Criteria	from Rosemary and Dana (*with suggested additions by Stratus Consulting in italics)* **Brief description**	**Scale = 3 (high score for a desirable outcome)**	**Scale = 2**	**Scale = 1**
Supply	*Not really a criteria - big versus small is probably not a sorting criteria - but this value is important to WSAC in developing portfolios of Alternatives to meet Demands in the different Scenarios*	*Alternative A = Supply mg/y*		
Implementability	Characteristic of a supply project that relates to the siting and environmental and regulatory review processes associated with a project.			
Technically Feasible Now	Approaches, technologies and regulations guiding the development and operation of the supply project, particularly related to production, storage and treatment, are known and examples of their application elsewhere provide confidence that they could be applied here.	Proven technologically, used widely in the field at City-level scale	Proven technology in the field, but not (yet) widely used at City-level scale for public water supply	Un-proven Technology -- possibly promising in lab and small-scale pilots, but not yet applied in the field for City-scale water supply
Technically feasible in Future	Approaches, technologies and regulations guiding the development and operation of the supply project, particularly related to storage and treatment, are not firmly established but are under development and likely to be available for implementation within no more than 5 years.	Proven Technology - proto-types and pilot testing demonstrate feasibility likely in next 1-5 years	Proto-types currently operating - showing good potential for future 5 to 10 years	Un-proven for the future - Still in the research or bench-scale phase
Permit/Legally Feasible now		City has examined and has high-confidence level that the alt can be easily implemented in SC in terms of permits and related issues	City has not examined for local use but still has high confidence alt can be easily implemented in SC	City has grave concerns the alt is not implementable in SC
Permit/Legally feasible in the future		City has examined and has high-confidence level that the alt can be easily implemented in SC in the next 1-3 years	City has not examined for local use but still has high confidence alt can be easily implemented in SC in 1-3 years	City has grave concerns the alt is not implementable in SC
Fatal Flaw	*What is the fatal flaw, is it still fatal and what could be done to remove it*	fatal flaw is easy to remove	Fatal flaw may require work but can be removed	Fatal flow is still fatal
Politically feasible		The city has examined and found this Alternative to be easily implementable in any political environment	The city has examined and found this Alternative to be easily implementable in the current political environment	The city has examined and found that this cannot be implemented
Effectiveness				
Reliability	Characteristic of a supply project that relates to the certainty of project yield under a range of foreseeable and unforeseeable conditions. Reliability is mainly related to hydrologic and/or hydrogeological conditions that are variable over time and under various climatologic conditions.	Highly reliable under all conditions - including plausible changes in climate -- e.g., likely to provide at least 90% of projected (target) yields in any given year or season	Moderately reliable under current conditions -- likely to provide at least 80% of projected yields in any given year, and at least 90% of target yields in 95% of future years	Not very reliable under current or potential future conditions -- e.g., less than 75% of target yields in 20% of years.
Curtailments	*Scale includes curtailment size, frequency and duration*	Curtailments no more than once every 10 years at Tier 2, and 1 in 15 years at Tier 3	Curtailments no more than twice every 10 years at Tier 2, and once every 8 years at Tier 3	Curtailments of more than 25% 2 years or more every decade.

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Financial Costs and Benefits of water	Financial Characteristics of each Alternative				
Financial Cost effectiveness - Lifecycle Cost per AF or MG water metric	*This is a summary value developed into a metric*	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this scale (e.g., < $750/AF is a "3")	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale (e.g., between $750 and $2000/AF)	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale (e.g., greater than $2000/AF)	
Implementation cost	Implementation costs are those required to get a project or program up and running.	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale	
O & M costs	Operating costs are those that result from the day to day operation of the project or program.	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale	
Lifecycle cost (note, we have combined this with lifecycle cost, above)	Implementation, planning and O & M costs discounted over the project life time. This value is used to develop the Financial cost effectiveness value	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale	Place ranges of costs here - with least expensive a 3 and most expensive a 1 - need $ values to populate this Scale	
Environmental well-being	This criterion relates to the degree to which a water supply or demand management strategy contributes to or impacts the quality and sustainability of the natural environment				
Sustainability	Manages and protects natural and water resources so that they are sustainable at the current level over time	+++	++	+	
Promote biodiversity and env'l resilience	Recognizes and values the contributions that biodiversity and environmental resilience play in supporting human activity and takes steps to protect and enhance the environment's ability to produce and deliver these benefits.	+++	++	+	Permit, build, by land etc.
Supports ecosystem values	*Could be merged with above*	+++	++	+	
carbon costs	Energy consumption and carbon footprint	Carbon Footprint is less than x Metric Tonnes of CO2e per AF of water produced	Carbon Footprint is between x and y MT of CO2e emissions /AF	Carbon Footprint is greater than y MT CO2e/AF	
Eco-system values	Enhance the community's ability and capacity to plan and operate in a manner that is sustainable and protects the natural environment.	+++ (i.e., qualitative scale - a "3" being "high"	++ (moderate)	+ (low)	
Fishery values	Minimizes impacts on fishery resources and aquatic ecosystems	+++	++	+	
Water resources - gw and surface - values	Designed to minimize or appropriately mitigate the impacts of water supply projects and operations on terrestrial resources and ecosystems	+++	++	+	
Community Well-Being	Encompasses a range of social and community value issues				E.g., avoid env'l backlash
Community Character	The look and feel of the community as it relates to the availability of and demand for water.	+++	++	+	

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Supports local economy	Degree to which the availability of water supports or constrains the creation and sustainability of the local economy	Economy obtains needed supply with no more than 1 curtailment above 15% every 10 years.	Economy obtains needed supply with no more than 2 curtailments above 20% every 10 years.	Economy obtains less than 80% of needed supply in 4 or more years every decade
Social and Political Stability	To the degree to which the availability of water supports or constrains the community's social and political stability.	+++	++	+
UCSC Vibrant	Availability of water supports or constraints the University's ability to create and sustain a level positive activity that contributes to	We can do this in two ways - 1) qualitatively, or 2) develop real numbers of what they need		
Impact on long-term growth	Availability of water supports or constrains the community's ability to grow in ways that are established by, for example, the City's General Plan,	The general plan calls for Z growth and needs x amount of water. A 3-meets or exceed target	80 to 100% of target	<80% of target
Support local parks and recreation opportunities		Parks and recreation fields are never/rarely impacted by water curtailments	Parks and recreation facilities always receive enough water to stay alive - but curtailments limit aesthetics and usefulness in many years (more than 4 years out of every 10)	Curtailments mean parks and recreation facility plantings are likely to die more than once every decade, and either require replanting or abandonment
Supports community gardens		Water supply supports all community gardening requirements	Water supply supports local natural ecosystem appropriate gardening	Water supply curtailments result in the frequent requirement to not water community gardens
Supports a Climate Change-adapted community garden	Modified by the large scale elimination of plantings and landscaping requiring irrigation during the dry season.	+++	++	+
Energy consumption	Slightly different than carbon footprint	Energy use is below x/kWh/AF	Energy use is between x and y kWh/AF	Energy use is > y kWh/AF
Politically acceptability	Placed in Implementability - but could be inserted here instead	+++	++	+
Affordability of water - rates	The degree to which water cost increases make water less available to those with lower incomes or require a disproportionate amount of a household's income to pay for water service.	Household water bills will stay below 1% of median household income (Note above is based on a US EPA guideline, but alternative metrics can be applied, such as "households in the lowest quintile of the income distribution have water bill less than 5% of HH income).	Water bills will between 1% and 2% of median household income	Water bills will be greater than 2% of median household income
Public health - air	Addresses the degree to which the Alternative affects public health. Protection of public health - includes air quality impacts due to increases in energy air pollution	For air quality - low additional energy contribution to public health risk issues from air quality - create ranges (i.e., based on range of estimated emissions of key air pollutants, as typically linked to level of energy use and energy source)	For air quality - additional energy contribution to public health risk issues from air quality - create ranges -- this would be moderate level of air pollution-associated risk or emission levels	For air quality - additional energy contribution to public health risk issues from air quality - create ranges -- this end of the scale would be for high relative risk
Allows for growth	The degree to which the availability of water supports or constrains the community's ability to grow in ways that are established by, for example, the City's General Plan,	Facilitates a highly desirable level and pattern of growth in terms of population, land use-related pattern and style of development, and enhancing economic vitality (obviously this could be very subjective)	Facilitates a moderately desirable level and pattern of growth	Contributes to undesirable levels or patterns of growth
Pride in the Community's Water Stra	Degree to which the selected strategy would align with the community's desire to be a leader and to look at issues and adopt solutions	+++	++	+

Criteria	Brief description	Scale = 3 (high score for a desirable outcome)	Scale = 2	Scale = 1	
Adaptability	Characteristic of a supply project that relates to how well the approach can be modified over time to respond to changing conditions.				
Resilience	Ability to effectively operate under a range of foreseeable and unforeseeable conditions.	Extremely resilient to changes	Moderately resilient to changes	Not very resilient	
Scalable	Flexibility to add capacity increments over time (scalability), or treat water from a variety of sources with different quality, would be examples of adaptability	Highly scalable	Moderately scalable	Not readily scalable	
Preserves future choices	Saves options that may be needed if the future looks different that the one projected.	Does not create irreversibilities, and can be implemented in the future as part of an adaptive management approach	May create some irreversibilities, and might be reasonably implementable in the future if postponed now.	Creates a significant irreversibility; locks City into limited set of future options	
Demand	*Not really a criteria but this value is important to WSAC in developing portfolios of Alternatives to meet Demands in the different Scenarios*				
Supply Demand Alignment	Supply = Demand (S mg/y = D mg/y) (D is defined in each scenario)	Supply = Demand (S mg/y = D mg/y) (D is defined in each scenario) 95% to 100% of years and seasons	Supply = Demand (defined in scenario) 85% - 95% of the time	Supply = Demand (defined in scenario) less than 85% of the time	Cost to consumer
Demand - Traditional	D = garden needs + baseline	For example - Using Conservation measures x, y and z and Alts A, B and C; this set of Alts represents the least expensive way to meet this D so it is a 3	For example - Using Conservation measures x, y and z and Alts A, B and C; this set of Alts represents the second most expensive way to meet this D so it is a 2	For example - Using Conservation measures x, y and z and Alts A, B and C; this set of Alts represents the most expensive way to meet this D so it is a 1	Human Health
Demand -Enhanced traditional (Best Case)	D = non-landscape needs + baseline	For example - Using Conservation measures x, y and z and Alts A, B and C; this set of Alts represents the least expensive way to meet this D so it is a 3			Other laws, regs
Demand - Climate Change	D = landscape needs + baseline	For example - Using Conservation measures x, y and z and Alts A, B and C; this set of Alts represents the least expensive way to meet this D so it is a 3			
Demand - Economic change	D = parks & recreation + baseline	For example - Using Conservation measures x, y and z and Alts A, B and C; this set of Alts represents the least expensive way to meet this D so it is a 3			Backyard food production aesthetics
Demand - Fish and regulatory	D = Fishery + baseline	For example - Using Conservation measures x, y and z and Alts A, B and C; this set of Alts represents the least expensive way to meet this D so it is a 3			Backyard food production, aesthetics
Demand - Sustainable Santa Cruz	D =Growth + baseline				
Demand reliability	The need for the supply to be reliable	This demand requirement is imperative	This demand requirement is necessary but not imperative	This demand requirement is totally flexible	
Supports long-term economic growth as defined in City Vision	D = Water for the economy + baseline	For example - Using Conservation measures x, y and z and Alts A, B and C; this set of Alts represents the least expensive way to meet this D so it is a 3			