

# **APPENDIX A- PROJECT DESCRIPTION DETAILS**

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## APPENDIX A - PROJECT DESCRIPTION DETAILS

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The following information details the combination of the alternatives that are included in the Preferred Program. The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The information provided below illustrates how individual components change when the alternatives are combined.

### **Target Volume (Indoor Water Conservation, Urban Reuse, Agricultural Reuse and Geysers Steamfield Expansion)**

This Combination of Alternatives consists of the following Alternatives to provide capacity for a total volume of 6,700 MG of recycled water annually:

- **Alternative 1: Indoor Water Conservation.** Implementation of Indoor Water Conservation would account for approximately 300 MG of recycled water annually.
- **Alternative 3: Urban Reuse.** Implementation of Urban Reuse would use approximately 500 MG of recycled water annually.
- **Alternative 4: Agricultural Reuse.** Implementation of Agricultural Reuse would use approximately 1,000 MG of recycled water annually.
- **Alternative 5: Geysers Expansion.** Implementation of Geysers Steamfield Expansion would account for approximately 400 MG of recycled water annually.
- **Alternative 6: Discharge.** Implementation of Discharge would account for approximately 4,500 MG of recycled water annually.

The components for this Combination of Alternatives are identified below, along with the proportional reduction or increase in the size of the components in comparison to their full implementation.

- **Laguna Plant Upgrade** - Full implementation of the Laguna Plant upgrade would be required. There would be no reduction in the size of this component.
- **Urban Irrigation** - Although potentially a reduction in the size of this component would be possible, the extent of any reduction cannot be determined at this time and therefore this component is considered to be fully implemented.
- **Agricultural Irrigation** - The amount of land required for agricultural irrigation would be reduced proportionally to the reduction in amount of recycled water available for this purpose. Acreage required for implementation of the Agricultural Irrigation component under this Combination would be 5,600 acres (including both the East of Rohnert Park and North County areas)

- Pipelines - Although potentially a reduction in the size of this component would be possible, the extent of any reduction cannot be determined at this time, and therefore this component is considered to be fully implemented.
- Storage - The amount of storage required would be reduced proportionally to the reduction in amount of recycled water used for those components that require storage: Urban Irrigation; Agricultural Irrigation; Expanded Geysers Recharge; Laguna Discharge; and Russian River Discharge. Storage required for Urban Irrigation would be approximately 410 MG; storage required for agricultural irrigation would be approximately 1,090 MG; no additional storage would be required for the Geysers Steamfield Expansion at the volume of 400 MG under this Combination of Alternatives; storage required for Laguna Discharge would be approximately 190 MG; and storage required for Russian River Discharge would be approximately 970 MG. The combined storage requirement of 2,660 MG is about 10 percent less than for Alternative 4 and less than 10 percent greater than for Alternative 6A.
- Created Wetlands - This is an optional component and would not necessarily be reduced in size as a result of the combination of alternatives and therefore this component is considered to be fully implemented.
- Pump Stations and Tanks - The Llano Pump Station expansion would be required for urban irrigation, agricultural irrigation and discharge to the Russian River, and the West College Pump Station, and six booster pump stations would be required for urban irrigation. Urban storage tanks would be required for urban reuse, but the potential volume to be stored would be reduced proportionally to the reduction in volume of recycled water available for urban reuse, resulting in a need for 2 rather than 7 tanks. Although the volume of recycled water to be conveyed for agricultural irrigation and Geysers recharge would be less than for full implementation of the respective alternatives (Alternatives 4 and 5), the combined volume would still require both Valley Pump Stations if the Geysers pipeline capacity is expanded beyond 40 mgd, along with 4 surge tanks. However, because the total volume of water conveyed to the Geysers would not exceed 20 mgd, expansion of the three pump stations on the Mountain Section of the pipeline would not be required. Pump stations at the storage facilities would also be required; the number of storage facilities would be one less than the Agricultural Reuse Alternative, which has the greatest number of storage facilities of any of the alternatives.
- Geysers Steamfield Expansion - Although potentially a reduction in the size of this component would be possible, as the volume of recycled water for Geysers recharge would be reduced, the extent of any reduction cannot be determined at this time and therefore this component is considered to be fully implemented.
- Delta Pond Outfall Improvements - Although potentially a reduction in the size of this component would be possible, as the volume of recycled water to be discharged to the Laguna would be reduced in comparison with full discharge to the Laguna, the extent of any reduction cannot be determined at this time and therefore this component is considered to be fully implemented.

- Russian River Outfall - Although potentially a reduction in the size of this component would be possible, as the volume of recycled water to be discharged to the Russian River would be reduced in comparison with full discharge to the Russian River, the extent of any reduction cannot be determined at this time and therefore this component is considered to be fully implemented.
- Advanced Membrane Treatment Facility - Although potentially a reduction in the size of this component would be possible, as the volume of recycled water to be discharged would be reduced, the extent of any reduction cannot be determined at this time and therefore this component is considered to be fully implemented.

Table 1 summarizes the changes that would occur in the Target Combination of Alternatives, in comparison with the individual Program alternatives.

**Table 1**

Target Combination of Alternatives

Component	Temp (acres)	Perm (acres)	# of Pieces of Equip	Total Daily Usage (hrs)	Total Daily Vehicle Trips (including employee trips)
Laguna Plant Upgrade	15	3	25	144	100
Urban Irrigation	17	0	5	15	14
Agricultural Irrigation	0	5,600	5	28	75
Pipelines	<b>4,623</b>	<b>0</b>	21	162	90
Storage	<b>133</b>	<b>399</b>	182	1,330	840
Created Wetlands	4	31	26	190	120
Pump Stations and Tanks					
Llano Pump Station Upgrade	0.7	0.2	15	71	48
West College Pump Station	1.6	0.8	15	71	48
Booster Pump Stations	16.9	9.1	195	923	624
Geysers Valley Section Pump Stations	2.8	3.0	30	142	96
Geysers Mountain Section Pump Stations	4.5	2.1	45	213	144
Surge Tanks	3.2	1.2	60	284	192
Urban Reuse Storage Tanks	2.6	1.8	20	98	56
Geysers Steamfield Expansion	35.5	37	27	189	120
Delta Pond Outfall Improvements	5	0.3	6	34	38
Russian River Outfall	7.5	2.6	6	34	38
Advanced Membrane Treatment	5	10	25	144	100
Total	<b>4,877</b>	6,101	<b>708</b>	<b>4,072</b>	<b>2,743</b>
Increase/(Decrease) from Individual Alternatives	<b>1,393</b>	(18,399)	<b>186</b>	<b>935</b>	<b>603</b>

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Note: Values that are greater for the Combination than for one of the individual alternatives are shown in bold.

As shown in Table 2, the Pipelines component would substantially exceed the maximum area of construction disturbance evaluated under the individual Program Alternatives. The Pump Stations component would exceed both the maximum area of construction disturbance and maximum area of permanent disturbance evaluated under the Program Alternatives for this component. The total area of construction disturbance for the Combination would also substantially exceed any of the individual alternatives due to the Pipelines component, while the permanent area of disturbance would be much less than for Alternative 4, which has the greatest area of disturbance for any of the alternatives that make up this Combination. [Question: Shouldn't the Preferred Program be compared with Combinations of Alternatives evaluated in the Program EIR, since that is what it resembles? This paragraph makes the Preferred Program seem like it will have great impacts than analyzed in the Program EIR.]

Table 3 and 4 summarize the changes in use of construction equipment and construction traffic that would occur for each option in the Target Combination of Alternatives in comparison with the individual Program alternatives. The Pump Stations components under the Target Combination of Alternatives would exceed the maximum pieces of equipment, hours of usage and trips evaluated under the Program Alternatives. The total amount of equipment, hours of usage, and trips for the Combination would also exceed any of the individual alternatives. Values that are greater for the Combination than for one of the individual alternatives are shown in bold.

**Table 2**

Area of Disturbance – Target Volume

Component	Target Volume		Alternative 3		Alternative 4		Alternative 5		Alternative 6A		Alternative 6B	
	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)
Laguna Plant Upgrade	15	3	15	3	15	3	15	3	15	3	15	3
Urban Irrigation	17	0	17	0	0	0	0	0	0	0	0	0
Agricultural Irrigation	0	5,600	0	0	0	24,500	0	0	0	0	0	0
Pipelines	<b>4,623</b>	0	471	0	3303	0	459	0	0	0	390	0
Storage	133	399	90	270	145	435	95	285	125	375	80	240
Created Wetlands	4	31	4	31	4	31	4	31	4	31	4	31
<b>Pump Stations and Tanks</b>												
Llano Pump Station Upgrade	0.7	0.2	0.7	0.2	0.7	0.2	0.7	0.2	0	0	0.7	0.2
West College Pump Station	1.6	0.8	1.6	0.8	0	0	0	0	0	0	0	0
Booster Pump Stations	<b>16.9</b>	<b>9.1</b>	14.3	7.7	10.4	5.6	6.5	3.5	9.1	4.9	5.2	2.8
Geysers Valley Section Pump Stations	2.8	3.0	0	0	2.8	3.0	2.8	3.0	1.4	1.5	2.8	3.0
Geysers Mountain Section Pump Stations	4.5	2.1	0	0	0	0	4.5	2.1	4.5	2.1	4.5	2.1
Surge Tanks	3.2	1.2	0	0	3.2	1.2	3.2	1.2	1.6	0.6	3.2	1.2
Urban Reuse Storage Tanks	2.6	1.8	9.1	5.6	0	0	0	0	0	0	0	0
Geysers Steamfield Expansion	35.5	37	0	0	0	0	35.5	37	35.5	37	35.5	37

**Table 2**

Area of Disturbance – Target Volume

Component	Target Volume		Alternative 3		Alternative 4		Alternative 5		Alternative 6A		Alternative 6B	
	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)
Delta Pond Outfall Improvements	5	0.3	0	0	0	0	0	0	5	0.3	0	0
Russian River Outfall	7.5	2.6	0	0	0	0	0	0	0	0	7.5	2.6
Advanced Membrane Treatment	5	10	0	0	0	0	0	0	5	10	5	10
<b>Total</b>	<b>4,877.3</b>	<b>6,101.1</b>	<b>622.7</b>	<b>318.3</b>	<b>3484.1</b>	<b>24,979</b>	<b>626.2</b>	<b>366</b>	<b>206.1</b>	<b>465.4</b>	<b>553.4</b>	<b>332.9</b>

**Table 3**

Construction Equipment Requirements – Target Volume

Component	Target Volume		Alternative 3		Alternative 4		Alternative 5		Alternative 6A		Alternative 6B	
	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)
Laguna Plant Upgrade	25	144	25	144	25	144	25	144	25	144	25	144
Urban Irrigation	5	15	5	15	0	0	0	0	0	0	0	0
Agricultural Irrigation	5	28	0	0	10	56	0	0	0	0	0	0
Pipelines	21	162	21	162	21	162	21	162	0	0	21	162
Storage	182	1330	130	950	208	1520	130	950	182	1330	104	760
Created Wetlands	26	190	26	190	26	190	26	190	26	190	26	190
Pump Stations and Tanks												
Llano Pump Station Upgrade	15	71	15	71	15	71	15	71	0	0	15	71
West College Pump Station	15	71	15	71	0	0	0	0	0	0	0	0
Booster Pump Stations	<b>195</b>	<b>923</b>	165	781	120	568	75	355	105	497	60	284
Geysers Valley Section Pump Stations	30	142	0	0	30	142	30	142	15	71	30	142
Geysers Mountain Section Pump Stations	45	213	0	0	0	0	45	213	45	213	45	213
Surge Tanks	60	284	0	0	60	284	60	284	30	142	60	284
Urban Reuse Storage Tanks	20	98	70	343	0	0	0	0	0	0	0	0
Geysers Steamfield Expansion	27	189	0	0	0	0	27	189	27	189	27	189

**Table 3**

Construction Equipment Requirements – Target Volume

Component	Target Volume		Alternative 3		Alternative 4		Alternative 5		Alternative 6A		Alternative 6B	
	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)
Delta Pond Outfall Improvements	6	34	0	0	0	0	0	0	6	34	0	0
Russian River Outfall	6	34	0	0	0	0	0	0	0	0	6	34
Advanced Membrane Treatment	25	144	0	0	0	0	0	0	25	144	25	144
<b>Total</b>	<b>708</b>	<b>4072</b>	<b>472</b>	<b>2727</b>	<b>515</b>	<b>3137</b>	<b>454</b>	<b>2700</b>	<b>521.5</b>	<b>2991</b>	<b>479.5</b>	<b>2654</b>

**Table 4**

Construction Traffic Generation – Target Volume

<b>Component</b>	<b>Target Volume</b>	<b>Alternative 3</b>	<b>Alternative 4</b>	<b>Alternative 5</b>	<b>Alternative 6A</b>	<b>Alternative 6B</b>
	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>
Laguna Plant Upgrade	100	100	100	100	100	100
Urban Irrigation	14	14	0	0	0	0
Agricultural Irrigation	75	0	150	0	0	0
Pipelines	90	90	90	90	90	90
Storage	840	600	960	600	840	480
Created Wetlands	120	120	120	120	120	120
<b>Pump Stations and Tanks</b>						
Llano Pump Station Upgrade	48	48	48	48	48	48
West College Pump Station	48	48	0	0	0	0
Booster Pump Stations	<b>624</b>	528	384	240	336	192
Geysers Valley Section Pump Stations	96	0	96	96	96	96
Geysers Mountain Section Pump Stations	144	0	0	144	144	144
Surge Tanks	192	0	192	192	96	192
Urban Reuse Storage Tanks	56	196	0	0	0	0
Geysers Steamfield Expansion	120	0	0	120	120	120

**Table 4**

Construction Traffic Generation – Target Volume

<b>Component</b>	<b>Target Volume</b>	<b>Alternative 3</b>	<b>Alternative 4</b>	<b>Alternative 5</b>	<b>Alternative 6A</b>	<b>Alternative 6B</b>
	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>
Delta Pond Outfall Improvements	38	0	0	0	38	0
Russian River Outfall	38	0	0		0	38
Advanced Membrane Treatment	100	0	0	0	100	100
<b>Total</b>	<b>2743</b>	<b>1744</b>	<b>2140</b>	<b>1750</b>	<b>2128</b>	<b>1720</b>

### **Range of Disposal Volumes (Indoor Water Conservation, Urban Reuse, Agricultural Reuse and Geysers Steamfield Expansion)**

This Combination of Alternatives consists of ranges of volumes for the following Alternatives. Under the Range of Disposal Volumes, two or more of the Alternatives, in addition of Indoor Water Conservation, would be combined to provide capacity for a total volume of 6,700 MG of recycled water annually.

- **Alternative 1: Indoor Water Conservation.** Implementation of Indoor Water Conservation would account for between 150 and 300 MG of recycled water annually.
- **Alternative 3: Urban Reuse.** Implementation of Urban Reuse would use between 0 and 2,200 MG of recycled water annually.
- **Alternative 4: Agricultural Reuse.** Implementation of Agricultural Reuse would use between 0 and 2,200 MG of recycled water annually.
- **Alternative 5: Geysers Expansion.** Implementation of Geysers Steamfield Expansion would account for between 0 and 2,200 MG of recycled water annually.
- **Alternative 6: Discharge.** Implementation of Discharge would account for between 0 and 4,500 MG of recycled water annually.

Because the amount of recycled water to be used for any Alternative would be selected from the range, the exact amount to be used for each Alternative could range from a minimum of zero usage to the maximum for that Alternative (except for the Indoor Water Conservation Alternative, where the usage would be from a minimum of 150 MG up the maximum). To evaluate the impacts for this Combination of Alternatives, the maximum usage for all Alternatives are evaluated together. Therefore the evaluation is based on evaluation of:

- **Alternative 1: Indoor Water Conservation.** Use of 300 MG of recycled water annually.
- **Alternative 3: Urban Reuse.** Use of 2,200 MG of recycled water annually.
- **Alternative 4: Agricultural Reuse.** Use of 2,200 MG of recycled water annually.
- **Alternative 5: Geysers Expansion.** Use of 2,200 MG of recycled water annually.
- **Alternatives 6A and 6B: Direct Discharge.** Use of 4,500 MG of recycled water annually.

The components for this Combination of Alternatives are identified below, along with the proportional reduction or increase in the size of the components in comparison to their full implementation under the Program Alternatives.

- **Laguna Plant Upgrade** - Full implementation of the Laguna Plant upgrade would be required. There would be no reduction in the size of this component.
- **Urban Irrigation** - Full implementation of the Urban Irrigation component would be required. There would be no reduction in the size of this component.

- Agricultural Irrigation - The amount of land required for agricultural irrigation would be reduced proportionally to the reduction in amount of recycled water available for this purpose. Acreage required for implementation of the Agricultural Irrigation component for use of 2,200 MG of recycled water under this Combination would be 8,420 acres (including both the East of Rohnert Park and North County areas)
- Pipelines - Although potentially a reduction in the size of this component would be possible due to the reduced area for Agricultural Irrigation, the extent of any reduction cannot be determined at this time, and therefore this component is considered to be fully implemented.
- Storage – A maximum of 3,100 MG of storage would be required for implementation of this Combination of Alternatives. This amount is approximately 10 percent greater than was evaluated in Program Alternative 4 - Agricultural Irrigation, which with a maximum of 2,900 MG, had the largest storage requirement of any of the Program Alternatives, but slightly less than the 3,190 MG of storage that was evaluated in Combination of Alternatives 11.
- Created Wetlands - This is an optional component and would not necessarily be reduced in size as a result of the combination of alternatives and therefore this component is considered to be fully implemented.
- Pump Stations and Tanks - The Llano Pump Station expansion would be required for urban irrigation, agricultural irrigation and discharge to the Russian River, and the West College Pump Station, and six booster pump stations would be required for urban irrigation. Urban storage tanks would be required for urban reuse, with a need for 7 tanks. Although the volume of recycled water to be conveyed for agricultural irrigation and Geysers recharge would be less than for full implementation of the respective Program Alternatives (Alternatives 4 and 5), the combined volume would still require both Valley Pump Stations if the Geysers pipeline capacity is expanded beyond 40 mgd, along with 4 surge tanks. The discharge volume under this combination of alternatives would require both Valley Pump Stations as the Geysers pipeline capacity is expanded beyond 40 mgd, along with 4 surge tanks and expansion of the three pump stations on the Mountain Section of the pipeline to carry brine from the Advanced Membrane Treatment plant to the Geysers Steamfield. Pump stations at the storage facilities would also be required; the number of storage facilities would be eight which is the same number as the Agricultural Reuse Alternative, which has the greatest number of storage facilities of any of the Program Alternatives. The total number of booster pump stations in this Combination of Alternatives is 14, which is greater than evaluated in any of the Program Alternatives, but is the same number evaluated in Combination of Alternatives 11.
- Geysers Steamfield Expansion - Although potentially a reduction in the size of this component would be possible, as the volume of recycled water for Geysers recharge would be reduced, the extent of any reduction cannot be determined at this time and therefore this component is considered to be fully implemented.
- Delta Pond Outfall Improvements - Although potentially a reduction in the size of this component would be possible, as the volume of recycled water to be discharged

to the Laguna would be reduced in comparison with full discharge to the Laguna, the extent of any reduction cannot be determined at this time and therefore this component is considered to be fully implemented.

- Russian River Outfall - Although potentially a reduction in the size of this component would be possible, as the volume of recycled water to be discharged to the Russian River would be reduced in comparison with full discharge to the Russian River, the extent of any reduction cannot be determined at this time and therefore this component is considered to be fully implemented.
- Advanced Membrane Treatment Facility - Although potentially a reduction in the size of this component would be possible, as the volume of recycled water to be discharged would be reduced, the extent of any reduction cannot be determined at this time and therefore this component is considered to be fully implemented.

Table 5 summarizes the changes that would occur in the Range of Disposal Volumes, in comparison with the individual Program alternatives.

**Table 5**

Range of Disposal Volumes

Component	Temp (acres)	Perm (acres)	# of Pieces of Equip	Total Daily Usage (hrs)	Total Daily Vehicle Trips (including employee trips)
Indoor Water Conservation	0	0	0	0	0
Laguna Plant Upgrade	15	3	25	144	100
Urban Irrigation	17	0	5	15	14
Agricultural Irrigation	0	5,600	5	28	75
Pipelines	<b>4,623</b>	0	21	162	90
Storage	<b>155</b>	<b>465</b>	182	1,330	840
Created Wetlands	4	31	26	190	120
<b>Pump Stations and Tanks</b>					
Llano Pump Station Upgrade	0.7	0.2	15	71	48
West College Pump Station	1.6	0.8	15	71	48
Booster Pump Stations	<b>18.2</b>	<b>9.8</b>	<b>210</b>	<b>944</b>	<b>672</b>
Geysers Valley Section Pump Stations	2.8	3.0	30	142	96
Geysers Mountain Section Pump Stations	4.5	2.1	45	213	144
Surge Tanks	3.2	1.2	60	284	192
Urban Reuse Storage Tanks	9.1	5.6	70	343	196
Geysers Steamfield Expansion	35.5	37	27	189	120
Delta Pond Outfall	5	0.3	6	34	38

**Table 5**

Range of Disposal Volumes

Component	Temp (acres)	Perm (acres)	# of Pieces of Equip	Total Daily Usage (hrs)	Total Daily Vehicle Trips (including employee trips)
Improvements					
Russian River Outfall	7.5	2.6	6	34	38
Advanced Membrane Treatment	5	10	25	144	100
Total	<b>4,907</b>	8,991	<b>835</b>	<b>4,615</b>	<b>3,051</b>
<b>Increase/(Decrease) from Individual Alternatives</b>	<b>1,423</b>	(15,988)	<b>313</b>	<b>1,478</b>	<b>911</b>

Note: Values that are greater for the Combination than for one of the individual alternatives are shown in bold.

As shown in Table 6, the Pipelines component would substantially exceed the maximum area of construction disturbance evaluated under the Program Alternatives. The Storage Component and Pump Stations Component would exceed both the maximum area of construction disturbance and maximum area of permanent disturbance evaluated under the Program Alternatives for this component. The total area of construction disturbance for the Combination would also substantially exceed any of the individual alternatives due primarily to the Pipelines component, while the permanent area of disturbance would be much less than for Alternative 4, which has the greatest area of disturbance for any of the alternatives that make up this Combination. However, none of these components individually nor the totals for all of the components would exceed the levels of disturbance evaluated in Combination of Alternatives 11.

Table 7 and 8 summarize the changes in use of construction equipment and construction traffic that would occur for each option in the Range of Disposal Volumes in comparison with the individual Program alternatives. The Pump Stations Component under the Range of Disposal Volumes would exceed the maximum pieces of equipment, hours of usage and trips evaluated under the Program Alternatives. The total amount of equipment, hours of usage, and trips for the Combination would also exceed any of the individual alternatives. However, the use of construction equipment and construction traffic for the Range of Disposal Volumes would not exceed the levels evaluated in Combination of Alternatives 11. Values that are greater for the Combination than for one of the individual alternatives are shown in bold.

**Table 6**

Area of Disturbance – Range of Disposal Volumes

Component	Range of Disposal Volumes		Alternative 3		Alternative 4		Alternative 5		Alternative 6A		Alternative 6B	
	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)
Laguna Plant Upgrade	15	3	15	3	15	3	15	3	15	3	15	3
Urban Irrigation	17	0	17	0	0	0	0	0	0	0	0	0
Agricultural Irrigation	0	8,420	0	0	0	24,500	0	0	0	0	0	0
Pipelines	<b>4,623</b>	0	471	0	3303	0	459	0	0	0	390	0
Storage	<b>155</b>	<b>465</b>	90	270	145	435	95	285	125	375	80	240
Created Wetlands	4	31	4	31	4	31	4	31	4	31	4	31
Pump Stations and Tanks												
Llano Pump Station Upgrade	0.7	0.2	0.7	0.2	0.7	0.2	0.7	0.2	0	0	0.7	0.2
West College Pump Station	1.6	0.8	1.6	0.8	0	0	0	0	0	0	0	0
Booster Pump Stations	<b>18.2</b>	<b>9.8</b>	14.3	7.7	10.4	5.6	6.5	3.5	9.1	4.9	5.2	2.8
Geysers Valley Section Pump Stations	2.8	3.0	0	0	2.8	3.0	2.8	3.0	1.4	1.5	2.8	3.0
Geysers Mountain Section Pump Stations	4.5	2.1	0	0	0	0	4.5	2.1	4.5	2.1	4.5	2.1
Surge Tanks	3.2	1.2	0	0	3.2	1.2	3.2	1.2	1.6	0.6	3.2	1.2
Urban Reuse Storage Tanks	9.1	5.6	9.1	5.6	0	0	0	0	0	0	0	0
Geysers Steamfield	35.5	37	0	0	0	0	35.5	37	35.5	37	35.5	37

**Table 6**

Area of Disturbance – Range of Disposal Volumes

Component	Range of Disposal Volumes		Alternative 3		Alternative 4		Alternative 5		Alternative 6A		Alternative 6B	
	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)	Temp (acres)	Perm (acres)
Expansion												
Delta Pond Outfall Improvements	5	0.3	0	0	0	0	0	0	5	0.3	0	0
Russian River Outfall	7.5	2.6	0	0	0	0	0	0	0	0	7.5	2.6
Advanced Membrane Treatment	5	10	0	0	0	0	0	0	5	10	5	10
<b>Total</b>	4,907.1	8,991.6	622.7	318.3	3484.1	24,979	626.2	366	206.1	465.4	553.4	332.9

**Table 7**

Construction Equipment Requirements – Range of Disposal Volumes

Component	Range of Disposal Volumes		Alternative 3		Alternative 4		Alternative 5		Alternative 6A		Alternative 6B	
	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)
Laguna Plant Upgrade	25	144	25	144	25	144	25	144	25	144	25	144
Urban Irrigation	5	15	5	15	0	0	0	0	0	0	0	0
Agricultural Irrigation	5	28	0	0	10	56	0	0	0	0	0	0
Pipelines	21	162	21	162	21	162	21	162	0	0	21	162
Storage	208	1520	130	950	208	1520	130	950	182	1330	104	760
Created Wetlands	26	190	26	190	26	190	26	190	26	190	26	190
Pump Stations and Tanks												
Llano Pump Station Upgrade	15	71	15	71	15	71	15	71	0	0	15	71
West College Pump Station	15	71	15	71	0	0	0	0	0	0	0	0
Booster Pump Stations	<b>210</b>	<b>994</b>	165	781	120	568	75	355	105	497	60	284
Geysers Valley Section Pump Stations	30	142	0	0	30	142	30	142	15	71	30	142
Geysers Mountain Section Pump Stations	45	213	0	0	0	0	45	213	45	213	45	213
Surge Tanks	60	284	0	0	60	284	60	284	30	142	60	284
Urban Reuse Storage	70	343	70	343	0	0	0	0	0	0	0	0

**Table 7**

Construction Equipment Requirements – Range of Disposal Volumes

Component	Range of Disposal Volumes		Alternative 3		Alternative 4		Alternative 5		Alternative 6A		Alternative 6B	
	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)	# of Pieces of Equip	Total Daily Usage (hrs)
Tanks												
Geysers Steamfield Expansion	27	189	0	0	0	0	27	189	27	189	27	189
Geysers Steamfield Expansion	35.5	37	0	0	0	0	35.5	37	35.5	37	35.5	37
Delta Pond Outfall Improvements	6	34	0	0	0	0	0	0	6	34	0	0
Russian River Outfall	6	34	0	0	0	0	0	0	0	0	6	34
Advanced Membrane Treatment	25	144	0	0	0	0	0	0	25	144	25	144
<b>Total</b>	834.5	4615	472	2727	515	3137	454	2700	521.5	2991	479.5	2654

**Table 8**

Construction Traffic Generation – Range of Disposal Volumes

<b>Component</b>	<b>Range of Disposal Volumes</b>	<b>Alternative 3</b>	<b>Alternative 4</b>	<b>Alternative 5</b>	<b>Alternative 6A</b>	<b>Alternative 6B</b>
	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>
Laguna Plant Upgrade	100	100	100	100	100	100
Urban Irrigation	14	14	0	0	0	0
Agricultural Irrigation	75	0	150	0	0	0
Pipelines	90	90	90	90	90	90
Storage	960	600	960	600	840	480
Created Wetlands	120	120	120	120	120	120
<b>Pump Stations and Tanks</b>						
Llano Pump Station Upgrade	48	48	48	48	48	48
West College Pump Station	48	48	0	0	0	0
Booster Pump Stations	<b>672</b>	528	384	240	336	192
Geysers Valley Section Pump Stations	96	0	96	96	96	96
Geysers Mountain Section Pump Stations	144	0	0	144	144	144
Surge Tanks	192	0	192	192	96	192

**Table 8**

Construction Traffic Generation – Range of Disposal Volumes

<b>Component</b>	<b>Range of Disposal Volumes</b>	<b>Alternative 3</b>	<b>Alternative 4</b>	<b>Alternative 5</b>	<b>Alternative 6A</b>	<b>Alternative 6B</b>
	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>	<b>Total Daily Vehicle Trips (including employee trips)</b>
Urban Reuse Storage Tanks	196	196	0	0	0	0
Geysers Steamfield Expansion	120	0	0	120	120	120
Delta Pond Outfall Improvements	38	0	0	0	38	0
Russian River Outfall	38	0	0		0	38
Advanced Membrane Treatment	100	0	0	0	100	100
<b>Total</b>	3051	1744	2140	1750	2128	1720

# **APPENDIX B – CHANGES TO TEXT OF PROGRAM EIR**

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## APPENDIX B – CHANGES TO TEXT OF PROGRAM EIR

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The following changes are made to correct errors or omissions in the Program EIR that have been identified since the City certified the Program EIR. None of the changes in text summarized below result in new significant impacts or in substantially more severe impacts. Rather, these changes represent minor technical changes to the text.

### REVISIONS TO PROGRAM EIR

#### **Agricultural Reuse – East of Rohnert Park**

The agricultural reuse alternative in the area East of Rohnert Park (Alternative 4b) may use recycled water from storage reservoirs in the Santa Rosa Plan, as well as from those constructed in the area East of Rohnert Park. This information was omitted from portions of the project description in the Program EIR, but should be part of Chapter 1 Introduction and Chapter 2 Project Description, as well as in all of the environmental analysis sections in Chapter 4. Specific individual changes are listed below:

#### ***Chapter 1 – Introduction and Summary***

*Page 1-16*

#### ***Alternative 4 – Agricultural Irrigation***

- **Storage.** Storage facilities are needed to store recycled water that is produced during the winter for use during summer. Approximately 1,200 MG of storage could be needed to support full development of irrigation in the area east of Rohnert Park and 2,900 MG of storage would be used to support irrigation in the Alexander Valley, Dry Creek Valley and Russian River areas. Storage for the area east of Rohnert Park would occur east of Petaluma Hill Road and in the Santa Rosa Plain. For the North County areas, surface storage options would be in the Santa Rosa Plain, in the area east of Santa Rosa, or in the vicinity of the potential irrigation areas in the North County.

#### ***Chapter 2 – Project Description***

*Page 2-25*

#### ***Alternative 4 – Agricultural Reuse***

**Storage.** Storage facilities are needed to store recycled water that is produced during the winter for use during summer. Up to approximately 1,200 MG of storage could be needed to support full development of irrigation in the area east

of Rohnert Park and up to 2,900 MG of storage would be used to support irrigation in the Alexander Valley, Dry Creek Valley and Russian River areas. For the area east of Rohnert Park, storage would occur east of Petaluma Hill Road and in the Santa Rosa Plain. For the Russian River/Alexander Valley and Dry Creek Valley areas, storage options would be in the Santa Rosa Plain, in the area East of Santa Rosa, or in the vicinity of the potential irrigation areas in the North County.

**Table 2-9**

Preferred Program Components by Alternatives

Components	Alt 2	Alt 3	Alt 4			Alt 5	Alternative 6				
	I&I Reduc	Urban Reuse	Agricultural Reuse			Geysers Expansion	Discharge				
			North County	East of RP	City-owned Farms		Option A Laguna	Option B RR Direct	Option C Indirect Perc Ponds	Option D Indirect Infiltr Basins	Option E Indirect Inject Wells
7. Storage											
a. Santa Rosa Plain											
b. East of Rohnert Park											
c. East of Santa Rosa											
d. North County											

**Chapter 4 – Environmental Analysis**

**4.2 Agriculture**

Page 4.2 – 22

**Table 4.2-9**

Loss of Farmland by Reservoir Location and Alternative

<b>Alternative – Sub-Alternative</b>	<b>Reservoir Location</b>	<b>Storage Requirement (million gallons)</b>	<b>Temporary Impact<sup>1</sup> (acres)</b>	<b>Permanent Impact<sup>2</sup> (acres)</b>
Alternative 3	Santa Rosa Plain East of Rohnert Park, East of Santa Rosa.	1,800	90	270
Alternative 4A	Santa Rosa Plain East of Santa Rosa North County	2,900	145	435
Alternative 4B	<u>Santa Rosa Plain</u> East of Rohnert Park	1,200	60	180
Alternative 5	Santa Rosa Plain East of Santa Rosa North County	1,900	95	285
Alternative 6A	Santa Rosa Plain East of Santa Rosa	2,500	125	375
Alternative 6B – 6E	Santa Rosa Plain East of Santa Rosa	1,600	80	240

Revised Table 4.8-3

**Table 4.8-3**

Summary of Regional Resource Planning Efforts

Jurisdiction	Program Name	Public/Private	Resource Protection Guidelines
<u>California Department of Fish and Game</u>	<u>Draft Russian River Basin Fisheries Restoration Plan. July 2002</u>	Public	<ul style="list-style-type: none"> <li>• <u>Protect existing habitat and restoration of damaged habitat of the Russian River in concert with active development of the basin for human populations, and with cooperation of the human population.</u></li> <li>• <u>Consider both short and long term solutions.</u></li> <li>• <u>Promote “stewardship” ethic to see that management recommendations and projects are carried out and maintained.</u></li> </ul>
<u>California Department of Fish and Game</u>	<u>Recovery Strategy for California Coho Salmon (<i>Oncorhynchus kisutch</i>). Report of the Fish and Game Commission. Public Review Draft. November 2003.</u>	Public	<ul style="list-style-type: none"> <li>• Recover coho salmon the north and central coast of California.</li> <li>• Primary goal of recovery strategy is to return coho salmon to a level of sustained viability, while protecting the genetic integrity of both ESUs (Evolutionary Significant Units).</li> <li>• Achieve harvestable populations of coho salmon for tribal, recreational, and commercial fisheries.</li> <li>• Continue partnership with all stakeholders.</li> </ul>

## CORRECTIONS TO PROGRAM EIR

### Draft EIR, page 4.14-46, Visual Resources

Mitigation: **3.3.18 Minimize Temporary and Permanent Visual Impacts**

#### **3.4.4 Landscape Screening**

After

Mitigation: *Significant: Alternatives 3, 4A, 4B, 5 and 6*

Mitigation Measure 3.3.18 could result in specific pump stations being placed partially underground, and therefore permanent visual impacts would be reduced for those facilities. The measure would minimize construction disturbance and therefore reduce impacts due to visual contrast, and would also reduce the disturbance of specific scenic resources.