☐ Conceptual Design

☐ In Design

☐ Design Complete

☐ In Environmental Review

☐ Environmental Review Complete

Click here to enter text.

6) Planning Horizon

Is the project expected to be completed by 2027?

☒ Yes

☐ No

7) Technical Feasibility

Please list background information, studies, or other documentation (including author and year) that detail the technical feasibility of the project.

This is a planning project and well within the capabilities of local agencies and stakeholders to carry out.

8) Economic Feasibility and Project Costs

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.

Capital Cost: $ 25,000

Annual O&M Costs: $ n/a

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years): Click here to enter text.

Estimated Project Life (Years): One year.

Cost Basis (if not 2018 dollars): Click here to enter text.

What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.

Estimated based on staffing costs, meeting room rentals, materials and supplies.

Please describe the economic feasibility of the project. If an economic analysis (benefit/cost analysis or cost-effectiveness analysis) of the project has been completed, please provide the findings of that analysis and the reference (including author and year).

n/a

9) Financing

How will your project be financed? What are the funding sources for your project?

IRMWP grants, foundation and corporate grants, RCD funds, potentially other state grants

10) Climate Change Adaptation

Does your project help adapt to climate change? E.g., how your project helps the region adapt to identified climate change regional vulnerabilities; how your project may address changes to the amount, intensity, timing, quality, and variability of runoff and recharge.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change adaptation benefits.

Making way for the restoration of native plants will make local ecosystems more resilient in the face of climate change.

11) Climate Change Mitigation

Does your project help mitigate against the effects of climate change? E.g., how your project may reduce greenhouse gas (GHG) emissions as compared to project alternatives; how your project may reduce energy consumption, especially the energy embedded in water use; or if your project includes renewable energy sources.

☒ Yes

☐ No

If yes, please explain how and the likelihood of the climate change mitigation benefits.

Project could reduce GHG emissions by focusing on hand work and livestock rather than mechanical methods.

More Information

12) Multi-entity Integration and Benefits

Is your project linked to or combined with another project or provide benefits to more than one entity?

☒ Yes

☐ No

If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

Not linked to other projects, but would benefit riverside landowners, public land managers, river recreators and water and power utilities by reducing fire risk, reducing exposure to toxic or thorny plants, and increasing space for riparian recreation.

13) Disadvantaged Communities Benefits

Does your project provide specific benefits to critical DAC water issues? For the purposes of Proposition 1 funding, a DAC is defined as "a community with a median household income (MHI) less than 80% of the Statewide average." If you are unsure if your project is located in a DAC, please use the DWR mapping tool, located here: https://gis.water.ca.gov/app/dacs/.

☒ Yes, my project provides benefits to DACs as defined by Prop 1

☐ Yes, my project provides benefits to DACs using some other definition *(please indicate the definition you are using in the comment box below)*

☐ No

If yes, please identify the DAC benefits and explain the magnitude of each benefit.

DAC members recreation along the Mokelumne and other streams and would benefit from a less flammable, less toxic, more pleasant riparian environment.

14) Native American Tribal Communities Benefits

Does your project provide specific benefits to critical water issues for Native American tribal communities?

☒ Yes

☐ No

If yes, please identify the benefits and explain the magnitude of each benefit.

Developing a plan to eradicate invasive, noxious plants benefits tribal members who collect native plants for basket weaving and medicinal uses.

15) Environmental Justice Concerns

Does your project have environmental justice concerns? Environmental Justice is defined by State Law as: "the fair treatment and meaningful involvement of all people regardless of race, color, sex national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."

☐ Yes

☒ No

Please provide a rationale for your response.

Does not adversely affect any group or community..

16) Best Project for Intended Purpose

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Project is the best possible alternative to meet the stated need from a social, environmental, and economic perspective.

☐ Medium: Other alternatives exist that may be preferable from a social, environmental, and economic perspective.

☐ Low: Other alternatives clearly exist that will be better to meet the intended need from a social, environmental, and economic perspective.

The only alternative to not developing a plan is the status quo, which will only worsen over time, or uncoordinated efforts that may not be effective.

17) Minimize Implementation Risk

Please indicate the score below that best reflects your project and provide a justification of how you arrived at your score.

☒ High: Minimal implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and low degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Medium: Moderate implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and moderate degree of controversy, potential legal challenge, or potential partners' uncertainty.

☐ Low: High implementation risk due to documented institutional barriers such as regulatory, environmental, or permitting obstacles, and high degree of controversy, potential legal challenge, or potential partners' uncertainty.

With a broad group of involved stakeholders that includes organizations and entities landowners trust, it should be relative simply to develop a weed eradication plan that can move forward for environmental review and implementation.

California Statewide Priorities

Make Conservation a Way of Life

- Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation.
- Expand agricultural and urban water conservation and efficiency to exceed SBX7-7 targets
- Provide funding for conservation and efficiency
- Increase water sector energy efficiency and greenhouse gas reduction capacity
- Promote local urban conservation ordinances and programs

Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

- Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece.
- Support and expand funding for Integrated Water Management planning and projects
- Improve land use and water alignment
- Provide assistance to disadvantaged communities
- Encourage State focus on projects with multiple benefits
- Increase the use of recycled water

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