Santa Rosa Water Supply Alternatives Plan
DRAFT Portfolio Development

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Below are four draft portfolios, including their composition and a brief descriptive narrative. Each portfolio is built around a theme that represents the portfolio's primary focus: economics, speed, effectiveness, and flexibility, respectively.

Water efficiency, Option E-1, is a part of all portfolios, reflecting the City's goals of water use efficiency and environmental protection. While E-1 would reduce demand (reducing the volume of new water needed to achieve the City's goals), it cannot address another key aspect of the City's goal which is resilience against a catastrophic interruption of the Sonoma Water supply. Therefore, all portfolios contain new water supply source options in addition to E-1.

Error! Reference source not found. provides an overview of which options are included in each portfolio which is followed by a brief discussion of each portfolio. Data from the feasibility study (such as capital cost, cost per acre-foot, water production, and scalability) were presented during working sessions with the Water Team, the Stakeholder Group, and the community.

Table 1: Draft Portfolio Compositions

	Portfolio 1 Most Economical	Portfolio 2 Fastest Implementation	Portfolio 3 Maximizes Water	Portfolio 4 Adaptive
GW-1: Add Extraction Wells (Up to 12)		X	X	Consider
GW-2: Convert Emergency Wells to Production Wells	X	X	X	X
GW-3: Add Aquifer Storage & Recovery Wells				
PR-2: Satellite Direct Potable Reuse			X	Consider
PR-4: Regional Direct Potable Reuse at Laguna Treatment Plant				
SW-1: Stormwater Storage in Aquifer			Study further	
E-1: Efficiency Programs	X	X	X	X

Portfolio 1: Most Economical
Components: E-1 and GW-2
This portfolio is comprised of enhanced efficiency measures (E-1) and conversion of existing emergency groundwater wells to production wells (GW-2). Combining these two options into a portfolio offers an economical way to reduce the City's water supply gap. While this portfolio may not remove the water supply gap entirely, it very likely provides the water for the least cost.

Portfolio 2: Fastest Implementation
Components: Portfolio 1 + GW-1 (E-1, GW-2, GW-1)
This portfolio is comprised of enhanced efficiency measures (E-1), converting emergency groundwater wells to production wells (GW-2), and constructing new production wells (GW-1). Of the supply options considered, these three in combination can be implemented quickly and simultaneously. When compared to Portfolio 1, this portfolio offers more water supply and comes closer to helping the City meet its water supply goals. A drawback is that it commits resources to GW-1 before the benefits of GW-2 and E-1 have been realized, and thus risks overbuilding GW-1.

Portfolio 3: Maximizes Water
Components: Portfolio 2 + PR-2 (E-1, GW-2, GW-1, PR-2) + SW-1
This portfolio is comprised of enhanced efficiency measures (E-1), converting emergency groundwater wells to production wells (GW-2), constructing new production wells (GW-1), and satellite direct potable reuse (PR-2). It also involves the further study and modeling of local stormwater (SW-1) to better understand its performance as an individual component. This portfolio would almost certainly close the City's supply gap, though may result in surplus water as a result of overbuilding and overspending.

Portfolio 4: Adaptive
Components: E-1, GW-2, GW-1, PR-2
This portfolio includes enhanced efficiency measures (E-1), converting emergency groundwater wells to production wells (GW-2), constructing new production wells (GW-1), and satellite direct potable reuse (PR-2). Implementation would begin with E-1 and GW-2 right away, similar to Portfolio 1. Once the performance of these projects is established, the City would then consider the need for GW-1 and PR-2. At that point, DPR regulations will be well established, and the City could determine whether to pursue potable reuse or additional groundwater based on actual water yield of E-1 and GW-2, current and projected demand changes, regional partnership opportunities and relationships, changes with Calpine operation, and relative cost changes associated with

groundwater and direct potable reuse. This portfolio phases implementation to offer a balance between water now and cost later.