

CHAPTER 5. OTHER RELATED EFFORTS AND CONSIDERATIONS

This chapter summarizes other planning efforts, programs and recent developments relevant to this project and potentially impacting future efforts to secure clean, safe, affordable drinking water for disadvantaged communities in the region. This chapter also discusses “obstacles” to providing safe drinking water that the Project Team observed over the course of this project, and lists potential funding opportunities to address water and wastewater needs of small communities. The next chapter, Chapter 6, presents the Project Team’s recommendations that have resulted from their work over the past three years.

5.1 Current Related Efforts, Programs, and Recent Developments

5.1.1 Ag Drinking Water Initiatives

As this project was approaching its conclusion, a development occurred that presented an interim solution for providing safe, clean drinking water to disadvantaged communities in the Salinas Valley. In March 2017, the State Water Resources Control Board’s Office of Enforcement and the Central Coast Regional Water Board signed an agreement with a coalition of Salinas Valley growers, landowners, and shippers – referred to as the Interim Replacement Water Settlement Agreement – that would enable members of the coalition to avoid water enforcement programs in exchange for providing replacement drinking water to residents whose wells were contaminated with nitrate.¹ As of July 27, 2017, the Stewardship Group membership included approximately 56 Salinas Basin growers, landowners, and shippers, and represents approximately 140,000 acres (75 percent) of the total 186,000 acres for the Salinas Basin (including the 180/400, East Side, Forebay, and Upper Valley groundwater subbasins).² For more information about the agreement:

https://www.waterboards.ca.gov/water_issues/programs/enforcement/salinas_valley_nitrate.shtml.

For text of the settlement agreement, go to:

http://www.waterboards.ca.gov/water_issues/programs/enforcement/docs/sbasg_settlement.pdf.

Without admitting responsibility or liability for the contamination, the Salinas Basin Agricultural Stewardship Group has agreed to supply drinking water for up to two years to those whose water exceeds state and federal nitrate standards. The program targets financially disadvantaged persons in the first year; if the program extends into a second year, a person does not need to be financially disadvantaged in order to be eligible.³ As part of the agreement, the state agencies will suspend their current water enforcement

¹ The information in this section has come primarily from two sources:

Central Coast Regional Water Quality Control Board. 2017. Staff Report for Regular Meeting of July 13-14, 2017. Prepared on June 12, 2017. Subject: Salinas Basin Agricultural Stewardship Group – Interim Replacement Water Agreement Implementation Update.

State Water Resources Control Board. 2017. Media Release, April 6, 2017. Local Farmers, State Agencies Collaborate on Drinking Water Replacement Program for Salinas Valley Communities. State Encourages Farmers to Join Temporary Program to Address Contaminated Water. Sacramento, CA.

² Email communication with Angela Schroeter, Central Coast Regional Water Board, August 28, 2017.

³ The settlement text states, on pp. 3-4: “Without exception, the Parties agree that SBASG [Salinas Basin Agriculture Stewardship Group] shall provide replacement water on the terms and conditions set forth herein to any and all domestic well owners and/or users who request it in writing, meet the above Replacement Water Criteria, have been refused replacement water by the well owner at no cost to the user and the person or persons making the request are defined by either the State of California or Monterey County as financially disadvantaged whether or not identified in Exhibit A (‘Opt-In Systems’). ... If this Agreement includes a second year pursuant to Section 1.3, SBASG is obligated to use all commercially reasonable steps to

programs against those who join the Stewardship Group while the parties work toward a permanent response to the accumulation of nitrate in Salinas Valley basin groundwater. The program will be implemented for at least one year, with the option of being extended for a second year if performance targets are met during the first year by the Stewardship Group. Salinas Valley farmers and landowners who do not sign up to be members of the Stewardship Group may receive investigative orders to evaluate their contribution to nitrate pollution in groundwater.

The temporary program covers Local Primacy Agency (LPA) water systems (15-199 connections), small water systems (2-14 connections), and some domestic wells used by about 850 residents in the rural area. The program is funded by members of the Stewardship Group and coordinated by the Coalition for Urban/Rural Environmental Stewardship (CURES). CURES is conducting outreach to drinking water systems and domestic well owners and providing them with applications (in both English and Spanish) to receive replacement water. CURES is also conducting confirmation water quality testing, if needed to confirm nitrate concentrations. Because nitrate concentrations tend to fluctuate, sampling results below the safe drinking water standard are not used as the sole determination that the water is reliable for human consumption and basis for denying eligibility to participate in the replacement drinking water program.

As part of the replacement water agreement, the farmers and landowners represented by the Stewardship Group agreed to provide replacement water to a minimum of 58 total systems/wells (including three LPAs, 42 small water systems, and 13 private domestic wells identified in the Replacement Water Agreement). The Stewardship Group also agreed that any disadvantaged person whose domestic well tests above the safe drinking water level for nitrate may opt in to the program and be provided replacement water at no cost.

The Stewardship Group may elect to extend the enforcement standstill for a second year if: 1) they provide replacement water to at least 35 water systems during the first year, as verified by the Water Boards Team, or exhaust all reasonable efforts attempting to do so; and 2) they submit, obtain approval for, and implement a Replacement Water Plan which would identify and extend replacement water to all persons reliant on impacted domestic wells with a nitrate concentration above the safe drinking water level (i.e., all impacted persons in the groundwater basin), irrespective of socio-economic status. Delivery of drinking water under the agreement began in May 2017.

The Interim Replacement Water Settlement Agreement offers a positive, short-term interim fix to provide bottled water to a limited number of communities and individuals who suffer from nitrate-contaminated drinking water. While that is a positive and welcome step, it is important to recognize that the Agreement does not address the need for developing and implementing *long-term and sustainable* drinking water solutions for disadvantaged communities and other affected communities in the region.

Similar in many respects to the Interim Replacement Water Settlement Agreement, SB 623 (Monning, de Leon, and Hertzberg) was recently introduced in the legislature. SB 623 would create a **Safe and Affordable Drinking Water Fund** to assist low-income communities and low-income individual domestic well users, which could be used for: the provision of replacement water as a short-term solution; the development, implementation, and sustainability of long-term solutions; identifying eligible recipients; and testing the

provide replacement water to all additional systems that are identified in Exhibit A, all systems incorporated into Exhibit A pursuant to the Opt-In Systems provision in Section 2.1 for financially disadvantaged persons and all systems identified under the approved Water Replacement Plan described in Section 2.5 within the second twelve (12) months from the Effective Date of this Agreement. ... Systems and well owners/users identified in year 2 need not be financially disadvantaged to qualify for replacement water.”

drinking water quality of individual domestic wells serving low-income households. The bill would enable growers statewide to avoid certain enforcement actions from the State or Regional Water Board if the growers could demonstrate that they had implemented certain mitigation actions. SB 623 died in the legislative session; it is uncertain whether it will be taken up again in the next session.

5.1.2 UCLA Pilot Project

A team from the University of California Los Angeles (UCLA) has been conducting a wellhead treatment pilot project in the Salinas Valley to address the problem of contaminated drinking water in small disadvantaged communities, with a specific focus on nitrate removal. The results of this project will likely have great implications for future planning work in addressing drinking water problems of disadvantaged communities in the Greater Monterey County region.

The project is funded through a grant from the State Water Resources Control Board, and involves three small communities: Blue Rock Apartments, Pryor Farms, and Santa Teresa. All three of these communities had been identified as part of the Salinas Valley Disadvantaged Community Plan planning process and interviewed during the initial community outreach process (see *Chapter 3 Identifying Problems*, Table 3.1).

The goals of the UCLA pilot project include the following:

- To demonstrate onsite wellhead water treatment as a reliable and affordable option for supplying safe drinking water for small disadvantaged communities where consolidation or digging a new well is infeasible or impractical.
- To demonstrate that geographically separate but virtually networked (autonomous but remotely monitored/operated) treatment systems can be operated in multiple communities with economies of scale at affordable operating costs for these communities.
- To work with the Regional Water Quality Control Board to demonstrate that the residual water left after source water treatment can be either beneficially used or discharged to the septic tank with negligible or no impacts to groundwater quality.
- To engage the residents in a meaningful and culturally appropriate manner to enable them to participate in the process of improving water quality for themselves and their communities. This is being achieved through an outreach program that includes dissemination of informational materials, on-site technology demonstrations, responding to community questions and requests for information, community meetings, phone calls and one-on-one discussions with the residents in Spanish and English.

The team has opted to use reverse osmosis (RO), integrated with RO feed pretreatment, as the treatment approach for nitrate removal in small communities. The membrane removal treatment system removes particulate matter, and then the RO membrane removes 94-97% of nitrate, with provisions for disinfection and re-mineralization of the product water. The system is autonomous and self-adaptive which will significantly reduce the frequency of onsite maintenance. The UCLA has conducted onsite treatment tests in the three communities utilizing a small smart RO water system developed at UCLA. These tests, which were conducted with community members present, demonstrated the ability to produce high quality product water with nitrate levels well below the MCL. The UCLA team spent time with the communities in the pilot sites to explain the basis of the technology and demonstrate its operation.

According to the UCLA project team, the end product after RO treatment consists of about 90% drinking water and 10% residual water. The residual concentrate will be combined with the community wastewater and both will be directed to the septic system. The team has further explained that in the anaerobic environment of the septic tank, oxygen-starved bacteria will denitrify the nitrate in the residual stream, leaving nitrogen gas, a non-pollutant. The degree of denitrification indicated in the scientific literature varies, but the UCLA team will monitor to determine the extent of denitrification in the pilot community septic system. The goal is to reduce total mass of nitrate that is discharged from the septic tank to the leach field. In order to keep the costs (and residual stream) low, there will be a provision that water used for irrigation can be utilized directly from the source water without prior RO treatment; also, the system will be set up so that communities can use the residual water for beneficial uses, such as blending it with irrigation water, or for car washing.

Installation of the first of the three pilot systems is expected to occur toward the end of 2017 or first quarter of 2018, with the additional two system installations to follow later in 2018. The UCLA project team will operate the systems remotely from UCLA for three years, and will implement an extensive monitoring program. A website will be created where community members can follow their system operation and water quality. The pilot project is designed to determine, in part, the affordability of O&M costs of the wellhead water treatment option to disadvantaged communities. Presumably these costs will decrease with increased number of communities that will become part of the water treatment network of systems. Therefore, once all three communities are in operation, the UCLA team will engage in an outreach program to inform other communities who could benefit from joining the network and take advantage of the economies of scale.

Typical O&M cost of RO treatment of brackish water, as reported by the American Membrane Technology association (AMTA)⁴, is in the range of \$1.30 - \$3.00 per 1,000 gallons. Accordingly, based on the water consumption data collected by UCLA, the average monthly cost of water treatment in the Blue Rock, Santa Teresa, and Pryor Farms communities is expected to be in the range of \$40-\$90, \$49-112 and \$100-\$227, respectively. The above estimates do not include costs of specific regulatory requirements for water quality and system monitoring. Given the use of remote monitoring and self-adaptive system operation, it is expected that such costs would be reduced for the smart water systems to be deployed by UCLA. It is acknowledged, however, that the precise O&M cost will have to be determined based on cost data that will be obtained by UCLA over the course of the operation of the water treatment systems.

The Salinas Valley Disadvantaged Community Plan Project Team members will follow the results of the UCLA pilot project. It is expected that these results will provide valuable information for future planning.

5.1.3 Point-of-Use/Point-of-Entry Treatment Options

The Division of Drinking Water within Monterey County Health Department regulates the construction, installation, maintenance and operation of domestic water systems that have at least two but not more than 199 service connections. Requirements are detailed in Monterey County Code Chapter 15.04. The “Findings” of Chapter 15.04 state the objectives of the regulations include, but are not limited to, the following:

- Every citizen of Monterey County has the right to pure and safe drinking water.

⁴ American Membrane Technology Association, Membrane Desalination Costs, (FS-6) Feb. 2007, https://www.amtaorg.com/wp-content/uploads/6_MembraneDesalinationCosts.pdf; Cohen et al., A Perspective on Reverse Osmosis Water Desalination: Quest for Sustainability, *AIChE Journal*, 63, 1771-1784 (2017). Note: RO brackish water desalination provides a barrier against multiple contaminants and enables effective nitrate removal at a high level of nitrate rejection.

- This Chapter is intended to ensure that the water delivered by domestic public water systems of Monterey County shall be pure, wholesome, and potable at all times.
- It is the policy of Monterey County to reduce the proliferation of water systems. The provisions of this Chapter provide the means to accomplish this objective by requiring the consolidation and incorporation of proposed and existing water systems when feasible.

Very few drinking water systems in Monterey County use nitrate treatment to meet drinking water standards. In August 2015, Monterey County only had two permitted ion exchange systems and one reverse osmosis (RO) plant pending. Three additional drinking water systems were blending a low-nitrate water source with a higher nitrate water source to reach compliance with the nitrate MCL. Monterey County often requires daily monitoring for nitrate wellhead treatment due to the acute health risks of nitrate and the variability in source water quality and treatment technology functioning.

Prior to describing water treatment requirements, Section 15.04.146 of the Monterey County Code states: “Before any water system proposes to treat its water supply, the water supplier shall first conduct a reliability and feasibility study of alternative methods used to supply domestic water and submit the findings of the study as part of an amended permit application.”

As noted in Chapter 4, point-of-use (POU) and point-of-entry (POE) treatment systems are not currently permissible under Monterey County Code 15.04.146, which requires that treatment technology be installed at the entry to the distribution system (usually at the well). This means that wellhead treatment is the only current legal nitrate treatment option in Monterey County. The State Water Resources Control Board issued emergency regulations for small public water systems (15 to 199 connections) to use POU and POE treatment systems as an interim option for compliance (California Health and Safety Code Section 116380). For more information on the standard “permanent” POU and POE regulations and the emergency regulations: http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/POEandPOUTreatment.shtml

There are several features of the emergency regulations that would prove challenging for systems smaller than 15 connections. First, the emergency regulations are written for public water systems, which are legal entities. The regulations are written to require the public water system to have a State Board-approved POU Treatment Strategy, POU Operations and Maintenance Program, and POU Monitoring Program. Secondly, the emergency regulations state that the POU themselves are to be “owned, controlled, operated, and maintained by the public water system and/or a person(s) under contract with the water system, to ensure proper operation, maintenance, monitoring, and compliance with this Article and applicable drinking water standards.” Public water systems are legally required to have a state-certified water treatment operator. If treatment is required by a water system, then their water operator must hold a treatment-specific certification. Third, the emergency regulations do not allow POU to be used for microbial contamination (such as bacteria), which is commonly present in many water systems less than 15 connections. Fourth, the POU monitoring program in the emergency regulations is written specifically for public water systems, which already are required to meet Title 22 water quality monitoring requirements. POU treatment is used specifically only for the contaminant or contaminants that exceed the drinking water quality standards. The emergency regulations require quarterly source water monitoring and on-going POU effluent monitoring annually “with one-twelfth of all units sampled monthly on a rotating basis...[at least initially].” Fifth, the POU Treatment Strategy must include public notification and alternative water procedures. For an exceedance of

the nitrate MCL, each affected customer must be provided with alternative water that meets drinking water standards as soon as possible, but no later than 24 hours following notification of an exceedance.⁵

State/local small water systems and private domestic wells are often not owned and operated by a legal entity, are not required and often do not have a state-certified operator, may have variable water quality, and often monitor irregularly or not at all for a very limited set of water quality parameters. Monterey County Health Department is planning to implement a POU/POE policy for smaller systems soon. County staff have indicated that the monitoring requirement will likely be less frequent than for public water systems.

The County's new policy regarding POU/POE may have significant implications for possible treatment options for small disadvantaged communities in the region. At the time of writing this Plan, however, the Project Team did not consider POU/POE to be a viable solution. While some of the CECorps teams evaluated POU/POE as possible alternatives for the high priority disadvantaged communities, the Project Team did not recommend these options to community members. The Project Team will continue to track the County's evolving policy on POU/POE.

5.1.4 Monterey County Local Agency Management Program

Monterey County has drafted a Local Agency Management Program (LAMP) for Onsite Wastewater Treatment Systems (OWTS, i.e., septic systems). In June 2012, the State Water Board adopted an OWTS Policy, establishing uniform regulations for OWTS that apply throughout the state. The County Board of Supervisors is anticipated to approve the LAMP on or about May 2018. The LAMP does not require changes to existing properly functioning OWTS. New OWTS and repairs, expansions or replacement of existing OWTS will be required to meet the LAMP requirements. Existing OWTS that are found to clearly degrade groundwater or surface water quality or could otherwise contribute to public health impacts may also require upgrade or replacement. The following is a list of some of the changes proposed by the LAMP, compared to current County standards:

- Specifies more comprehensive site evaluation requirements (including groundwater monitoring borings, soil profile analysis, and for new systems, percolation testing)
- Limits the depth of dispersal fields
- Limits the use of seepage pits
- Requires septic tank pumpers to submit a report on every septic tank pump-out within Monterey County
- Allows consideration for an alternative OWTS if a property is so constrained (for example, high groundwater, shallow soils or slow-percolating soils) that a conventional OWTS (septic tank and gravity disposal field) cannot be installed.

The LAMP acts as a safety net to ensure some form of septic system inspection and monitoring oversight is established. Upon implementation, the LAMP will address public health concerns relating to wastewater system deficiencies. Disadvantaged communities that are on failing individual or shared septic systems or any older systems that may require future repairs may be impacted financially due to the cost of additional tests

⁵ Source:

https://library.municode.com/ca/monterey_county/codes/code_of_ordinances?nodet=TITLE15_PUSE_CH15.04DOWASY_15.04.146WATRRE

and studies under the proposed LAMP program. Alternative treatment systems equipment and installation costs, if mandated, are considerably higher than for a conventional septic. In addition, the jurisdiction generally requires a monitoring plan for those systems. Where it is infeasible to connect with a nearby municipal wastewater treatment system, the economic impact on disadvantaged communities with regard to correcting septic system deficiencies will need to be considered in future planning.

5.1.5 Monterey County – Wastewater Systems

The County of Monterey owns and operates water and wastewater utilities within the unincorporated areas of the County, many of which serve or are near disadvantaged communities. In June 2016 the County Public Works Department issued a Request for Qualifications as the first step in implementing the sale or transfer of the utilities to a qualified entity or entities. The utilities are the Pajaro Sanitation District, Chualar Wastewater System, and the Boronda Sanitation District, which includes the San Jerardo Water System (a suspected disadvantaged community). County staff has not completed the process of evaluating responses and no recommendations have been made to the Board of Supervisors as of this writing. The San Jerardo Cooperative has submitted a proposal to the County and to the State Water Board, which holds the loans on the system, to initiate acquisition of the San Jerardo Water System.

The Pajaro Sanitation District is the nearest wastewater system to two of the high priority small disadvantaged communities targeted in this project: Hudson Landing Road and Johnson Road. In both of these communities, residents have expressed an interest in wastewater service. Because of the potential sale of the sanitation district, the County has been unwilling to consider extension of service to these high priority communities. The Project Team recommends that the County consider the future owner’s ability to extend service to nearby disadvantaged communities, in addition to other qualifications.

5.1.6 Monterey One Water

Monterey One Water (formerly, Monterey Regional Water Pollution Control Agency) is in conversation with LAFCO regarding extending their service area boundaries and sphere of influence. A conceptual plan for the Monterey One Water service area expansion includes several high priority disadvantaged communities identified in this study including Middlefield Road and Schoch Road north of Salinas. Monterey One Water is also the lead agency in a grant application to extend sewer service to Toro Camp, a labor camp near the City of Salinas. Monterey One Water has the potential to improve wastewater service to many disadvantaged communities in the Greater Monterey County IRWM region.

5.2 Obstacles

This section provides a discussion of several “issues” that came up repeatedly over the course of the three-year planning effort. Each of these issues presents an obstacle in some way to achieving safe, clean, affordable drinking water for disadvantaged communities. Solutions to these obstacles represent the “next level” of planning on the local level, while some may need to be addressed at the statewide level.

5.2.1 Challenges in Addressing the Source of the Problem

In 2012, California became the first state in the nation to enact into law a human right to water policy. AB 685 (Eng, 2012) declares that “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes” and that all state agencies must consider this right “when revising, adopting, or establishing policies, regulations, and grant criteria when

those policies, regulations, and grant criteria are pertinent to the uses of water.”⁶ The State Water Board and Central Coast Regional Board followed suit in 2016, each passing a resolution, respectively, adopting the human right to water as a core value and its realization as a top priority.⁷ Similarly, the California Water Plan, a statewide strategic plan for water, declared providing access to safe drinking water for all California communities to be one of 17 “objectives” to guide investment of funds and changes in water resource management.⁸ Under the aspirational rubric of the human right to water, the State of California has dedicated funding and undertaken significant administrative agency reforms to implement the human right to water policy.⁹

Reducing, remediating, and, ultimately, preventing drinking water contamination is key to realizing the human right to water. Water contamination directly and negatively impacts access to safe, clean, and affordable water. Discrete point discharges and non-point sources of pollution from diffuse areas, like irrigated lands, threaten potable surface water and groundwater sources of drinking water. The statewide Irrigated Lands Regulatory Program (ILRP), implemented through seven regional water quality control boards, seeks to address a range of pollutants from irrigated lands, including pesticides, fertilizers, salts, pathogens, and sediment. The ILRP took on new significance at the turn of the millennium, as SB 390 (Alpert, 1999) set new procedural and substantive requirements for conditional waivers of waste discharge requirements (WDRs).

The Central Coast Regional Board currently issues conditional waivers of WDRs towards the goal of complying with ILRP requirements. The Regional Board’s first conditional waiver (“Ag Order”) was first issued in 2004 and renewed in 2012 and, again, in 2017. The principle complaint against existing Conditional Waivers and WDRs is that they do not actually impose requirements that will lessen contaminant loading in affected areas and are instead primarily limited to monitoring and reporting requirements.¹⁰ The Central Coast 2012 Ag Order was found legally inadequate by a court of law in 2015, a decision that is currently pending appeal to a higher court.¹¹ The 2017 Ag Order, which made few changes to the 2012 order, has also been challenged in the courts as unlawful.¹²

For nitrate contamination, discrepancies between total nitrogen applied and typical crop requirements reveals extensive over-application of fertilizer that will inevitably either leach into groundwater aquifers or be flushed out into surface waters. More research needs to be done into the nitrogen requirements, timing,

⁶ CAL. WATER CODE § 106.3

⁷ State Water Resources Control Board, Resolution No. 2016-0010, “ADOPTING THE HUMAN RIGHT TO WATER AS A CORE VALUE AND DIRECTING ITS IMPLEMENTATION IN WATER BOARD PROGRAMS AND ACTIVITIES,” Feb. 16, 2016, p. 3; California Regional Water Quality Control Board, Central Valley Region, Resolution No. R5-2016-0018, “ADOPTING THE HUMAN RIGHT TO WATER AS A CORE VALUE IN CENTRAL VALLEY WATER BOARD PROGRAMS AND ACTIVITIES,” April 21, 2016, p. 3; California Regional Water Quality Control Board, Central Coast Region, Resolution No. R3-2017-0004, “Adopting the Human Right to Water as a Core Value and Directing Its Implementation in Central Coast Water Board Programs and Activities,” Jan. 26, 2017, p. 3.

⁸ California Water Plan, Update 2013, “Investing in Innovation & Infrastructure,” Oct. 30, 2014, p. 8-49.

⁹ See e.g. Proposition 1; SB 208 (Lara, 2015); AB 1249 (Salas, 2014); SB 244 (Wolk, 2011); SB 88 (2015).

¹⁰ See *Zamora v. Central Coast Regional Water Quality Control Bd.*, Super. Ct. San Luis Obispo County, 2016, No. 15CV-0247

¹¹ *Monterey Coastkeeper et al. v. California State Water Resources Control Bd.*, Super. Ct. Sacramento County, 2015, No. 34-2012-80001324 (app. pending, Case No. C080530).

¹² *Monterey Coastkeeper et al. v. Central Coast Regional Water Quality Control Bd. and California State Water Resources Control Bd.*, Verified Petition For Writ Of Mandate And Complaint For Declaratory And Injunctive Relief (Filed August 3, 2017) (asserting the water boards have engaged in a “pattern and practice” of violated state environmental law in issuing legally inadequate conditional waivers).

uptake, and other factors that affect the nitrogen cycle for specific crops to inform and develop reasonable requirements for regulated entities.¹³

Enforcement of existing discharge requirements is also critically important to ensure the human right to water. In the latest iteration of its Water Quality Enforcement Policy, the State Board expressly prioritized violations that impact drinking water sources.¹⁴ For example, the community of San Lucas struggled with the contamination of its drinking water source until the Central Coast Regional Board threatened to issue a cleanup and abatement order to the responsible party, which resulted in that party providing interim bottled water to affected residents, as well as additional steps by the polluter to address groundwater nitrate loading.

Alternative approaches to traditional enforcement have also been suggested and recently deployed to address the human health impacts of impaired groundwater. For example, the Salinas Valley Interim Replacement Drinking Water agreement, negotiated between the State Water Board Office of Enforcement, the Central Coast Regional Board, and the Salinas Basin Agricultural Stewardship Group, reached a first-of-its-kind settlement to provide replacement bottled water to communities with nitrate-contaminated wells in exchange for an enforcement “standstill.”¹⁵ This short-term solution addresses the health impacts of contaminated water, but does not address the need to reduce the rate of nitrate contamination or remediate existing nitrate contamination.

Voluntary measures to achieve the human right to water have also come from state and local governments and often address the flipside of the coin by treating contamination after-the-fact, but before negative health effects are realized. The Central Coast Regional Board offers domestic well identification, outreach, and testing, and Monterey County similarly monitors small systems, domestic wells, septic tanks, and offers reduced cost well water sampling. Funding had been dedicated to these effectors through Proposition 1 Technical Assistance and Disadvantaged Community Involvement grants, IRWM disadvantaged community set asides, low-income rate assistance through AB 401, consolidation assistance through SB 88, and potentially through a statewide water tax proposed in SB 623 (pending on “suspense file” with Assembly Appropriations Committee, as of August 25, 2017).

In short, water quality regulators and the regulated community must each do their part to reduce and, ultimately, eliminate contamination of drinking water sources (primarily groundwater), provide the necessary resources to clean up those sources before they are used for human consumption, and ensure that the low-income communities least able to shoulder the financial burden of monitoring and treating contaminated drinking water are provided the resources necessary to realize the human right to water, now and into the foreseeable future.

5.2.2 Affordability

One of the biggest barriers to all solutions options is the cost of planning and implementing the project. Community members have clearly expressed that their interest in long-term solutions depends on the actual

¹³ See e.g., Fertilizer Research and Education Program, California Department of Food and Agriculture (<https://www.cdffa.ca.gov/is/ffldrs/frep/>); The California Nitrogen Assessment, UC Davis Agricultural Sustainability Institute (2015).

¹⁴ State Water Resources Control Board, Water Quality Enforcement Policy (April 4, 2017), p. 4, available at http://www.waterboards.ca.gov/board_info/agendas/2017/apr/040417_9_2017_enf_policy.pdf

¹⁵ Interim Replacement Water Settlement Agreement (March 29, 2017), available at https://www.waterboards.ca.gov/water_issues/programs/enforcement/docs/sbasg_settlement.pdf.

cost of these projects, both initial costs and monthly costs. Initial costs include lateral costs to connect one's house to the water meter and also the repayment of a loan if the total eligible project cost is not covered by a grant. In the Drinking Water State Revolving Fund Intended Use Plan,¹⁶ for example, disadvantaged communities with residential water rates less than 1.5 percent of the community's MHI are not eligible for a grant or combination of grants. If a small disadvantaged community alone must repay a construction loan to connect to a nearby water system, many property owners may not be able to afford monthly loan repayment on top of the monthly water bills. In 2006, one of the high priority communities identified in this planning effort voted against property assessments that would pay to connect them to a nearby water system because the assessments ranged from \$25,000-\$60,000 per parcel. One community resident likened the cost to a second mortgage on her house, which she could not afford to pay.

Moreover, larger nearby water providers also have been clear that their current customers cannot bear the burden of extending service to new customers. In the case of private utilities, the CPUC regulates the setting of water rates and will not allow a private utility to expand to new customers at the expense of current customers. Public water systems, including Pajaro Sunny Mesa CSD in north Monterey County, have emphatically stated that they are only willing to extend service to new customers if it does not result in a net loss for the district. So while consolidation is often the preferred solution, affordability remains a common stumbling block for disadvantaged communities, with no easy solution.

The Case of San Jerardo

The community of San Jerardo, a low-income farmworker community in the Salinas Valley with a population of 350 people, obtained grants and loans in to construct a new water system for its residents in order to address nitrate and other contamination in its water supply. It took a great deal of time and countless meetings to obtain an agreement among the residents and County officials to approve the construction of the project. Their monthly water bills wound up increasing five times from their previous bills.

The water well of the San Jerardo community is running at 20 percent capacity and has 66 water connections that are active. The average water bill per month is about \$100. The San Jerardo water system has the possibility of extending to approximately 198 more connections and running the well at 80% percent capacity. The expansion of the water system would make water more affordable for all users of the water system. The San Jerardo community is seeking to form a mutual water company to own and operate, and eventually expand, the water system. Both the State and the County encourage consolidation as the preferred solution to drinking water issues in rural areas. Whether "consolidation" takes the form of physical extension of service from a larger water system, or in the case of the UCLA pilot project, geographically separate but virtually networked wellhead treatment systems, or other regionalization approaches, the importance of creating economies of scale to achieve affordability cannot be overstated.

5.2.3 Consolidation, Extension of Service, and Sponsorship

The County of Monterey has adopted policies prioritizing consolidation of water systems over creation of new water utilities within the unincorporated areas of the county. The State Water Board similarly prioritizes consolidation to achieve compliance with drinking water regulatory standards.

¹⁶ http://www.waterboards.ca.gov/drinking_water/services/funding/SRF.shtml

The Project Team and CECorps have evaluated consolidation opportunities and constraints for high priority disadvantaged communities. Several of the smaller disadvantaged communities are candidates for extension of service from a city or water service provider and would need willing partners to proceed with infrastructure improvements. Due to past experience managing project grants including both the difficulty and delay in getting administrative and other costs reimbursed, many water providers and Monterey County officials are reluctant to sponsor grant applications for disadvantaged communities that rely on contaminated wells.

The Project Team has facilitated discussions with representatives from Cal Water, CalAm, Monterey County, Pajaro Sunny Mesa Community Services District and the cities of Greenfield, Soledad, and Gonzales regarding potential extension of service and project application sponsorship. The cities of Greenfield and Gonzales are moving forward as project sponsors and applicants for Apple Avenue and Alpine Court, respectively. Middlefield Road is a strong candidate for consolidation and will be in need of a project sponsor. The Project Team will continue efforts to create sponsorship linkages for the Middlefield Road community and other high priority communities through the IRWM Disadvantaged Community Involvement grant. However, the issue of project sponsorship will continue to pose an obstacle to obtaining clean, safe, affordable drinking water for small disadvantaged communities unless a countywide (or statewide) project sponsorship solution can be developed.

5.2.4 Organizational Capacity

Another significant barrier is lack of organizational capacity. Small disadvantaged communities are typically understaffed and dependent on volunteer boards or a single property owner to manage the water or wastewater system. Contract operators are used on a very limited basis, primarily for sampling and reporting activities. Limited organizational capacity may prevent small water systems from being able to offer extension of service to nearby small communities.

For example, the proposed Hudson Landing Road project area and the Bluff/Jensen area are within the service area boundary of the Pajaro Sunny Mesa Community Services District (CSD) in North Monterey County. However, the CSD Board of Directors has declined to participate in planning activities for these areas until two other projects are complete: installation of a large water storage tank and development of a new well and infrastructure to consolidate the state and local small water systems along Struve, Springfield and Giberson Roads. The Board of Directors for Pajaro Sunny Mesa CSD has stated, understandably, that their staff and board have a responsibility first to existing customers and that future projects, including their staff administration and other time, cannot be paid for by the District. This situation is not atypical; just because a water system is located nearby does not necessarily mean it has the ability or capacity to extend service to a small community in need of clean water.

5.2.5 Technical, Managerial, and Financial Capacity

Related to organizational capacity, the evaluation criteria outlined in the Technical, Managerial and Financial (TMF) Assessments required for water system permit applications, amendments, consolidations, transfers of ownership and, for State Water Board Proposition 1 Technical Assistance and State Revolving Fund, funding applications can present a significant barrier for disadvantaged communities. The TMF Assessment requires a community or water system to demonstrate its capacity for operating a system across a broad range of areas such as technical certifications and experience, operations planning and maintenance protocols, budget controls and financial resources for capital costs, repairs and operating expenses. Smaller disadvantaged communities may have difficulty demonstrating capacity in one or more categories of the TMF Capacity

Assessment. As discussed in other sections, regionalization and sharing resources or consolidation with a larger service provider can provide benefits to the disadvantaged communities. As selected projects continue to be developed, it is expected that TMF Assessments will need to be completed either as part of the permitting process or in conjunction with a funding application. Proposition 1 TA or IRWM Disadvantaged Community Involvement assistance is anticipated to be needed except in situations involving CPUC-regulated systems that are likely to have in-house staff to assign to the task.

Continuing community engagement and working with potential collaborative partners may lead to resolution of some of these identified roadblocks, enabling projects to move forward to funding applications as needed.

5.2.6 Data Gaps

In the course of this planning project the Project Team noted several data gaps. These include:

- **Private domestic wells, and local/state small water systems:** Because water supply from private domestic wells is not regulated, very little data exists for private domestic wells (see *Chapter 3 Identifying Problems*, Section 3.1.3, for a more detailed discussion about private domestic wells).

State small water systems are regulated by Monterey County Code (Chapter 15.04) and by California Code of Regulations Section 64211; local small water systems are regulated only by Monterey County Code (Chapter 15.04). According to county code, a permit is required for the construction and operation of systems constructed after January 1, 1998; permit requirements include initial water quality testing. Additionally for state small systems, a new permit is required for change in ownership. The County requires bacteriological testing for state small systems at least once every three months, and for local smalls at least once every year. Additional bacteriological samples are required under certain circumstances, such as a community or system-wide illness suspected of being waterborne, or after construction or repair of wells or storage facilities. These are essentially the only requirements for local and state small systems. However, the County does monitor for other constituents including nitrate, arsenic, and hexavalent chromium (in “as delivered” water, not raw groundwater).

The County has been building a database for local and state small systems and small public water systems. Because monitoring is not required for private domestic wells, however, very little domestic well data exists. This is significant because individuals who rely on private wells may be consuming contaminated water, and may have been doing so for many years, without knowing it.

- **Wastewater data:** Most unincorporated parts of Monterey County are served by individual onsite septic systems. In 1979, the County of Monterey entered into an agreement with the Central Coast Regional Board that authorizes the County Health Department to manage and implement individual sewage disposal regulations in the county.¹⁷ The County requires the issuance of a septic tank system permit upon initial installation or upon the re-construction or repair of a septic system. Also, per the Local Agency Management Program (LAMP) for Onsite Wastewater Treatment Systems currently proposed by the County (and expected for approval around May 2018 – see Section 5.1.3), the County will be requiring additional requirements such as groundwater monitoring borings and other site evaluation requirements when an application for repair or replacement of a septic system is proposed, and will require septic tank pumpers to submit a report on every septic pump out within

¹⁷ See Monterey County Code of Ordinances, Title 15 Chapter 15.20.005.

Monterey County.¹⁸ No additional ongoing monitoring or testing of septic systems is required. Due to limited oversight/monitoring, the need to educate and promote local monitoring by local residents would be beneficial to ensure that these systems last the time expectancy as per design.

5.3 Funding Opportunities

Potential funding opportunities for addressing drinking water and wastewater needs of small disadvantaged communities are listed below. Additional information on funding sources may be found through the California Financing Coordinating Committee (CFCC) at www.cfcc.ca.gov. CFCC combines the resources of five state and two federal funding agencies to provide a one-stop shop for available grants, loans, and bond financing for infrastructure projects. The CFCC conducts free funding fairs statewide each year to educate the public and offer potential customers the opportunity to meet with financial representatives from each agency and learn more about their currently available funding programs. The CFCC has available a Common Funding Inquiry Form that may be completed by communities and submitted for review by all CFCC member agencies. The community can then receive direct feedback regarding potential funding assistance opportunities and the specific needs identified.

Note that the funding opportunities offered by the various agencies below cover only the capital costs associated with any improvements through construction. Once constructed, the community must pay for ongoing operation and maintenance of the improvements, typically through utility bills. Currently, there are no funding sources available to help offset ongoing O&M costs. However, CPUC-regulated water service providers such as CalAm and Cal Water provide rate adjustment subsidies for qualifying lower income households. It is anticipated that disadvantaged communities connecting to these larger utilities will benefit from subsidy programs.

Proposition 1 IRWM Implementation Grant Program: Proposition 1 (Water Code §79744) authorized \$510 million in IRWM grant funds. Of that amount, \$43 million has been allocated to the Central Coast Funding Area, which is comprised of six IRWM regions. In May 2016 the Greater Monterey County IRWM region entered into a Memorandum of Agreement with the other five IRWM regions in the Central Coast Funding Area to “share future Proposition 1 funding for the IRWM grant program among the six Parties in a fair and equitable manner.” The Greater Monterey County region’s fair share of Proposition 1 funds equals \$8,253,910. Of that amount, \$1,775,034 has been allocated for Disadvantaged Community Involvement grants (see below), and \$6,478,875 has been allocated for Implementation Grants. Projects that benefit disadvantaged communities are eligible for either pot of funds. Note that Disadvantaged Community Involvement grants are non-competitive, while IRWM Implementation Grants are (quite) competitive. The California Department of Water Resources administers the IRWM Grant Program.

Proposition 1 IRWM Disadvantaged Community Involvement Grant Program: As noted above, the Greater Monterey County IRWM Region is expecting to receive approximately \$1,775,034 (minus some administrative costs) through the Proposition 1 IRWM Disadvantaged Community Involvement Grant Program. Funds have been divided between two rounds. The funding received in Round 1 (\$830K) will be used to continue the work begun through this project. Work will focus primarily on project development to move high priority projects closer to successful funding applications and implementation. The scope of work includes development of two projects to 30% design (most likely Middlefield Road and Apple/Walnut

¹⁸ For information about the LAMP: <http://www.co.monterey.ca.us/government/departments-a-h/health/environmental-health/environmental-health-review/monterey-county-local-agency-management-program-lamp>

Avenues) and two others to application readiness in terms of design and environmental documentation. Grant funds will also support continued needs assessment (including water quality testing and median household income surveys), technical assistance, leadership training courses, and continued community engagement.

Drinking Water State Revolving Fund: The Safe Drinking Water State Revolving Fund (DWSRF) provides financial assistance in the form of federal capitalization grants to states that in turn provide loans and other assistance to public water systems. California's DWSRF provides financial assistance for drinking water infrastructure improvements in the form of low-interest financing, additional subsidy, and other technical assistance derived from federal capitalization grants, associated state match, and revolving principal and interest repayments. The program is managed by the State Water Resources Control Board. For FFY 2017, the State applied for a federal DWSRF Capitalization Grant of up to \$115 million. Approximately \$1.64 million has been set aside from the fund to support small water system technical assistance. The set-aside funds are used to assist small water systems in qualifying for DWSRF, Proposition 84, and Prop 1 Drinking Water infrastructure financing. For more information:

http://www.waterboards.ca.gov/drinking_water/services/funding/SRF.shtml.

Prop 1 Technical Assistance: The State Water Board offers technical assistance to small (less than 10,000 people) disadvantaged communities to help them develop, fund, and implement Prop 1 eligible drinking water, wastewater, storm water, or groundwater capital projects. TA may include project coordination and development, legal assistance, engineering and environmental analysis, and/or leak detection/water audits. Demand for Prop 1 drinking water/wastewater technical assistance is extremely high. Requests relating to one or more of the following are generally given priority: systems that are out of compliance or experiencing insufficient water delivery capabilities, extension of service for drought/contamination impacted communities, consolidation projects, systems serving less than 200 connections, and applicants with small or relatively low-cost needs that will enable an otherwise complete funding application to move forward. Some requests (including those for assistance with more general drinking water and wastewater capacity development needs, that are outside the context of capital project development – such as, compliance audits, rate studies, TMF assessments, and board or operator training) may be referred to other TA programs. See: www.waterboards.ca.gov/water_issues/programs/grants_loans/proposition1/tech_asst_funding.shtml

Community Development Block Grant Program: The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of community development needs. CDBG is administered by the US Department of Housing and Urban Development (HUD). HUD provides CDBG on an annual basis to entitled cities and counties to help develop "...viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities to low-income persons." The County of Monterey, in cooperation with the cities of Gonzales, Greenfield and Sand City ("Urban County") is an entitlement jurisdiction participating in CDBG. CDBG funding is one of the few sources available to cover project-related work on private property. Such work may include sewer and water connections and abandonment of old water wells and septic tanks for qualifying lower income homeowners or renters.

USDA Rural Development – Water and Waste Disposal Loan and Grant Program: The US Department of Agriculture Rural Development Program provides direct loans, guaranteed loans, and grants to develop water and waste disposal systems in rural areas and towns with populations less than 10,000. These funds are available to most state and local government entities, private non-profits, and federally recognized tribes. Funds may be used to finance the acquisition, construction or improvement of: drinking water sourcing,

treatment, storage and distribution; sewer collection, transmission, treatment and disposal; solid waste collection, disposal and closure; and storm water collection, transmission and disposal. In some cases, funding may also be available for related activities such as: legal and engineering fees; land acquisition, water and land rights, permits and equipment; start-up operations and maintenance; interest incurred during construction; or purchase of facilities to improve service or prevent loss of service. For more information: <https://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program>

Clean Water State Revolving Fund: The State Water Resources Control Board administers the Clean Water State Revolving Fund (CWSRF) program, which offers low-interest financing agreements for wastewater quality projects. Limited principal forgiveness/grants are available for disadvantaged communities. Eligible projects include, but are not limited to, construction and rehabilitation of publicly owned wastewater treatment facilities, water reclamation facilities, and sewer systems. The program has significant financial assets, and is capable of financing projects over \$100 million. In Monterey County, Rural Community Assistance Corporation (RCAC) receives CWSRF funds in part to provide training for small communities, while California Rural Water Association receives CWSRF funds for technical assistance.

For more information: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/

Small Community Wastewater Grant Fund: Section 79723 of Prop 1 allocates \$260 million to the CWSRF Small Community Grant (SCG) Fund. The State Water Board has an annual SCG appropriation of \$8 million dollars, which is administered consistent with the CWSRF Intended Use Plan and the CWSRF Policy. CWSRF applications are accepted on a continuous basis. For more information:

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml

Cleanup and Abatement Account – Interim Emergency Drinking Water: The Cleanup and Abatement Account (CAA) was created to provide public agencies with grants for the cleanup or abatement of pollution. The CAA is supported by court judgments and administrative civil liabilities assessed by the DWSRF and the Regional Water Quality Control Boards. Eligible entities that can apply for this funding include public agencies, as well as non-profit organizations and tribal governments that serve a disadvantaged community. CAA is not a permanent and consistent source of funding, and it fluctuates annually in terms of the number of projects that are funded. In 2016 a total of \$19 million in funding from the Cleanup and Abatement Account was made available for disadvantaged communities to address interim emergency drinking water needs due to drought related emergencies or threatened emergencies, and contaminated water supplies.

Household and Small Water System Drought Assistance Program: The State Water Board authorized \$5 million to assist individual households and small water systems (serving less than 15 connections) to address drought-related drinking water emergencies. Funds are administered by three non-profit organizations, including RCAC, and are available as low-interest loans and/or grants based on recipient's income and affordability. The maximum grant amount for individual households is \$45K; the maximum grant amount for small water systems is \$100K. Eligible projects include: bottled water, well repair, well rehabilitation, and replacement, vending machines, point of use devices (e.g., filtration, hauled water, emergency interties, and treatment systems. For more information:

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/caa/dw_droughtfund/docs/hswsda_funding_factsheet.pdf