



**LAKE PIRU RECREATION AREA
CONCEPT SUBMITTAL PACKAGE**

November 4, 2022

Prepared for:
United Water Conservation District

Prepared by:
Stantec Consulting Services Inc.

Project Number:
184031644

Table of Contents

1	ALTERNATIVE 1	1
2	ALTERNATIVE 2 (AS A CONCEPT PLAN) WITH PHASING PLAN	3
3	ALTERNATIVE 3	9
4	REVENUE ESTIMATES	11
5	GRANT OPPORTUNITY	21
6	WATER/WASTEWATER EVALUATION MEMO	26
7	ELECTRICAL SYSTEM EVALUATION MEMO	47
8	FUNDING SUPPORT PROPOSAL	53



1 **Alternative 1**

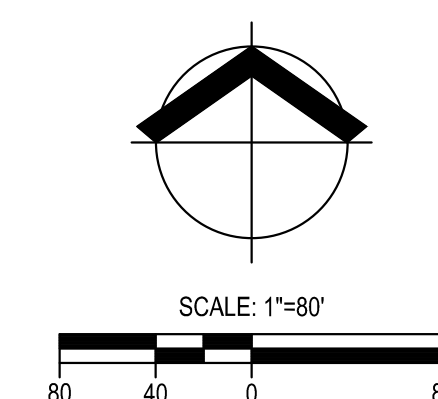


PIRU CAMPGROUND CAMPSITE IMPROVEMENT SUMMARY (OPPORTUNITY #3)

	# OF EXISTING	# OF PROPOSED
PRIMITIVE CAMPSITES	125	63
ELECTRIC HOOK-UP CAMPSITES	96	101*
FULL HOOK-UP CAMPSITES	9	9
FULL HOOK-UP RV CAMPSITES	0	17
ELECTRIC HOOK-UP RV CAMPSITES	0	9
TOTAL	230	199

* DOUBLE SITE COUNTED AS 2 SITES FOR CAPACITY

GROUP SITE PROPOSED AND EXISTING CAPACITY TO REMAIN THE SAME AT 50 PAOT.
GROUP SITE EXCLUDED FROM COMPARISON TABLE FOR CLARITY



ALTERNATIVE 1 - LAKE PIRU CAMPGROUND

2 Alternative 2 (as a concept plan) with Phasing Plan



C:\Users\stl\OneDrive\Documents\Lake PIRU Campground\Lake PIRU Campground.dwg (1:1000) 11/17/2023 11:17 AM

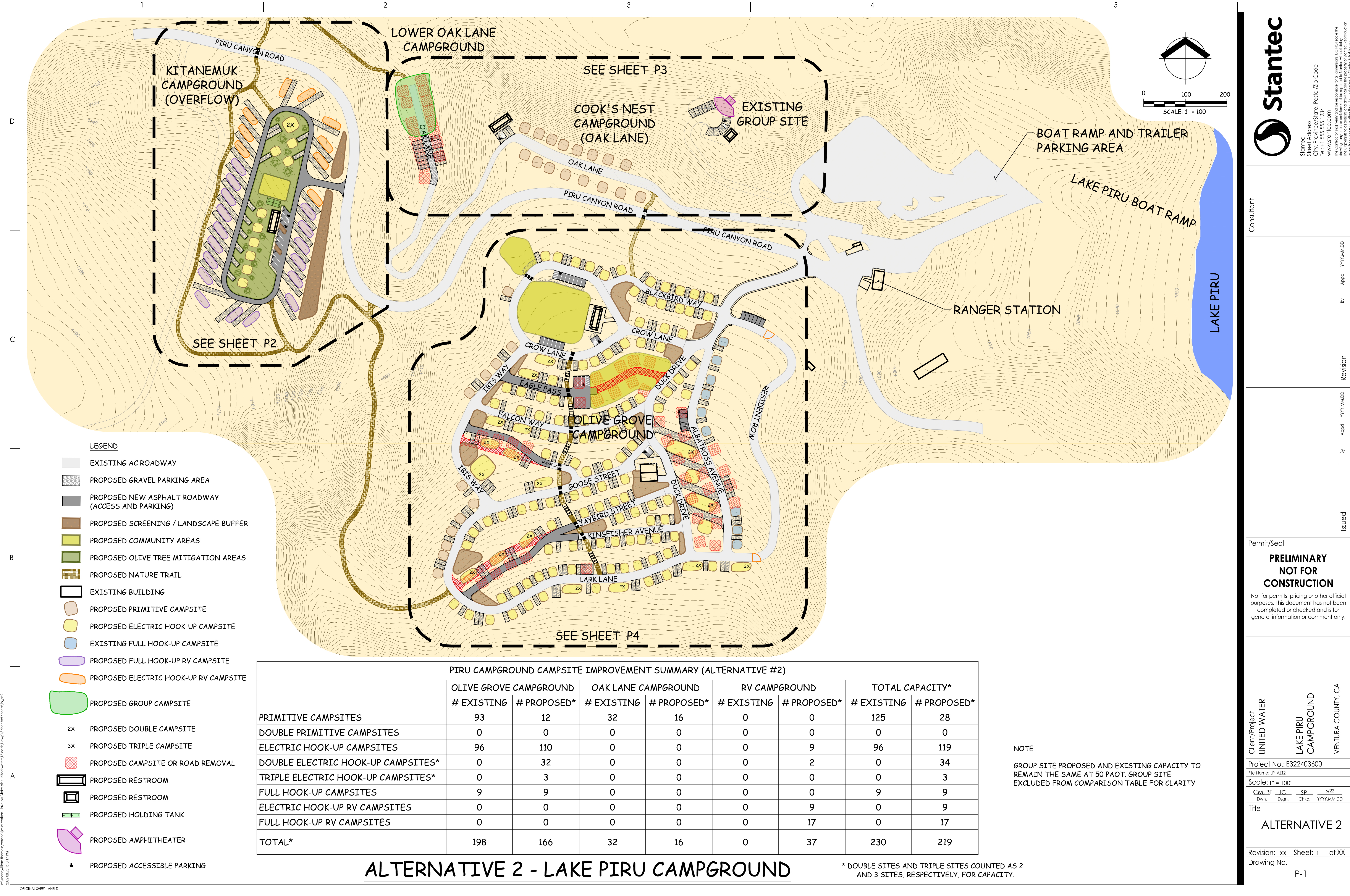
ORIGINAL SHEET - ANSI D

D

C


B

A



ALTERNATIVE 2 - LAKE PIRU CAMPGROUND

* DOUBLE SITES AND TRIPLE SITES COUNTED AS 2 AND 3 SITES, RESPECTIVELY, FOR CAPACITY.



Stantec
Street Address
City, Province/State, Postal/Zip Code
Tel: +1.355.555.1234
www.stantec.com
The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing.

Consultant

Revision

By

Appd

Issued

Permit/Seal

Client/Project

UNITED WATER

LAKE PIRU CAMPGROUND

VENTURA COUNTY, CA

Project No.: E322403600

File Name: LP_ALT2

Scale: 1" = 100'

CM, BT, JC, SP, 6/22

Dwn. Dsgn. Chkd. YYYY.MM.DD

Title

ALTERNATIVE 2

Revision: xx Sheet: 1 of XX

Drawing No.

P-1

C:\Users\jillm\OneDrive\Documents\Projects\Lake PIRU\Lake PIRU.dwg (15 cad) 11:34:45 PM 2022/02/28 11:34:45 PM ORIGINAL SHEET - ANSI D

A B C D

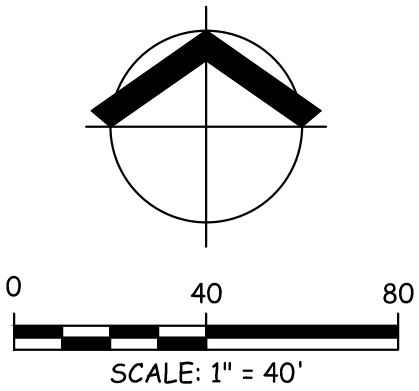
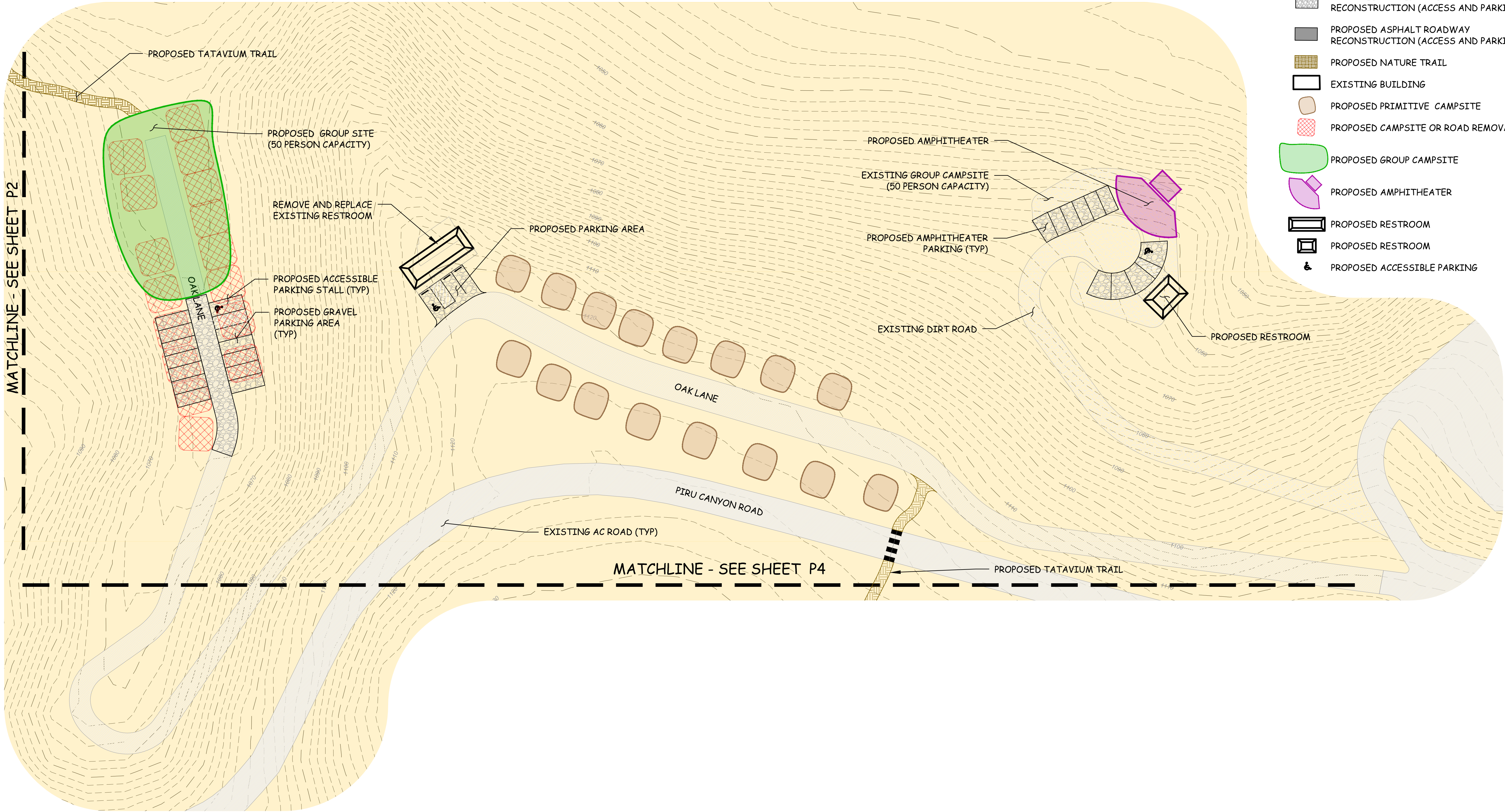
1

2

3

4

5



LEGEND

- EXISTING AC ROADWAY
- PROPOSED GRAVEL ROADWAY RECONSTRUCTION (ACCESS AND PARKING)
- PROPOSED ASPHALT ROADWAY RECONSTRUCTION (ACCESS AND PARKING)
- PROPOSED NATURE TRAIL
- EXISTING BUILDING
- PROPOSED PRIMITIVE CAMPSITE
- PROPOSED CAMPSITE OR ROAD REMOVAL
- PROPOSED GROUP CAMPSITE
- PROPOSED AMPHITHEATER
- PROPOSED RESTROOM
- PROPOSED RESTROOM
- PROPOSED ACCESSIBLE PARKING

Consultant

Permit/Seal

**PRELIMINARY
NOT FOR
CONSTRUCTION**

Not for permits, pricing or other official purposes. This document has not been completed or checked and is for general information or comment only.

Client/Project
UNITED WATER

LAKE PIRU
CAMPGROUND

VENTURA COUNTY, CA

Project No.: E322403600

File Name: LP_ALT2

Scale: 1" = 40'

CM, BT	JC	SP	6/22
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

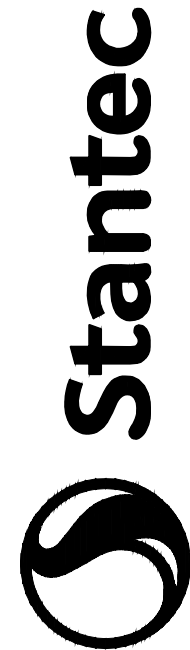
Title

ALTERNATIVE 2

Revision: xx Sheet: 3 of XX

Drawing No.

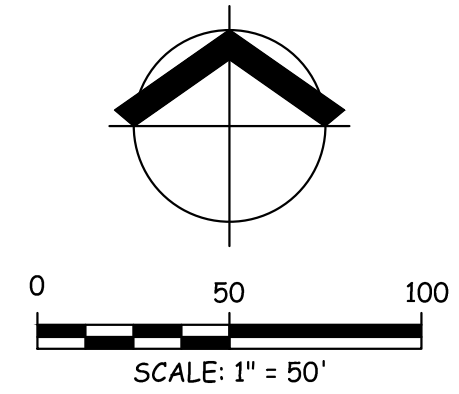
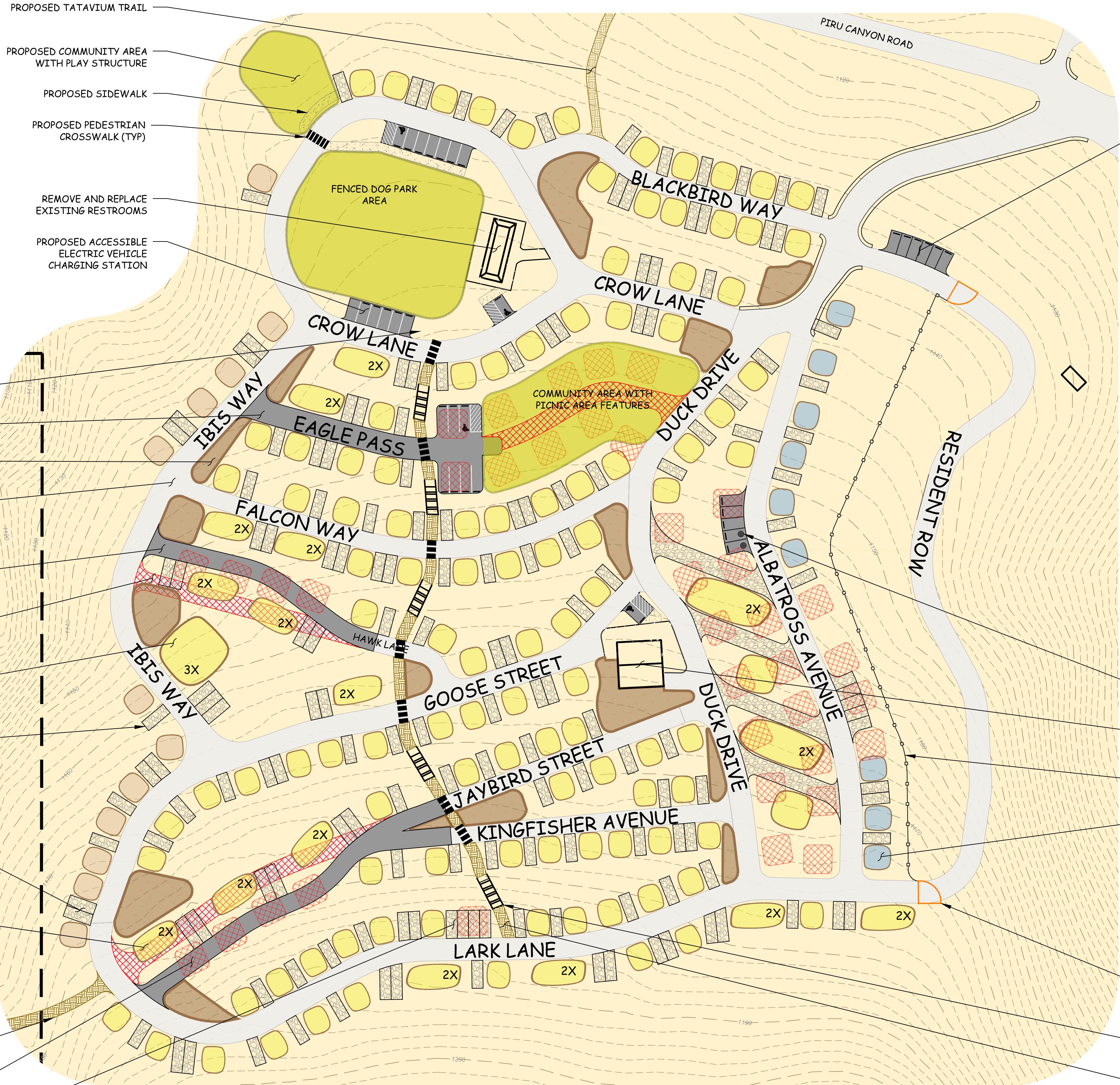
P-3



Street Address
City, Province/State, Postal/Zip Code
Tel: +1.355.555.1234
www.stantec.com
The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawings. The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawings. The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawings.

C:\Users\james\OneDrive\Documents\Projects\Olive Grove Campground\Drawings\Sheet 4.dwg (3 sheets) Sheet 4.dwg
2023/02/28 11:00 PM

D
C
B
A



PROPOSED OVERFLOW PARKING (TYP)

LEGEND

- EXISTING AC ROADWAY
- PROPOSED GRAVEL PARKING AREA
- PROPOSED NEW ASPHALT ROADWAY (ACCESS AND PARKING)
- PROPOSED SCREENING / LANDSCAPE BUFFER
- PROPOSED COMMUNITY AREAS
- PROPOSED NATURE TRAIL
- PROPOSED SIDEWALK
- EXISTING BUILDING
- PROPOSED PRIMITIVE CAMPSITE
- PROPOSED ELECTRIC HOOK-UP CAMPSITE
- EXISTING FULL HOOK-UP CAMPSITE
- 2X PROPOSED DOUBLE CAMPSITE
- 3X PROPOSED TRIPLE CAMPSITE
- PROPOSED CAMPSITE OR ROAD REMOVAL
- PROPOSED STAIRWAY
- PROPOSED ELECTRIC VEHICLE CHARGING STATION
- PROPOSED GATE
- PROPOSED ACCESSIBLE PARKING

PROPOSED ELECTRIC VEHICLE CHARGING STATION (TYP)

REMOVE AND REPLACE EXISTING RESTROOMS

EXISTING FENCE

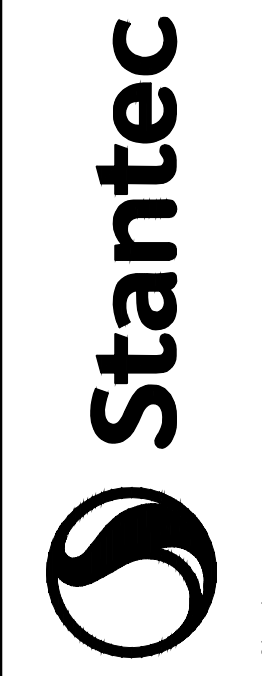
EXISTING FULL HOOK-UP CAMPSITE, TO REMAIN (TYP)

PROPOSED GATE (TYP)

PROPOSED STAIRWAY (TYP)

PROPOSED NATURE TRAIL (TYP)

ALTERNATIVE 2 - OLIVE GROVE CAMPGROUND



Street Address
City, Province/State, Postal/Zip Code
Tel: +1.355.555.1234
www.stantec.com
The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing.

Consultant

By: Appd: YYY.MM.DD

By: Appd: YYY.MM.DD

Permit/Seal

**PRELIMINARY
NOT FOR
CONSTRUCTION**

Not for permits, pricing or other official purposes. This document has not been completed or checked and is for general information or comment only.

Client/Project
UNITED WATER

LAKE PIRU
CAMPGROUND

VENTURA COUNTY, CA

Project No.: E322403600

File Name: LP_ALT2

Scale: 1" = 50'

C.M. BT JC SP 6/22
Dwn. Dsgn. Chkd. YYYY.MM.DD

Title

ALTERNATIVE 2

Revision: xx Sheet: 4 of XX
Drawing No.

B

✱



Not for permits, pricing or other official purposes. This document has not been completed or checked and is for general information or comment only.

[illegible]

File Name: LP ALT2

CM RT IC

Title

1

Revi

PH-1

3 Alternative 3



C:\Users\stentec\OneDrive\Documents\Lake Piru\LakePiru\LakePiru.dwg (3/28/2024) 11:13 AM

A

B

C

D

LEGEND

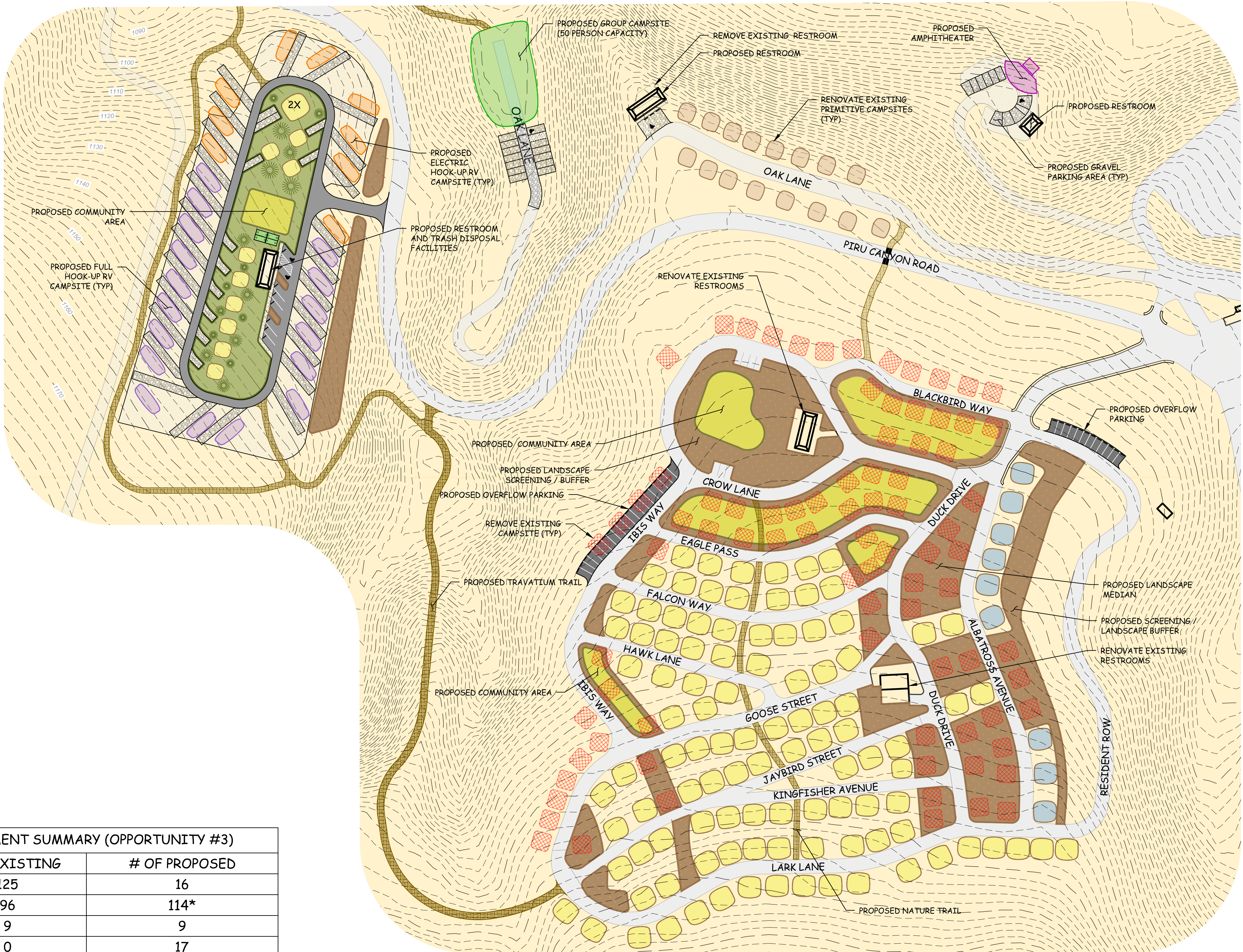
- PROPOSED NEW ASPHALT ROADWAY (ACCESS AND PARKING)
- PROPOSED NEW GRAVEL ROADWAY (ACCESS AND PARKING)
- EXISTING AC ROADWAY
- PROPOSED SCREENING / LANDSCAPE BUFFER
- PROPOSED COMMUNITY AREAS
- PROPOSED NATURE TRAIL
- EXISTING BUILDING
- PROPOSED PRIMITIVE CAMPSITE
- PROPOSED ELECTRIC HOOK-UP CAMPSITE
- PROPOSED FULL HOOK-UP CAMPSITE
- PROPOSED FULL HOOK-UP RV CAMPSITE
- PROPOSED ELECTRIC HOOK-UP RV CAMPSITE
- PROPOSED GROUP CAMPSITE
- PROPOSED CAMPSITE REMOVAL
- PROPOSED RESTROOM
- PROPOSED RESTROOM
- PROPOSED HOLDING TANK
- PROPOSED AMPHITHEATER
- PROPOSED ACCESSIBLE PARKING
- PROPOSED DOUBLE CAMPSITE

PIRU CAMPGROUND CAMPSITE IMPROVEMENT SUMMARY (OPPORTUNITY #3)		
	# OF EXISTING	# OF PROPOSED
PRIMITIVE CAMPSITES	125	16
ELECTRIC HOOK-UP CAMPSITES	96	114*
FULL HOOK-UP CAMPSITES	9	9
FULL HOOK-UP RV CAMPSITES	0	17
ELECTRIC HOOK-UP RV CAMPSITES	0	9
TOTAL	230	165

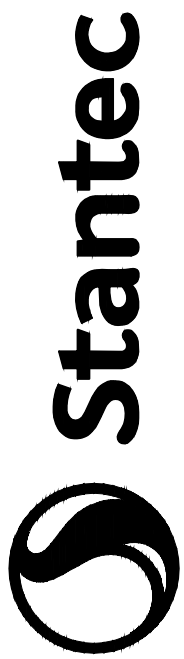
* DOUBLE SITE COUNTED AS 2 SITES FOR CAPACITY.

NOTE

GROUP SITE PROPOSED AND EXISTING CAPACITY TO REMAIN THE SAME AT 50 PAOT.
GROUP SITE EXCLUDED FROM COMPARISON TABLE FOR CLARITY



ALTERNATIVE 3 - LAKE PIRU CAMPGROUND



Street Address
City, Province/State, Postal/Zip Code
Tel: +1.355.555.1234
www.stantec.com

Consultant

Permit/Seal

**PRELIMINARY
NOT FOR
CONSTRUCTION**

Not for permits, pricing or other official purposes. This document has not been completed or checked and is for general information or comment only.

Client/Project
UNITED WATER

LAKE PIRU
CAMPGROUND

VENTURA COUNTY, CA

Project No.: E322403600

File Name: LP_ALT3

Scale: 1" = 80'

BT, CM JC SP 6/22

Dwn. Dsgn. Chkd. YYYY.MM.DD

Title

ALTERNATIVE 3

Revision: xx Sheet: 1 of XX

Drawing No.

P-1

4 Revenue Estimates



Piru Campground Revenue Estimates

Alternative 1				Existing Occupancy Revenue Change:				\$85,118.43				Expected New Occupancy Revenue Change:				\$284,895.53							
				Existing Occupancy Revenue Change Percentage:				16.89%				Expected New Occupancy Revenue Change Percentage:				56.52%							
Olive Grove																							
Existing				Proposed with Current Occupancy Rates				Difference -\$75,053.65				Proposed with Expected New Occupancy Rates				Difference \$59,533.67							
Type of Site	Site Capacity	2021 O.R.	2021 Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue					Type of Site	Site Capacity*	Projected O.R.	Projected Revenue								
Primitive	93	8.25%	\$120,533.08	Primitive	47	8.25%	\$60,914.57					Primitive	47	15.00%	\$110,729.22								
Electric	96	15.46%	\$246,962.17	Electric	90	15.46%	\$231,527.03					Electric	90	20.00%	\$299,467.07								
Full Hook-up	9	40.00%	\$67,321.16	Full Hook-up	9	40.00%	\$67,321.16					Full Hook-up	9	50.00%	\$84,153.79								
			Total:				Total:	\$359,762.76						Total:	\$494,350.08								
Oak Lane																							
Existing				Proposed with Current Occupancy Rates				Difference -\$18,444.10				Proposed with Expected New Occupancy Rates				Difference -\$7,954.79							
Type of Site	Site Capacity	2021 O.R.	2021 Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue					Type of Site	Site Capacity*	Projected O.R.	Projected Revenue								
Primitive	32	10.96%	\$56,888.20	Primitive	16	10.96%	\$28,444.10					Primitive	16	15.00%	\$38,933.41								
Electric	0	0.00%	\$0.00	Electric	0	0.00%	\$0.00					Electric	0	0.00%	\$0.00								
Full Hook-up	0	0.00%	\$0.00	Full Hook-up	0	0.00%	\$0.00					Full Hook-up	0	0.00%	\$0.00								
			Total:	\$56,888.20						Total:	\$38,444.10						Total:	\$10,000.00					
**Note - Amphitheater revenue based on approximately \$200 per weekend																							
OverFlow																							
Existing				Proposed with Current Occupancy Rates				Difference \$178,616.18				Proposed with Expected New Occupancy Rates				Difference \$225,505.39							
Type of Site	Site Capacity	2021 O.R.	2021 Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue					Type of Site	Site Capacity*	Projected O.R.	Projected Revenue								
Primitive	0	0.00%	\$0.00	Primitive	0	0.00%	\$0.00					Primitive	0	0.00%	\$0.00								
Electric	0	0.00%	\$0.00	Electric	20	15.46%	\$51,450.45					Electric	20	20.00%	\$66,548.24								
Full Hook-up	0	0.00%	\$0.00	Full Hook-up	17	40.00%	\$127,165.72					Full Hook-up	17	50.00%	\$158,957.15								
			Total:	\$0.00						Total:	\$178,616.18						Total:	\$225,505.39					
*Double sites counted as 2 sites																							
Group Sites																							
Existing				Proposed with Current Occupancy Rates				Difference \$0.00				Proposed with Expected New Occupancy Rates				Difference \$7,811.26							
Type of Site	Capacity	2021 O.R.	2021 Revenue	Type of Site	Capacity	Projected O.R.	Projected Revenue					Type of Site	# of Sites	Projected O.R.	Projected Revenue								
Primitive	50	7.36%	\$12,398.99	Primitive	50	7.36%	\$12,398.99					Primitive	50	12.00%	\$20,210.25								
Electric	0	0.00%	\$0.00	Electric	0	0.00%	\$0.00					Electric	0	0.00%	\$0.00								
Full Hook-up	0	0.00%	\$0.00	Full Hook-up	0	0.00%	\$0.00					Full Hook-up	0	0.00%	\$0.00								
			Total:	\$12,398.99						Total:	\$12,398.99						Total:	\$20,210.25					
Total Revenue				\$504,103.60				Total Revenue				\$589,222.03				Total Revenue				\$750,065.72			

Piru Campground Revenue Estimates

Alternative 2				Existing Occupancy Revenue Change:				\$181,245.26		Expected New Occupancy Revenue Change:				\$377,633.99	
				Existing Occupancy Revenue Change Percentage:				35.95%		Expected New Occupancy Revenue Change Percentage:				74.91%	
Olive Grove															
Existing				Proposed with Current Occupancy Rates						Proposed with Expected New Occupancy Rates					
Type of Site	Site Capacity	2021 O.R.	2021 Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue		Type of Site	Site Capacity*	Projected O.R.	Projected Revenue			
Primitive	93	8.25%	\$120,533.08	Primitive	12	8.25%	\$15,552.66		Primitive	12	15.00%	\$28,271.29			
Electric	96	15.46%	\$246,962.17	Electric	145	15.46%	\$373,015.78		Electric	145	20.00%	\$482,474.72			
Full Hook-up	9	40.00%	\$67,321.16	Full Hook-up	9	40.00%	\$67,321.16	Difference	Full Hook-up	9	50.00%	\$84,153.79	Difference		
Total:			\$434,816.41	Total:			\$455,889.59	\$21,073.18	Total:			\$594,899.79	\$160,083.38		
Oak Lane															
Existing				Proposed with Current Occupancy Rates						Proposed with Expected New Occupancy Rates					
Type of Site	Site Capacity	2021 O.R.	2021 Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue		Type of Site	Site Capacity*	Projected O.R.	Projected Revenue			
Primitive	32	10.96%	\$56,888.20	Primitive	16	10.96%	\$28,444.10		Primitive	16	15.00%	\$38,933.41			
Electric	0	0.00%	\$0.00	Electric	0	0.00%	\$0.00		Electric	0	0.00%	\$0.00			
Full Hook-up	0	0.00%	\$0.00	Full Hook-up	0	0.00%	\$0.00	Difference	Full Hook-up	0	0.00%	\$0.00			
Total:			\$56,888.20	Total:			\$38,444.10	-\$18,444.10	Total:			\$48,933.41	Difference		
														**Note - Amphitheater revenue based on approximately \$200 per weekend	
Amphitheater**														-\$7,954.79	
Total:															
OverFlow															
Existing				Proposed with Current Occupancy Rates						Proposed with Expected New Occupancy Rates					
Type of Site	Site Capacity	2021 O.R.	2021 Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue		Type of Site	Site Capacity*	Projected O.R.	Projected Revenue			
Primitive	0	0.00%	\$0.00	Primitive	0	0.00%	\$0.00		Primitive	0	0.00%	\$0.00			
Electric	0	0.00%	\$0.00	Electric	20	15.46%	\$51,450.45		Electric	20	20.00%	\$66,548.24			
Full Hook-up	0	0.00%	\$0.00	Full Hook-up	17	40.00%	\$127,165.72	Difference	Full Hook-up	17	50.00%	\$158,957.15	Difference		
Total:			\$0.00	Total:			\$178,616.18	\$178,616.18	Total:			\$225,505.39	\$225,505.39		
*Double sites counted as 2 sites															
Group Sites															
Existing				Proposed with Current Occupancy Rates						Proposed with Expected New Occupancy Rates					
Type of Site	Capacity	2021 O.R.	2021 Revenue	Type of Site	Capacity	Projected O.R.	Projected Revenue		Type of Site	# of Sites	Projected O.R.	Projected Revenue*			
Primitive	50	7.58%	\$12,398.99	Primitive	50	7.58%	\$12,398.99		Primitive	50	12.00%	\$19,641.96			
Electric	0	0.00%	\$0.00	Electric	0	0.00%	\$0.00		Electric	0	0.00%	\$0.00			
Full Hook-up	0	0.00%	\$0.00	Full Hook-up	0	0.00%	\$0.00	Difference	Full Hook-up	0	0.00%	\$0.00	Difference		
Total:			\$12,398.99	Total:			\$12,398.99	\$0.00	Total:			\$19,641.96	\$7,242.97		
Total Revenue		\$504,103.60		Total Revenue		\$685,348.86		Total Revenue		\$888,980.56					

*Double sites counted as 2 sites

Piru Campground Revenue Estimates

Alternative 3				Existing Occupancy Revenue Change:				\$57,646.65		Expected New Occupancy Revenue Change:				\$217,422.66	
				Existing Occupancy Revenue Change Percentage:				11%		Expected New Occupancy Revenue Change Percentage:				43.13%	
Olive Grove														Difference -\$102,525.42	Difference -\$7,939.20
Existing				Proposed with Current Occupancy Rates				Proposed with Expected New Occupancy Rates							
Type of Site	Site Capacity	2021 O.R.	2021 Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue				
Primitive	93	8.25%	\$120,533.08	Primitive	0	8.25%	\$0.00	Primitive	0	15.00%	\$0.00				
Electric	96	15.46%	\$246,962.17	Electric	103	15.46%	\$264,969.83	Electric	103	20.00%	\$342,723.42				
Full Hook-up	9	40.00%	\$67,321.16	Full Hook-up	9	40.00%	\$67,321.16	Full Hook-up	9	50.00%	\$84,153.79				
Total:			\$434,816.41	Total:			\$332,290.99	Total:			\$426,877.21				
Oak Lane															
Existing				Proposed with Current Occupancy Rates				Proposed with Expected New Occupancy Rates							
Type of Site	Site Capacity	2021 O.R.	2021 Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue				
Primitive	32	10.96%	\$56,888.20	Primitive	16	10.96%	\$28,444.10	Primitive	16	15.00%	\$38,933.41				
Electric	0	0.00%	\$0.00	Electric	0	0.00%	\$0.00	Electric	0	0.00%	\$0.00				
Full Hook-up	0	0.00%	\$0.00	Full Hook-up	0	0.00%	\$0.00	Full Hook-up	0	0.00%	\$0.00				
Total:			\$56,888.20	Total:			\$38,444.10	Total:			\$48,933.41				
OverFlow														Difference -\$18,444.10	Difference -\$7,954.79
Existing				Proposed with Current Occupancy Rates				Proposed with Expected New Occupancy Rates							
Type of Site	Site Capacity	2021 O.R.	2021 Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue	Type of Site	Site Capacity*	Projected O.R.	Projected Revenue				
Primitive	0	0.00%	\$0.00	Primitive	0	0.00%	\$0.00	Primitive	0	0.00%	\$0.00				
Electric	0	0.00%	\$0.00	Electric	20	15.46%	\$51,450.45	Electric	20	20.00%	\$66,548.24				
Full Hook-up	0	0.00%	\$0.00	Full Hook-up	17	40.00%	\$127,165.72	Full Hook-up	17	50.00%	\$158,957.15				
Total:			\$0.00	Total:			\$178,616.18	Total:			\$225,505.39				
Group Sites															
Existing				Proposed with Current Occupancy Rates				Proposed with Expected New Occupancy Rates							
Type of Site	Capacity	2021 O.R.	2021 Revenue	Type of Site	Capacity	Projected O.R.	Projected Revenue*	Type of Site	# of Sites	Projected O.R.	Projected Revenue*				
Primitive	50	7.36%	\$12,398.99	Primitive	50	7.36%	\$12,398.99	Primitive	50	12.00%	\$20,210.25				
Electric	0	0.00%	\$0.00	Electric	0	0.00%	\$0.00	Electric	0	0.00%	\$0.00				
Full Hook-up	0	0.00%	\$0.00	Full Hook-up	0	0.00%	\$0.00	Full Hook-up	0	0.00%	\$0.00				
Total:			\$12,398.99	Total:			\$12,398.99	Total:			\$20,210.25				
Total Revenue \$504,103.60				Total Revenue \$561,750.25				Total Revenue \$682,592.85							

Cost Estimates



Piru Campground Cost vs. Revenue

Yearly Revenue During Construction Table (2022 Dollars) Focused Construction Alternative						
Year	Overflow	Olive Grove	Oak Lane	Group Sites	Other Revenue	Total
Year 1	Design, Permitting, Bidding Phase					
Expected Revenue	\$ -	\$ 434,816	\$ 56,888	\$ 12,399	\$ 370,024	\$ 874,128
Cost						\$ (858,101)
Year 2	Design, Permitting, Bidding Phase					
Expected Revenue	\$ -	\$ 434,816	\$ 56,888	\$ 12,399	\$ 370,024	\$ 874,128
Cost						\$ (858,101)
Year 3	Phase 1 Construction - Overflow					
Expected Revenue	\$ -	\$ 434,816	\$ 56,888	\$ 12,399	\$ 370,024	\$ 874,128
Construction Cost	\$ (5,548,158)					\$ (5,548,158)
Year 4	Phase 2 Construction - Olive Grove					
Expected Revenue	\$ 225,505	\$ -	\$ 56,888	\$ 12,399	\$ 370,024	\$ 664,817
Construction Cost		\$ (9,238,994)				\$ (9,238,994)
Year 5	Phase 3 Construction - Oak Lane					
Expected Revenue	\$ 225,505	\$ 594,900	\$ -	\$ -	\$ 370,024	\$ 1,190,429
Construction Cost			\$ (1,604,643)			\$ (1,604,643)
Year 6	Construction Complete					
Expected Revenue	\$ 231,143	\$ 609,772	\$ 50,157	\$ 20,133	\$ 388,526	\$ 1,299,731
Cost						\$ -

Notes:

No annual cost escalation included in cost or revenue estimating

Reservation fee increase of 2.5% added to the year after construction is complete

Cost for Design, Permitting, Bidding estimated at 15% construction cost split into years 1 and 2

Other revenue includes additional car fees, wifi, firewood, ice, etc.

Other Revenue expected to increase after construction, assumed at 5%

Split year construction expected to increase total cost by 10%

Split year construction will require complete area closure (i.e. Olive Grove) for duration of construction

Breakeven Analysis Table (2022 Dollars)				
Year	Annual Revenue	Annual Cost	Annual Profit (Loss)	Net Revenue (Loss)
Year 1	\$ 874,128	\$ (858,101)	\$ 16,027	\$ 16,027
Year 2	\$ 874,128	\$ (858,101)	\$ 16,027	\$ 32,055
Year 3	\$ 874,128	\$ (5,548,158)	\$ (4,674,030)	\$ (4,641,975)
Year 4	\$ 664,817	\$ (9,238,994)	\$ (8,574,177)	\$ (13,216,152)
Year 5	\$ 1,190,429	\$ (1,604,643)	\$ (414,213)	\$ (13,630,365)
Year 6	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (12,330,635)
Year 7	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (11,030,904)
Year 8	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (9,731,174)
Year 9	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (8,431,443)
Year 10	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (7,131,713)
Year 11	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (5,831,982)
Year 12	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (4,532,251)
Year 13	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (3,232,521)
Year 14	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (1,932,790)
Year 15	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (633,060)
Year 16	\$ 1,299,731	\$ -	\$ 1,299,731	\$ 666,671

Piru Campground Cost vs. Revenue

Yearly Revenue During Construction Table (2022 Dollars) Split Year Construction Alternative

Year	Overflow	Olive Grove	Oak Lane	Group Sites	Other Revenue	Total
Year 1	Design, Permitting, Bidding Phase					
Expected Revenue	\$ -	\$ 434,816	\$ 56,888	\$ 12,399	\$ 370,024	\$ 874,128
Cost						\$ (858,101)
Year 2	Design, Permitting, Bidding Phase					
Expected Revenue	\$ -	\$ 434,816	\$ 56,888	\$ 12,399	\$ 370,024	\$ 874,128
Cost						\$ (858,101)
Year 3	Phase 1 Construction - Overflow					
Expected Revenue	\$ -	\$ 434,816	\$ 56,888	\$ 12,399	\$ 370,024	\$ 874,128
Construction Cost	\$ (3,051,487)					\$ (3,051,487)
Year 4	Phase 1 Construction - Overflow					
Expected Revenue	\$ -	\$ 434,816	\$ 56,888	\$ 12,399	\$ 370,024	\$ 874,128
Construction Cost	\$ (3,051,487)					\$ (3,051,487)
Year 5	Phase 2 Construction - Olive Grove					
Expected Revenue	\$ 225,505	\$ -	\$ 56,888	\$ 12,399	\$ 370,024	\$ 664,817
Construction Cost		\$ (3,387,631)				\$ (3,387,631)
Year 6	Phase 2 Construction - Olive Grove					
Expected Revenue	\$ 225,505	\$ -	\$ 56,888	\$ 12,399	\$ 370,024	\$ 664,817
Cost		\$ (3,387,631)				\$ (3,387,631)
Year 7	Phase 2 Construction - Olive Grove					
Expected Revenue	\$ 225,505	\$ -	\$ 56,888	\$ 12,399	\$ 370,024	\$ 664,817
Construction Cost		\$ (3,387,631)				\$ (3,387,631)
Year 8	Phase 3 Construction - Oak Lane					
Expected Revenue	\$ 225,505	\$ 594,900	\$ -	\$ -	\$ 370,024	\$ 1,190,429
Construction Cost			\$ (1,604,643)			\$ (1,604,643)
Year 9	Construction Complete					
Expected Revenue	\$ 231,143	\$ 609,772	\$ 50,157	\$ 20,133	\$ 388,526	\$ 1,299,731
Cost						\$ -

Breakeven Analysis Table (2022 Dollars)

Year	Annual Revenue	Annual Cost	Annual Profit (Loss)	Net Revenue (Loss)
Year 1	\$ 874,128	\$ (858,101)	\$ 16,027	\$ 16,027
Year 2	\$ 874,128	\$ (858,101)	\$ 16,027	\$ 32,055
Year 3	\$ 874,128	\$ (3,051,487)	\$ (2,177,359)	\$ (2,145,304)
Year 4	\$ 874,128	\$ (3,051,487)	\$ (2,177,359)	\$ (4,322,663)
Year 5	\$ 664,817	\$ (3,387,631)	\$ (2,722,814)	\$ (7,045,478)
Year 6	\$ 664,817	\$ (3,387,631)	\$ (2,722,814)	\$ (9,768,292)
Year 7	\$ 664,817	\$ (3,387,631)	\$ (2,722,814)	\$ (12,491,106)
Year 8	\$ 1,190,429	\$ (1,604,643)	\$ (414,213)	\$ (12,905,319)
Year 9	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (11,605,588)
Year 10	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (10,305,858)
Year 11	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (9,006,127)
Year 12	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (7,706,397)
Year 13	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (6,406,666)
Year 14	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (5,106,936)
Year 15	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (3,807,205)
Year 16	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (2,507,474)
Year 17	\$ 1,299,731	\$ -	\$ 1,299,731	\$ (1,207,744)
Year 18	\$ 1,299,731	\$ -	\$ 1,299,731	\$ 91,987

Lake Piru Recreational Area Full Design
Engineer's Concept Level Construction Cost Estimate (2022 Dollars*)
August 2022

Phase 1 Overflow

ITEM NO.	DESCRIPTION	UNIT OF MEASURE	UNIT PRICE	EST. QUANTITY	TOTAL COST
1	Mobilization	LS	7.00%	-	\$ 243,600
2	Temporary Traffic Control	LS	0.50%	-	\$ 17,400
3	Construction Surveying and Staking	LS	1.50%	-	\$ 52,200
4	Temporary Erosion, Water Pollution, and Dust Controls	LS	2.50%	-	\$ 86,000
5	Temporary Barriers, Fencing, and Vegetation Protection	LS	1.00%	-	\$ 34,000
6	Clearing and Grubbing	LS	0.00%	-	\$ 50,000
7	Selective Site Demolition and Salvage	LS	-	-	\$ 5,000
8	Earthwork/Site Grading (Roadway & Campsite Cut/Fills, Embankments & Structural Excavation/Backfill)	LS	\$ 600,000.00	-	\$ 600,000
9	Single Electric Hook-up Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 7,000.00	9	\$ 63,000
10	Double Electric Hook-up Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 10,000.00	1	\$ 10,000
11	RV Electric Hook-Up Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 7,000.00	9	\$ 63,000
12	RV Full Hook-up Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 10,000.00	17	\$ 170,000
13	Trail	LF	\$ 30.00	2,000	\$ 60,000
14	Large Restroom and Foundation (Prefab)	EA	\$ 500,000.00	1	\$ 500,000
15	Holding Tanks For Restroom and Full Hook-up RV Sites	EA	\$ 50,000.00	2	\$ 100,000
16	Aggregate Base for New Pavements and Parking Spurs	TON	\$ 85.00	683	\$ 59,000
17	Gravel Parking Spurs	TON	\$ 85.00	943	\$ 81,000
18	Asphalt Pavement (Parking areas and Roadways)	TON	\$ 220.00	328	\$ 72,270
19	Concrete Pads and Walkways	CY	\$ 2,000.00	30	\$ 60,000
20	Traffic Gate	EA	\$ 12,000.00	1	\$ 12,000
21	Traffic Striping / Markings	LS	\$ -	-	\$ 7,500
22	Screening / Landscape Buffer	LS	\$ -	-	\$ 15,000
22	Wheel Stops	EA	\$ 250.00	8	\$ 2,000
23	Site Stabilization - Mulch	SY	\$ 80.00	3,000	\$ 240,000
24	Screening / Landscape Buffer	SF	\$ 2.00	10,000	\$ 20,000
25	Community Area with picnic features	LS	\$ 50,000.00	1	\$ 50,000
26	Shade Tree Installation	EA	\$ 1,500.00	60	\$ 90,000
27	Water Distribution System	LS	\$ 150,000.00	1	\$ 150,000
28	Sanitary Sewer Service Lines for Full Hook-Up Campsites	LS	\$ 50,000.00	1	\$ 50,000
29	Electrical Service Lines/System Upgrades	LS	\$ 1,000,000.00	1	\$ 1,000,000
Sub-Total Construction Cost:					\$3,962,970
Construction Contingency (30%):					\$1,188,891
Total Construction Budget:					\$5,151,861

Lake Piru Recreational Area Full Design
Engineer's Concept Level Construction Cost Estimate (2022 Dollars*)
August 2022

Phase 2 Olive Grove

ITEM NO.	DESCRIPTION	UNIT OF MEASURE	UNIT PRICE	EST. QUANTITY	TOTAL COST
1	Mobilization	LS	7.00%	-	\$ 301,400
2	Temporary Traffic Control	LS	0.50%	-	\$ 21,600
3	Construction Surveying and Staking	LS	1.50%	-	\$ 64,600
4	Temporary Erosion, Water Pollution, and Dust Controls	LS	2.50%	-	\$ 107,000
5	Temporary Barriers, Fencing, and Vegetation Protection	LS	1.00%	-	\$ 43,000
6	Clearing and Grubbing	LS	3.00%	-	\$ 127,000
7	Selective Site Demolition and Salvage	LS		-	\$ 220,000
8	Tree Removal	EA	\$ 500.00	40	\$ 20,000
9	Earthwork/Site Grading (Roadway & Campsite Cut/Fills, Embankments & Structural Excavation/Backfill)	LS	\$ 450,000.00	-	\$ 450,000
10	Single Primitive Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 5,000.00	12	\$ 60,000
11	Single Electric Hook-up Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 7,000.00	110	\$ 770,000
12	Single Full Hook-up Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 7,000.00	9	\$ 63,000
13	Double Electric Hook-up Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 10,000.00	16	\$ 160,000
14	Triple Electric Hook-up Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 12,500.00	1	\$ 12,500
15	Trail	LF	\$ 30.00	1,666	\$ 50,000
16	Steps	SF	\$ 100.00	1,500	\$ 150,000
17	Large Restroom and Foundation (Prefab)	EA	\$ 500,000.00	2	\$ 1,000,000
18	Aggregate Base for New Pavements and Parking Spurs	TON	\$ 85.00	5,184	\$ 440,620
19	Gravel Parking Spurs	TON	\$ 85.00	1,813	\$ 155,000
20	Asphalt Pavement (Parking areas and Roadways)	TON	\$ 220.00	2,627	\$ 578,000
21	Concrete Pads and Walkways	CY	\$ 2,000.00	10	\$ 20,000
22	Traffic Gate	EA	\$ 12,000.00	3	\$ 36,000
23	Traffic Striping / Markings	LS	\$ 7,500.00	-	\$ 7,500
24	Campground signage	ls	\$ -	-	\$ 15,000
25	Wheel Stops	EA	\$ 250.00	32	\$ 8,000
26	Screening / Landscape Buffer	SF	\$ 2.00	20,000	\$ 40,000
27	Community Area with picnic features	LS	\$ 50,000.00	1	\$ 50,000
28	Community Area with play structure	LS	\$ 150,000.00	1	\$ 150,000
29	Community Area with dog park	LS	\$ 30,000.00	1	\$ 30,000
30	Electric Vehicle Charging Station	EA	\$ 10,000.00	2	\$ 20,000
31	Shade Tree Installation	EA	\$ 1,500.00	1	\$ 1,500
32	Water Distribution System	LS	\$ 100,000.00	1	\$ 100,000
33	Electrical Service Lines/System Upgrades	LS	\$ 1,100,000.00	1	\$ 1,100,000
Sub-Total Construction Cost:					\$6,371,720
Construction Contingency (30%):					\$1,911,516
Total Construction Budget:					\$8,283,236

<p style="text-align: center;"><i>Lake Piru Recreational Area Full Design</i> <i>Engineer's Concept Level Construction Cost Estimate (2022 Dollars*)</i> <i>August 2022</i></p>
--

Phase 3 Oak Lane

ITEM NO.	DESCRIPTION	UNIT OF MEASURE	UNIT PRICE	EST. QUANTITY	TOTAL COST
1	Mobilization	LS	7.00%	-	\$ 67,200
2	Temporary Traffic Control	LS	0.50%	-	\$ 4,800
3	Construction Surveying and Staking	LS	1.50%	-	\$ 14,400
4	Temporary Erosion, Water Pollution, and Dust Controls	LS	2.50%	-	\$ 23,000
5	Temporary Barriers, Fencing, and Vegetation Protection	LS	1.00%	-	\$ 9,000
6	Clearing and Grubbing	LS	3.00%	-	\$ 29,000
7	Selective Site Demolition and Salvage	LS		-	\$ 19,000
8	Tree Removal	EA	\$ 500.00	4	\$ 2,000
9	Earthwork/Site Grading (Roadway & Campsite Cut/Fills, Embankments & Structural Excavation/Backfill)	LS	\$ 50,000.00	1	\$ 50,000
10	Single Primitive Campsite Improvements (Finish Grading & Site Furnishings)	EA	\$ 5,000.00	16	\$ 80,000
11	Group Site	LS	\$ 75,000.00	-	\$ 75,000
12	Trail	LF	\$ 30.00	133	\$ 4,000
13	Large Restroom and Foundation (Prefab)	EA	\$ 300,000.00	1	\$ 300,000
14	Small Vault Building and Foundation (Prefab)	EA	\$ 100,000.00	1	\$ 100,000
15	Aggregate Base for New Pavements and Parking Spurs	TON	\$ 85.00	73	\$ 7,000
16	Gravel Parking Spurs	TON	\$ 85.00	73	\$ 7,000
16	Asphalt Pavement (Parking areas and Roadways)	TON	\$ 220.00	28	\$ 7,000
17	Campground signage	LS	\$ -	1	\$ 7,500
17	Wheel Stops	EA	\$ 250.00	3	\$ 750
18	Construct Amphitheater	EA	\$ 100,000.00	1	\$ 100,000
19	Electrical Service Lines/System Upgrades	LS	\$ 200,000.00	1	\$ 200,000
Sub-Total Construction Cost:					\$1,106,650
Construction Contingency (30%):					\$331,995
Total Construction Budget:					\$1,438,645

All Construction Phases

	Sub-Total Phase 1 Overflow:	\$3,962,970
	Sub-Total Phase 2 Olive Grove:	\$6,371,720
	Sub-Total Phase 3 Oak Lane	\$1,106,650
	<u>Sub-Total Construction Cost</u>	<u>\$11,441,340</u>
	Design, Survey, Environmental, Permitting (15%)	\$1,716,201
	Construction Oversight/Administration/Inspection (10%)	\$1,144,134
	<u>Construction Contingency (30%)</u>	<u>\$3,432,402</u>
	Total Project Budget:	\$17,734,077

*No cost escalation included in construction costs

5 Grant Opportunity



Piru Campground Possible Grant Opportunities

Possible Grant Opportunities									
Program Name	Grant/Agency	Web Address	Description	Applicant Eligibility and Requirements	Funding Source	Application Details	Funding ward Amounts	Program Contact Information	Comments
Federal and State Programs									
Land and Water Conservation Fund Program	National Park Service CA Dept of Parks and Rec	https://www.parks.ca.gov/?page_id=29752	The LWCF is a state-administered local assistance program of the National Park Service. Under the provisions of the California Outdoor Recreation Resources Plan Act of 1967, the expenditure of funds allocated to California is administered by the Department of Parks and Recreation. Within the Department, LWCF is administered by the Office of Grants and Local Services (OGALS). Projects under this program may include acquisition or development of outdoor recreation areas and facilities. Property acquired or developed under the program must be retained in perpetuity for public outdoor recreation use	Eligible Organizations: City and County government agencies, Federally recognized Native American Tribes, Joint Powers Authorities, and non-state park and special districts. Geographic Limitations: lands within California Matching Funds Requirements: 50% of the total project cost	Great American Outdoors Act	Cycle Description: Next cycle to be announced Process: Submit online application through CDPR website.	Minimum: N/A Maximum: \$6 million maximum. Amount Left to Award: Annual Program Potential Funding Awarded in Next 6 months: Approximately \$45 million	Kristine Schilpp Kristine.Schilpp@parks.ca.gov (916) 902-8780 Website: https://www.parks.ca.gov/?page_id=21360	Last cycle closed February 1, 2022. They claim to announce next cycle 6 months in advance to application deadline. May be worth contacting CDPR to verify website is current.
Outdoor Recreation Legacy Partnership grants	National Park Service CA Dept of Parks and Rec	https://www.parks.ca.gov/?page_id=29752	<p>The Outdoor Recreation Legacy Partnership (ORLP) is a federal National Park Service (NPS) grant program. ORLP involves two competitive layers. Applications are first competitively reviewed by California's Department of Parks and Recreation. Applications selected by the state are then forwarded to National Park Service to compete in the nationwide competition.</p> <p>ORLP focuses on communities with little to no access to publicly available, close-by, outdoor recreation opportunities in urban areas. ORLP funds the acquisition or development of new parks, or substantially renovate parks in economically disadvantaged cities or towns of at least 30,000 people.</p>	Eligible Organizations: Local and State governmental agencies, Federal Native American Tribes, Joint Powers Authorities, and Park and special districts. Geographic Limitations: All non-federal lands, except tribal, within California. Matching Funds Requirements: 50% of total project cost	Land and Water Conservation Fund Act - fund from Federal oil and gas leases on the Outer Continental Shelf.	Cycle Description: Current cycle (6B) ends December 15, 2022. Process: Submit Application online through CDPR application manager	Minimum: N/A Maximum: \$10 million Amount Left to Award: Up to \$192M is available for the national competition. Annual Program - Future funding is dependent on Congressional allocations from LWCF. Potential Funding Awarded in Next 6 Months: Funding amount for next round to be determined.	Ginger Carter ginger_carter@nps.gov Website: https://www.parks.ca.gov/?page_id=30578	<p>Applications will be selected by February 2023.</p> <p>From February 2023 through May 2023, applicants with the most competitive applications will receive guidance from California's ORLP Team in consultation with NPS on how to complete the full federal application. NPS requires that all states submit their selected applications for the national competition by NPS' May 31, 2023 deadline. NPS review committee's estimated award date is January 1, 2024. Applicant should plan to complete project by Fall 2026.</p>

Piru Campground Possible Grant Opportunities

Environmental Enhancement Fund – Fall 2022	CA Dept of Parks and Rec	https://wildlife.ca.gov/OSPR/Science/Environmental-Enhancement-Fund/About	<p>The objective of this grant program is to award grants to nonprofit organizations, cities, counties, cities and counties, districts, state agencies, and departments; and, to the extent permitted by federal law, to federal agencies to support environmental enhancement projects located within or immediately adjacent to waters of the state.</p> <p>An enhancement project is a project that acquires habitat for preservation, or improves habitat quality and ecosystem function above baseline conditions.</p>	<p>Eligible orgs: Nonprofits and Public Agency Nonprofit organizations, cities, counties, cities and counties, districts, state agencies, and departments; and, to the extent permitted by federal law, federal agencies are eligible applicants.</p> <p>Eligible Geographies: Projects located within or immediately adjacent to waters of the state, as defined in California Government Code (of Section 8670.3).</p> <p>Matching Funding Requirement: Matched funds are not required by availability of matched funds and cost effectiveness of the proposed projects will be considered during project selection.</p>	California Department of Fish and Wildlife Office of Spill Prevention and Response (CDFW-OSPR) for fines and penalties from civil oil spill cases and civil administrative actions	Upcoming deadline: 10/18/22	Total estimated funding available: \$750,000 no identified minimum or maximum per award	For questions about this grant, contact: Daniel Orr, 1-916-599-1381, daniel.orr@wildlife.ca.gov	For this funding cycle - full grant applications are due on October 18, 2022
Division of Boating and Waterways Local Assistance Floating Restroom Grant Program	CA Dept of Parks and Rec	https://dbw.parks.ca.gov/?page_id=2993	<p>Purpose: Provide resources for keeping boater sewage from lakes and reservoirs Summary: The Floating Restroom Grant Program provides floating restroom units to lakes and reservoirs across California. The Division of Boating and Waterways (DBW) procures, delivers, and grants the DBW-designed and developed floating restroom to the recipient. The grant recipient then places the floating restrooms at on-water locations convenient to boaters and maintains the units for a minimum of 10 years. The Clean Vessel Act grant program also offers maintenance and rehabilitation funds for the floating restrooms beyond the 10 year grant period.</p>	<p>Eligible Organizations: Local, State, and Federal governmental entities that operate lakes or reservoirs. Geographic Limitations: Inland Lakes and Reservoirs Matching Funds Requirements: Operation and Maintenance at no cost to the State for 10 years after deployment</p>	Combination of Harbors and Watercraft Revolving Fund and Federal Clean Vessel Act funds	Cycle Description: Start: December, ends Jan. 21 Process: Submit Application online through DBW's On Line Grant Application system	Minimum: N/A Maximum: Average grant for an ADA compliant floating restroom is approximately \$136,000 Amount Left to Award: Annual Program - Future funding is dependent on Federal and State appropriations. Potential Funding Awarded in Next 6 Months: Funding for FY 2024 is yet to be determined.	Ethan Tratner Clean Vessel Act (CVA) (916) 902-8823 ethan.tratner@parks.ca.gov Other: pubinfo@parks.ca.gov	FY23 cycle closed.
Division of Boating and Waterways Local Assistance Pumpout/Dump Station Grant Program	CA Dept of Parks and Rec	<p>https://www.grants.ca.gov/grants/division-of-boating-and-waterways-local-assistance-pumpout-dump-station-floating-restroom-operation-and-maintenance-grant-fy22/</p> <p>https://dbw.parks.ca.gov/?page_id=28820</p>	<p>Purpose: Provide resources for keeping boater sewage from California waterways Summary: The Pumpout Facility Grant Program funds the construction or operation and maintenance of pumpout and dump stations on California's waterways.</p>	<p>Eligible Organizations: Local governmental entities and private business that own and operate boating facilities that are open to the public. Geographic Limitations: California waterways Matching Funds Requirements: 25% total project cost cash or in-kind</p>	Federal Clean Vessel Act funds	Cycle Description: Continuous Process: Submit Application online through DBW's On Line Grant Application system	Minimum: N/A Maximum: Average grant for a pumpout/dump station is \$40,000 Amount Left to Award: Annual Program - Future funding is dependent on Federal and State appropriations. Potential Funding Awarded in Next 6 Months: Funding for FY 2022/23 is approximately	Ethan Tratner Clean Vessel Act (CVA) (916) 902-8823 ethan.tratner@parks.ca.gov Other: pubinfo@parks.ca.gov	<p>https://www.grants.ca.gov/grants/division-of-boating-and-waterways-local-assistance-pumpout-dump-station-floating-restroom-operation-and-maintenance-grant-fy22/</p> <p>https://dbw.parks.ca.gov/?page_id=28820</p> <p>https://olga.dbw.parks.ca.gov/egramsbw/user/ViewSynopsis.aspx#</p>

Piru Campground Possible Grant Opportunities

National Boating Infrastructure Grant Program, administered by DBW	CA Dept of Parks and Rec	https://dbw.parks.ca.gov/?page_id=28821	Purpose: Provides funding to improve or enhance infrastructure used by boaters of transient recreational vessels 26 feet or more in length. Summary: The Boating Infrastructure Grant program is designed to provide transient dockage and services for recreational boats 26 feet or more in length for recreational opportunities and safe harbors, as well as to: 1. enhance access to recreational, historic, cultural and scenic resources; 2. strengthen community ties to the water's edge and economic benefits; 3. promote public/private partnerships and entrepreneurial opportunities; 4. provide continuity of public access to the shore; and 5. promote awareness of transient boating opportunities.	Eligible Organizations: Local government agencies and private businesses Geographic Limitations: Waterways within California Matching Funds Requirements: 25% total project cost.	Federal Sport Fish Restoration and Boating Trust Fund	Cycle Description: Between July and August each year, check DBW's website for exact dates Process: Submit paper application downloaded from DBW's website	Minimum: N/A Maximum: Tier I, up to \$200,000. Tier II, up to \$1.5 million Amount Left to Award: Annual Program - Future funding is dependent on Federal grant award. Potential Funding Awarded in Next 6 Months: Funding for FFY24 is yet to be determined.	Ethan Tratner Boating Infrastructure Grant (BIG) (916) 902-8823 ethan.tratner@parks.ca.gov	FY23 cycle closed.
Boat Launching Facility Grant	CA Dept of Parks and Rec	https://dbw.parks.ca.gov/?page_id=28818	Provide resources to local agencies for developing or improving public boat launching facilities, primarily for motorized vessels. Provide resources to local agencies for developing or improving public boat launching facilities, primarily for motorized vessels.	Eligible Organizations: City, County, and federal government agencies and special districts. Geographic Limitations: waterways within California Matching Funds Requirements: None	Harbors and Watercraft Revolving Fund	Cycle Description: Current cycle ends February 1, 2023. Process: Submit online application through CDPR website.	Minimum: N/A Maximum: N/A Amount Left to Award: \$7 million Potential Funding Awarded in Next 6 Months: to be determined	Joe Dux, 1-916-902-8822, joe.dux@parks.ca.gov	
Statewide Non-Motorized Boat Launching Facility Grant Program	CA Dept of Parks and Rec	https://dbw.parks.ca.gov/?page_id=28818	The Statewide Non-Motorized Boat Launching Facility Grant Program provides funding to create or improve public non-motorized boating access. Typical grant-funded items include the construction of small, hand-launched boat ramps, small parking lots, and restrooms.	Eligible Organizations: City, County, and federal government agencies and special districts. Geographic Limitations: waterways within California Matching Funds Requirements: None	Harbors and Watercraft Revolving Fund	Cycle Description: Current cycle ends February 1, 2023. Process: Submit online application through CDPR website.	Minimum: \$50,000 Maximum: \$500,000 Amount Left to Award: \$2million Potential Funding Awarded in Next 6 Months: to be determined	Joe Dux, 1-916-902-8822, joe.dux@parks.ca.gov	
Rubberized Pavement Grant Fund	CA Dept of Resources Recycling and Recovery	https://calrecycle.ca.gov/tires/grants/pavement/fy2022-23/	The Rubberized Pavement Grant Program is designed to promote markets for recycled-content surfacing products derived from only California-generated waste tires. An application may include rubberized pavement (hot-mix and chip seal) projects for roadways, Class 1 bikeways (as defined in Streets and Highway Code section 890.4(a), greenways, and disability access at parks. Applicants (and participating jurisdiction if a regional application) may not apply for and receive grants in consecutive fiscal years.	Eligible Organizations: Local and state governmental entities, regional park and special districts, Joint Powers Authorities, and qualifying Tribal Entities. Geographic Limitations: lands within California Matching Funds Requirements: None	CA Tire Recycling Management Fund	Cycle Description: Next cycle to be announced Process: Submit online application through CalRecycle website via Grants Management System.	Minimum: N/A Maximum: \$250,000 individual applicant; \$350,000 regional applicant; \$500,000 tribal applicant. Amount Left to Award: \$4,209,703 Potential Funding Awarded in Next 6 months: \$4,209,703	Lito Tamondong Loreto.Tamondong@CalRecycle.ca.gov Nate Gauff Nathan.Gauff@calrecycle.ca.gov Website: https://calrecycle.ca.gov/tires/grants/pavement/fy2022-23/	**NOTE: QUICK TURN AROUND ON THIS
Regional Park Program	CA Dept of Parks and Rec	https://www.parks.ca.gov/?page_id=29752	The program will fund projects that create, expand, or renovate parks and park facilities, including, but not limited to, trails, regional trail networks, regional sports complexes, low-cost accommodations in park facilities, and visitor, outdoor, and interpretive facilities.	Eligible Organizations: Regional park districts, counties, and regional open-space districts, open-space authorities formed pursuant to Division 26 (commencing with Section 35100), joint powers authorities, and eligible nonprofit organizations	California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 (Proposition 68).	Cycle Description: TBD based on future state budget appropriation. Process: Submit online application through CDPR website.	Minimum: N/A Maximum: Maximum and minimum grant amounts to be determined through public hearing process. Amount Left to Award: Potential Funding Awarded in Next 6 Months: \$0	Kristine Schilpp Kristine.Schilpp@parks.ca.gov (916) 902-8780 Website: https://www.parks.ca.gov/?page_id=29752	The funding for this program may be getting low or gone. https://resources.ca.gov/-/media/CNRA-Website/Files/Bonds/Proposition-68/Prop_68_Allocation_Balance_Report.pdf

Piru Campground Possible Grant Opportunities

Statewide Park Development and Community Revitalization Program (SPP)	CA Dept of Parks and Rec	https://www.parks.ca.gov/?page_id=29752	SPP will fund acquisition and development construction projects to create new parks and new recreation opportunities in underserved communities across California.	Eligible Organizations: Cities, Counties, Districts as defined, Joint Powers Authorities, Non Profit Organizations	California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 (Proposition 68).	Cycle Description: TBD based on future state budget appropriation. Process: Submit online application through CDPR website.	Minimum: N/A Maximum: Maximum and minimum grant amounts to be determined through public hearing process. Amount Left to Award: Potential Funding Awarded in Next 6 Months: \$0	Kristine Schilpp Kristine.Schilpp@parks.ca.gov (916) 902-8780 Website: https://www.parks.ca.gov/?page_id=29940	The funding for this program may be getting low or gone. https://resources.ca.gov/-/media/CNRA-Website/Files/Bonds/Proposition-68/Prop_68_Allocation_Balance_Report.pdf
Local									
Ventura County Credit Union	Ventura County Credit Union	https://www.vccuonline.net/About/Foundation-of-VCCU/Grants	Available only to 501-(c)(3) non-profits. Must be based and serve the communities of Ventura and/or Santa Barbara counties. Project focus on the underserved, beautification or preservation of the environment, and health and well-being.	Eligible Organizations: Non-profits. Geographic Limitations: Ventura and/or Santa Barbara Counties. Matching Funds Requirements: None.	The Foundation of Ventura County Credit Union	Cycle Description: Continuous and reviewed bi-annually. Process: Submit online application through VCCU website.	Minimum: N/A Maximum: \$5,000 per organization in 12 month period. Amount Left to Award: ongoing Potential Funding Awarded in Next 6 Months: To be determined by approved applications/projects.	Foundation@vccuonline.net.	Available only to 501-(c)(3) non-profits.
Ventura County Community Foundation	Ventura County Community Foundation	https://vccf.org/	Each year, the Ventura County Community Foundation awards grants for all areas of community need. Grant dollars are derived from designated funds, donor advised funds, endowment funds, field-of-interest funds, special funds and greatest needs funds. VCCF accepts proposals only in response to an open Request for Proposals (RFP).	Eligible Organizations: Depends on the RFP. Geographic Limitations: Ventura County Matching Funds Requirements: Depends on the RFP.	Ventura County Community Foundation	Cycle Description: Continuous and varies with each RFP. Process: Submit online application through VCCF website.	Minimum: N/A Maximum: Varies with each RFP. Amount Left to Award: ongoing Potential Funding Awarded in Next 6 Months: To be determined by approved applications/projects.	Jeffrey Lambert Chief Operating Officer jlambert@vccf.org.	

6 Water/Wastewater Evaluation Memo





**LAKE PIRU RECREATION AREA WATER
AND WASTEWATER SYSTEM
EVALUATION REPORT**

September 2nd, 2022

Prepared for:
United Water Conservation District
Clayton Strahan
4780 Piru Canyon Road
Piru, California 93040

Prepared by:
Stantec
200 E. Carrillo Street, Suite 101
Santa Barbara, CA 93101

Stantec Project Number:
184031644

Table of Contents

1	INTRODUCTION	1
2	WATER SYSTEM	2
2.1	Existing Conditions	2
2.2	Proposed Conditions	2
2.2.1	Potable Water Demand - Alternative 1 through Alternative 3	2
2.2.2	Irrigation Water Demand	6
3	WASTEWATER SYSTEMS.....	6
3.1	Existing Conditions	6
3.2	Proposed Conditions	7
4	RECOMMENDATIONS	9
4.1	Water System	9
4.2	Wastewater Systems	9
5	LITERATURE CITED	10
LIST OF TABLES		
Table 1	Water Demand under Alternative 1	3
Table 2	Water Demand under Alternative 2	3
Table 3	Water Demand under Alternative 3	4
Table 4	Proposed Irrigation Water Demand	6
Table 5	Cost and Revenue Estimations for the Installation of a 10,000-Gallon Holding Tank	8
LIST OF FIGURES		
Figure 1	USFS Water Demand Table.....	5
LIST OF APPENDICES		
Appendix A	Water and Wastewater Schematic Map	
Appendix B	Water Capacity Calculations	
Appendix C	Alternatives	



1 Introduction

Lake Piru, located in the Los Padres Nation Forest and Topatopa Mountains in Ventura County, California, was created in 1955 by the construction of Santa Felicia Dam. The United Water Conservation District (United Water), which owns and operates Santa Felicia Dam, conserves and manages water supply in the Santa Clara River Valley and Oxnard Coastal Plain. It also owns and operates the Lake Piru Recreation Area, which includes various recreation facilities for camping, boating, fishing, and picnicking.

Currently, United Water is in the planning stages of upgrading the Lake Piru Recreation Area, which includes 236 campsites and full water and sewer hookups, and is considering three alternatives to assess benefits and costs associated with planned improvements. As part of the Lake Piru Recreation Facilities Improvement Plan, this report is intended to inform the design of water and wastewater systems to ensure user needs/demands can be met at the campground and supporting facilities. This report summarizes Stantec's analysis and evaluation of the current water and wastewater systems and lists assumptions and recommendations for each alternative.

The Lake Piru Recreation Facilities Improvement Plan will address the current water and wastewater systems and evaluate whether the proposed improvements to the systems under each alternative are adequate to meet user demand and what components need to be replaced / upgraded based on demands (separate from replacement based on age, condition, location, etc.). The current water system includes two water storage tanks. One 140,000-gallon tank supplies potable water to the campsites, day-use area, boat launch area, a general store, and laundry facilities. This tank is supplied with lake water by two pumps at a flow of 90 gallons per minute each. These pumps alternate every 12 hours for 24-hours continuous operation. In addition, one 50,000-gallon tank is used for irrigation water. The irrigation water tank is used to provide water for landscaping throughout the recreation area, specifically the day use area which includes a large grass area. The current wastewater system includes two 4,500-gallon septic tanks with seepage pits, three 1,500-gallon septic tanks with seepage pits, five 1,250-gallon septic tanks with seepage pits, two 1,000-gallon septic tanks with seepage pits, one 2,500-gallon septic tank with a leach field, two 1,500-gallon septic tanks with leach fields, and one 1,000-gallon septic tank with a leach field. United Water provided this information on an AutoCAD base linework drawing titled *Olive Grove Waterlines*.

Data for the analysis of the water and wastewater systems were gathered from multiple sources. Background materials provided by United Water included utilities maps, AutoCAD files, as-built drawings and conversations with United Water staff. Additionally, information about the systems was gathered during discussions with Clayton Strahan, manager of the Lake Piru Recreation Area. A schematic map presented in Appendix A depicts the existing water and wastewater systems. While the water capacity is not required to follow US Forest Service (USFS) guidelines, USFS has guidance that allows for effective capacity calculations for recreational areas. USFS has clear guidelines for water usage in recreation facilities which USACE or Bureau of Reclamation do not include in their guidelines.



2 Water System

2.1 Existing Conditions

The existing water supply system provides water to various locations in the Lake Piru Recreation Area via the 140,000-gallon potable water tank and the 50,000-gallon irrigation water tank. Stantec used the USFS Handbook 7409.11 (USFS 2004) for design guidance, typical persons-at-one-time (PAOT) estimates and gallon-per-day-per-PAOT consumption quantities to evaluate the existing facility usage and the anticipated alternative concept design usage (Appendix B). Based on the USFS usage table shown in Figure 1, the existing maximum volume required is 64,180 gallons for all facilities connected to the existing potable water tank.

The alternative designs include proposed changes for only the Olive Grove, Oak Lane, and overflow recreational vehicle (RV) area campgrounds. Consumption demand for these three campground areas has been estimated based on the concept alternative designs and shall be adjusted based on the final design. Areas for which water use will be unaffected under the proposed designs, such as the picnic area, boat ramp, and administration buildings, are estimated to have a usage of approximately 7,020 gallons per day and remain consistent with the existing use and among all alternative designs.

The irrigation system provides water to landscaping throughout the recreation area. There is approximately 180,000 square feet of landscaping consisting of grass and trees. For a conservative estimate of the irrigation water required, we assume 0.62 gallons per square foot of water will be required per week. This is the equivalent to 1 inch of water which is adequate for most lawns and landscaping areas. The total water demand for the current landscaping is approximately 112,000 gallons per week or 16,000 gallons per day. The existing pump to fill the irrigation tank has a pumping rate of approximately 90 gallons per minute which greatly exceeds the existing demand for irrigation water.

In addition to the anticipated demand changes by the improvements, the age of the distribution system should be taken into consideration related to upgrades, replacement, etc. The distribution system for domestic water in the recreation area is aging and deteriorating and requires frequent repairs. Some recent repairs on the main line have been completed but the smaller distribution lines are showing signs of age and may require replacement.

2.2 Proposed Conditions

The results of the evaluation of the three concept alternatives developed by Stantec are provided below.

2.2.1 POTABLE WATER DEMAND - ALTERNATIVE 1 THROUGH ALTERNATIVE 3

Water use values are based on the USFS (2004) handbook for drinking water and are shown in Figure 1. As noted previously, areas unchanged for this project will require 7,020 gallons per day. They have been added to the proposed design as the total volume of water consumed on a daily basis for each entire service area, which includes each campground or the ranger station. The demand is calculated on the campground at full capacity with all campsites using the totaled allowed people at one time (PAOT). This



Lake Piru Recreation Area Water and Wastewater System Evaluation Report

is a conservative approach to account for the highest demand for water available, it is anticipated the actual water use will be well below this maximum use.

Alternative 1 is a minor renovation with the existing circulation pattern and layout largely retained. New community areas are proposed throughout with a main area near the north bathroom. New overflow parking and consistent campsite layouts will be introduced.

Table 1 Water Demand under Alternative 1

Area	Capacity (persons at one time)	Demand (gallons per day)
Oak Lane	96	3,840
Olive Grove	876	37,780
Overflow (RV) Area	336	17,600
Unimproved Areas	N/A	7,020
Total		66,240

Alternative 2 includes layout modifications and additional campsite type changes. Sites are proposed to be modified to increase the site size where feasible by relocating some roadways and removing undesirable sites. Community areas are introduced in the center of the campground and throughout.

Table 2 Water Demand under Alternative 2

Area	Capacity (persons at one time)	Demand (gallon per day)
Oak Lane	96	3,840
Olive Grove	996	42,580
Overflow (RV) Area	222	10,700
Unimproved Areas	N/A	7,020
Total		64,140



Lake Piru Recreation Area Water and Wastewater System Evaluation Report

Alternative 3 entails a substantial modification of the campground. Many of the existing primitive campsites on the north end of Olive Grove will be converted into a large community area to reduce capacity while creating a space for shared use. All sites will be converted to electric hookup or full hookup.

Table 3 Water Demand under Alternative 3

Area	Capacity (persons at one time)	Demand (gallons per day)
Oak Lane	96	3,840
Olive Grove	672	29,620
Overflow (RV) Area	336	17,600
Unimproved Areas	N/A	7,020
Total		71,920

Based on the proposed design capacity changes, user demand under all alternatives will fall within the current water system capacity. No additional water storage will be required to provide water for the updated campground design. The existing pumping system can provide 129,600 gallons per day if pumping non-stop. As discussed, this maximum use scenario is unlikely and shows the system has adequate capacity for and upgrades to the recreation area as described in the alternatives.



<u>44.11 - Exhibit 01</u>		
<u>Average Daily Design Flow</u>		
<u>Consumer Use</u>	<u>Consumption in gallons per day</u>	<u>Unit</u>
<u>Camping Facility</u>		
Without flush toilets	5	PAOT*
With flush toilets	20-30	PAOT*
With flush toilets and showers	25-50	PAOT*
Trailer with –		
water connection	25	PAOT*
water and sewer connection	50	PAOT*
<u>Day Use</u>		
Without flush toilets	1	Person
With flush toilets	5	Person
With toilets and showers	20	Person
<u>Travel trailer dump station</u>	20-30	Trailer
<u>Dwellings</u>		
Single family	75-125	Person
Bunkhouse/Dormitory	50	Person
Barracks (with kitchen)	60-65	Person
House trailers	50-75	Person
<u>Mess halls</u>	15	Person
<u>Office</u>	15-25	Person
<u>Miscellaneous</u>		
Laundry	50	Wash
Organization camp	35-75	Person
Motel-lodge	35-75	Person
*PAOT-Persons <u>At</u> One Time.		
The average daily demand should be computed as a summation of the products of individual system users and their respective per capita daily consumption.		

Source: USFS 2004

Figure 1 USFS Water Demand Table



2.2.2 IRRIGATION WATER DEMAND

The existing irrigation system provides water for approximately 180,000 square feet of landscaping area including grass and mature trees. The proposed alternatives would increase this demand to include additional grass areas and trees in Olive Grove Campground and the current Overflow campground. To provide 1 inch of water per week for the existing landscaped areas, approximately 16,000 gallons of water are required per day. The existing pumping system can provide approximately 90 gallons per minute to fill the water tank. This pumping rate will fill the tank in just over nine hours of continuous pumping.

The alternatives include varied additional irrigation needs based on the proposed community area sizes. No detailed landscaping plan has been completed as part of the alternatives; therefore, a conservative approach assumes all new landscaped community areas will require 1 inch of water per week. The areas of landscaped community area and water demand per day is shown below in table 4.

Table 4 Proposed Irrigation Water Demand

Alternative	Community Areas	Water demand per day	Total New Water Demand per day	Time to refill tank
Alternative 1	20,000 square feet	1,800 gallons	17,800 gallons	3.3 hours
Alternative 2	50,000 square feet	4,500 gallons	20,500 gallons	3.8 hours
Alternative 3	120,000 square feet	11,000 gallons	27,000 gallons	5 hours

The proposed designs will increase the demand on the irrigation system by adding landscaping areas requiring water. The smallest increased demand is alternative 1 for a total daily demand of 17,800 gallons. The largest demand increase is Alternative 3 for a total daily demand of 27,000 gallons. While this increase adds demand to the system, the pumping rate to fill the tank is greater than the demand in all cases. The existing irrigation system has enough capacity to provide water for each proposed alternative, no increased irrigation system capacity is required.

3 Wastewater Systems

3.1 Existing Conditions

Multiple wastewater systems exist at the Lake Piru Recreation Area. Although the systems are dated, they are functioning adequate for the current use and demand. Further these are permitted for use through the California Water Quality Control Board, and revisions to, upgrades to, additions, etc. would be challenging based on the conditions at the site (geological, soils). Three separate systems located along the east side of the olive grove campground serve nine full hook-up RV campsites as well as the staff RV sites located in resident row. Two additional wastewater systems serve the two restroom and shower facilities within the campground. See Appendix A for existing system map.



3.2 Proposed Conditions

Disposing of wastewater at Lake Piru is a challenge because soils in the Lake Piru Recreation Area consist of clay, which does not allow wastewater to drain properly / infiltrate for wastewater treatment. This inability for wastewater to infiltrate creates permitting challenges and essentially makes the addition of additional / new systems and capacity restrictive. Leach fields and onsite wastewater treatment systems are considered undesirable by permitting agencies because of the potential for soil or surface water contamination. Currently, the design alternatives do not include expanding the onsite wastewater system because the permitting required for installing additional leach fields is assumed to not be feasible due to the substantial amount of space required and the extensive maintenance (permitting and cost restrictive).

However, holding tanks present an option for increasing the full hook-up wastewater capacity at the Lake Piru Recreation Area, along with the addition of new restroom facilities. Unlike wastewater disposal systems, such as leach fields, holding tanks must be pumped periodically to dispose of wastewater. Although holding tanks are easier to move through the permitting process and to install because the waste is not disposed of onsite, they require the payment of ongoing pumping / disposal along with maintenance fees to a waste disposal company. To allow for full hook-up campsites, Stantec reviewed the potential for installing holding tanks from a revenue and costing standpoint.

To evaluate the feasibility of installing holding tanks as part of the proposed design, Stantec analyzed both revenue and maintenance costs for installing a holding tank at Lake Piru Recreation Area. Because of site limitations, a single large holding tank is recommended to facilitate pumping and keeping as much space clear as possible for camping activities.

According to the USFS water design table, an RV or car/trailer would use 50 gallons per day or 350 gallons per week per site. Based on 2021 occupancy figures, the occupancy rate for full hook-up campsites in Lake Piru Recreation Area is 40 percent, lowering the total weekly water usage to 140 gallons per full hook-up campsite. For logistical reasons and ease of operation, the holding tank should be pumped / cleaned monthly. Using these assumptions and calculations, approximately 17 full hook-up RV campsites can be supported by a 10,000-gallon holding tank pumped every 4 weeks. The occupancy rate is based on the existing occupancy rate for this analysis, the size or pumping timeframe may be adjusted based on calculations as part of the next stage of design.

10,000 gallons / (50 gallons per day x 40% occupancy) / 30 days per month = 16.67 rounded to 17



Lake Piru Recreation Area Water and Wastewater System Evaluation Report

Stantec assumed that full hook-up campsites at the recreation area can be booked for approximately \$50 per day. The future rates may be increased based on other criteria not reviewed as part of this report. The estimated disposal costs based on sanitation services in Ventura County is an average of about \$800 per 2,500 gallons of discharge, rounded to \$3,500 for a 10,000-gallon tank to account for uncertainty. See Table 4 for the cost breakdown associated with the installation of a 10,000-gallon tank. Using a 10,000 gallon tank and assuming a tank pumping schedule of once per month, approximately 17 full campsites can be supported. To determine total revenue, 17 campsites are used for the calculations.

Table 5 Cost and Revenue Estimations for the Installation of a 10,000-Gallon Holding Tank

Item	Approximate Cost
Dumping Fee (approximate)	-\$3,500
Campsite Revenue (\$/day)	\$50
Full Hook-up Revenue per Month per campsite (40% occupancy)	\$600
Total Revenue for Additional Full Hook-up Sites (17 sites per month)	\$10,200
Total Revenue after Pumping Costs (per month)	\$6,700

The revenue from full hook-up RV campsites is \$6,700 after subtracting pumping costs. The revenue for 17 electrical only hook up sites is \$3,950 per month based on an occupancy rate of 15.46%. Because the revenue from a full hook-up RV is greater than the revenue for electrical only sites, holding tank installation is a feasible option because of its profitable return on investment. The capital cost to install a 10,000 gallon holding tank is approximately \$50,000. Using the increased revenue for full hook-up sites compared to electric sites ($\$6,700 - \$3,950 = \$2,750$ per month), it will take approximately 18 months to recapture the cost of installation.

It is not recommended to install multiple holding tanks throughout the recreational area because pumping would be challenging (retaining a company to come to the area more than once a month) and not all campers require or desire full hook-up campsites. To increase full hook-up capacity, the installation of a 10,000-gallon holding tank is recommended in the overflow camping area because this area will specifically service RVs and will be one of the easiest / most convenient locations for installation. The holding tanks require gravity lines, therefore, the connected sites will be located uphill from the tank. The overflow camping area will also require a holding tank for the toilet and shower building, thus placing a larger holding facility in one central location (ease of construction and long term maintenance). The tanks will be connected to share use from both full hook-up sites and the toilet building. Exact size, dimensions, materials, etc. of the tanks will be analyzed as part of future design stages and included in the proposed design plans and specifications.



4 Recommendations

4.1 Water System

The potable water system at Lake Piru Recreation Area has adequate water storage to meet the needs of each alternative identified. No additional water storage is recommended to be added to the system. Additionally, the water demand was calculated using full recreation area capacity with full occupancy, this is unlikely as it would require 6 people at every site. This method shows the storage capacity to be adequate in the highest demand possible. The water storage in the recreation area is adequate for the current demand in the recreation area. However, the system is showing signs of age and requires frequent repairs. As part of the recreation area upgrades, it is recommended that the water distribution system be replaced to include new distribution lines from the main line to serve the upgraded recreation area. The main trunk line is relatively new and can be used to connect new water lines to replace the old distribution system bringing water to each faucet. The design of the new water distribution system will be included as part of the design plans and are not a part of the alternative designs. A complete water system model analysis is recommended to be completed as part of the recreation area design. This model will identify pressure and flows in the system and be used to properly design the distribution system for the proposed demand and layout.

The irrigation system has adequate storage capacity for the additional demand proposed in each alternative. No irrigation system updates are proposed as part of the recreation area upgrades. The new community areas that will require irrigation will utilize new lines connecting into the existing distribution system.

4.2 Wastewater Systems

The wastewater system at Lake Piru Recreation Area consists of leach fields and septic tanks serving various buildings and full hook-up campsites. These systems are in place and functioning although they require repairs to remain in operation. Because of the shift away from onsite treatment by permitting agencies, it is recommended these existing wastewater systems remain in place with no upgrades as part of the greater recreation area upgraded facilities. This approach will allow the systems to remain in operation without the need for permitting.

To increase full hook-up campsites in the recreation area, a holding tank to serve RV campsites at the overflow is recommended to allow for the expansion of the desirable full hook-up campsites while minimizing permit requirements. The holding tank that supports the full hook-up sites will be adjacent to the new restroom and shower building to facilitate combined permitting for the construction of the entire overflow site. Final designs for the holding tanks and full hook-up sites will be a part of the design plans and are not included in the alternative designs.



5 Literature Cited

USFS (US Forest Service). 2004. Forest Service Handbook 7409.11: Sanitary Engineering and Public Health Handbook: In Series 7000: Engineering. Available at: https://www.fs.fed.us/im/directives/dughtml/fsh_1.html. Accessed August 9, 2022.



APPENDIX A WATER AND WASTEWATER SCHEMATIC MAP



APPENDIX B

WATER CAPACITY CALCULATIONS



EXISTING

Olive Grove	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	93	6	40	558	22320
Electric (with flush toilets and showers)	96	6	40	576	23040
Full Hook-up (water and sewer connection)	9	6	50	54	2700
	RVs/Day		Gal/Day/RV		
RV Dump Station Faucet	10		30		300
	Sites	Wash	Gal/Day/Wash	Total Wash	Total Gal/Day
Laundry (two machines per building)	4	8	50	32	1600
					49,960 Total Gal/Day

Oak Lane	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	32	6	40	192	7680
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	0	6	50	0	0
					7,680 Total Gal/Day

Overflow (RV area)	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	0	6	40	0	0
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	0	6	50	0	0
					- Total Gal/Day

Group Sites	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	1	50	40	50	2000
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	0	6	50	0	0
					2,000 Total Gal/Day

Day Use Area	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Parking Stalls	16	6	5	96	480
					480 Total Gal/Day

Office Building and Ranger's Office	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Office	2	5	25	10	250
					250 Total Gal/Day

USFS Fire/Ranger Station	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Office	2	5	25	10	250
					250 Total Gal/Day

Boat Launch Parking Area (restroom and faucet)	Sites	PAOT/Space	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Boat launch Trailer spaces	235	2	5	470	2350
Parking Stalls (Not boat or RV)	65	2	5	130	650
	Sites	Person	Gal/Day/Person	Total Person	
Camp Store	1	10	25	10	250
Gate House	1	4	10	4	40
	RVs/Day		Gal/Day/RV		
RV Fill Up Station	10		75		750
					4,040 Total Gal/Day

WATER DEMAND	
	Daily Need (gal)
FACILITY DAILY CONSUMPTION	64,180
IMPROVED AREAS DAILY CONSUMPTION	57,640
UNIMPROVED AREAS DAILY CONSUMPTION	7,020

65,000 Rounded up
58,000 Rounded up
8,000 Rounded up

Alternative 1

Olive Grove	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	47	6	40	282	11280
Electric (with flush toilets and showers)	90	6	40	540	21600
Full Hook-up (water and sewer connection)	9	6	50	54	2700
	RVs/Day		Gal/Day/RV		
RV Dump Station Faucet	20		30		600
	Sites	Wash	Gal/Day/Wash	Total Wash	Total Gal/Day
Laundry (two machines per building)	4	8	50	32	1600
					37,780 Total Gal/Day

Oak Lane	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	16	6	40	96	3840
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	0	6	50	0	0
					3,840 Total Gal/Day

Overflow (RV area)	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	0	6	40	0	0
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	56	6	50	336	16800
	Sites	Wash	Gal/Day/Wash	Total Wash	Total Gal/Day
Laundry (two machines per building)	2	8	50	16	800
					17,600 Total Gal/Day

Group Sites	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	1	50	40	50	2000
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	0	6	50	0	0
					2,000 Total Gal/Day

Day Use Area	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Parking Stalls	16	6	5	96	480
					480 Total Gal/Day

Office Building and Ranger's Office	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Office	2	5	25	10	250
					250 Total Gal/Day

USFS Fire/Ranger Station	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Office	2	5	25	10	250
					250 Total Gal/Day

Boat Launch Parking Area (restroom and faucet)	Sites	PAOT/Space	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Boat launch Trailer spaces	235	2	5	470	2350
Parking Stalls (Not boat or RV)	65	2	5	130	650
	Sites	Person	Gal/Day/Person	Total Person	
Camp Store	1	10	25	10	250
Gate House	1	4	10	4	40
	RVs/Day		Gal/Day/RV		
RV Fill Up Station	10		75		750
					4,040 Total Gal/Day

WATER DEMAND		
	Daily Need (gal)	
FACILITY DAILY CONSUMPTION	66,240	67,000 Rounded up
IMPROVED AREAS DAILY CONSUMPTION	59,220	60,000 Rounded up
UNIMPROVED AREAS DAILY CONSUMPTION	7,020	8,000 Rounded up

Alternative 2

Olive Grove	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	12	6	40	72	2880
Electric (with flush toilets and showers)	145	6	40	870	34800
Full Hook-up (water and sewer connection)	9	6	50	54	2700
	RVs/Day		Gal/Day/RV		
RV Dump Station Faucet	20		30		600
	Sites	Wash	Gal/Day/Wash	Total Wash	Total Gal/Day
Laundry (two machines per building)	4	8	50	32	1600
					42,580 Total Gal/Day

Oak Lane	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	16	6	40	96	3840
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	0	6	50	0	0
					3,840 Total Gal/Day

Overflow (RV area)	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	0	6	40	0	0
Electric (with flush toilets and showers)	11	6	40	66	2640
RV Electric Hook-up (with flush toilets and showers)	9	6	40	54	2160
Full Hook-up (water and sewer connection)	17	6	50	102	5100
	Sites	Wash	Gal/Day/Wash	Total Wash	Total Gal/Day
Laundry (two machines per building)	2	8	50	16	800
					10,700 Total Gal/Day

Group Sites	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	1	50	40	50	2000
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	0	6	50	0	0
					2,000 Total Gal/Day

Day Use Area	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Parking Stalls	16	6	5	96	480
					480 Total Gal/Day

Office Building and Ranger's Office	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Office Building	2	5	25	10	250
					250 Total Gal/Day

USFS Fire/Ranger Station	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Office Building	2	5	25	10	250
					250 Total Gal/Day

Boat Launch Parking Area (restroom and faucet)	Sites	PAOT/Space	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Boat launch Trailer spaces	235	2	5	470	2350
Parking Stalls (Not boat or RV)	65	2	5	130	650
	Sites	Person	Gal/Day/Person	Total Person	
Camp Store	1	10	25	10	250
Gate House	1	4	10	4	40
	RVs/Day		Gal/Day/RV		
RV Fill Up Station	10		75		750
					4,040 Total Gal/Day

WATER DEMAND	
	Daily Need (gal)
FACILITY DAILY CONSUMPTION	64,140
IMPROVED AREAS DAILY CONSUMPTION	57,120
UNIMPROVED AREAS DAILY CONSUMPTION	7,020

65,000 Rounded up
58,000 Rounded up
8,000 Rounded up

Alternative 3

Olive Grove	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	0	6	40	0	0
Electric (with flush toilets and showers)	103	6	40	618	24720
Full Hook-up (water and sewer connection)	9	6	50	54	2700
	RVs/Day		Gal/Day/RV		
RV Dump Station Faucet	20		30		600
	Sites	Wash	Gal/Day/Wash	Total Wash	Total Gal/Day
Laundry (two machines per building)	4	8	50	32	1600
					29,620 Total Gal/Day

Oak Lane	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	16	6	40	96	3840
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	0	6	50	0	0
					3,840 Total Gal/Day

Overflow (RV area)	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	0	6	40	0	0
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	56	6	50	336	16800
	Sites	Wash	Gal/Day/Wash	Total Wash	Total Gal/Day
Laundry (two machines per building)	2	8	50	16	800
					17,600 Total Gal/Day

Group Sites	Sites	PAOT	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Primitive (with flush toilets and showers)	1	50	40	50	2000
Electric (with flush toilets and showers)	0	6	40	0	0
Full Hook-up (water and sewer connection)	0	6	50	0	0
					2,000 Total Gal/Day

Day Use Area	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Parking Stalls	16	6	5	96	480
					480 Total Gal/Day

Office Building and Ranger's Office	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Office	2	5	25	10	250
					250 Total Gal/Day

USFS Fire/Ranger Station	Sites	Person	Gal/Day/Person	Total Person	Total Gal/Day
Office	2	5	25	10	250
					250 Total Gal/Day

Boat Launch Parking Area (restroom and faucet)	Sites	PAOT/Space	Gal/Day/PAOT	Total PAOT	Total Gal/Day
Boat launch Trailer spaces	235	2	5	470	2350
Parking Stalls (Not boat or RV)	65	2	5	130	650
	Sites	Person	Gal/Day/Person	Total Person	
Camp Store	1	10	25	10	250
Gate House	1	4	10	4	40
	RVs/Day		Gal/Day/RV		
RV Fill Up Station	10		75		750
					4,040 Total Gal/Day

WATER DEMAND	
	Daily Need (gal)
FACILITY DAILY CONSUMPTION	58,080
IMPROVED AREAS DAILY CONSUMPTION	51,060
UNIMPROVED AREAS DAILY CONSUMPTION	7,020

59,000 Rounded up
52,000 Rounded up
8,000 Rounded up

APPENDIX C ALTERNATIVES



7 Electrical System Evaluation Memo





**LAKE PIRU RECREATION AREA
ELECTRICAL SYSTEM EVALUATION
MEMO**

November 4, 2022

Prepared for:
United Water Conservation District
Clayton Strahan
4780 Piru Canyon Road
Piru, California 93040

Prepared by:
Stantec
801 South Figueroa Street, Suite 300
Los Angeles, CA 90017-3007

Stantec Project Number:
184031644

1 Introduction

Stantec Consulting Services, Inc. was engaged by United Water Conservation District (United Water) to perform an existing electrical conditions assessment of the Lake Piru Recreational Area, which includes campsites with electrical hookups and restroom facilities. Stantec performed a site survey on June 15, 2022, to understand the existing electrical conditions and again on October 27, 2022, to coordinate with Southern California Edison (SCE), the electricity utility provider.

As part of the Lake Piru Recreation Facilities Improvement Plan, this report discusses the existing electrical system, calculates the proposed electrical loads, and identifies electrical equipment required to meet the proposed improvements. This report summarizes Stantec's analysis, evaluation of the current electrical system and lists recommendations for Alternative 2 only.

2 Existing Electrical System

Southern California Edison (SCE) provides electrical service to Lake Piru Recreation Area and adjoining landowners in the canyon via overhead utility lines, utility poles, pole mounted transformers and multiple utility metering switchboards located near the restroom buildings at Oak Lane and Olive Grove Campgrounds. There are no electrical services at the Overflow Area or the Lower Oak Lane Campground. The utility service distribution then provides power to panels dispersed throughout the Oak Grove Campground and ultimately makes a connection to the campsite pedestals.

Electrical drawings were provided by United Water, which have a date of 1985, and during the survey it was observed that other electrical systems modifications were made after this date. It was also indicated, by United Water personnel, that there are existing electrical issues with 50A pedestal services not being sized properly and installations using direct buried cabling are being provided, which could present future issues. United Water also noted that the existing electrical facilities are nearing their useful life, conditions are deteriorating, and the existing locations of pedestals may not be appropriate for their current needs.

Refer to Lake Piru Site Plan – Electrical Field Survey Mark-ups, at the end of this report, for more information. This assessment was limited to general visual observations and information relayed by United Water personnel.

3 Proposed Electrical Improvements

Based on the proposed improvements, the electrical scope includes layout modifications and additional campsite changes in the Oak Grove Campground while the Overflow Area will be modified to provide new RV campgrounds and a restroom building. Refer to **Table 1** below, which identifies the number of campsites affected by Alternative 2.



Lake Piru Recreation Area Electrical System Evaluation Memo

In addition, all existing 30A, 120/240V, 1-Phase, 3-Wire pedestal-mount boxes will be replaced/upgraded to 50A, 120/240V, 1-Phase, 3-Wire.

Table 1 - Piru Campground Campsite Improvement Summary (Alternative 2)

	Olive Grove Campground		Oak Lane Campground		RV Campground (Overflow)		Total Capacity	
Campsites	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Primitive	93	12	32	16	0	0	125	28
Double Primitive	0	0	0	0	0	0	0	0
Electric Hook-Up	96	110	0	0	0	9	96	119
Double Electric Hook-Up	0	(16) 32	0	0	0	(1) 2	0	34
Triple Electric Hook-Up	0	(1) 3	0	0	0	0	0	3
Full Hook-Up	9	9	0	0	0	0	9	9
Electric Hook-Up RV	0	0	0	0	0	9	0	9
Full Hook-Up RV	0	0	0	0	0	17	0	17
Total	198	166	32	16	0	37	230	219

Source: Alternative 2- Lake Piru Campground Preliminary Plan, August 2022.

Table Notes:

Primitive – (1) Campsite with no Electrical requirement.

Double Primitive – (2) Campsites with no Electrical requirements.

Electric Hook-up – (1) Campsite with (1) 50A, 120/240V, 1-Phase, 3-Wire pedestal-mount box.

Double Electric Hook-up – (2) Campsites with (2) 50A, 120/240V, 1-Phase, 3-Wire pedestal-mount boxes.

Triple Electric Hook-up – (3) Campsites with (3) 50A, 120/240V, 1-Phase, 3-Wire pedestal-mount boxes.

Full Hook-up – (1) Campsite with (1) 50A, 120/240V, 1-Phase, 3-Wire pedestal-mount box and other utilities.

Electric Hook-up RV – (1) RV Campsite with (1) 50A, 120/240V, 1-Phase, 3-Wire pedestal-mount box and other utilities.

Full Hook-up RV – (1) RV Campsite with (1) 50A, 120/240V, 1-Phase, 3-Wire pedestal-mount box and other utilities.

From the table above there are additional campsites that will require electrical power in the proposed Olive Grove Campground. Based on the improvements the below table is provided to show the preliminary electrical service load calculations for the Oak Grove Campground.



Lake Piru Recreation Area Electrical System Evaluation Memo

Table 2 - Electrical Service Load Calculations for Olive Grove Campground

Area	Amps	Volt Amps (VA)	Quantity	Total VA
Proposed Electric Hook-up Campsites	50	12,000	110	1,320,000
Proposed Double Electric Hook-up Campsites	50	12,000	32	384,000
Proposed Triple Electric Hook-up Campsites	50	12,000	3	36,000
Proposed Full Hook-up Campsites	50	12,000	9	108,000
Total			154	1,848,000
2017 NEC Article 551 - Table 551.73(A) Indicated use of 41% Demand Factor (for 36 or more RV's)				757,680
Proposed Community Area	20	3,360	2	6,720
Proposed Amphitheater	100	16,800	1	16,800
Proposed EV Charging Stations	40	7,680	2	15,360
Existing Restroom Buildings	100	16,800	2	33,600
Olive Grove Campground Total				830,160

The total calculated amps for the modified/ improved Olive Grove Campground is **998 Amps**, calculated at 480V, 3-Phase.

The proposed upgraded electrical service for Olive Grove Campground is 1,000 Amps, 480Y/277V, 3-Phase, 4-Wire system.

Based on the recommended improvements for the RV Campground in the Overflow Area a new utility service is proposed and each RV and Electric Hook-up campsite will require a 50 Amps, 120/240V, 1-Phase, 3-Wire system pedestal mounted box.

Table 3 - Electrical Service Load Calculations for New RV Campground (Overflow)

Area	Amps	Volt Amps (VA)	Quantity	Total VA
Proposed Electric Hook-up Campsites	50	12,000	9	108,000
Proposed Double Electric Hook-up Campsites	50	12,000	2	24,000
Proposed Electric Hook-up RV Campsites	50	12,000	9	108,000
Proposed Full Hook-up RV Campsites	50	12,000	17	204,000
Total			37	444,000
2017 NEC Article 551 - Table 551.73(A) Indicated use of 41% Demand Factor (for 36 or more RV's)				182,040
Proposed Community Area	20	3,360	1	3,360
Proposed Restroom Building	100	16,800	1	16,800
New RV Campground Total				202,200

The total calculated amps for the New RV Campground is **243 Amps**, calculated at 480V, 3-Phase.



The proposed new electrical service for the RV Campground is 400 Amps, 480Y/277V, 3-Phase, 4-Wire system.

The exact details will need to be coordinated when the projects are approved but based on coordination during the site survey with SCE the above proposed services are feasible.

United Water has also provided direction that the utility service (SCE Meter #222013-619050), believed to serve Resident Row, should be replaced. This would include providing an underground utility feeder, replacement of the electrical panel and installing a concrete pad and Unistrut support for the utility service meter and electrical equipment.

4 Recommendations

The existing electrical system serving the Lake Piru Recreation Area is not adequate to serve the proposed improvements for the Olive Grove Campground or the New RV Campground. The following are recommendations for the electrical system:

1. Upgrade electrical service for Olive Grove Campground and full replacement of downstream distribution, wiring and campsite pedestals.
2. Provide a new electrical service for the RV Campground with new downstream distribution, wiring and campsite pedestals.
3. All equipment, devices and installations shall be per the latest Local Codes.



8 Funding Support Proposal



Funding Investigation Scope of Work – Total Fee Proposal \$16,782

Task 1. Research and Prioritize Funding Opportunities - \$2,226

The consultant shall research funding opportunities for United Water's Lake Piru Recreation Area Improvements project. The research will encompass federal and state grant opportunities, with non-exclusive emphasis on programs receiving new or expanded appropriations from the California Budget Act AB179 as well as the federal Infrastructure Investment and Jobs Act ("IIJA") of 2021, American Rescue Plan Act ("ARPA") of 2021, and the Inflation Reduction Act ("IRA") of 2022. The research should focus on grant opportunities but include low-interest loans when appropriate.

Possible funding sources may include, but are not limited to, the National Fish and Wildlife Five Star and Urban Waters Restoration Program, the Cal Fire Wildfire Mitigation Grant Program, the Urban Greening Grant Program, and the CA Natural Resources Agency Wildlife Conservation Board General Grant, among others.

- a. In consultation with United Water staff, the consultant shall assess funding opportunities for their applicability to Lake Piru Area Improvements through a review of latest planning documents and conversations with the United Water. The consultant shall review application and award guidelines for each funding opportunity to evaluate if Lake Piru Recreation Area Improvement projects are eligible.
- b. The consultant will research and document the ability for United Water and the Lake Piru Area Improvement project to qualify for preferential status under grant program guidelines based on its socioeconomic conditions and current funding program priorities.
- c. The consultant shall prioritize funding opportunities based on the consultant's best professional judgement on the likelihood of success of award. The prioritized list of funding opportunities relevant to Lake Piru will be presented to United Water.

Estimated Hours to Deliver Task:

Role	Billing Rate	Hours	Total
Funding Analyst	\$171	8	
Funding Specialist	\$209	2	
Senior Funding Lead	\$298	1	
Administrative Support	\$142	1	

Task 2. Funding Strategy and Timeline - \$4,310

To better inform United Water planning and decision-making, in Task 2 the consultant will provide a more detailed funding strategy that includes a breakdown of sub-projects, potential award amounts, and timelines.

- a. The consultant will review the available information on multiple sub-projects under the Lake Piru Recreation Area Improvement project. The unique benefits, costs, and timelines of each sub-project will be considered. Examples of sub-projects include as revegetation, reduction of fire risk through electrical system updates, and water quality improvements through updated bathrooms.
- b. Attached to the memorandum from Task 1, the consultant will provide a matrix that provides a breakdown of recommended funding options matched to Lake Piru sub-projects. This will include recommendations for bundling sub-projects based on the consultant's best professional judgement to increase competitiveness and likelihood of success.
- c. In the matrix, the consultant will provide details on the potential award amount to United Water from each recommended funding program, to support decision-making and inform the planning process.
- d. The consultant will provide a timeline of application deadlines that is consistent with sub-project timelines, as sub-project timelines are available.

Estimated Hours to Deliver Task:

Role	Billing Rate	Hours
Funding Analyst	\$171	16
Funding Specialist	\$209	4
Senior Funding Lead	\$298	2
Administrative Support	\$142	1

Optional Task 3. Limited Application Services* - \$8,086

At the direction of the United Water, the consultant will provide limited application development support for one grant opportunity. Limited application services include support on some, but not all, of the following services as requested and as appropriate: convening of and participation in go/no go decisions regarding pursuits, compiling of application calendars and deadlines, developing of letters of intent, assembling of application components, communicating with funding agencies and organizations, and assisting in soliciting and collecting letters of support.

Estimated Hours to Deliver Task:

Role	Billing Rate	Hours
Funding Analyst	\$171	30
Funding Specialist	\$209	10
Senior Funding Lead	\$298	1
Administrative Support	\$142	4

*The level of effort for limited application development services varies significantly depending on the funding program and application requirements. The cost estimate described above assumes only some of the services listed in the task above are requested. The estimate does not include preliminary engineering work, benefit cost analyses, or the development of technical reports in support of an application. Estimates for supplemental services will be provided as requested by the United Water.

Task 4. Meetings and Administration - \$2,160

The consultant will facilitate:

- A project kick-off meeting with United Water
- A meeting to present preliminary research results identified in Task 1 and 2
- A meeting to present funding opportunities identified in Task 1 and 2

Estimated Hours to Deliver Task:

Role	Billing Rate	Hours
Funding Analyst	\$171	6
Funding Specialist	\$209	4
Senior Funding Lead	\$298	1