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MEMORANDUM

Salinas Valley Basin Groundwater Sustainability Agency
Castroville & Eastside Canals and Alternatives Study
Wallace Group Project No. 1447-0005

Date: March 30, 2026

To: Salinas Valley Basin Groundwater Sustainability Agency

From: Greg Hulburd, P.E., Travis Vazquez, P.E.
Wallace Group

Subject: Castroville and Eastside Canals and Alternatives Preliminary Feasibility Study
Appendix J: Cost Estimates

This technical memorandum describes the methodology for the development of the planning-level cost estimates for the 8 scenarios in the Castroville and Eastside (C&E) Canals and Alternatives Preliminary Feasibility Study (C&E Study).

The C&E Study is one of several projects being evaluated concurrently through efforts by the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA). For this reason, an effort was made to coordinate cost assumptions so that comparisons can be made across the portfolio of projects being considered by SVBGSA on a consistent basis.

Methodology

Cost estimates presented in this study are classified as Class 5 under the Association for the Advancement of Cost Engineering (AACE) framework. Class 5 estimates apply to projects with the lowest levels of definition and accuracy, while Class 1 estimates correspond to the highest levels of project definition and accuracy. The estimates here reflect a project definition level of roughly 0–2 percent (consistent with AACE Class 5) and are intended for concept screening purposes and preliminary budget considerations.

The estimates rely heavily on developing unit costs and operation and maintenance (O&M) factors for major project components (for example, dollars per cubic feet per second (cfs) for a low-lift river pump station, including the intake structure, pumps, electrical systems, and related facilities) based on comparable projects with known costs. These unit costs are then applied to each project scenario. As the project advances and more detailed design information becomes available, the estimates can be refined using more specific unit costs, material quantities, and other detailed inputs.

Non-Contract Costs

Capital costs for all project scenarios represent total costs accounting for direct construction costs, non-contract softs costs, and cost escalation; these add-on items are summarized in Table 1. To allow for equal comparison across the portfolio or projects being considered by

WALLACE GROUP
A California Corporation

612 CLARION CT
SAN LUIS OBISPO
CALIFORNIA 93401

T 805 544-4011
F 805 544-4294

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the SVBGSA, the assumptions are equal to those used in the Brackish Groundwater Recovery (BGR) project cost estimates.

Table 1. Soft cost assumptions and escalation factors.

Item	Value[2]
Construction contingency	30%
Engineering, planning, and design	10%
Environmental planning and permitting	2%
Administrative and legal	1%
Construction management	4%
Escalation to midpoint of construction [1]	0.25%/month (3% annual)

[1]Based on an assumed midpoint construction date of July 2030, consistent with other projects being considered by SVBGSA.
[2]Value expressed as a percentage of Construction Value (hard costs) (except for escalation to midpoint value)

O&M Costs

Table 2 shows the factors used for estimating annual O&M costs. These values are consistent with the BGR project, except for that of the conventional surface water treatment plant, which was not a component of the BGR project and was developed based on cost data from existing treatment plants.

Table 2. Assumptions for estimating annual O&M.

Item	Value
Inflation %	2.25%
Power Costs ($/kWh)	$0.50
O&M Factors for Specific Project Components	
Annual Pipeline O&M Factor	2% of total capital cost
Annual Site Maintenance	0.5% of total capital cost
Pump Motor Lifecycle	20 years
Pipeline Lifecycle	75 years
Pump Station Annual Maintenance	5% of total capital cost
Conventional Surface Water Treatment Plant Annual O&M Cost (Power, Chemicals, O&M)	$350,000 per MGD

Abbreviations:

kWh = kilowatt-hour MGD = million gallons per day

Summary of Costs

The capital and O&M costs for each scenario are summarized in Table 3.

Table 3. Summary of cost estimates for all scenarios.

Scenario	Diversion Size, cfs	Capital Cost, Total	Annual O&M Cost, Year 1 (2030)	Avg. Project Yield, AFY
1A	400	$1,394,800,000	$23,853,000	26,800
1B	200	$614,700,000	$11,994,000	17,200
1C	100	$284,100,000	$4,897,000	9,700
1D	50	$139,900,000	$2,450,000	5,100
2A	100	$1,016,800,000	$14,465,000	9,700
2B	50	$515,500,000	$7,488,000	5,100
3A	50	$399,800,000	$5,553,000	5,100
4A	100	$1,428,427,000	$21,561,000	25,780

Attachment A includes a breakdown of the capital costs for each of the 8 scenarios.

Infrastructure Cost Development and Assumptions

This section provides the basis of conceptual design used for determining the infrastructure required and cost estimates for each scenario. These details are provided so that as one or more of the projects progress, the assumptions made in this study can be re-evaluated; the estimates developed for the C&E study are intended for concept screening purposes only.

Unit Costs Common Across Scenarios

Unit costs were determined for the various components and applied to each scenario where applicable. Table 4 summarizes these unit costs.

Table 4. Cost estimate assumptions common across several scenarios.

Item	Value
Property Acquisition – Valley farmland[1]	$80,000/acre
Property Acquisition – Rangeland[1]	$10,000/acre
Low Lift River Pump Station Unit Cost, per cfs[2]	$250,000/cfs
High Lift Pump Station Unit Cost, per hp[2]	$3,000/hp
Conventional Surface Water Treatment Plant unit cost[2]	$7,667,000 /MGD
Injection Wells, each[3]	$1,700,000
Recharge Basin – 40 acres, each[4]	$8,000,000

[1]Property cost based on current property listings.
[2]Unit cost based on engineering judgement and comparable projects of similar scale and scope.
[3]Unit cost consistent with the BGR project.
[4]Unit cost for recharge basins based on estimated earthwork quantities and typical earthwork unit costs.

Pump Stations

Pump stations were split into two categories:

- Low lift river pump station
- High lift pump station

All scenarios analyzed include both a low lift river pump station for the initial river diversion as well as a high lift pump station as the transfer pump station to convey the water to its destination (recharge basins or storage reservoir).

Low Lift River Pump Station

The low lift river pump station (diversion facility) consists of a pumped direct diversion which would include a fish screen, pump station forebay, low lift pump station, sedimentation basin, and high-lift transfer pump station.

Fish screening criteria (NMFS, 2022) would drive the design of intake facilities with several configurations such as cone screens and plate screens possible. Generally, the fish screens must limit approach velocity to less than 0.33 foot per second (fps), and the sweeping velocity (bypass water parallel to the screen) must be 2 times the approach velocity. The footprint of the facility would vary across the scenarios based on the diversion flow rate and would depend on the minimum river stage targeted for diversion. For this reason, detailed site-specific studies are needed to develop rating curves for the river flow/stage relationship. For example, if a minimum river depth of 2 feet is assumed at the maximum scale of 400 cfs, the minimum required length of vertical flat-plate fish screens would be about 680 feet, with some additional length of the structure needed to account for pier widths, flushing bays, and redundancy. The series of fish intake screens would be installed along a concrete wall constructed along the right bank of the river separating river flows from the forebay of the low-lift pump station. The low lift pump station transfers the screened, diverted river flow to the sedimentation basins located adjacent to the diversion facility. Figure 1 shows a conceptual layout of the low lift river pump station.

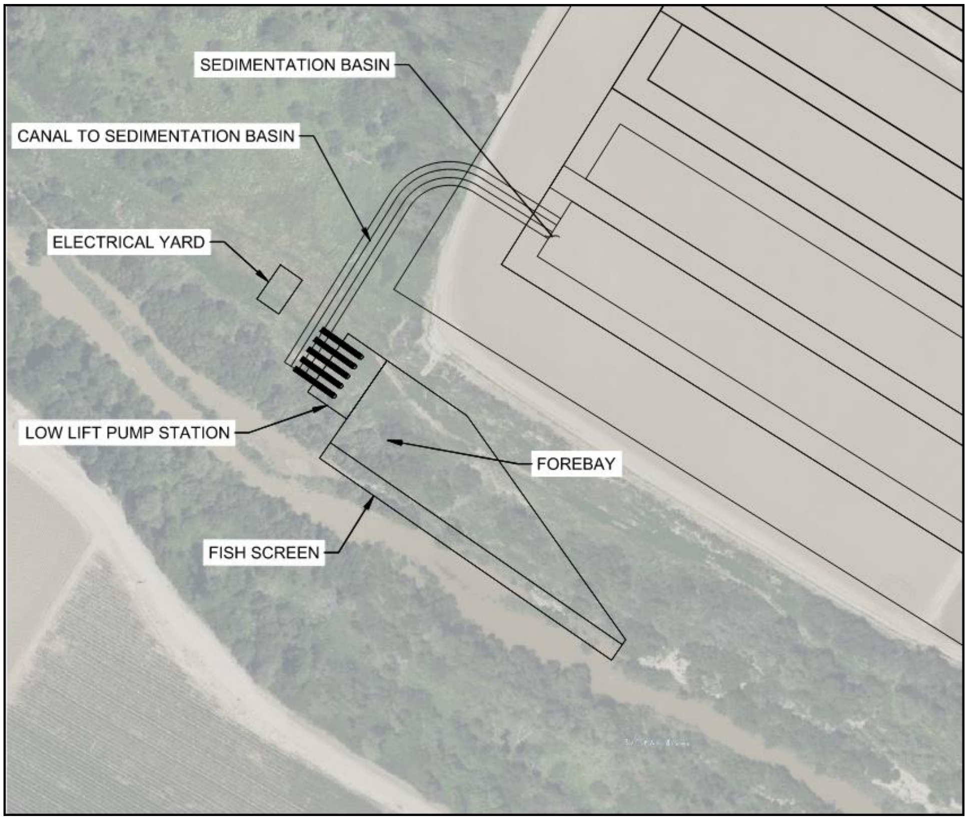

Figure 1. Conceptual layout for the low lift river pump station.

The overall diversion structure footprint and size of the facility will correlate with the structure's flow rate capacity. For this reason, a unit cost based on flow rate ($/cfs) was developed based on known costs of existing projects and applied to each scenario.

High Lift Pump Station

For purposes of this study, high lift pump stations are distinguished from the low lift river pump stations in that they generally operate under much higher head requirements and do not involve pumping from the natural river (which simplifies construction and operation). Being that several of the scenarios involve pump stations with significantly high power requirements (21,500 hp for Scenario 1A), the cost of the high lift pump stations will have better correlation to pumping power requirements rather than flow rate. Estimates for the high lift pump stations were developed using a unit cost for overall pump station power requirements ($/hp) based on known costs of existing projects.

Pipelines

Pipelines were conceptually sized based on industry best practice regarding velocity and friction loss. The pipelines conveying pumped water were generally designed at a lower velocity to allow for less friction loss and therefore reduced pumping head and power costs.

Many of the pipelines will be operating under high pressure; therefore, velocity for all pipelines was kept below 7 feet/sec to mitigate against transient/water hammer concerns. The velocity targets used for preliminary design are below:

- Pumped pipelines: 4-5 ft/sec
- Gravity pipelines: <7 ft/sec

Pipeline unit costs are provided in Table 5. To provide for equal comparison across the portfolio or projects being considered by the SVBGSA, the unit costs for pipe diameters 72 inches and below are equal to those used in the BGR project cost estimate (pipeline diameters > 72 inches were not considered in the BGR project). Additionally, estimated cost for the property acquisition that will be needed for easements was added to the base pipeline unit cost.

Table 5. Pipeline unit costs.

Pipe Diameter, inches	Unit Cost, $/LF	Pipeline Unit cost + easement, $/LF
4	$100	$140
6	$110	$150
8	$130	$170
10	$155	$195
12	$180	$220
14	$200	$240
16	$220	$260
18	$250	$290
24	$375	$415
30	$550	$590
36	$725	$775
42	$800	$850
48	$975	$1,025
54	$1,125	$1,175
60	$1,275	$1,325
66	$1,350	$1,400
72	$1,500	$1,550
78	$1,875	$1,925
90	$2,625	$2,685
96	$3,000	$3,060
132	$7,950	$8,025

Recharge Basins

Project Concept 1 utilizes recharge basins (also known as spreading basins, percolation ponds, infiltration basins, etc.) at 4 different project scales. The number of recharge basins proposed for each scenario was based on an assumed infiltration rate (0.5 feet/day, provided by Montgomery & Associates) and area required to infiltrate at the same flow rate as the river diversion. To estimate costs, a conceptual grading design was performed to obtain approximate earthwork quantities for a single 40 acre basin. Preliminary design elements used in this recharge basin grading exercise are illustrated in Figure 2 and include:

- Maximum embankment/levee height will be 6-feet, to avoid being under the jurisdiction of the Division of Safety of Dams (DSOD).
- Anticipated maximum water depth: 4 feet
- Minimum freeboard: 1 foot
- Top of levees will include a 15-foot wide access road around the perimeter of each basin

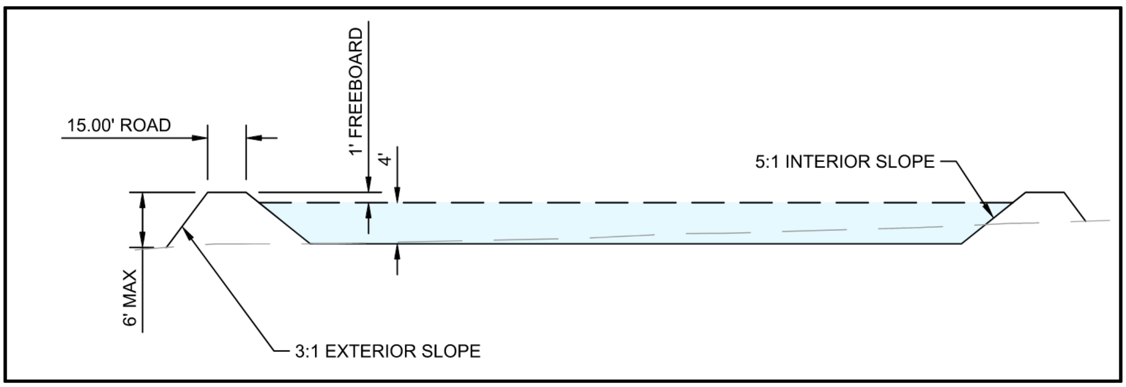

Figure 2. Conceptual cross section of the proposed recharge basin.

To conceptually display the area required for each scenario, the recharge basins in the C&E study exhibits (1A-1D) are drawn as simple 40-acre squares. However, the final layout of recharge basins would be based on the site-specific terrain and optimized to reduce the amount of earthwork required. The Arvin Edison Water District spreading facilities provide an example of a recharge basin layout conforming to local topography. Figure 3 shows the 650-acre Sycamore Spreading Works facility. As the image shows, the basin shapes are irregular and driven by the terrain, generally following the alignment of elevation contours.

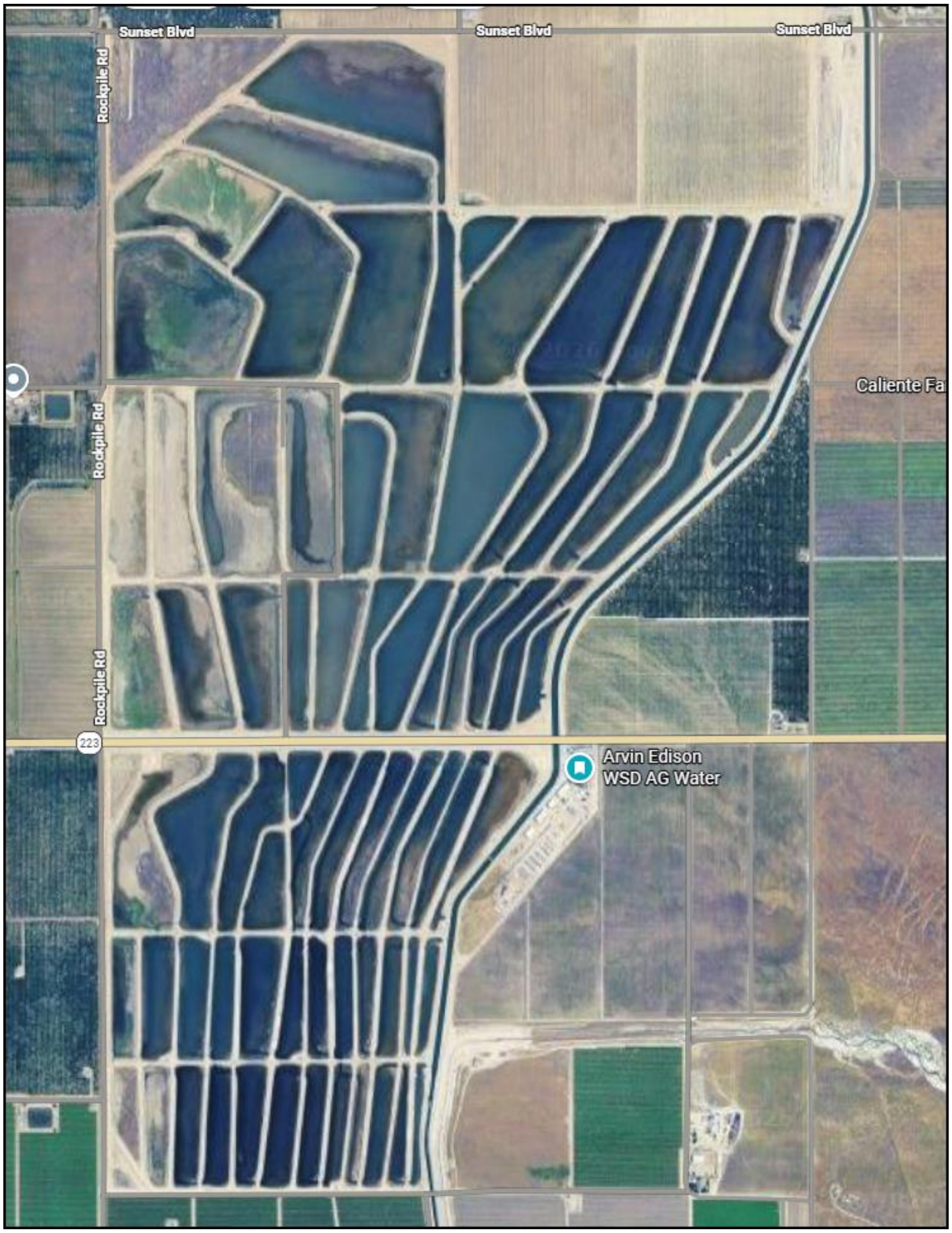

Figure 3. Aerial image of the Sycamore Spreading Works, an Arvin-Edison Water Storage District facility, an example of what the final layout may look like for a large recharge basin facility.

Storage Reservoir

Two reservoir sites are proposed as part of this project – the Gabilan Range Reservoir and Merritt Lake. Details regarding these reservoirs are discussed in the main C&E study report and Appendix G, *Surface Storage Locations Considered.*[1]

Gabilan Range Reservoir

To estimate the cost of the Gabilan Range reservoir, a preliminary grading design was conducted to calculate the fill volume for the conceptual earthen dam. Assumptions and results of the grading exercise include:

- Approximate dam crest elevation – 570 feet
- Approximate dam maximum height – 260 feet
- Approximate dam crest length – 2,300 feet
- Embankment slope, each way: 2.5:1
- Dam crest width: 40 feet
- Approximate volume of dam fill: 8,000,000 cubic yards

Table 6 shows the assumptions for estimating the cost of the Gabilan Range Reservoir. These assumed costs are based on projects of similar size.

Table 6. Assumptions for estimating the cost of the Gabilan Range Reservoir.

Item	Value
Earthwork, unit cost for dam fill, $/CY:	35
Additional infrastructure costs, as percentage of earthwork costs	25%
Property acquisition cost (grazing land), $/ac	$ 10,000

Merritt Lake

The 1998 Salinas Valley Water Project (SVWP) Project Plan Report[2] provided preliminary design and cost estimates for the proposed Merritt Lake reservoir. The cost estimate provided from the 1998 report was escalated to 2025 dollars using construction cost index factors for earth dams provided by the United States Bureau of Reclamation (USBR).

Treatment

Project concepts involving underground injection assume the need to treat diverted water prior to injection, as typically required for conventional ASR projects. The level of treatment required by the regulating Regional Water Quality Control Board would be determined

[1] Wallace Group, 2026. *Castroville & Eastside Canals Study Phase 2, Appendix G: Surface Storage Locations Considered,* Technical Memorandum. Prepared for Montgomery and Associates. March 2026.
[2] Montgomery Watson, 1998. *Salinas Valley Water Project: Project Plan Report Prepared for the Monterey County Water Resources Agency*.

following source water characterization and development of project-specific Waste Discharge Requirements (WDRs). For general guidance, it may be assumed that the same injected water limitations from the State Water Resources Control Board's Water Quality Order 2012-0010 *General Waste Discharge Requirements for Aquifer Storage and Recovery Projects that Inject Drinking Water into Groundwater* (ASR General Order) would apply meaning that injected water would have to meet primary and secondary maximum contaminant levels (MCLs) and Basin Plan water quality objectives dependent on the aquifer's beneficial uses. The General Order allows projects to meet background groundwater quality in cases where the aquifer's water reflects concentrations in exceedance of drinking water MCLs. Water quality objectives are not established at this time; however, given that the proposed injection wells are in areas with known domestic water supply wells, it is safe to assume that treatment to drinking water standards will be required. An analysis of existing river water quality shows more sampling would be required to identify the type and size of treatment plant needed; however, preliminary evaluation suggests the diversion location proposed near Chualar exhibit a higher level of water quality than locations further downstream with more direct influence from the City of Salinas and regional storm and agricultural drainage systems.[3] While water quality sample results collected near the SRDF and downstream diversion location proposed under C&E study scenario (3A and 4A) indicate higher levels of salts (total dissolved solids), nitrates, and metals, we assume that conventional water treatment would be provided in this evaluation. The higher Salinas River flows eligible for Permit 11043 diversion could introduce a diluting effect lowering concentrations of the constituents of concern; however, such trends will have to be investigated further if the project advances.

Any water injected into an aquifer serving domestic users would need to be treated to Title 22 drinking water standards beforehand. Assuming conventional surface water treatment, treatment processes would include:

- Screening
- Pre-treatment (pH adjustment and pre-oxidation)
- Clarification (coagulation/rapid mix, flocculation/sedimentation)
- Media filtration
- Disinfection
- Treated water storage and distribution facilities
- Solids management and wash water recovery systems
- Ancillary systems including chemical storage and feed, electrical power, instrumentation, and controls.

The size of the proposed conventional water surface treatment plant varies depending on project scenario. The cost was based on the size of the plant; an average unit cost in $/MGD

[3] Life Cycle Geo, "Technical Memorandum 3: Surface Water Quality Assessment and Sampling Plan." *Preliminary Feasibility Study Aquifer Storage and Recovery Project Concepts to Address Seawater Intrusion,* Montgomery & Associates, January 2025.

was developed based on capital costs reported for existing water treatment plants of similar size; the unit cost is listed in Table 4.

New Seawater Intrusion Project

The C&E study includes a project concept that overlaps with ongoing SVBGSA efforts under the New Seawater Intrusion Project (NSIP). To improve groundwater levels in the Deep Aquifers and the seawater-intruded zone, NSIP is incorporated into Scenario 4A as an alternative water supply option. The NSIP scenario extends beyond the use of Permit 11043 water to include additional water sources that are being evaluated separately in the forthcoming NSIP feasibility study including the collection, conveyance, storage, and treatment of these waters. As a result, Scenario 4A combines cost information from the NSIP feasibility study with the diversion and conveyance cost estimates for Permit 11043 developed in this analysis. These NSIP-related costs are identified in the Scenario 4A cost summary table (Attachment A).

Attachment A – Scenario Cost Estimates

SCENARIO 1A - 400 CFS DIVERSION					
Item #	Description	Unit	Quantity	Unit Cost	Total Cost
1	400 CFS river diversion (fish screen, forebay structure, low lift pump station)	LS	1	$100,000,000	$100,000,000
2	Sedimentation Basin	LS	1	$8,000,000	$8,000,000
3	Pump Station to Recharge Basins, 21500 HP	LS	1	$64,500,000	$64,500,000
4	Transmission Pipelines: 30”-132"	LS	1	$339,700,000	$339,700,000
5	Recharge Basin, 40 acres	EA	40	$8,000,000	$320,000,000
	Subtotal				**$832,200,000**
	Construction Contingency			30%	$249,660,000
	Escalation to Midpoint (0.25% per month to July 2030)			13.3%	$110,266,500
	Construction Cost Subtotal				**$1,192,126,500**
	Engineering, Planning, and Design			10%	$119,212,650
	Environmental Planning and Permitting			2%	$23,842,530
	Administrative and Legal			1%	$11,921,265
	Construction Management			4%	$47,685,060
	Soft Costs Subtotal				**$202,661,505**
	GRAND TOTAL				**$1,394,800,000**

SCENARIO 1B - 200 CFS DIVERSION					
Item #	Description	Unit	Quantity	Unit Cost	Total Cost
1	200 CFS river diversion (fish screen, forebay structure, low lift pump station)	LS	1	$50,000,000	$50,000,000
2	Sedimentation Basin	LS	1	$4,000,000	$4,000,000
3	Pump Station to Recharge Basins, 10500 HP	LS	1	$31,500,000	$31,500,000
4	Transmission Pipelines: 30”-96"	LS	1	$121,240,000	$121,240,000
5	Recharge Basin, 40 acres	EA	20	$8,000,000	$160,000,000
	Subtotal				**$366,740,000**
	Construction Contingency			30%	$110,022,000
	Escalation to Midpoint (0.25% per month to July 2030)			13.3%	$45,693,950
	Construction Cost Subtotal				**$525,355,050**
	Engineering, Planning, and Design			10%	$52,535,505
	Environmental Planning and Permitting			2%	$10,507,101
	Administrative and Legal			1%	$5,253,551
	Construction Management			4%	$21,014,202
	Soft Costs Subtotal				**$89,310,359**
	GRAND TOTAL				**$614,700,000**

SCENARIO 1C - 100 CFS DIVERSION					
Item #	Description	Unit	Quantity	Unit Cost	Total Cost
1	100 CFS river diversion (fish screen, forebay structure, low lift pump station)	LS	1	$25,000,000	$25,000,000
2	Sedimentation Basin	LS	1	$2,000,000	$2,000,000
3	Pump Station to Recharge Basins, 3200 HP	LS	1	$9,600,000	$9,600,000
4	Transmission Pipelines: 48"-66"	LS	1	$52,900,000	$52,900,000
5	Recharge Basin, 40 acres	EA	10	$8,000,000	$80,000,000
	Subtotal				**$169,500,000**
	Construction Contingency			30%	$50,850,000
	Escalation to Midpoint (0.25% per month to July 2030)			13.3%	$22,458,750
	Construction Cost Subtotal				**$242,808,750**
	Engineering, Planning, and Design			10%	$24,280,875
	Environmental Planning and Permitting			2%	$4,856,175
	Administrative and Legal			1%	$2,428,088
	Construction Management			4%	$9,712,350
	Soft Costs Subtotal				**$41,277,488**
	GRAND TOTAL				**$284,100,000**

SCENARIO 1D - 50 CFS DIVERSION					
Item #	Description	Unit	Quantity	Unit Cost	Total Cost
1	50 CFS river diversion (fish screen, forebay structure, low lift pump station)	LS	1	$12,500,000	$12,500,000
2	Sedimentation Basin	LS	1	$1,000,000	$1,000,000
3	Pump Station to Recharge Basins, 1600 HP	LS	1	$4,800,000	$4,800,000
4	Transmission Pipelines: 48"	LS	1	$25,140,000	$25,140,000
5	Recharge Basin, 40 acres	EA	5	$8,000,000	$40,000,000
	Subtotal				**$83,440,000**
	Construction Contingency			30%	$25,032,000
	Escalation to Midpoint (0.25% per month to July 2030)			13.3%	$11,055,800
	Construction Cost Subtotal				**$119,527,800**
	Engineering, Planning, and Design			10%	$11,952,780
	Environmental Planning and Permitting			2%	$2,390,556
	Administrative and Legal			1%	$1,195,278
	Construction Management			4%	$4,781,112
	Soft Costs Subtotal				**$20,319,726**
	GRAND TOTAL				**$139,900,000**

SCENARIO 2A - 100 CFS DIVERSION					
Item #	**Description**	**Unit**	**Quantity**	**Unit Cost**	**Total Cost**
1	100 CFS river diversion (fish screen, forebay structure, low lift pump station)	LS	1	$25,000,000	$25,000,000
2	Sedimentation Basin	LS	1	$2,000,000	$2,000,000
3	Pump Station to 25K AF Reservoir, 8100 HP	LS	1	$24,300,000	$24,300,000
4	Pipeline to Reservoir, 66"	LF	36,300	$1,400	$50,820,000
5	25K AF reservoir (Gabilan Range)	LS	1	$355,000,000	$355,000,000
6	Surface WTP, 13 MGD	LS	1	$84,000,000	$84,000,000
7	Injection Well Distribution Pipelines: 6”-24”	LS	1	$26,450,000	$26,450,000
8	Injection Wells	EA	23	$1,700,000	$39,100,000
	Subtotal				**$606,670,000**
	Construction Contingency			30%	$182,001,000
	Escalation to Midpoint (0.25% per month to July 2030)			13.3%	$80,383,775
	Construction Cost Subtotal				**$869,054,775**
	Engineering, Planning, and Design			10%	$86,905,478
	Environmental Planning and Permitting			2%	$17,381,096
	Administrative and Legal			1%	$8,690,548
	Construction Management			4%	$34,762,191
	Soft Costs Subtotal				**$147,739,312**
	GRAND TOTAL				**$1,016,800,000**

SCENARIO 2B - 50 CFS DIVERSION					
Item #	**Description**	**Unit**	**Quantity**	**Unit Cost**	**Total Cost**
1	50 CFS river diversion (fish screen, forebay structure, low lift pump station)	LS	1	$12,500,000	$12,500,000
2	Sedimentation Basin	LS	1	$1,000,000	$1,000,000
3	Pump Station to 13K AF Reservoir, 700 HP	LS	1	$2,100,000	$2,100,000
4	Pipeline to Reservoir, 48"	LF	79,000	$1,025	$80,975,000
5	13K AF reservoir, Merritt Lake site	LS	1	$117,000,000	$117,000,000
6	Surface WTP, 6.5 MGD	LS	1	$46,000,000	$46,000,000
7	Treated water pump station, 500 HP	LS	1	$1,500,000	$1,500,000
8	Injection Well Distribution Pipelines: 6”-18”	LS	1	$26,060,000	$26,060,000
9	Injection Wells	EA	12	$1,700,000	$20,400,000
	Subtotal				**$307,535,000**
	Construction Contingency			30%	$92,260,500
	Escalation to Midpoint (0.25% per month to July 2030)			13.3%	$40,549,638
	Construction Cost Subtotal				**$440,543,888**
	Engineering, Planning, and Design			10%	$44,054,389
	Environmental Planning and Permitting			2%	$8,810,878
	Administrative and Legal			1%	$4,405,439
	Construction Management			4%	$17,621,756
	Soft Costs Subtotal				**$74,892,461**
	GRAND TOTAL				**$515,500,000**

SCENARIO 3A - 50 CFS DIVERSION					
Item #	**Description**	**Unit**	**Quantity**	**Unit Cost**	**Total Cost**
1	50 CFS river diversion (fish screen, forebay structure, low lift pump station)	LS	1	$12,500,000	$12,500,000
2	Sedimentation Basin	LS	1	$1,000,000	$1,000,000
3	Pump Station to 13K AF Reservoir, 600 HP	LS	1	$1,800,000	$1,800,000
4	Pipeline to Reservoir, 48"	LF	30,600	$1,025	$31,365,000
5	13K AF reservoir, Merritt Lake site	LS	1	$117,000,000	$117,000,000
6	Surface WTP, 6.5 MGD	LS	1	$46,000,000	$46,000,000
7	Treated water pump station, 400 HP	LS	1	$1,200,000	$1,200,000
8	Injection Well Distribution Pipelines: 6”-18”	LS	1	$14,020,000	$14,020,000
9	Injection Wells	EA	8	$1,700,000	$13,600,000
	Subtotal				**$238,485,000**
	Construction Contingency			30%	$71,545,500
	Escalation to Midpoint (0.25% per month to July 2030)			13.3%	$31,599,263
	Construction Cost Subtotal				**$341,629,763**
	Engineering, Planning, and Design			10%	$34,162,976
	Environmental Planning and Permitting			2%	$6,832,595
	Administrative and Legal			1%	$3,416,298
	Construction Management			4%	$13,665,191
	Soft Costs Subtotal				**$58,077,060**
	GRAND TOTAL				**$399,800,000**

SCENARIO 4A - 100 CFS DIVERSION					
Item #	**Description**	**Unit**	**Quantity**	**Unit Cost**	**Total Cost**
1	100 CFS river diversion (fish screen, forebay structure, low lift pump station)	LS	1	$25,000,000	$25,000,000
2	Sedimentation Basin	LS	1	$2,000,000	$2,000,000
3	Pump Station to 13K AF Reservoir, 800 HP	LS	1	$2,400,000	$2,400,000
4	Raw Water Pipeline to Reservoir, 66"	LF	30,600	$1,400	$42,840,000
5	Potable Water Distribution Transmission Mains*	LS	1	$52,828,000	$52,828,000
6	Raw Water Transmission Cost (non-11043 sources)*	LS	1	$7,506,000	$7,506,000
7	Raw Water Pump Station (non-11043 sources)*	LS	1	$4,480,000	$4,480,000
8	Recycled Water Delivery System Costs*	LS	1	$14,264,000	$14,264,000
9	Individual Well Connection Costs*	LS	1	$57,411,000	$57,411,000
10	Potable Water Booster Pump*	LS	1	$13,440,000	$13,440,000
11	Storage Costs*	LS	1	$123,100,000	$123,100,000
12	Water Treatment Plant Costs*	LS	1	$507,000,000	$507,000,000
	Subtotal				**$852,269,000**
	Construction Contingency			30%	$255,680,700
	Escalation to Midpoint (0.25% per month to July 2030)			13.3%	$112,925,643
	Construction Cost Subtotal				**$1,220,875,343**
	Engineering, Planning, and Design			10%	$122,088,000
	Environmental Planning and Permitting			2%	$24,418,000
	Administrative and Legal			1%	$12,209,000
	Construction Management			4%	$48,836,000
	Soft Costs Subtotal				**$207,551,000**
	GRAND TOTAL				**$1,428,427,000**

*Cost provided by Carollo Engineers as part of the New Seawater Intrusion Project (NSIP).