

Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

LESJWA BOARD OF DIRECTORS REGULAR MEETING

EVMWD, 31315 Chaney Street, Lake Elsinore, CA 92531

PUBLIC VIDEO ACCESS

Meeting ID: 861 6418 4154 Passcode: 232456	Access Via Computer: https://sawpa.zoom.us/j/86164184154?pwd=Q1g4UFhPbGRPdm1xMk9hcjFKanNLQT09
	Access Via Telephone: 1 (669) 900-6833

This meeting will be conducted in person at the address listed above. As a convenience to the public, members of the public may also participate virtually using one of the options set forth above. Any member of the public may listen to the meeting or make comments to the Board using the call-in number or Zoom link above. However, in the event there is a disruption of service which prevents the Authority from broadcasting the meeting to members of the public, the meeting will not be postponed or rescheduled but will continue without remote participation. The remote participation option is provided as a convenience to the public and is not required. Members of the public are welcome to attend the meeting in-person.

THURSDAY, AUGUST 17, 2023 – 4:00 P.M.
AGENDA

1. CALL TO ORDER (Dale Welty, Chair)

2. ROLL CALL

3. PUBLIC COMMENTS

Members of the public may address the Board on items within the jurisdiction of the Board; however, no action may be taken on an item not appearing on the agenda unless the action is otherwise authorized by Government Code §54954.2(b).

Members of the public may make comments in-person or in writing for the Board’s consideration by sending them to publiccomment@sawpa.org with the subject line “LESJWA Public Comment”. Submit your written comments by 5:00 p.m. on Wednesday, August 16, 2023. All public comments will be provided to the Chair and may be read into the record or compiled as part of the record. Please note, individuals have a limit of three (3) minutes to make comments and will have the opportunity when called upon by the Board.

4. ITEMS TO BE ADDED OR DELETED

Pursuant to Government Code §54954.2(b), items may be added on which there is a need to take immediate action and the need for action came to the attention of Lake Elsinore & San Jacinto Watersheds Authority subsequent to the posting of the agenda.

5. CONSENT CALENDAR

All matters listed on the Consent Calendar are considered routine and non-controversial and will be acted upon by the Board by one motion as listed below.

- A. [APPROVAL OF MEETING MINUTES: APRIL 24, 2023](#) 5
Recommendation: Approve as posted.
- B. [TREASURER’S REPORT: MARCH – JUNE 2023](#) 11
Recommendation: Approve as posted.
- C. [TMDL TASK FORCE MEETING MINUTES: APRIL 25, 2023 | JUNE 5, 2023](#) 43
Recommendation: Approve as posted

6. NEW BUSINESS

- A. [LESJWA STRATEGIC PLAN: APPROVAL TO RELEASE REQUEST FOR PROPOSAL \(LES#2023.09\)](#)..... 53
Presenter: Rachel Gray, LESJWA Authority Administrator
Recommendation: That the Board of Directors provide input on the process and format for an update to the Strategic Plan; and direct staff to issue a Request for Proposals (RFP) for Strategic Plan Facilitator Consultant Services.

- B. [LETTER OF SUPPORT FOR SAWPA’S APPLICATION FOR THE REGIONAL RESILIENCE PLANNING AND IMPLEMENTATION GRANT PROGRAM \(LES#2023.10\)](#) 373
Presenter: Rachel Gray, LESJWA Authority Administrator
Recommendation: Authorize staff to send a support letter on behalf of LESJWA for SAWPA’s application for the Regional Resilience Planning and Implementation Grant Program.

- C. [LICENSE AGREEMENT FOR OFFSET CREDITS GENERATED BY THE LAKE ELSINORE AERATION & MIXING SYSTEM \(LEAMS\) – AMENDMENT #1 \(LES#2023.11\)](#)..... 393
Presenter: Rick Whetsel, SAWPA Senior Watershed Manager
Recommendation: Approve Amendment 1 to extend the Exclusive License Agreement for Offset Credits Generated by the Lake Elsinore Aeration & Mixing System (LEAMS) for a period of five (5) years.

7. INFORMATIONAL REPORTS

Recommendation: Receive and file.

- A. [LESJWA AWARDED \\$1.5M DWR IRWM PROP 1 GRANT FUNDING TO IMPLEMENT THE LAKE ELSINORE ALGAE HARVESTING AND NUTRIENT REMOVAL PILOT PROJECT \(LES#2023.12\)](#)..... 437
Presenter: Rick Whetsel, SAWPA Senior Watershed Manager

- B. [LAKE ELSINORE AND CANYON LAKE TMDL TASK FORCE UPDATE \(LES#2023.13\)](#)..... 451
Presenter: Tess Dunham, Attorney at Law, Kahn, Soares & Conway, LLP and Steve Wolosoff, Senior Water Quality Specialist, GEI

- C. [LAKE ELSINORE NATURAL WATER RESTORATION MASTER PLAN \(LES#2023.14\)](#)..... 489
Presenter: Ray Stinnett and Nathan White, Agess, Inc.

8. ADMINISTRATOR’S COMMENTS

9. DIRECTORS’ COMMENTS

10. CLOSED SESSION

There were no Closed Session items anticipated at the time of the posting of this agenda.

11. ADJOURNMENT

PLEASE NOTE:

Americans with Disabilities Act: If you require any special disability related accommodations to participate in this meeting, call (951) 354-4244 or email zramirez@sawpa.org. 48-hour notification prior to the meeting will enable staff to make reasonable arrangements to ensure accessibility for this meeting. Requests should specify the nature of the disability and the type of accommodation requested.

Materials related to an item on this agenda submitted to the Board of Directors after distribution of the agenda packet are available for public inspection during normal business hours at the LESJWA's office, 11615 Sterling Avenue, Riverside, and available at www.mywatersheds.com, subject to staff's ability to post documents prior to the meeting.

Declaration of Posting

I, Zyanya Ramirez, Clerk of the Board of the Lake Elsinore and San Jacinto Watersheds Authority declare that on August 10, 2023, a copy of this agenda has been uploaded to the LESJWA website at www.mywatersheds.com and posted at LESJWA's office, 11615 Sterling Avenue, Riverside, California.

2023 - LESJWA Board of Directors Regular Meetings

Third Thursday of Every Other Month

(NOTE: Unless otherwise noticed, all LESJWA Board of Directors Meetings begin at 4:00 p.m., and held at EVMWD)

February 16, 2023 at [3:00 p.m.]	April 20, 2023 [Cancelled] April 24, 2023 [Special Meeting]
June 15, 2023 [Cancelled]	August 17, 2023
October 19, 2023	December 21, 2023

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**LESJWA BOARD OF DIRECTORS MEETING
SPECIAL MEETING MINUTES
APRIL 24, 2023**

DIRECTORS PRESENT

Dale Welty, Chair, City of Canyon Lake
Robert Magee, Vice Chair, City of Lake Elsinore
Andy Morris, Secretary-Treasurer, Elsinore Valley Municipal Water District
Brenda Dennstedt, Santa Ana Watershed Project Authority
Karen Spiegel, County of Riverside [arrived at 4:05]

DIRECTORS ABSENT

None.

**ALTERNATE DIRECTORS
PRESENT; NON-VOTING**

None.

STAFF PRESENT

Edina Goode, Jeff Mosher, Mark Norton, Rachel Gray, Rick Whetsel,
Zyanya Ramirez

OTHERS PRESENT

Liselle DeGrave, DeGrave Communications, Parag Kalaria,
EVMWD, Cory Gorham, City of Canyon Lake, Nicole Dailey, City of
Canyon Lake, T. Milford Harrison, SAWPA

The Special Board of Directors meeting of the Lake Elsinore & San Jacinto Watersheds Authority (LESJWA) was called to order at 4:00 p.m. by Chair Welty on behalf of the Lake Elsinore & San Jacinto Watersheds Authority, 31315 Chaney Street, Lake Elsinore, CA 92530.

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE

2. ROLL CALL

An oral roll call was duly noted and recorded by the Clerk of the Board.

3. PUBLIC COMMENTS

Ray Stinnett, a member of the public, stated for the record that Mark Norton is a very good man. There were no other public comments.

4. ITEMS TO BE ADDED OR DELETED

There were no items to be added or deleted.

5. CONSENT CALENDAR

A. APPROVAL OF MEETING MINUTES: FEBRUARY 16, 2023

Recommendation: Approve as posted.

B. TREASURER'S REPORT: JANUARY AND FEBRUARY 2023

Recommendation: Approve as posted.

C. TMDL TASK FORCE MEETING MINUTES: FEBRUARY 15, 2023 | MARCH 28, 2023

Recommendation: Approve as posted.

D. EDUCATION AND OUTREACH COMMITTEE STATUS REPORT JANUARY 23, 2023 AND MARCH 27, 2023

Recommendation: Approve as posted.

MOVED, to approve the Consent Calendar as posted.

Result:	Adopted by Roll Call Vote
Motion/Second:	Dennstedt/Morris
Ayes:	Dennstedt, Magee, Morris, Welty
Nays:	None
Abstentions:	None
Absent:	Spiegel

6. **NEW BUSINESS**

A. **FUNDING AGREEMENT AMENDMENT #2 WITH RCFC&WCD (LES#2023.03)**

Director Spiegel arrived at the commencement of Agenda Item 6.A.

Mark Norton stated that in 2015 and 2017, LESJWA and the Riverside County Flood Control and Water Conservation District (RCFC&WCD) executed a funding agreement with amendments so that RCFC&WCD will provide LESJWA with \$20,000 per fiscal year to assist with as much of the MS4 compliance activities associated with the Lake Elsinore and Canyon Lake (LE/CL) TMDL compliance. The parties request to amend the agreement to extend the term period for an additional five (5) years to address NPDES MS4 Permit requirements for Canyon Lake and Lake Elsinore.

The Board was very appreciative of RCFC&WCD's contributions.

MOVED, to approve Funding Agreement Amendment #2 with RCFC&WCD which authorizes support for the implementation and administration of watershed programs for Lake Elsinore and Canyon Lake through the end of FY 2027-28.

Result:	Adopted by Roll Call Vote
Motion/Second:	Morris/Dennstedt
Ayes:	Dennstedt, Magee, Morris, Welty
Nays:	None
Abstentions:	None
Absent:	Spiegel

B. **LESJWA ADMINISTRATIVE SUPPORT (LES#2023.04)**

At the February 16, 2023 LESJWA Board meeting, staff was instructed to present three (3) administrative support options for LESJWA, including one option involving SAWPA. There was expressed interest that the other two (2) potential administration entities for LESJWA be the City of Lake Elsinore and the County of Riverside.

Staff contacted both entities; they were provided with resources to examine the budgetary costs and the feasibility of either entity taking over the role of authority administrator. Both entities indicated that they support SAWPA as the administrative authority for LESJWA due to its institutional knowledge and cost efficiency. SAWPA's General Manager, Jeff Mosher, indicated that SAWPA is well suited to continue this role.

Vice Chair Magee expressed his disappointment with the approach and the lack of formal interaction with both entities. Furthermore, he perceived that Lake Elsinore was not receiving as much care as Canyon Lake. He added that there is a need for a lake expert in Lake Elsinore to manage the Lake's water clarity and toxin levels.

Chair Welty validated his concerns and added SAWPA's experience with multi-beneficial watershed-wide collaborations and water expertise is what LESJWA needs to combat these issues. He emphasized the importance of engaging in comprehensive discussion on this topic, particularly with regard to pursuing additional funding. He highlighted that financial considerations often play a significant role in addressing these matters.

Director Dennstedt emphasized the equitable allocation of efforts towards assisting both lakes. She reported that the search for funding is underway, and projects aimed at finding solutions for both lakes are currently in progress. She also noted that specific steps and milestones must be met to ensure successful outcomes for these initiatives.

MOVED, to approve continuing support of LESJWA administration using SAWPA staff for the next two budget cycles (four fiscal years); and if desired, direct staff to prepare an agreement between SAWPA and LESJWA for SAWPA's role as the JPA administrator for approval at a future Board meeting.

Result:	Adopted by Roll Call Vote
Motion/Second:	Dennstedt/Morris
Ayes:	Dennstedt, Morris, Spiegel, Welty
Nays:	Magee
Abstentions:	None
Absent:	None

C. LESJWA FYE 2024 AND 2025 BUDGET (LES#2023.05)

Mark Norton presented the FYE 2024 and 2025 LESJWA Budget, which listed existing projects, studies, and administrative costs associated with operating LESJWA and implementing TMDL projects. Vice Chair Magee stated for the record that several years back the Board waived their stipends to use those funds for water quality control program.

It was noted that the Lake Elsinore Aeration Systems is currently functioning properly, but the designed useful life is approaching its end, and will require attention soon. Additionally, two of the three island wells are no longer operational, and the third one is also nearing the end of its serviceable life.

MOVED, to approve the FYE 2024 and 2025 LESJWA budget and invoice each LESJWA member agency and RCFC&WCD at the start of the new fiscal year based on contribution levels as reflected in the budget.

Result:	Adopted by Roll Call Vote
Motion/Second:	Magee/Dennstedt
Ayes:	Dennstedt, Magee, Morris, Spiegel, Welty
Nays:	None
Abstentions:	None
Absent:	None

D. LESJWA BUSINESS PLAN UPDATE/WORKPLAN/STRATEGIC PLAN OPTIONS (LES#2023.06)

This item was requested by the Board of Directors at the February 17, 2023, LESJWA Board meeting. It was noted that the LESJWA Business Plan was drafted nearly nine (9) years ago, and it was suggested that a work plan be created to provide focus and direction for the LESJWA Board. It was the consensus of the Board to have staff meet with each Director

individually to gather their perspectives on strategic priorities for the updated version of the LESJWA Business Plan.

Director Dennstedt highlighted that LESJWA's actions are constrained by new regulations and unfunded mandates. She proposed discussing LESJWA's stance on certain legislation to mitigate the impacts of unfunded mandates by the State.

MOVED, to discuss options on whether to update the LESJWA Business Plan to reflect strategic priorities or possibly develop a new workplan that provides focus and direction for the LESJWA Board; and direct staff to update the 2014 LESJWA Business Plan and include strategic priorities reflecting feedback of LESJWA Board members, LE/CL TMDL Task Force consultants and staff.

Result:	Adopted by Roll Call Vote
Motion/Second:	Magee/Dennstedt
Ayes:	Dennstedt, Magee, Morris, Spiegel, Welty
Nays:	None
Abstentions:	None
Absent:	None

E. EDUCATION AND OUTREACH CONSULTANT SUPPORT (LES#2023.07)

Mark Norton provided an overview of DeGrave Communications' outreach efforts since 2020 and indicated that the three (3) year task order with DeGrave Communications Inc. would be coming to an end on June 30, 2023.

The LESJWA Education and Outreach Committee has determined that DeGrave Communications, Inc. has met the needs of LESJWA and recommend the sole source award be made to continue with DeGrave Communications Inc. and reduce administrative costs of issuing a new Request for Proposals.

Liselle DeGrave, President of Degrave Communications, presented a PowerPoint summarizing their work and upcoming events for LESJWA's education and outreach. The Board of Directors asked that a Twitter and Instagram account be included in the proposal. Ms. DeGrave agreed to reach out to the LESJWA Education and Outreach Committee to strategically reallocate resources to stay within the budget proposed to be able to incorporate Twitter and Instagram to LESJWA's outreach efforts. She added that both platforms are considered effective communication tools when addressing management concerns, especially in emergencies.

Vice Chair Magee asked that DeGrave Communications be more present at Lake Elsinore events.

MOVED, to approve the General Services Agreement and Task Order No. DEGR477-06 with DeGrave Communications, Inc. for an amount not-to-exceed \$87,900 for the LESJWA Education and Outreach for Fiscal Years 2023-24, 2024-25, and 2025-26.

Result:	Adopted by Roll Call Vote
Motion/Second:	Magee/Morris
Ayes:	Dennstedt, Magee, Morris, Spiegel, Welty
Nays:	None
Abstentions:	None
Absent:	None

F. REGULATORY AND FACILITATOR SUPPORT FOR LAKE ELSINORE AND CANYON LAKE TMDL TASK FORCE (LES#2023.08)

Mark Norton provided a verbal report... Tess Dunham has been the regulatory and facilitator support for the Lake Elsinore and Canyon Lake TMDL Task Force since August 2019. Her current Task Order will be expiring and the Lake Elsinore and Canyon Lake TMDL Task Force (Task Force) is recommending a new task order which reflects continued support by Ms. Dunham for the next two (2) fiscal years.

Mr. Norton presented Ms. Dunham's cost estimates for the FY 2023-24 and 2024-25. The work for updating the TMDL and preparing for the Basin Plan Amendment will take place in 2023-24, which explains the cost decrease in 2024-25 as there will be no allocation for those tasks during that fiscal year.

MOVED, to approve the General Services Agreement and Task Order KSC160-03 with Kahn, Soares & Conway, LLP in the amount not-to-exceed \$ 136,000 (\$74,000 for FY 2023-24 and \$62,000 for FY 2024-25) to continue to provide strategic and regulatory support for the Lake Elsinore & Canyon Lake TMDL Task Force.

Result:	Adopted by Roll Call Vote
Motion/Second:	Magee/Morris
Ayes:	Dennstedt, Magee, Morris, Spiegel Welty
Nays:	None
Abstentions:	None
Absent:	None

G. ADOPT RESOLUTION IN RECOGNITION OF MARK R. NORTON

Rachel Gray provided a verbal report commending Mark Norton for his 30-plus years of service within the watershed and region. Ms. Gray provided a list of accomplishments and projects that have had a positive contribution to LESJWA.

The Directors thanked Mr. Norton for his years of leadership and dedication and wished him well as he begins his next chapter of retirement. Mr. Norton thanked the board.

MOVED, to adopt Resolution No. 2023-01 recognizing Mark R. Norton who is retiring as Special Projects Manager of SAWPA and Authority Administrator of LESJWA, concluding a career in public service spanning more than 32 years.

Result:	Adopted by Roll Call Vote
Motion/Second:	Dennstedt/Morris
Ayes:	Dennstedt, Magee, Morris, Speigel, Welty
Nays:	None
Abstentions:	None
Absent:	None

7. ADMINISTRATOR'S COMMENTS

There were no Administrator's comments.

8. DIRECTORS' COMMENTS

There were no Director's comments.

9. CLOSED SESSION

There was no closed session.

10. ADJOURNMENT

There being no further business for review, Chair Dale Welty adjourned the meeting at 5:10 p.m.

**Approved at a Regular Meeting of the Lake Elsinore and San Jacinto Watersheds Authority
Board of Directors on Thursday, August 17, 2023.**

Dale Welty, Chair

Attest:

Zyanya Ramirez, Clerk of the Board

Lake Elsinore and San Jacinto Watersheds Authority

FINANCIAL STATEMENTS

March 2023

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY
 CASH FLOW STATEMENT
 AS OF 03/31/2023

Balance as of 2/28/2023		\$ 671,602.35
Funds Received		
Deposits:		
Open - Grant Invoices		
Open - Member & Other Contributions		
Total Due LESJWA	-	
Disbursement List - March 2023		\$ (53,026.81)
Funds Available as of 03/31/2023		<u>\$ 618,575.54</u>
Funds Available:		
Checking		\$ 448,587.76
LAIF		\$ 169,987.78
Total		<u>\$ 618,575.54</u>

Lake Elsinore San Jacinto Watersheds Authority
 LE/CL TMDL Invoice History
 FYE 2014 - 2023
 as of March 31, 2023

Agency	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
March ARB	12,500.00	35,226.00	25,176.00	38,321.00	29,864.00	27,890.00	32,863.00	36,460.00	33,216.00	38,751.00
CalTrans	12,500.00	28,656.00	26,072.00	40,421.00	31,964.00	29,996.00	34,286.00	37,651.00	32,757.00	39,848.00
City of Beaumont	19,263.00	24,280.00	26,866.00	37,421.00	28,128.00	14,160.00	28,251.00	28,935.00	27,070.00	32,082.00
City of Canyon Lake	18,389.00	34,863.00	24,142.00	42,521.00	33,586.00	28,780.00	33,754.00	37,787.00	34,393.00	40,695.00
City of Hemet	18,175.00	25,510.00	27,958.00	54,278.00	36,426.00	29,084.00	41,830.00	46,261.00	42,139.00	50,858.00
City of Lake Elsinore	19,381.00	30,580.00	32,463.00	37,421.00	22,330.00	28,521.00	33,361.00	34,071.00	31,795.00	35,573.00
City of Menifee	44,155.00	55,821.00	23,584.00	100,499.00	100,906.00	112,252.00	86,846.00	92,189.00	82,180.00	106,785.00
City of Moreno Valley	103,565.00	113,058.00	17,750.00	96,414.00	74,122.00	144,495.00	80,826.00	83,847.00	63,927.00	91,977.00
City of Murrieta	12,426.00	24,280.00	26,866.00	38,321.00	31,337.00	22,796.00	30,774.00	34,433.00	32,988.00	38,102.00
City of Perris	18,869.00	26,739.00	29,050.00	59,821.00	50,374.00	66,775.00	50,792.00	54,723.00	40,792.00	56,560.00
City of Riverside	17,641.00	24,280.00	26,866.00	38,921.00	30,293.00	24,896.00	26,751.00	28,635.00	27,070.00	32,082.00
City of San Jacinto	19,487.00	24,280.00	26,866.00	37,721.00	23,290.00	27,296.00	26,751.00	27,435.00	27,970.00	32,082.00
City of Wildomar	8,307.00	19,528.00	26,460.00	41,642.00	28,841.00	21,872.00	31,578.00	30,945.00	25,060.00	32,376.00
County of Riverside	30,165.00	36,469.00	30,362.00	68,931.00	69,034.00	76,601.00	81,634.00	88,734.00	83,361.00	114,620.00
Dept of Fish and Game	12,500.00	18,435.00	28,840.00	35,121.00	22,857.00	16,818.00	26,751.00	27,435.00	25,570.00	29,082.00
Eastern Municipal Water District	12,500.00	16,225.00	23,525.00	27,789.00	15,724.00	16,222.00	23,496.00	26,935.00	25,570.00	29,082.00
Elsinore Valley Municipal Water District	12,500.00	16,225.00	23,525.00	30,361.00	18,327.00	12,626.00	24,934.00	29,881.00	26,946.00	30,411.00
March JPA	12,500.00	24,485.00	27,160.00	38,921.00	30,464.00	24,596.00	31,006.00	34,412.00	32,968.00	38,071.00
San Jacinto Agricultural Operators	12,500.00	47,549.00	23,530.58	45,785.00	31,391.00	37,999.65	38,927.00	27,767.00	14,382.00	29,915.00
San Jacinto Dairy & CAFO Operators	12,500.00	16,225.00	-	-	-	2,700.00	2,850.00	-	-	3,000.00
Total	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	808,536.00	710,154.00	901,952.00
Total Paid Contributions	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	808,536.00	710,154.00	901,952.00
Total Outstanding Contributions	-	-	-	-	-	-	-	-	-	-
Total Outstanding Contributions										
Total Outstanding All Years	-	-	-	-	-	-	-	-	-	-

Lake Elsinore/San Jacinto Watershed Authority
Statement of Net Assets
For the Nine Months Ending Friday, March 31, 2023

Assets

Checking - US Bank	\$448,587.76
L.A.I.F.	169,987.78
Total Assets	<u>\$618,575.54</u>

Liabilities

Accounts Payable	91,866.25
Total Liabilities	<u>\$91,866.25</u>

Retained Earnings 136,577.93

Excess Revenue over (under) Expenditures \$390,131.36

Total Net Assets \$526,709.29

Total Liabilities and Net Assets \$618,575.54

Lake Elsinore/San Jacinto Watershed Authority
Revenues, Expenses and Changes in Net Assets
For the Nine Months Ending Friday, March 31, 2023

	Period Actual	YTD Actual	Annual Budget	% Used	Budget Variance
Revenues					
LAIF Interest	\$0.00	\$5,105.12	\$1,650.00	309.40%	(\$3,455.12)
Member Agency Contributions	0.00	196,679.00	274,100.00	71.75%	77,421.00
Other Agency Contributions	0.00	815,273.00	737,851.00	110.49%	(77,422.00)
Total Revenues	\$0.00	\$1,017,057.12	\$1,013,601.00	100.34%	(\$3,456.12)
Expenses					
Salaries - Regular	3,854.55	53,879.11	61,922.00	87.01%	8,042.89
Payroll Burden	1,618.91	22,629.25	26,007.33	87.01%	3,378.08
Overhead	6,198.11	86,637.58	99,570.67	87.01%	12,933.09
Audit Fees	550.00	5,875.00	5,600.00	104.91%	(275.00)
Consulting - General	36,702.53	445,004.27	712,451.00	62.46%	267,446.73
LEAMS Offset Credit License	0.00	0.00	112,500.00	0.00%	112,500.00
Legal Fees	0.00	0.00	1,100.00	0.00%	1,100.00
Meeting & Conference Expense	0.00	176.74	0.00	0.00%	(176.74)
Contributions	0.00	10,000.00	10,000.00	100.00%	0.00
Bank Charges	0.00	0.00	1,000.00	0.00%	1,000.00
Shipping & Postage	0.00	0.00	50.00	0.00%	50.00
Office Supplies	0.00	0.00	60.00	0.00%	60.00
Other Expense	0.00	67.33	400.00	16.83%	332.67
Insurance Expense	0.00	2,536.00	3,000.00	84.53%	464.00
Interest Expense	0.00	120.48	200.00	60.24%	79.52
Total Expenditures	\$48,924.10	\$626,925.76	\$1,033,861.00	60.64%	\$406,935.24
Excess Revenue over (under) Expenditures	(\$48,924.10)	\$390,131.36	(\$20,260.00)	-1925.62%	(\$410,391.36)

Lake Elsinore San Jacinto Watersheds Authority
Revenues, Expenses and Changes in Net Assets by Project
For the Month Ending March 31, 2023

	JPA Administration	TMDL Task Force	Total	Budget	% Used	Budget Variance
Revenues						
LAIF Interest	1,659.30		1,659.30	1,650.00	100.56%	(9.30)
Member Agency Contributions	90,000.00	106,679.00	196,679.00	274,100.00	71.75%	77,421.00
Other Agency Contributions	20,000.00	795,273.00	815,273.00	737,851.00	110.49%	(77,422.00)
Miscellaneous Revenue			-	-	100.00%	-
Total Revenues	\$ 111,659.30	\$ 901,952.00	\$ 1,013,611.30	\$ 1,013,601.00	100.00%	\$ (10.30)
Expenditures						
Salaries	\$ 25,334.05	\$ 28,545.06	\$ 53,879.11	\$ 61,922.00	87.01%	\$ 8,042.89
Benefits	10,640.30	11,988.95	22,629.25	26,007.33	87.01%	3,378.08
Indirect Costs	40,737.14	45,900.44	86,637.58	99,570.67	87.01%	12,933.09
Audit Fees	5,875.00		5,875.00	5,600.00	104.91%	(275.00)
Consulting	19,893.97	425,110.30	445,004.27	712,451.00	62.46%	267,446.73
Other Contract Services			-	-	0.00%	-
Legal Fees			-	1,100.00	0.00%	1,100.00
Contributions	10,000.00		10,000.00	10,000.00	100.00%	-
Meeting & Conference Expense	51.23	125.51	176.74	-	0.00%	(176.74)
Bank Charges			-	1,000.00	0.00%	1,000.00
Shipping & Postage			-	50.00	0.00%	50.00
Other Expense	67.33		67.33	400.00	16.83%	332.67
LEAMS Excess Offset Credit			-	112,500.00	0.00%	112,500.00
Insurance Expense	2,536.00		2,536.00	3,000.00	84.53%	464.00
Office Supplies				60.00	0.00%	60.00
Interest Expense	120.48		120.48	200.00	60.24%	79.52
Total Expenditures	\$ 115,255.50	\$ 511,670.26	\$ 626,925.76	\$ 1,033,861.00	60.64%	\$ 406,935.24
Excess Revenue over (under) Expenditures	\$ (3,596.20)	\$ 390,281.74	\$ 386,685.54	\$ (20,260.00)	100.00%	\$ (406,945.54)
Cash Balance @ 02/28/2023	\$ 43,692.61	\$ 574,882.93	\$ 618,575.54			

**Lake Elsinore San Jacinto
Watershed Authority
Disbursements
March 2023**

Check #	Check Date	Type	Vendor	Check Amount
EFT477	3/9/2023	CHK	C.J. Brown & Company CPAs	\$ 1,100.00
EFT478	3/16/2023	CHK	Santa Ana Watershed Project Authority	\$ 22,579.58
EFT479	3/16/2023	CHK	Kahn, Soares & Conway, LLP	\$ 9,033.96
EFT480	3/30/2023	CHK	DeGrave Communications	\$ 2,349.09
EFT481	3/30/2023	CHK	WSP USA Environment & Infrastructure	\$ 17,964.18
Total Disbursements March 2023				<u>\$ 53,026.81</u>

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Lake Elsinore and San Jacinto Watersheds Authority

FINANCIAL STATEMENTS

April 2023

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY
 CASH FLOW STATEMENT
 AS OF 04/30/2023

Balance as of 3/31/2023	\$ 618,575.54
Funds Received	
Deposits:	
LAIF Interest	1,145.69
 Open - Grant Invoices	
 Open - Member & Other Contributions	
Total Due LESJWA	-
 Disbursement List - April 2023	
	<u>\$ (63,432.50)</u>
Funds Available as of 04/30/2023	<u>\$ 556,288.73</u>
 Funds Available:	
Checking	\$ 385,155.26
LAIF	<u>\$ 171,133.47</u>
Total	<u>\$ 556,288.73</u>

Lake Elsinore San Jacinto Watersheds Authority
 LE/CL TMDL Invoice History
 FYE 2014 - 2023
 as of April 30, 2023

Agency	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
March ARB	12,500.00	35,226.00	25,176.00	38,321.00	29,864.00	27,890.00	32,863.00	36,460.00	33,216.00	38,751.00
CalTrans	12,500.00	28,656.00	26,072.00	40,421.00	31,964.00	29,996.00	34,286.00	37,651.00	32,757.00	39,848.00
City of Beaumont	19,263.00	24,280.00	26,866.00	37,421.00	28,128.00	14,160.00	28,251.00	28,935.00	27,070.00	32,082.00
City of Canyon Lake	18,389.00	34,863.00	24,142.00	42,521.00	33,586.00	28,780.00	33,754.00	37,787.00	34,393.00	40,695.00
City of Hemet	18,175.00	25,510.00	27,958.00	54,278.00	36,426.00	29,084.00	41,830.00	46,261.00	42,139.00	50,858.00
City of Lake Elsinore	19,381.00	30,580.00	32,463.00	37,421.00	22,330.00	28,521.00	33,361.00	34,071.00	31,795.00	35,573.00
City of Menifee	44,155.00	55,821.00	23,584.00	100,499.00	100,906.00	112,252.00	86,846.00	92,189.00	82,180.00	106,785.00
City of Moreno Valley	103,565.00	113,058.00	17,750.00	96,414.00	74,122.00	144,495.00	80,826.00	83,847.00	63,927.00	91,977.00
City of Murrieta	12,426.00	24,280.00	26,866.00	38,321.00	31,337.00	22,796.00	30,774.00	34,433.00	32,988.00	38,102.00
City of Perris	18,869.00	26,739.00	29,050.00	59,821.00	50,374.00	66,775.00	50,792.00	54,723.00	40,792.00	56,560.00
City of Riverside	17,641.00	24,280.00	26,866.00	38,921.00	30,293.00	24,896.00	26,751.00	28,635.00	27,070.00	32,082.00
City of San Jacinto	19,487.00	24,280.00	26,866.00	37,721.00	23,290.00	27,296.00	26,751.00	27,435.00	27,970.00	32,082.00
City of Wildomar	8,307.00	19,528.00	26,460.00	41,642.00	28,841.00	21,872.00	31,578.00	30,945.00	25,060.00	32,376.00
County of Riverside	30,165.00	36,469.00	30,362.00	68,931.00	69,034.00	76,601.00	81,634.00	88,734.00	83,361.00	114,620.00
Dept of Fish and Game	12,500.00	18,435.00	28,840.00	35,121.00	22,857.00	16,818.00	26,751.00	27,435.00	25,570.00	29,082.00
Eastern Municipal Water District	12,500.00	16,225.00	23,525.00	27,789.00	15,724.00	16,222.00	23,496.00	26,935.00	25,570.00	29,082.00
Elsinore Valley Municipal Water District	12,500.00	16,225.00	23,525.00	30,361.00	18,327.00	12,626.00	24,934.00	29,881.00	26,946.00	30,411.00
March JPA	12,500.00	24,485.00	27,160.00	38,921.00	30,464.00	24,596.00	31,006.00	34,412.00	32,968.00	38,071.00
San Jacinto Agricultural Operators	12,500.00	47,549.00	23,530.58	45,785.00	31,391.00	37,999.65	38,927.00	27,767.00	14,382.00	29,915.00
San Jacinto Dairy & CAFO Operators	12,500.00	16,225.00	-	-	-	2,700.00	2,850.00	-	-	3,000.00
Total	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	808,536.00	710,154.00	901,952.00
Total Paid Contributions	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	808,536.00	710,154.00	901,952.00
Total Outstanding Contributions	-	-	-	-	-	-	-	-	-	-
Total Outstanding Contributions	-	-	-	-	-	-	-	-	-	-
Total Outstanding All Years	-	-	-	-	-	-	-	-	-	-

Lake Elsinore/San Jacinto Watershed Authority
Statement of Net Assets
For the Ten Months Ending Sunday, April 30, 2023

Assets

Checking - US Bank	\$385,155.26
L.A.I.F.	171,133.47
Total Assets	<u>\$556,288.73</u>

Liabilities

Accounts Payable	119,190.11
Total Liabilities	<u>\$119,190.11</u>

Retained Earnings 136,577.93

Excess Revenue over (under) Expenditures \$300,520.69

Total Net Assets \$437,098.62

Total Liabilities and Net Assets \$556,288.73

Lake Elsinore/San Jacinto Watershed Authority
Revenues, Expenses and Changes in Net Assets
For the Ten Months Ending Sunday, April 30, 2023

	Period Actual	YTD Actual	Annual Budget	% Used	Budget Variance
Revenues					
LAIF Interest	\$1,145.69	\$6,250.81	\$1,650.00	378.84%	(\$4,600.81)
Member Agency Contributions	0.00	196,679.00	274,100.00	71.75%	77,421.00
Other Agency Contributions	0.00	815,273.00	737,851.00	110.49%	(77,422.00)
Total Revenues	\$1,145.69	\$1,018,202.81	\$1,013,601.00	100.45%	(\$4,601.81)
Expenses					
Salaries - Regular	5,428.50	59,307.61	61,922.00	95.78%	2,614.39
Payroll Burden	2,279.97	24,909.22	26,007.33	95.78%	1,098.11
Overhead	8,729.02	95,366.60	99,570.67	95.78%	4,204.07
Audit Fees	0.00	5,875.00	5,600.00	104.91%	(275.00)
Consulting - General	57,125.56	519,195.22	712,451.00	72.87%	193,255.78
LEAMS Offset Credit License	0.00	0.00	112,500.00	0.00%	112,500.00
Legal Fees	0.00	0.00	1,100.00	0.00%	1,100.00
Meeting & Conference Expense	32.10	208.84	0.00	0.00%	(208.84)
Contributions	0.00	10,000.00	10,000.00	100.00%	0.00
Bank Charges	0.00	0.00	1,000.00	0.00%	1,000.00
Shipping & Postage	0.00	0.00	50.00	0.00%	50.00
Office Supplies	0.00	0.00	60.00	0.00%	60.00
Other Expense	0.00	67.33	400.00	16.83%	332.67
Insurance Expense	0.00	2,536.00	3,000.00	84.53%	464.00
Interest Expense	95.82	216.30	200.00	108.15%	(16.30)
Total Expenditures	\$73,690.97	\$717,682.12	\$1,033,861.00	69.42%	\$316,178.88
Excess Revenue over (under) Expenditures	(\$72,545.28)	\$300,520.69	(\$20,260.00)	-1483.32%	(\$320,780.69)

Lake Elsinore San Jacinto Watersheds Authority
Revenues, Expenses and Changes in Net Assets by Project
For the Month Ending April 30, 2023

	JPA Administration	TMDL Task Force	Total	Budget	% Used	Budget Variance
Revenues						
LAIF Interest	2,804.99		2,804.99	1,650.00	170.00%	(1,154.99)
Member Agency Contributions	90,000.00	106,679.00	196,679.00	274,100.00	71.75%	77,421.00
Other Agency Contributions	20,000.00	795,273.00	815,273.00	737,851.00	110.49%	(77,422.00)
Miscellaneous Revenue			-	-	100.00%	-
Total Revenues	\$ 112,804.99	\$ 901,952.00	\$ 1,014,756.99	\$ 1,013,601.00	100.11%	\$ (1,155.99)
Expenditures						
Salaries	\$ 28,192.15	\$ 31,115.46	\$ 59,307.61	\$ 61,922.00	95.78%	\$ 2,614.39
Benefits	11,840.70	13,068.52	24,909.22	26,007.33	95.78%	1,098.11
Indirect Costs	45,332.96	50,033.64	95,366.60	99,570.67	95.78%	4,204.07
Audit Fees	5,875.00		5,875.00	5,600.00	104.91%	(275.00)
Consulting	22,908.14	496,287.08	519,195.22	712,451.00	72.87%	193,255.78
Other Contract Services			-	-	0.00%	-
Legal Fees			-	1,100.00	0.00%	1,100.00
Contributions	10,000.00		10,000.00	10,000.00	100.00%	-
Meeting & Conference Expense	83.33	125.51	208.84	-	0.00%	(208.84)
Bank Charges			-	1,000.00	0.00%	1,000.00
Shipping & Postage			-	50.00	0.00%	50.00
Other Expense	67.33		67.33	400.00	16.83%	332.67
LEAMS Excess Offset Credit			-	112,500.00	0.00%	112,500.00
Insurance Expense	2,536.00		2,536.00	3,000.00	84.53%	464.00
Office Supplies				60.00	0.00%	60.00
Interest Expense	216.30		216.30	200.00	108.15%	(16.30)
Total Expenditures	\$ 127,051.91	\$ 590,630.21	\$ 717,682.12	\$ 1,033,861.00	69.42%	\$ 316,178.88
Excess Revenue over (under) Expenditures	\$ (14,246.92)	\$ 311,321.79	\$ 297,074.87	\$ (20,260.00)	100.00%	\$ (317,334.87)
 Cash Balance @ 04/30/2023	 \$ 33,043.07	 \$ 523,245.66	 \$ 556,288.73			

**Lake Elsinore San Jacinto
Watershed Authority
Disbursements
April 2023**

Check #	Check Date	Type	Vendor	Check Amount
EFT482	4/13/2023	CHK	Santa Ana Watershed Project Authority	\$ 11,671.57
EFT483	4/13/2023	CHK	C.J. Brown & Company CPAs	\$ 550.00
EFT484	4/13/2023	CHK	Kahn, Soares & Conway, LLP	\$ 3,675.00
EFT485	4/20/2023	CHK	DeGrave Communications	\$ 4,593.78
EFT486	4/20/2023	CHK	GEI Consultants	\$ 16,948.75
EFT487	4/27/2023	CHK	WSP USA Environment & Infrastructure	\$ 25,993.40
Total Disbursements April 2023				<u>\$ 63,432.50</u>

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Lake Elsinore and San Jacinto Watersheds Authority

FINANCIAL STATEMENTS

May 2023

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY
 CASH FLOW STATEMENT
 AS OF 05/31/2023

Balance as of 4/30/2023	\$ 556,288.73
Funds Received	
Deposits:	
Open - Grant Invoices	
Open - Member & Other Contributions	
Total Due LESJWA	-
Disbursement List - May 2023	<u>\$ (77,264.36)</u>
Funds Available as of 05/31/2023	<u><u>\$ 479,024.37</u></u>
Funds Available:	
Checking	\$ 307,890.90
LAIF	<u>\$ 171,133.47</u>
Total	<u><u>\$ 479,024.37</u></u>

Lake Elsinore San Jacinto Watersheds Authority
 LE/CL TMDL Invoice History
 FYE 2014 - 2023
 as of May 31, 2023

Agency	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
March ARB	12,500.00	35,226.00	25,176.00	38,321.00	29,864.00	27,890.00	32,863.00	36,460.00	33,216.00	38,751.00
CalTrans	12,500.00	28,656.00	26,072.00	40,421.00	31,964.00	29,996.00	34,286.00	37,651.00	32,757.00	39,848.00
City of Beaumont	19,263.00	24,280.00	26,866.00	37,421.00	28,128.00	14,160.00	28,251.00	28,935.00	27,070.00	32,082.00
City of Canyon Lake	18,389.00	34,863.00	24,142.00	42,521.00	33,586.00	28,780.00	33,754.00	37,787.00	34,393.00	40,695.00
City of Hemet	18,175.00	25,510.00	27,958.00	54,278.00	36,426.00	29,084.00	41,830.00	46,261.00	42,139.00	50,858.00
City of Lake Elsinore	19,381.00	30,580.00	32,463.00	37,421.00	22,330.00	28,521.00	33,361.00	34,071.00	31,795.00	35,573.00
City of Menifee	44,155.00	55,821.00	23,584.00	100,499.00	100,906.00	112,252.00	86,846.00	92,189.00	82,180.00	106,785.00
City of Moreno Valley	103,565.00	113,058.00	17,750.00	96,414.00	74,122.00	144,495.00	80,826.00	83,847.00	63,927.00	91,977.00
City of Murrieta	12,426.00	24,280.00	26,866.00	38,321.00	31,337.00	22,796.00	30,774.00	34,433.00	32,988.00	38,102.00
City of Perris	18,869.00	26,739.00	29,050.00	59,821.00	50,374.00	66,775.00	50,792.00	54,723.00	40,792.00	56,560.00
City of Riverside	17,641.00	24,280.00	26,866.00	38,921.00	30,293.00	24,896.00	26,751.00	28,635.00	27,070.00	32,082.00
City of San Jacinto	19,487.00	24,280.00	26,866.00	37,721.00	23,290.00	27,296.00	26,751.00	27,435.00	27,970.00	32,082.00
City of Wildomar	8,307.00	19,528.00	26,460.00	41,642.00	28,841.00	21,872.00	31,578.00	30,945.00	25,060.00	32,376.00
County of Riverside	30,165.00	36,469.00	30,362.00	68,931.00	69,034.00	76,601.00	81,634.00	88,734.00	83,361.00	114,620.00
Dept of Fish and Game	12,500.00	18,435.00	28,840.00	35,121.00	22,857.00	16,818.00	26,751.00	27,435.00	25,570.00	29,082.00
Eastern Municipal Water District	12,500.00	16,225.00	23,525.00	27,789.00	15,724.00	16,222.00	23,496.00	26,935.00	25,570.00	29,082.00
Elsinore Valley Municipal Water District	12,500.00	16,225.00	23,525.00	30,361.00	18,327.00	12,626.00	24,934.00	29,881.00	26,946.00	30,411.00
March JPA	12,500.00	24,485.00	27,160.00	38,921.00	30,464.00	24,596.00	31,006.00	34,412.00	32,968.00	38,071.00
San Jacinto Agricultural Operators	12,500.00	47,549.00	23,530.58	45,785.00	31,391.00	37,999.65	38,927.00	27,767.00	14,382.00	29,915.00
San Jacinto Dairy & CAFO Operators	12,500.00	16,225.00	-	-	-	2,700.00	2,850.00	-	-	3,000.00
Total	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	808,536.00	710,154.00	901,952.00
Total Paid Contributions	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	808,536.00	710,154.00	901,952.00
Total Outstanding Contributions	-	-	-	-	-	-	-	-	-	-
Total Outstanding Contributions	-	-	-	-	-	-	-	-	-	-
Total Outstanding All Years	-	-	-	-	-	-	-	-	-	-

Lake Elsinore/San Jacinto Watershed Authority
Statement of Net Assets
For the Eleven Months Ending Wednesday, May 31, 2023

Assets

Checking - US Bank	\$307,890.90
L.A.I.F.	171,133.47
Prepaid Insurance	2,828.00
Total Assets	<u>\$481,852.37</u>

Liabilities

Accounts Payable	<u>193,230.76</u>
Total Liabilities	<u>\$193,230.76</u>

Retained Earnings 136,577.93

Excess Revenue over (under) Expenditures \$152,043.68

Total Net Assets \$288,621.61

Total Liabilities and Net Assets \$481,852.37

Lake Elsinore/San Jacinto Watershed Authority
Revenues, Expenses and Changes in Net Assets
For the Eleven Months Ending Wednesday, May 31, 2023

	Period Actual	YTD Actual	Annual Budget	% Used	Budget Variance
Revenues					
LAIF Interest	\$0.00	\$6,250.81	\$1,650.00	378.84%	(\$4,600.81)
Member Agency Contributions	0.00	196,679.00	274,100.00	71.75%	77,421.00
Other Agency Contributions	0.00	815,273.00	737,851.00	110.49%	(77,422.00)
Total Revenues	\$0.00	\$1,018,202.81	\$1,013,601.00	100.45%	(\$4,601.81)
Expenses					
Salaries - Regular	3,780.44	63,088.05	61,922.00	101.88%	(1,166.05)
Payroll Burden	1,587.78	26,497.00	26,007.33	101.88%	(489.67)
Overhead	6,078.94	101,445.54	99,570.67	101.88%	(1,874.87)
Audit Fees	0.00	5,875.00	5,600.00	104.91%	(275.00)
Consulting - General	137,012.88	656,208.10	712,451.00	92.11%	56,242.90
LEAMS Offset Credit License	0.00	0.00	112,500.00	0.00%	112,500.00
Legal Fees	0.00	0.00	1,100.00	0.00%	1,100.00
Meeting & Conference Expense	16.97	225.81	0.00	0.00%	(225.81)
Contributions	0.00	10,000.00	10,000.00	100.00%	0.00
Bank Charges	0.00	0.00	1,000.00	0.00%	1,000.00
Shipping & Postage	0.00	0.00	50.00	0.00%	50.00
Office Supplies	0.00	0.00	60.00	0.00%	60.00
Other Expense	0.00	67.33	400.00	16.83%	332.67
Insurance Expense	0.00	2,536.00	3,000.00	84.53%	464.00
Interest Expense	0.00	216.30	200.00	108.15%	(16.30)
Total Expenditures	\$148,477.01	\$866,159.13	\$1,033,861.00	83.78%	\$167,701.87
Excess Revenue over (under) Expenditures	(\$148,477.01)	\$152,043.68	(\$20,260.00)	-750.46%	(\$172,303.68)

Lake Elsinore San Jacinto Watersheds Authority
Revenues, Expenses and Changes in Net Assets by Project
For the Month Ending May 31, 2023

	JPA Administration	TMDL Task Force	Total	Budget	% Used	Budget Variance
Revenues						
LAIF Interest	2,804.99		2,804.99	1,650.00	170.00%	(1,154.99)
Member Agency Contributions	90,000.00	106,679.00	196,679.00	274,100.00	71.75%	77,421.00
Other Agency Contributions	20,000.00	795,273.00	815,273.00	737,851.00	110.49%	(77,422.00)
Miscellaneous Revenue			-	-	100.00%	-
Total Revenues	\$ 112,804.99	\$ 901,952.00	\$ 1,014,756.99	\$ 1,013,601.00	100.11%	\$ (1,155.99)
Expenditures						
Salaries	\$ 30,389.51	\$ 32,698.54	\$ 63,088.05	\$ 61,922.00	101.88%	\$ (1,166.05)
Benefits	12,763.59	13,733.41	26,497.00	26,007.33	101.88%	(489.67)
Indirect Costs	48,866.31	52,579.23	101,445.54	99,570.67	101.88%	(1,874.87)
Audit Fees	5,875.00		5,875.00	5,600.00	104.91%	(275.00)
Consulting	24,998.26	631,209.84	656,208.10	712,451.00	92.11%	56,242.90
Other Contract Services			-	-	0.00%	-
Legal Fees			-	1,100.00	0.00%	1,100.00
Contributions	10,000.00		10,000.00	10,000.00	100.00%	-
Meeting & Conference Expense	83.33	142.48	225.81	-	0.00%	(225.81)
Bank Charges			-	1,000.00	0.00%	1,000.00
Shipping & Postage			-	50.00	0.00%	50.00
Other Expense	67.33		67.33	400.00	16.83%	332.67
LEAMS Excess Offset Credit			-	112,500.00	0.00%	112,500.00
Insurance Expense	2,536.00		2,536.00	3,000.00	84.53%	464.00
Office Supplies				60.00	0.00%	60.00
Interest Expense	216.30		216.30	200.00	108.15%	(16.30)
Total Expenditures	\$ 135,795.63	\$ 730,363.50	\$ 866,159.13	\$ 1,033,861.00	83.78%	\$ 167,701.87
Excess Revenue over (under) Expenditures	\$ (22,990.64)	\$ 171,588.50	\$ 148,597.86	\$ (20,260.00)	100.00%	\$ (168,857.86)
 Cash Balance @ 04/30/2023	 \$ 21,246.66	 \$ 457,777.71	 \$ 479,024.37			

**Lake Elsinore San Jacinto
Watershed Authority
Disbursements
May 2023**

Check #	Check Date	Type	Vendor	Check Amount
EFT488	5/4/2023	CHK	GEI Consultants	\$28,433.75
EFT489	5/11/2023	CHK	Santa Ana Watershed Project Authority	\$16,565.41
EFT490	5/25/2023	CHK	DeGrave Communications	\$3,014.17
EFT491	5/25/2023	CHK	WSP USA Environment & Infrastructure	\$17,065.39
EFT492	5/25/2023	CHK	Kahn, Soares & Conway, LLP	\$12,185.64
Total Disbursements May 2023				<u>\$ 77,264.36</u>

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Lake Elsinore and San Jacinto Watersheds Authority

FINANCIAL STATEMENTS

June 2023

Lake Elsinore/San Jacinto Watershed Authority
Statement of Net Assets
For the Twelve Months Ending Friday, June 30, 2023

Assets

Checking - US Bank	\$144,606.67
L.A.I.F.	168,537.12
Interest Receivable	1,343.64
Prepaid Insurance	2,828.00
Total Assets	<u>\$317,315.43</u>

Liabilities

Accounts Payable	39,379.33
Accrued Accounts Payable	91,398.62
Total Liabilities	<u>\$130,777.95</u>

Retained Earnings	136,577.93
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Excess Revenue over (under) Expenditures	<u>\$49,959.55</u>
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Total Net Assets	<u>\$186,537.48</u>
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Total Liabilities and Net Assets	<u><u>\$317,315.43</u></u>
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Lake Elsinore San Jacinto Watersheds Authority
 LE/CL TMDL Invoice History
 FYE 2014 - 2023
 as of June 30, 2023

Agency	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
March ARB	12,500.00	35,226.00	25,176.00	38,321.00	29,864.00	27,890.00	32,863.00	36,460.00	33,216.00	38,751.00
CalTrans	12,500.00	28,656.00	26,072.00	40,421.00	31,964.00	29,996.00	34,286.00	37,651.00	32,757.00	39,848.00
City of Beaumont	19,263.00	24,280.00	26,866.00	37,421.00	28,128.00	14,160.00	28,251.00	28,935.00	27,070.00	32,082.00
City of Canyon Lake	18,389.00	34,863.00	24,142.00	42,521.00	33,586.00	28,780.00	33,754.00	37,787.00	34,393.00	40,695.00
City of Hemet	18,175.00	25,510.00	27,958.00	54,278.00	36,426.00	29,084.00	41,830.00	46,261.00	42,139.00	50,858.00
City of Lake Elsinore	19,381.00	30,580.00	32,463.00	37,421.00	22,330.00	28,521.00	33,361.00	34,071.00	31,795.00	35,573.00
City of Menifee	44,155.00	55,821.00	23,584.00	100,499.00	100,906.00	112,252.00	86,846.00	92,189.00	82,180.00	106,785.00
City of Moreno Valley	103,565.00	113,058.00	17,750.00	96,414.00	74,122.00	144,495.00	80,826.00	83,847.00	63,927.00	91,977.00
City of Murrieta	12,426.00	24,280.00	26,866.00	38,321.00	31,337.00	22,796.00	30,774.00	34,433.00	32,988.00	38,102.00
City of Perris	18,869.00	26,739.00	29,050.00	59,821.00	50,374.00	66,775.00	50,792.00	54,723.00	40,792.00	56,560.00
City of Riverside	17,641.00	24,280.00	26,866.00	38,921.00	30,293.00	24,896.00	26,751.00	28,635.00	27,070.00	32,082.00
City of San Jacinto	19,487.00	24,280.00	26,866.00	37,721.00	23,290.00	27,296.00	26,751.00	27,435.00	27,970.00	32,082.00
City of Wildomar	8,307.00	19,528.00	26,460.00	41,642.00	28,841.00	21,872.00	31,578.00	30,945.00	25,060.00	32,376.00
County of Riverside	30,165.00	36,469.00	30,362.00	68,931.00	69,034.00	76,601.00	81,634.00	88,734.00	83,361.00	114,620.00
Dept of Fish and Game	12,500.00	18,435.00	28,840.00	35,121.00	22,857.00	16,818.00	26,751.00	27,435.00	25,570.00	29,082.00
Eastern Municipal Water District	12,500.00	16,225.00	23,525.00	27,789.00	15,724.00	16,222.00	23,496.00	26,935.00	25,570.00	29,082.00
Elsinore Valley Municipal Water District	12,500.00	16,225.00	23,525.00	30,361.00	18,327.00	12,626.00	24,934.00	29,881.00	26,946.00	30,411.00
March JPA	12,500.00	24,485.00	27,160.00	38,921.00	30,464.00	24,596.00	31,006.00	34,412.00	32,968.00	38,071.00
San Jacinto Agricultural Operators	12,500.00	47,549.00	23,530.58	45,785.00	31,391.00	37,999.65	38,927.00	27,767.00	14,382.00	29,915.00
San Jacinto Dairy & CAFO Operators	12,500.00	16,225.00	-	-	-	2,700.00	2,850.00	-	-	3,000.00
Total	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	808,536.00	710,154.00	901,952.00
Total Paid Contributions	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	808,536.00	710,154.00	901,952.00
Total Outstanding Contributions	-	-	-	-	-	-	-	-	-	-
Total Outstanding Contributions	-	-	-	-	-	-	-	-	-	-
Total Outstanding All Years	-	-	-	-	-	-	-	-	-	-

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY
 CASH FLOW STATEMENT
 AS OF 06/30/2023

Balance as of 5/31/2023 \$ 479,024.37

Funds Received
Deposits:

Open - Grant Invoices

Open - Member & Other Contributions
Total Due LESJWA -

Disbursement List - June 2023 \$ (163,284.23)

Funds Available as of 06/30/2023 \$ 315,740.14

Funds Available:

Checking	\$ 144,606.67
LAIF*	<u>\$ 171,133.47</u>
Total	<u><u>\$ 315,740.14</u></u>

* Balance Sheet number for LAIF includes an adjustment to the market value of LAIF assets required by GASB

Lake Elsinore/San Jacinto Watershed Authority
Revenues, Expenses and Changes in Net Assets
For the Twelve Months Ending Friday, June 30, 2023

	Period Actual	YTD Actual	Annual Budget	% Used	Budget Variance
Revenues					
LAIF Interest	\$1,343.64	\$7,594.45	\$1,650.00	460.27%	(\$5,944.45)
Valuation Income - LAIF	(2,596.35)	(2,596.35)	0.00	0.00%	2,596.35
Member Agency Contributions	0.00	196,679.00	274,100.00	71.75%	77,421.00
Other Agency Contributions	0.00	815,273.00	737,851.00	110.49%	(77,422.00)
Total Revenues	(\$1,252.71)	\$1,016,950.10	\$1,013,601.00	100.33%	(\$3,349.10)
Expenses					
Salaries - Regular	3,948.77	67,036.82	61,922.00	108.26%	(5,114.82)
Payroll Burden	1,658.49	28,155.49	26,007.33	108.26%	(2,148.16)
Overhead	6,349.62	107,795.16	99,570.67	108.26%	(8,224.49)
Audit Fees	0.00	5,875.00	5,600.00	104.91%	(275.00)
Consulting - General	32,284.05	688,492.15	712,451.00	96.64%	23,958.85
LEAMS Offset Credit License	56,400.00	56,400.00	112,500.00	50.13%	56,100.00
Legal Fees	0.00	0.00	1,100.00	0.00%	1,100.00
Meeting & Conference Expense	73.95	299.76	0.00	0.00%	(299.76)
Contributions	0.00	10,000.00	10,000.00	100.00%	0.00
Bank Charges	0.00	0.00	1,000.00	0.00%	1,000.00
Shipping & Postage	0.00	0.00	50.00	0.00%	50.00
Office Supplies	0.00	0.00	60.00	0.00%	60.00
Other Expense	0.00	67.33	400.00	16.83%	332.67
Insurance Expense	0.00	2,536.00	3,000.00	84.53%	464.00
Interest Expense	116.54	332.84	200.00	166.42%	(132.84)
Total Expenditures	\$100,831.42	\$966,990.55	\$1,033,861.00	93.53%	\$66,870.45
Excess Revenue over (under) Expenditures	(\$102,084.13)	\$49,959.55	(\$20,260.00)	-246.59%	(\$70,219.55)

Lake Elsinore San Jacinto Watersheds Authority
Revenues, Expenses and Changes in Net Assets by Project
For the Month Ending June 30, 2023

	JPA Administration	TMDL Task Force	Total	Budget	% Used	Budget Variance
Revenues						
LAIF Interest	4,148.63		4,148.63	1,650.00	251.43%	(2,498.63)
Member Agency Contributions	90,000.00	106,679.00	196,679.00	274,100.00	71.75%	77,421.00
Other Agency Contributions	20,000.00	795,273.00	815,273.00	737,851.00	110.49%	(77,422.00)
Miscellaneous Revenue			-	-	100.00%	-
Total Revenues	\$ 114,148.63	\$ 901,952.00	\$ 1,016,100.63	\$ 1,013,601.00	100.25%	\$ (2,499.63)
Expenditures						
Salaries	\$ 32,271.48	\$ 34,765.34	\$ 67,036.82	\$ 61,922.00	108.26%	\$ (5,114.82)
Benefits	13,554.02	14,601.47	28,155.49	26,007.33	108.26%	(2,148.16)
Indirect Costs	51,892.52	55,902.64	107,795.16	99,570.67	108.26%	(8,224.49)
Audit Fees	5,875.00		5,875.00	5,600.00	104.91%	(275.00)
Consulting	24,998.26	663,493.89	688,492.15	712,451.00	96.64%	23,958.85
Other Contract Services			-	-	0.00%	-
Legal Fees			-	1,100.00	0.00%	1,100.00
Contributions	10,000.00		10,000.00	10,000.00	100.00%	-
Meeting & Conference Expense	115.56	184.20	299.76	-	0.00%	(299.76)
Bank Charges			-	1,000.00	0.00%	1,000.00
Shipping & Postage			-	50.00	0.00%	50.00
Other Expense	67.33		67.33	400.00	16.83%	332.67
LEAMS Excess Offset Credit		56,400.00	56,400.00	112,500.00	50.13%	56,100.00
Insurance Expense	2,536.00		2,536.00	3,000.00	84.53%	464.00
Office Supplies				60.00	0.00%	60.00
Interest Expense	332.84		332.84	200.00	166.42%	(132.84)
Total Expenditures	\$ 141,643.01	\$ 825,347.54	\$ 966,990.55	\$ 1,033,861.00	93.53%	\$ 66,870.45
Excess Revenue over (under) Expenditures	\$ (27,494.38)	\$ 76,604.46	\$ 49,110.08	\$ (20,260.00)	100.00%	\$ (69,370.08)
Cash Balance @ 06/30/2023	\$ 9,674.94	\$ 306,065.20	\$ 315,740.14			

**Lake Elsinore San Jacinto
Watershed Authority
Disbursements
June 2023**

Check #	Check Date	Type	Vendor	Check Amount
1116	6/15/2023	CHK	Alliant Insurance Services	\$ 2,828.00
EFT493	6/1/2023	CHK	AquaTechnex LLC	\$ 71,988.73
EFT494	6/1/2023	CHK	GEI Consultants	\$ 19,954.27
EFT495	6/8/2023	CHK	AquaTechnex LLC	\$ 29,500.00
EFT496	6/8/2023	CHK	WSP USA Environment & Infrastructure	\$ 21,971.48
EFT497	6/15/2023	CHK	Kahn, Soares & Conway, LLP	\$ 3,487.50
EFT498	6/22/2023	CHK	DeGrave Communications	\$ 2,090.12
EFT499	6/29/2023	CHK	Santa Ana Watershed Project Authority	\$ 11,464.13
Total Disbursements June 2023				<u>\$ 163,284.23</u>

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Lake Elsinore and Canyon Lake TMDL Task Force

April 25, 2023

PARTICIPANTS PRESENT:

Abigail Suter, Riverside County Flood Control & WCD	Mike Ali, EVMWD
Aldo Licitra, Riverside County Flood Control & WCD	Michael Roberts, City of Riverside
Alfredo Javier, EMWD	Natasha Thandi, Caltrans (MBI)
Barbara Barry, Regional Water Quality Control Board	Pat Boldt, WRCAC
Ben Foster, City of Lake Elsinore	Paula Kulis, CDM Smith
Chris Stransky, WSP USA	Rachael Johnson, Riverside County Farm Bureau
Carlos Norvani, City of Lake Elsinore	Rae Beimer, City of Moreno Valley
Cynthia Gabaldon, City of Menifee, Perris, and March JPA	Rebekah Guill, Riverside County Flood Control & WCD
Dan Cortese,	Richard Meyerhoff,, GEI Consultants
Doug Edwards,	Rohini Mustafa, Riverside County Flood Control & WCD
Dustin Christensen, City of Beaumont	Scott Sewell, CDFW
Garth Engelhorn, NV5	Steven Wolosoff, GEI Consultants
Jessica Galloway,	Stormy Osifeso, City of Riverside
Jim Klang, WRCAC	Sudhir Mohleji, Elsinore Valley Municipal Water District
John Rudolph, WSP USA	Tess Dunham, Kahn, Soares & Conway, LLP
Johnathan Oliver Skinner, City of Lake Elsinore	Bruce Whitaker, SAWPA
Joe Bellomo, City of Canyon Lake	Gil Botello, SAWPA
Kris Hanson, City of Wildomar (Interwest)	T Milford Harrison, SAWPA
Lauren Sotelo, March JPA	Mark Norton, SAWPA
Lenai Hunter, Elsinore Valley Municipal Water District	Rachel Gray, SAWPA
Lynn Merrill, City of San Jacinto	Rick Whetsel, SAWPA

Call to Order & Introductions

The Lake Elsinore/Canyon Lake TMDL Task (Task Force) meeting was called to order at 1:02 p.m. by Rick Whetsel, with all participants participating remotely.

Approval of Meeting Notes from March 28, 2023 Task Force Meeting

The March 28, 2023 meeting notes were approved with the addition of Gil Botello, SAWPA added to the list of participants.

Status: Regional Board Update (Regional Board)

Barbara Barry, Regional Board, informed the Task Force that Regional Board staff are continuing to respond to Peer Review comments. She and her staff are also reviewing sections of the revised LE&CL TMDL Technical Report.

She then informed stakeholders that she and her staff will be following up with State Board staff on their response to comments on the draft 2024 Integrated Report. It is anticipated that the response to comments will be completed in August.

Regarding the monitoring of cyanobacteria in Lake Elsinore, she informed stakeholders that results provided by the City of Lake Elsinore have wavered between the Warning and Danger Levels, with the Lake currently posted at the Danger Level. Regional Board staff has continued discussion with the City of Lake Elsinore and their consultants from WSP USA regarding their efforts to monitoring cyanobacteria levels.

Ben Foster, City of Lake Elsinore reported that the City is continuing to work with WSP USA on the development of a monitoring program, as well as tools to keep the public informed on Lake conditions.

Update: Update: Draft 2024 Integrated Report (303(d) list) (Tess Dunham, KSC)

Tess Dunham, KSC informed the Task Force that she had addressed comments by stakeholders and that a formal signed Comment Letter to the State Water Resources Control Board on the draft 2024 California Integrated Report was submitted electronically by Mark Norton, LESJWA Administrator on behalf of the Lake Elsinore and Canyon Lake TMDL Task Force on April 3rd.

LESJWA staff will share a copy of this letter to the Task Force following this meeting.

Update: TMDL Update Activities (Tess Dunham, KSC, Steve Wolosoff, GEI and Paula Kulis, CDM Smith)

Steven Wolosoff, GEI Consultants introduced Paula Kulis, CDM Smith to provide an overview of the results of the updated in-lake water quality models. Steven then discussed how the reference scenario modeling results are being used to create numeric targets. He then presented to the Task Force for discussion their preference as how these reference scenario modeling results should be presented within the TMDL Technical document. This included discussion on presenting these data as either a cumulative distribution function or as an exceedance frequency curve. He then brought up for discussion the appropriate number of years to be used in the assessment of compliance.

Pat Boldt and James Klang representing WRCAC commented that the permit requirements for non-dairy CAFO sources are still under development that they should have the ability to revise any language to go into the Basin Plan Amendment once a permit is finalized. Barbara responded that this situation often occurs with TMDLs and Regional Board has the ability to provide guidance to permit writers as to how the future permit should be implemented and as TMDL schedule being proposed for 30 years, she believes there is ample time to resolve this issue down the road.

Following discussion, Barbara suggested that she, Tess and Steven schedule a call to further discuss the issues brought up today.

Steven ended his presentation informing the Task Force of the proposed next steps and schedule moving forward as follows:

- Consultant team has received comments on Source Assessment and Allocations and will respond to these comments by the next meeting.
- Drafts Sections on Numeric Targets, Linkage Analysis, and Implementation are to be submitted for Task Force review the week of May 1.
- Other sections with less significant changes to follow.
- Regional Board planning staff in process of scheduling workshop and adoption for the 2023-24 fiscal year.

A copy of this presentation is available on the SAWPA website under Agendas and Meeting Materials:
<https://sawpa.org/wp-content/uploads/2023/04/LECL-Task-Force-Presentation-April-2023.pdf>.

Update: Canyon Lake Alum Application (LESJWA Staff)

Rick Whetsel informed the Task Force that the spring 2023 Canyon Lake Alum application scheduled for the week of April 10th was postponed, due to Canyon Lake continuing to overflow.

The spring 2023 Canyon Lake Alum application has been rescheduled for the week beginning Monday, May 8th, weather permitting, as the lake is currently still overflowing.

Task Force Administration (LESJWA Staff)

Rick Whetsel had no update but reminded the Task Force that FY 2023-24 Invoices will be sent out in July.

Other Business

No Other Business was discussed.

Schedule Next Meeting

The next LE/CL TMDL Task Force meeting is scheduled for Monday, June 5, 2023, from 1:00 to 3:00 p.m.

Adjourn

The meeting was adjourned at 3:05 p.m.

Table Summary of Agreements and Actions

Date of Action/Agreement	Action/Agreement	Responsible Entities Reaching Agreement
September 28, 2021	<ul style="list-style-type: none"> Approve funding in the amount of up to \$30,000 to CDM Smith to assist Task Force technical issues, including but not limited to, initial discussions regarding content and scope of TMDL Implementation Plan revisions should the Task Force decide to provide resources for further revising the 2018 draft TMDL. 	Voting Task Force members.
November 3, 2021	<ul style="list-style-type: none"> Approve moving forward with the proposed step-wise approach to updating the TMDL Technical Report and its timeline. 	Voting Task Force members
January 10, 2022	-	-
March 2, 2022	<ul style="list-style-type: none"> The Task Force agreed to submit a comment letter to the Draft Staff Working Proposal for MS4 Permit by March 18, 2022. Regional Board confirmed that they would accept the comments past their soft deadline of March 10. Approved the alum application to the Canyon Lake if the February monitoring data exceeds 0.09. 	Voting Task Force members
April 20, 2022	<ul style="list-style-type: none"> Approved execution of the Key Principles for Technical TMDL Revision by Mark, Norton Task Force Administrator on behalf of the voting members of the task force subject to revisions discussed at the 4/20/2022 task force meeting. Approved submittal of the Task Force Comment letter to Regional Board on the Staff Working Proposal for the MS4 Permit upon revision discussed at the 4/20/2022 task force meeting. Regional Board abstained from action and conversation of this matter. Approved amendment #3 to extend the LE/CL TMDL Task Force Agreement for a period of three years to June 30, 2025, with the option that the Agreement, while still in full force and effect, may be extended an additional two years, to June 30, 2027, by means of Administrative Action by the Task Force Administrator 	Voting Task Force members; Excludes Regional Board in relation to the Comment Letter to Regional Board on the Staff Working Proposal for the MS4 Permit.
June 27, 2022	-	-
August 17, 2022	<ul style="list-style-type: none"> Approved execution of the Key Principles for Technical TMDL Revision by Mark Norton, Task Force Administrator on behalf of the voting members of the LE&CL TMDL Task Force. Approved a proposal by CDM Smith and a recommendation to the LESJWA Board to authorize a Task Order to update and revise the technical document and additional TMDL technical support services. 	Mark Norton, Task Force Administrator on behalf of the voting members of the LE&CL TMDL Task Force
September 27, 2022	-	-
November 14, 2022	<ul style="list-style-type: none"> Transfer the remaining balance of the contract work supported by Steven Wolosoff as of December 31, 2022 from CDM Smith and enter into an agreement with GEI Consultants to complete work starting on January 1 2023. Exercise an option for a two year extension with WSP USA to oversee and implement TMDL Compliance Monitoring. Program. 	Voting Task Force members
January 10, 2023	-	-
February 15, 2023	<ul style="list-style-type: none"> The Task Force moved to provide LESJWA staff in coordination with the Task Force consulting team the authority to make a determination on the need for a Spring 2023 alum application based upon review of the February 2023 Canyon Lake monitoring results to be provided by WSP USA. 	Voting Task Force members.
March 28, 2023	-	-
April 25, 2023	-	-

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Lake Elsinore and Canyon Lake TMDL Task Force

June 5, 2023

PARTICIPANTS PRESENT:

Abigail Suter, Riverside County Flood Control & WCD	Pat Boldt, WRCAC
Aldo Licitra, Riverside County Flood Control & WCD	Patrick Lewis, Regional Water Quality Control Board
Alfredo Javier, EMWD	Rachael Johnson, Riverside County Farm Bureau
Barbara Barry, Regional Water Quality Control Board	Rae Beimer, City of Moreno Valley
Ben Foster, City of Lake Elsinore	Rebekah Guill, Riverside County Flood Control & WCD
Chris Stransky, WSP USA	Rohini Mustafa, Riverside County Flood Control & WCD
Carlos Norvani, City of Lake Elsinore	Richard Boon, Riverside County Flood Control & WCD
Cynthia Gabaldon, City of Menifee, Perris, and March JPA	Scott Sewell, CDFW
Dustin Christensen, City of Beaumont	Steven Wolosoff, GEI Consultants
Dave Woelfel, Regional Water Quality Control Board	Stormy Osifeso, City of Riverside
Garth Engelhorn, NV5	Sudhir Mohleji, Elsinore Valley Municipal Water District
Jim Klang, WRCAC	Tess Dunham, Kahn, Soares & Conway, LLP
John Rudolph, WSP USA	Bruce Whitaker, SAWPA
Kris Hanson, City of Wildomar (Interwest)	Gil Botello, SAWPA
Lynn Merrill, City of San Jacinto	T Milford Harrison, SAWPA
Mike Ali, EVMWD	Rachel Gray, SAWPA
Michael Roberts, City of Riverside	Rick Whetsel, SAWPA
Natasha Thandi, Caltrans (MBI)	

Call to Order & Introductions

The Lake Elsinore/Canyon Lake TMDL Task (Task Force) meeting was called to order at 1:03 p.m. by Rick Whetsel, with all participants participating remotely.

Approval of Meeting Notes from April 25, 2023 Task Force Meeting

The April 25, 2023 meeting notes were approved as posted.

Status: Regional Board Update (Regional Board)

Barbara Barry, Regional Board, informed the Task Force that David Woelfel's retired annuitant position will end on June 22, 2023 and he will no longer be working to support the LE&CL TMDLs. Currently, Barbara and Lauren Briggs are focusing their efforts on reviewing the various sections of the TMDL Technical Report.

The proposed Regional Board schedule for the LE&CL TMDLs moving forward is to hold a Board Workshop in December 2023 followed by an Adoption hearing in late spring 2024 or by the end of the fiscal year.

With respect to the Integrated Report response to comments, the deadline for Regional Board staff to submit comments to the State is August 2nd. Regional Board staff is currently working to address comments on Orange County and plan to comments on Lake Elsinore in late June or early July.

A question was raised by stakeholders on the status of cyanobacteria in Lake Elsinore, Barbara informed stakeholders that the lake is currently at the Caution Level. Ben Foster, City of Lake Elsinore reported that the lake has been at the Caution Level for four consecutive weeks and moving forward the City is planning bi-weekly monitoring for as long as the Caution Level persists.

Update: TMDL Update Activities (Tess Dunham, KSC and Steve Wolosoff, GEI Consultants)

Tess Dunham, KSC, informed the Task Force that the consulting team is currently reviewing comments from stakeholders on various sections of the TMDL Technical report that had been sent out for review and to the extent that there were comments on the previous version (2018 version) of the TMDL Technical Document that were not previously addressed to please resubmit them so that we can get these issues resolved before we submit the final document to Regional Board for Public Review. She then introduced Steven Wolosoff, GEI Consultants to review some of the key comments submitted by Regional Board staff, EVMWD staff and WRCAC.

As part of this discussion, Steven re-introduced a memo titled, “Supplemental lake water quality model application to evaluate potential alternative reference scenario for TMDL revision“ that was first shared with the Task Force back in March 2022 to revisit the Topic of “Enhanced Watershed Retention.”

A copy of the CDM Smith Memorandum “Supplemental lake water quality model application to evaluate potential alternative reference scenario for TMDL revision“ is available on the SAWPA website under Agendas and Meeting Materials: <https://sawpa.org/wp-content/uploads/2023/07/Lake-Model-Results-for-Alternative-Reference-Scenario-Memo.pdf>.

Update: Canyon Lake Alum Application (LESJWA Staff)

Rick Whetsel provided an update to the Task Force that during the recent (conducted the week of May 18th) alum application at Canyon Lake, a condition arose where a mixture of floating aluminum sulfate floc and algae occurred in one of the coves of the main lake body. This resulted in some concern by one Canyon Lake resident who took some pictures and sent them to the publisher of the Canyon Lake Friday Flyer. The publisher contacted our education and outreach consultant, Liselle DeGrave of DeGrave Communications who then forwarded it to SAWPA/LESJWA staff to investigate.

LESJWA immediately reached out to our alum application contractor, Aquatechnex, to obtain their feedback about the problem. Aquatechnex informed LESJWA staff that this is a temporary condition, similar to one that occurred with an alum application about five years ago, and is a result of a combination of warming weather and an abundance of nutrients in the water column from the numerous winter storms, resulting in a subsurface algae bloom in the cove lake water occurring at the same time as when the aluminum sulfate was being applied to the Canyon Lake main lake body. Aquatechnex shared that the alum floc will likely settle out of the water column within a few days and as an inert (harmless, non-reactive) compound. However, a benefit of the extended time that the alum remains suspended in the water column, is that there is greater opportunity for the alum to bind with any remaining phosphorus in the water column and provide for the maximum amount of phosphorus removal, which is used by algae.

Based on follow-up reports to LESJWA staff, the alum floc dissipated significantly within 12 hours of the alum application and no further issues were reported.

Task Force Administration (LESJWA Staff)

Rick Whetsel provided an update to the Task Force on the availability of LEAMS nutrient offset credits to stakeholders for 2022 and requested action as how to allocate the stakeholder funds.

The 2022 Annual Lake Elsinore Offset Report prepared by Dr. Horne to quantify TP and TN offset credits available from the operation of LEAMS to LE&CL TMDL Task Force stakeholders revealed that there were insufficient total nitrogen credits available to sell to stakeholders for 2022.

To address this shortfall of available total nitrogen credits, LESJWA staff proposed to rework the LEAMS offset credit and corresponding budget allocations to Task Force members purchasing LEAMS nutrient offset credits similar to what was done in 2020, when LEAMS also failed to produce sufficient total nitrogen credits to permit the sale of credits to Task Force members. Whereas, in 2020, the Task Force directed LESJWA staff to allocate nutrient offset credits based solely on the need for total phosphorus offset credits and to invoice stakeholders for only 2020 TP offset credits. All remaining funds were held and applied to their 2021 LEAMS budget allocation.

Following brief discussion Lynn Merrill, representing the City of San Jacinto, moved a motion; Cynthia Gabaldon, seconded the motion.

MOVED, motion for LESJWA staff to rework the nutrient offset credits based solely on the need for total phosphorus offset credits and to invoice stakeholders for only 2022 TP offset credits. All remaining funds are to be applied to stakeholders 2023 LEAMS budget allocation.

Other Business

No Other Business was discussed.

Schedule Next Meeting

The next LE/CL TMDL Task Force meeting is scheduled for Monday, August 7, 2023, from 1:00 to 3:00 p.m.

Adjourn

The meeting was adjourned at 2:50 p.m.

DRAFT

Table Summary of Agreements and Actions

Date of Action/Agreement	Action/Agreement	Responsible Entities Reaching Agreement
September 28, 2021	<ul style="list-style-type: none"> Approve funding in the amount of up to \$30,000 to CDM Smith to assist Task Force technical issues, including but not limited to, initial discussions regarding content and scope of TMDL Implementation Plan revisions should the Task Force decide to provide resources for further revising the 2018 draft TMDL. 	Voting Task Force members.
November 3, 2021	<ul style="list-style-type: none"> Approve moving forward with the proposed step-wise approach to updating the TMDL Technical Report and its timeline. 	Voting Task Force members
January 10, 2022	-	-
March 2, 2022	<ul style="list-style-type: none"> The Task Force agreed to submit a comment letter to the Draft Staff Working Proposal for MS4 Permit by March 18, 2022. Regional Board confirmed that they would accept the comments past their soft deadline of March 10. Approved the alum application to the Canyon Lake if the February monitoring data exceeds 0.09. 	Voting Task Force members
April 20, 2022	<ul style="list-style-type: none"> Approved execution of the Key Principles for Technical TMDL Revision by Mark, Norton Task Force Administrator on behalf of the voting members of the task force subject to revisions discussed at the 4/20/2022 task force meeting. Approved submittal of the Task Force Comment letter to Regional Board on the Staff Working Proposal for the MS4 Permit upon revision discussed at the 4/20/2022 task force meeting. Regional Board abstained from action and conversation of this matter. Approved amendment #3 to extend the LE/CL TMDL Task Force Agreement for a period of three years to June 30, 2025, with the option that the Agreement, while still in full force and effect, may be extended an additional two years, to June 30, 2027, by means of Administrative Action by the Task Force Administrator 	Voting Task Force members; Excludes Regional Board in relation to the Comment Letter to Regional Board on the Staff Working Proposal for the MS4 Permit.
June 27, 2022	-	-
August 17, 2022	<ul style="list-style-type: none"> Approved execution of the Key Principles for Technical TMDL Revision by Mark Norton, Task Force Administrator on behalf of the voting members of the LE&CL TMDL Task Force. Approved a proposal by CDM Smith and a recommendation to the LESJWA Board to authorize a Task Order to update and revise the technical document and additional TMDL technical support services. 	Mark Norton, Task Force Administrator on behalf of the voting members of the LE&CL TMDL Task Force
September 27, 2022	-	-
November 14, 2022	<ul style="list-style-type: none"> Transfer the remaining balance of the contract work supported by Steven Wolosoff as of December 31, 2022 from CDM Smith and enter into an agreement with GEI Consultants to complete work starting on January 1 2023. Exercise an option for a two year extension with WSP USA to oversee and implement TMDL Compliance Monitoring. Program. 	Voting Task Force members
January 10, 2023	-	-
February 15, 2023	<ul style="list-style-type: none"> The Task Force moved to provide LESJWA staff in coordination with the Task Force consulting team the authority to make a determination on the need for a Spring 2023 alum application based upon review of the February 2023 Canyon Lake monitoring results to be provided by WSP USA. 	Voting Task Force members.
March 28, 2023	-	-
April 25, 2023	-	-

June 5, 2023	<ul style="list-style-type: none">• Task Force approved LESJWA staff to rework the nutrient offset credits based solely on the need for total phosphorus offset credits and to invoice stakeholders for only 2022 TP offset credits. All remaining funds are to be applied to stakeholders 2023 LEAMS budget allocation.	
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LESJWA BOARD MEMORANDUM NO. 2023.09

DATE: August 17, 2023
TO: LESJWA Board of Directors
SUBJECT: LESJWA Strategic Plan: Approval to Release Request for Proposal
PREPARED BY: Rachel Gray, LESJWA Authority Administrator

RECOMMENDATION

That the Board of Directors provide input on the process and format for an update to the Strategic Plan; and direct staff to issue a Request for Proposals (RFP) for Strategic Plan Facilitator Consultant Services.

DISCUSSION

Listening sessions with the Board of Directors resulted in a recommendation to update the LESJWA Strategic Plan, most recently completed in 2014. The 2014 Strategic Plan focused on financing of the organization. The Strategic Plan update is intended to define the shared vision, mission, goals, and critical success factors for the organization.

Staff has developed an RFP to retain a firm experienced in developing a Strategic Plan consisting of purpose and objectives, critical success factors, and processes, activities, and tasks. The Strategic Plan should be simple, and results oriented with a potential for progress evaluation/measurement.

Specific tasks during the development of the Strategic Plan will include:

1. Meet with LESJWA staff to develop issues for discussion and preliminary plan outline;
2. Conduct workshops with member agencies key staff to evaluate areas of opportunity and need;
3. Conduct listening sessions with Board of Directors Members (at least 5 sessions);
4. Conduct Board of Directors workshops (at least 2);
5. Meet with other key LESJWA partners;
6. Working with staff to draft findings and formulate strategic plan contents;
7. Conduct Board of Directors workshop to review draft results; and,
8. Finalize the Strategic Plan.

It is expected the strategic planning process will be streamlined to identify common interests, desired outcomes, and focus on corresponding factors needed to achieve success, and shall be completed over an 8-month period.

RESOURCE IMPACTS

Source of funding for the Strategic Plan update will be assessed based on the fee proposal.

Attachments:

1. Presentation
2. Request for Proposals (RFP) for LESJWA Strategic Plan Update

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LESJWA Strategic Plan Request for Proposals

Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

Rachel Gray, LESJWA Authority Administrator
LESJWA Board Meeting | August 17, 2023
Item No. 6.A.

Agenda

1. Summary of Feedback from Listening Sessions
2. Request for Proposal for Facilitation Services to Develop Strategic Plan

1. Summary of Feedback from Listening Sessions

SAWPA (May 3, 2023)	County of Riverside (May 17, 2023)	City of Canyon Lake (May 23, 2023)	EVMWD (May 26, 2023)	City of Lake Elsinore (June 6, 2023)
Board Member Brenda Dennstedt	Board Member Karen Spiegel	Chair Dale Welty	Board Member Andy Morris	Board Member Robert Magee
Alternate Board Member Mike Gardner	Chief of Staff Philip Paule	City Manager Nicole Dailey	Alternate Board Member Darcy Burke	Alternate Board Member Steve Manos
			General Manager Greg Thomas	

1. Summary of Feedback from Listening Sessions

Strategic Plan	Projects	LE/CL TMDL TF	Funding
Re-define shared vision, mission, goals	Develop list of shovel ready projects	Distraction to LESJWA Objective	Funding Sources: capitalize and pursue, ability to fund projects
Develop a roadmap with defined objectives and metrics for success	Identify key landowners to work with such as BLM, USBR, ACOE, etc.	TF focused on compliance, not lake health	Convert to a Conservancy
Develop internally facing Strategic Plan	Strategize on nature-based solutions	Regulatory Compliance	Develop Roadmap for Economic Development (resort destination)
Develop external facing Strategic Priorities Brochure	Focal Areas: San Jacinto River and EVMWD treatment plant Upstream areas: mystic lake, etc.	Bridge gap between TF and LESJWA vision	Pursue Lobbying/Advocacy: Coordinated effort
Define Roles/Responsibilities: <ul style="list-style-type: none"> Education/Information (public forum) Expert spokesperson for lakes 	Develop CIP projects and revenue requirements: Asset replacement LEAMS	Water Quality of Lakes: <ul style="list-style-type: none"> Economic Impact Socioeconomic Impact Reputation 	Actively Pursue Grant Opportunities Grant writing capabilities
Develop Recreational Opportunities: Living, playing, recreation, esthetics		Salinity of lakes	Prioritize what is being funded
Develop Master Plan for Lakes		Algal Blooms	Salton Sea: example of funding
Equal Emphasis on Both Lakes: lake health, define constituents of concern			Member Contributions: provide match funding the grants
Reserve Fund Policy			Enhanced financial options: partnerships

Project Ideas

- Analyze long-term effects of Alum application in CL
- Sediment core sampling
- Bathymetric survey: assess sediment build up
- Catch basin upstream of CL
- Fisheries Survey
- Source water drinking protection:
- Water quality: PFAS
- Sediment build-up
- Conditional assessment of LEAMS
- Hazardous Algal Blooms: Monitoring
- Dredging (CL and LE)
- Algae removal
- Oxygen injection



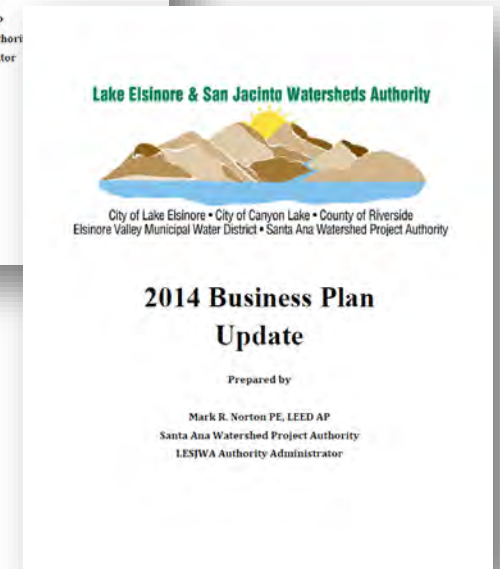
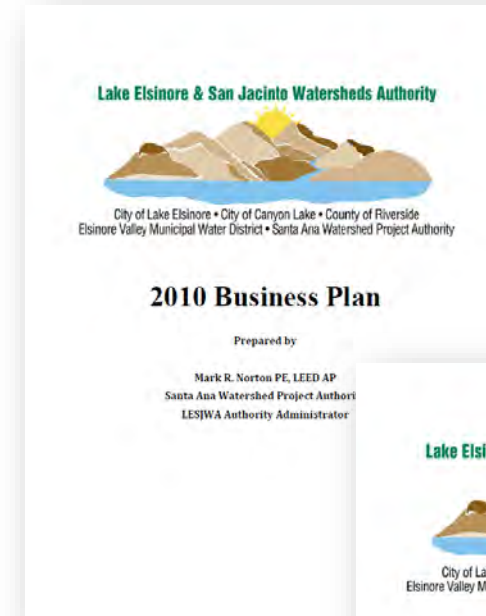
2. Request for Proposal for Facilitation Services to develop Strategic Plan

Recommendation:

That the Board of Directors provide input on the process and format for an update to the Strategic Plan; and, direct staff to issue a Request for Proposals (RFP) for Strategic Plan Facilitator Consultant Services.

Background

- LESJWA Board directed staff to prepare 1st LESJWA Business Plan in 2011
- Focus of Business Plan was on financing of organization
- Plan was updated in 2014
- Accomplished goals of providing an approach to financially sustain LESJWA
- April 2023 LESJWA Board asked staff to update with strategic priorities



LESJWA Strategic Plan RFP

Objective: LESJWA is seeking a consultant to provide facilitation services to develop an agency Strategic Plan.

Focus: Efficiency of process to complete plan, simplicity of written document, ability to measure progress through definition of metrics or other means.

Schedule: The scope of work shall be completed over an 8-month period.



Strategic Planning Tasks

- ✓ Meet with LESJWA staff to develop issues for discussion and preliminary plan outline
- ✓ Conduct workshops with the Board of Directors, Member Agencies, and key stakeholders
- ✓ Work with staff to draft findings and formulate plan
- ✓ Conduct final workshop to review draft findings
- ✓ Finalize Strategic Plan



Consultant Selection Criteria



1. Approach to development of Strategic Plan.
2. Qualifications and Experience (Firm and Personnel)
3. References
4. Price & Payment Terms – Exhibit C
5. Exceptions Taken to RFP – Exhibit E
6. Quality of Submittal (Firm provided all information requested in the RFP, submittal is well-organized and clear).

Options for Funding

- County of Riverside offered to support the Strategic Plan development effort in the amount of \$25,000.
- SAWPA staff to provide in-kind services for Authority Administrator and staff funding will be allocated to development of the Strategic Plan.
- Member fee contributions.



Timeline

- Release of RFP August 21, 2023
- Proposal Submittal Due Date September 29, 2023
- Interviews, if needed October 6-9, 2023
- Selection Recommendation to Board October 19, 2023
- Final Agreement, Start Work November 1, 2023

Recommendation to Authorize

Recommendation:

That the Board of Directors provide input on the process and format for an update to the Strategic Plan; and direct staff to issue a Request for Proposals (RFP) for Strategic Plan Facilitator Consultant Services.

Questions?

Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

REQUEST FOR PROPOSALS (RFP)

For

FACILITATION OF A STRATEGIC PLAN

August 2023

LESJWA
REQUEST FOR PROPOSALS (RFP)
For
FACILITATION OF A STRATEGIC PLAN
NOTICE TO SUBMITTING FIRMS

1. Proposals submitted in response to this RFP as described herein, will be submitted to Rachel Gray at: (rgray@sawpa.org) electronically, as a single Adobe Acrobat (PDF) file, with search capability to ensure readability and compatibility, not more than 12 pages long (not including cover letter, exhibits and resumes), and not more than 10 megabytes in size.
2. All proposals must be received by **4:00 p.m. on Friday, September 29, 2023.**
3. If additional information is needed, contact Rachel Gray at (951) 354-4242 or rgray@sawpa.org.
4. Any changes to this RFP are invalid unless specifically modified by LESJWA and issued as a separate addendum document. Should there be any question as to changes to the content of this document, LESJWA's copy shall prevail. It is the submitting firm's sole responsibility to ensure that their submittal, inclusive of any or all addenda, is received at the proper place at the proper time. LESJWA will not accept submittals after the due date/time listed above.

Section I – PROJECT INTRODUCTION AND OVERVIEW

GENERAL OVERVIEW

The Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) is a joint powers authority (JPA) formed in 2000 as result of State water bond language encouraging the formation of a joint powers agency consisting of the City of Lake Elsinore, the Santa Ana Watershed Project Authority (SAWPA), the Elsinore Valley Municipal Water District, and other agencies. The specific bond language citing the organization formation is defined in Proposition 13 Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Act of 2000 wherein the organization formation was called out under Article 6 Lake Elsinore and San Jacinto Watershed Program, Section 79104.110. The joint powers authority was established initially to administer \$15 million dollars in bond funding for the implementation of programs to improve the water quality and habitat of Lake Elsinore and its back basin, consistent with the Lake Elsinore Master Plan/Economic Feasibility Study 1995-2015 (**Attachment A**). The members of the JPA are the following agencies, along with the current representatives:

City of Canyon Lake	Dale Welty, Chair
City of Lake Elsinore	Robert Magee, Vice Chair
Elsinore Valley Municipal Water District	Andy Morris, Secretary-Treasurer
Santa Ana Watershed Project Authority	Brenda Dennstedt
County of Riverside	Karen Spiegel

The LESJWA Board has authorized SAWPA to serve as the administrator for the organization. Rachel Gray, SAWPA's Water Resources and Planning Manager, serves as the Authority Administrator.

Between its formation and 2014, LESJWA fully used and expended the \$15 million made available through the Proposition 13 Water Bond, as well as other grant funding applied for by LESJWA to benefit Lake Elsinore, Canyon Lake, and the San Jacinto River Watershed. LESJWA's annual budget consist of contributions and expenses associated with Lake Elsinore and Canyon Lake Nutrient TMDL Task Force and funding for LESJWA administration and projects comes from an annual contribution from each member agency and grant funding.

LESJWA provides support to the Lake Elsinore and Canyon Lake (LE/CL) Nutrient Total Maximum Daily Load (TMDL) Task Force which shares LESJWA goals of water quality improvement at both Lake Elsinore and Canyon Lake. The Task Force was formed in 2006 to address a Santa Ana Regional Water Quality Control Board issued nutrient TMDL for Lake Elsinore and Canyon Lake. Because the focus of the TMDL is on water quality of Lake Elsinore and Canyon Lake, LESJWA is the appropriate organization to serve as the administrative entity for the Task Force. This role is a similar role that SAWPA staff plays in administering the task forces in the Middle Santa Ana River Pathogen TMDL Task Force.

The Task Force selected LESJWA as the administrative support because LESJWA has implemented numerous improvement projects at both lakes, as well as extensive modeling and monitoring at the lakes and watershed in the past. Further, the governing board of the LESJWA JPA has a history of administering lake improvements based on the previous decade of improvement at the lakes. Still, the staff that operates LESJWA is the SAWPA staff, so all activities and resources to operate the LE/CL TMDL Task Force generally are seamless with SAWPA's operations other than the separate fund accounting and the recognition of the LESJWA Board of Directors for all LESJWA-related activities and improvements.

LESJWA's mission and goals as defined in the 2014 Business Plan (**Attachment B**) are as follows:

The purpose of the Authority is to implement projects and programs to rehabilitate and improve the San Jacinto and Lake Elsinore Watersheds and the water quality of Lake Elsinore and Canyon Lake, in order to preserve agricultural land, protect wildlife habitat, protect and enhance recreational resources, and improve surface and subsurface water quality, all for the benefit of the general public.

LESJWA has established the following goals for its organization:

- To support planning, design and implementation of projects to improve water quality at both Lake Elsinore, Canyon Lake and the San Jacinto River Watershed;
- To work with stakeholders to secure reliable funding to operate and maintain water quality improvement projects at both Lake Elsinore, Canyon Lake and the San Jacinto River Watershed;
- To serve as administrator of the Lake Elsinore and Canyon Lake TMDL Task Force; and,
- To seek ongoing reliable revenue to operate the LESJWA JPA in fulfillment of its mission.

LESJWA wishes to retain a firm experienced in developing a Strategic Plan consisting of Purpose and objectives, Critical Success Factors, and Processes, Activities and Tasks. The format for the updated Strategic Plan should be simple and results oriented with a potential for progress evaluation/measurement.

Specific tasks:

1. Meet with LESJWA staff to develop issues for discussion and preliminary plan outline;
2. Conduct workshops with member agencies key staff to evaluate areas of opportunity and need;
3. Conduct listening sessions with Board of Directors Members (at least 5 sessions);
4. Conduct Board of Directors workshops (at least 2);
5. Meet with other key LESJWA partners;
6. Working with staff to draft findings and formulate strategic plan contents;
7. Conduct Board of Directors workshop to review draft results; and,
8. Finalize the Strategic Plan.

B. PURPOSE OF REQUEST FOR PROPOSALS

LESJWA is issuing this Request for Proposals (RFP) to select a qualified firm to provide the requested services. The consultant will facilitate an update of the strategic plan based on input from member agencies, stakeholders, Board of Directors, and staff. Work will be directed by LESJWA Administrator, Rachel Gray.

C. HOW THE SELECTED CONSULTANT WILL BE UTILIZED

The selected firm shall execute an Agreement for Services General Services Agreement. A Task Order will be executed for the agreed upon services. Work shall be performed on an hourly basis with an agreed upon maximum amount.

The terms and conditions contained herein constitute the full and complete understanding of the parties. However, should you or your firm request additional contractual terms and conditions for consideration, such requests must be clearly identified in **Exhibit E** and submitted at the time of qualification submittals.

No additional terms and conditions will be accepted following receipt of qualification submittals, and LESJWA will consider such additional contractual terms and conditions as part of its evaluation process.

The following table identifies the estimated dates/time frame for receipt, evaluation, and award of this RFP. Please note the following key dates when preparing your response to this RFP.

Description	Date
Release of RFP	August 17, 2023
Deadline for Written Questions Regarding RFP	September 1, 2023
Responses to Written Questions Regarding RFP	September 8, 2023
Proposal Submittal Due Date 4:00 p.m.	September 29, 2023
Proposal Submittal Review and Short List	October 6, 2023
Interviews (if required)	October 9-16, 2023
Selection Recommendation to Board	October 19, 2023
Finalize Agreement, Start Work	November 1, 2023

E. SELECTION CRITERIA

The criteria for vendor selection shall be based on, but not limited to, the following:

1. Approach to development of Strategic Plan.
2. Qualifications and Experience (Firm and Personnel) – Consultant and consultant’s primary representative(s) shall have demonstrated experience in Strategic Plan facilitation or related experience, by the references provided in **Exhibit A**, and resumes of key people to address experience and qualifications, educational background, and skills.
3. References
4. Price & Payment Terms – **Exhibit C**
5. Exceptions Taken to RFP – **Exhibit E**
6. Quality of Submittal (Firm provided all information requested in the RFP, submittal is well-organized and clear).

F. EVALUATION AND SELECTION PROCESS

1. Submittal Review: LESJWA will review and evaluate each submittal to determine if it meets the requirements for the service defined herein. Failure to meet the requirements will be cause for eliminating the applicant from further consideration.
2. Selection: Based on LESJWA’s evaluation, the firms will be ranked. It is anticipated that a contract will be awarded with the highest-ranking firm being selected. However, LESJWA reserves the right to consider the overall distribution of contracts and may award agreements as it deems necessary, regardless of the assigned rank.

Section II – PROPOSAL REQUIREMENTS

- A. The submittal must emphasize responding to the requirements set forth herein. Firms must demonstrate their capabilities, background, and expertise, in order for LESJWA to effectively evaluate the submittals, and select the firm(s) that provide the best value to LESJWA based on the selection criteria in Section 1. The Proposal Submittal should include, at a minimum, the following information:
1. Cover Letter, including name, telephone number, fax number, and address of the firm.
 2. Executive Summary –including a brief summary of the firm’s project approach, origin, background, and size of the company, an organizational chart, the overall capabilities of the organization, appropriate licenses and certifications (if applicable), and proximity of company’s resources to SAWPA’s offices and facilities.
 - a. Qualifications and Experience (Firm and Personnel) – a description of the firm’s expertise related to services requested and a full discussion of the firm’s recent experience directly related to providing facilitation services or related activities for a public agency. Include resume(s) of key staff to address experience and qualifications, educational background, and skills.
 - i. Must have experience in strategic plan facilitation or related activity and preparation for public agencies and for the water industry.
 - ii. Have an understanding of the needs of California water/wastewater agencies and special district issues.
 3. References (**Exhibit A**) – list three (3) former municipal (preferred) or private clients for whom comparable services have been performed within the last five years. Include the name, mailing address, telephone number, and e-mail address of each client’s principal representative.
 4. List of Subcontractors (**Exhibit B**) – if required, otherwise state “none”.
 5. Cost Proposal – (**Exhibit C**) a table indicating tasks, task hours by labor category, hourly rates for each labor category; costs for sub-consultants and reimbursable expenses. The rates shall be valid for the term of the contract. Note LESJWA will not pay for travel time.
 6. Consultant Business Information (**Exhibit D**).
 7. Additions, Deletions and/or Exceptions (**Exhibit E**) – compliance with LESJWA’s contractual terms and/or RFP requirements. The firm shall note any additions, deletions and/or exceptions to the contractual terms and/or RFP requirements. If there are no exceptions taken, note in writing that there are none.
- B. LESJWA reserves the right to withhold award of contract for a period of one hundred and twenty (120) days following RFP opening. All submittals received are considered firm for that 120-day period.
- C. An Agreement for Services (**Attachment C**) incorporating the terms and conditions contained herein will be sent to the successful firm(s). Any additional terms and conditions requested by the firm must be submitted at the time of your response as part of **Exhibit E** (Additions, Deletions and/or Exceptions) and will be considered as part of the selection/negotiation process.
- D. LESJWA may make such investigations as it deems necessary to determine the ability of the firm to provide the goods and/or service as specified, and the firm shall furnish to LESJWA, as is

commercially reasonable, all such information and data for this purpose. LESJWA may discuss or negotiate with one or more firms prior to award and reserves the right to reject any submittal.

- E. Any questions as to the meaning of the scope of work and/or technical specifications or other pre-proposal submittal documents must be submitted in writing and shall be directed to Rachel Gray, Administrator of LESJWA, at (951) 354-4242 or (rgray@sawpa.org) who will provide instructions for submitting requests. All addenda so issued shall become part of the contract documents. Under no circumstances may the firm contact any other department for clarification or interpretation of any requirements herein.
- F. LESJWA reserves the right to reject any or all submittals, either separately or as a whole and to waive any informality in a submittal or to accept any submittal presented which it deems best suited to the interest of LESJWA, and is not to be bound to accept the lowest price.
- G. The cost for developing the submittal is the sole responsibility of the firm. All submittals shall become the property of LESJWA.
- H. Be advised that all information contained in the submittal in response to this solicitation may be subject to the California Public Records Act (Government Code Section 6250 et seq.), and information's use and disclosure are governed by this Act.

Section III – SCOPE OF WORK

Strategic Plan

A. OBJECTIVE

LESJWA is seeking a consultant to provide facilitation services to develop an agency Strategic Plan.

FOCUS

Efficiency of process to complete the plan, simplicity of written document, and the ability to measure progress through the definition of metrics or other means.

B. SPECIFIC TASKS

1. Meet with LESJWA staff to develop questions, issues for discussion, LESJWA's role, preliminary desired outcomes, potential metrics, and preliminary plan outline. The detailed process and schedule will also be reviewed and the list of partners to be coordinated with finalized.
2. Conduct workshop with member agencies key staff.
3. Meet with key LESJWA partners.
4. Conduct listening sessions with Board of Directors Members.
5. Conduct Board of Directors workshops.
6. Work with staff to draft findings, strategic plan contents including Mission, Goals, Objectives, and Desired Outcomes. Review draft documents with member agency General Managers.
7. Conduct Board of Directors workshop to review draft results.
8. Finalize Strategic Plan. Prepare a single page summary in addition to the plan.
9. Present final plan to Board.

C. SCHEDULE

The scope of work shall be completed over a 8-month period.

EXHIBIT A

REFERENCES

Proposer shall provide a **minimum of three (3)** Customer References for whom comparable services have been performed within the last five (5) years. Local and similar size contract references are preferred.

REFERENCE #1

NAME OF FIRM	
ADDRESS	
CITY, STATE, ZIP CODE	
TELEPHONE #	()
E-MAIL ADDRESS	
CONTACT	
PROJECT NAME	
COMPLETION DATE	
APPROX. COST	

REFERENCE #2

NAME OF FIRM	
ADDRESS	
CITY, STATE, ZIP CODE	
TELEPHONE #	()
E-MAIL ADDRESS	
CONTACT	
PROJECT NAME	
COMPLETION DATE	
APPROX. COST	

REFERENCE #3

NAME OF FIRM	
ADDRESS	
CITY, STATE, ZIP CODE	
TELEPHONE #	()
E-MAIL ADDRESS	
CONTACT	
PROJECT NAME	
COMPLETION DATE	
APPROX. COST	

EXHIBIT B
LIST OF SUBCONTRACTORS

NAME UNDER WHICH SUBCONTRACT IS LICENSED	LICENSE NUMBER	ADDRESS AND PHONE NUMBER OF OFFICE, MILL OR SHOP	SPECIFIC DESCRIPTION SUBCONTRACT

EXHIBIT C
LAKE ELSINORE AND SAN JACINTO WATERSHEDS AUTHORITY
PRICE FORM

Task		
1		
2		
3		
4		
5		
6		
7		
8		
Total		

The Project shall begin immediately upon receipt of order or notice to proceed.

Price(s) shall include **all** labor, equipment, materials, transportation, overhead, travel, profit, insurance, sales and other taxes, licenses, incidentals, and all other related costs necessary to meet the work requirements. Note LESJWA will not pay for travel time.

LESJWA encourages a discount for early payment and will include such offers in the evaluation criteria. If a discount is offered, the terms are: 5% discount if paid in full within 15_days.

PROPOSERS:

Your signature on this document, should you be awarded a contract as defined in this RFP, signifies that you have fully read and understood this proposal and will comply with all specifications, conditions, unit prices, terms, and delivery of the proposal unless otherwise noted in the “exceptions” portion of the proposal.

Name of Firm:		Title:	
Authorized Signature:		Date:	
Printed/Typed Name:		Mailing Address:	
Phone:		City, State, Zip	
Fax:		E-Mail Address:	

EXHIBIT D

PROPOSER'S BUSINESS INFORMATION

All proposers shall submit the information as requested below.

1. Length of time your firm has been in business: _____

2. Length of time at current location: _____

3. List types and business license number(s): _____

4. California State Contractor's License number: _____

5. Names and titles of all officers of the firm: _____

6. Is your firm a sole proprietorship doing business under a different name?
YES or NO

7. If yes, please indicate sole proprietorship name and the name you are
doing business under: _____

8. Please indicate your Federal Tax Number: _____

9. Is your firm incorporated? YES or NO

10. Name and remittance address that will appear on invoices: _____

11. Physical Address: _____

EXHIBIT E

ADDITIONS, DELETIONS AND/OR EXCEPTIONS

Please state any and all Additions, Deletions and Exceptions that you are taking to any portion of this proposal and General Services Agreement (GSA) (**Attachment C**) and Task Order (**Attachment D**). If not addressed below, then Lake Elsinore and San Jacinto Watersheds Authority assumes that the vendor will adhere to all terms and conditions listed.

LESJWA will issue an Agreement in its standard form to the successful firm(s) for the services contemplated herein; a copy of which is attached hereto, and incorporated herein. Any deletion, exception, or modification taken to Agency contract terms and conditions will be evaluated, in addition to the specified criteria; and may, itself, result in non-acceptance by the Agency. Any request for deletion, exception, or modification, if so taken, must be submitted at the time of proposal.

**LAKE ELSINORE
MASTER PLAN / ECONOMIC
FEASIBILITY STUDY
1995 - 2015**

**FOR
CITY OF LAKE ELSINORE
130 South Main Street
Lake Elsinore, CA 92530**

**BY
NOBLE CONSULTANTS, INC.
2201 Dupont Drive, Suite 620
Irvine, CA 92715**

September 16, 1994

ACKNOWLEDGEMENTS

The following people are acknowledged in completing this Master Plan/Economic Feasibility Study for Lake Elsinore:

Gary M. Washburn, Mayor
Dan Bender, Mayor Pro Tem
Kevin Pape, Councilman
George Alongi, Councilman
Pam Brinley, Councilwoman
Ron Molendyk, City Manager
Phyllis Rogers, Assistant City Manager
Dick Watenpaugh, Manager of Special Projects

A special thanks to the members of the City's Lake Advisory Committee for their input and assistance.

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I. EXECUTIVE SUMMARY

During the previous decades, Lake Elsinore was used for recreational boating, fishing, swimming and camping by thousands of people from the Los Angeles, Orange County and San Diego areas. There were reported to be as many as 1,000 to 1,200 boats on the lake and along its shoreline at any one time. In more recent times, with the development of many first class recreational complexes in Southern California, and with the ongoing problems of water quality and either a lake water level that was too high or too low, most of the earlier recreational crowd from nearby counties have chosen to go elsewhere. However, now with significant growth taking place within Lake Elsinore Valley and Riverside and San Bernardino Counties, Lake Elsinore should and could be returned to an extremely valuable recreational resource.

Presently, there is minimum boat access to the lake by use of launch ramps when water levels exceed 1,240 feet; there are no marinas for the berthing of boats; and there are minimum recreational and commercial facilities along the lake's shoreline. The objective of this Master Plan Study is to develop management strategies, lake water use capacities, and a lake water access plan to maximize recreation and water sport activities on and around the lake, and to recommend new facilities and show their economic feasibility to accomplish this maximization of recreation and water sports.

1. PROPOSED LAKE OPERATIONS

The following management strategies are recommended:

- Designated water areas for:
 - Five miles per hour/no wake buffer zone
 - High speed boat operations
 - Personal watercraft
 - Water ski take-off and drop-off from shore
 - Swimming
 - Fishing
 - Special events activities
 - Waterskiing concession

- **Boat travel direction of:**
 - Counter-clockwise movement beyond the five miles per hour/no wake buffer zone, except for sailboats.
 - Any direction within five miles per hour/no wake buffer zone.
 - Counter-clockwise direction in the designated high boat speed and PWC areas.

- **Maximum boat speed of:**
 - Forty miles per hour within the interior active lake area, except higher speeds are allowed within the restricted high boat speed area.
 - Five miles per hour or less, if boat wake occurs, within the five miles per hour/no wake buffer zone.

- **Maximum boat size of:**
 - Thirty feet in length, except for special authorized commercial pontoon boats or other boats approved by the City.
 - Majority of boats should be no longer than 26 feet in length.

- **Boat operating hours of:**
 - Sunrise to sunset (maximum not-to-exceed between 6:00 am to 9:00 pm in summer, and 7:00 am to 6:00 pm in winter), except for special authorized commercial boats.
 - 7:00 am to 6:00 pm (for summer) and 8:00 am to 4:00 pm (for winter) in high boat speed designated area.

- **Lake patrol to:**
 - Adequately patrol the lake.
 - Enforce the adopted lake rules and regulations.

The planned lake operating level is between elevations 1,240 and 1,249 feet, and there are approximately 3,000 water surface acres available for boating operations in the lake during an average lake level of 1,245 feet. In addition, there are approximately 80 acres of water surface area available for water ski school concessions and competition boating special events within the San Jacinto Channel during a lake level of 1,245 feet. Of the available

3,000 acres of water surface area for boating activities in the main lake, 2,236 of these acres are within the active zone (5 to 40 miles per hour and designated high speed zone), while the remainder are within the lake's perimeter five miles per hour/no wake zone.

A maximum water use capacity of 1,200 boats at any one time is recommended after the lake has been improved in accordance with this Master Plan. It is expected that no more than 500 boats would be operating at any one time within the active zone, while the remainder of the 1,200 boats would be either within the five miles per hour/no wake zone or temporarily beached/docked along the shoreline. The maximum peak day boat count would be 1,560 boats when using a conservative 30 percent turnover rate. Initially, prior to constructing the recommended lakefront improvements, a water use capacity of 650 to 750 boats operating on the lake at any one time should be adopted.

The proposed water access improvement plan recommended to support a maximum boating capacity of 1,200 boats operating on the lake at any one time with a peak day boat count of 1,560 boats, and to provide a diversity of water sports and shoreside recreational activities, is presented in Figure I-1. The main elements of this plan consist of the following:

- Launch ramps and marinas for boater's access to the lake;
- Boat rental concessions;
- Boat excursion concessions;
- Long stretches of boat beaches where boaters can stop for picnicking and shoreside activities;
- Visitor boat slips in marina and retail areas for boaters to shop;
- Fishing areas;
- Swimming beaches and lagoons where families can enjoy waterfront activities;
- Waterskiing concession area where all levels of water-skiers can train and be taught;
- Special events area for power boat, waterskiing, rowing and sailing races;
- Restricted water use areas for high speed boats and personal watercraft;
- Improved lakefront R.V. park and campground facilities.

2 RECOMMENDED DEVELOPMENT PLAN

The proposed water access improvements are identified in Figure I-1. In addition, this Master Plan Study recommends the development of lakefront facilities to both support the proposed lake access improvements and to provide commercial recreation amenities such as a resort hotel/restaurant complex, R. V. and campground facilities, marinas, and various marine concessions. The proposed lakefront development along Lakeshore Drive consists of the following facilities:

- Seaport Boat Trailer/Car Parking Area
- Seaport Boat Beach
- Seaport Boat Launch Ramp
- Seaport Marina
- Seaport Non-Power Boat Concession Beach
- Seaport Swimming Beach
- Boat Beaches
- Fishing Beach and Pier

Perspective drawings of conceptual designs for the Seaport boat launch ramp, boat trailer/car parking, and marina complex including restaurant and concession buildings are presented in Figures I-2 and I-3.

Proposed lakefront development along Riverside Drive includes improvements to the existing City Park and Campground facility and to the existing Elsinore West Marina R. V. Park and Campground facility. Proposed improvements for both facilities include development of marina dock systems and swimming beaches, and enhancements to the existing boat launch ramps and campground facilities.

Proposed lakefront development along Grand Avenue consists of the development of a Nautical Center on approximately 40 acres of land which includes the existing old Military Academy. This development would include rowing and yacht club facilities, a non-power boat beach and swimming beach, a yacht brokerage/boat sales center, a marine retail center, and an aquarium/marine museum.

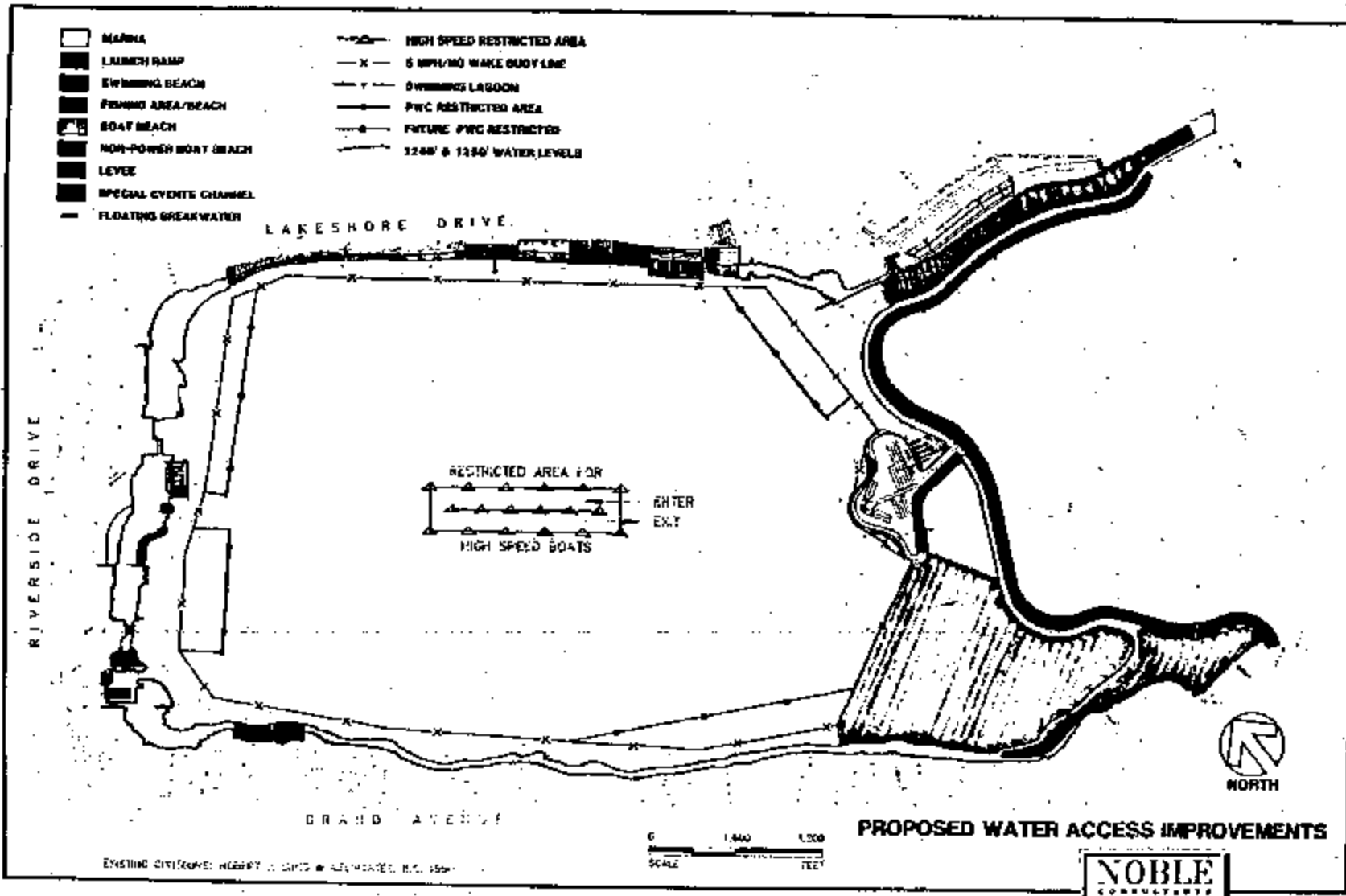
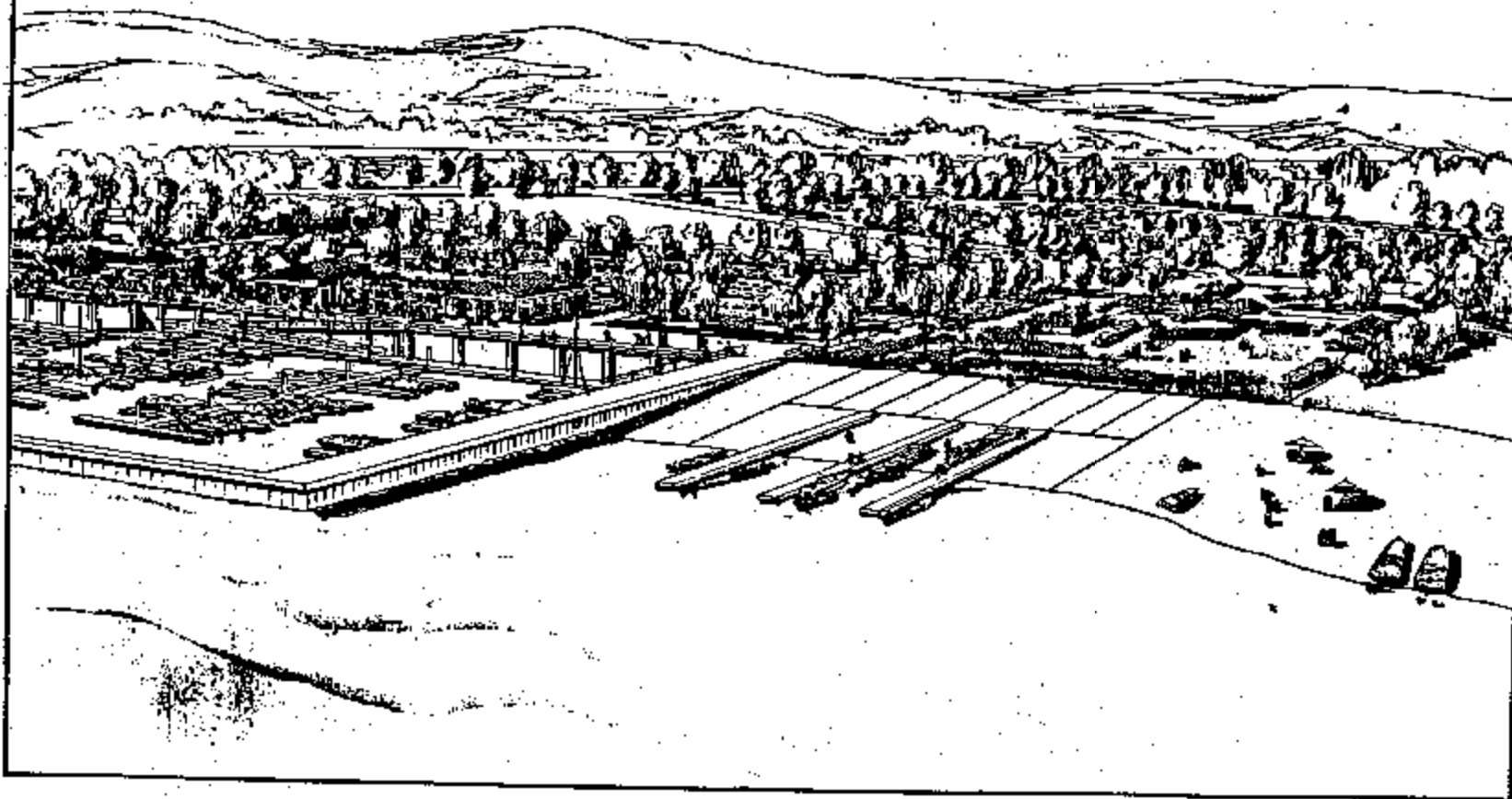


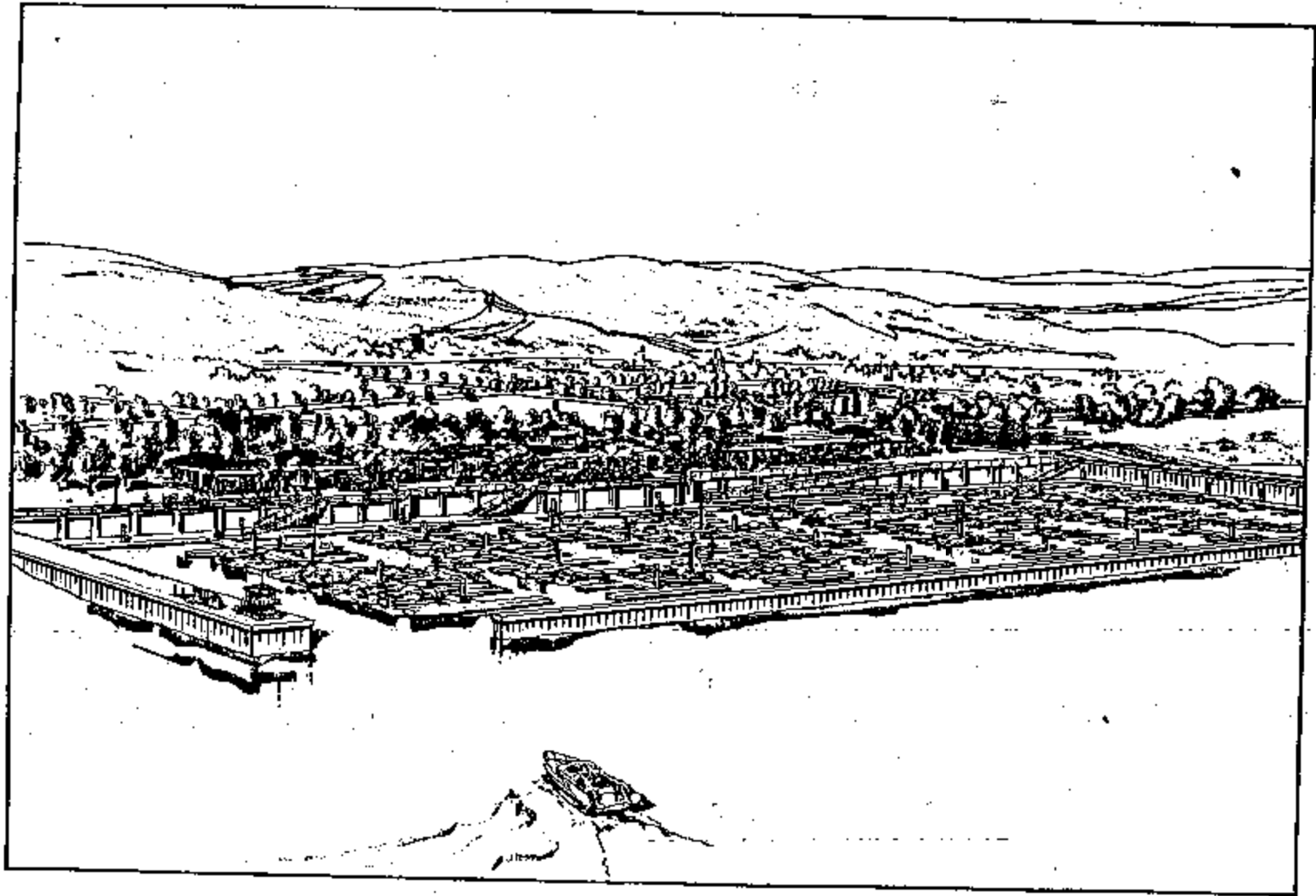
FIGURE 1-1



SEAPORT BOAT LAUNCH RAMP

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FIGURE 4-3



SEAPORT MARINA



FIGURE 13

Along the eastern perimeter of the lake, it is proposed that the existing 17,800 lineal feet of earthen levee be improved into a linear greenbelt pedestrian walkway for walking, jogging, bicycling, picnicking, and enjoying lake views. A major improvement is recommended for the existing Operations Island which is connected to the earthen levee by a causeway. It is proposed that this island be developed into Recreation Island and consist of a world class resort hotel/restaurant complex, a swimming beach and lagoon area, a boat marina complex with marine concession facilities, a youth and group facility, parklands, and water ski take-off and drop-off beaches. Perspective drawings showing the conceptual design of these proposed facilities are presented in Figures I-4, I-5 and I-6.

The existing San Jacinto Channel is an ideal long, narrow and fairly protected water and shoreline area for development into a combination water ski school concession/special events channel, and a swimming beach facility. A perspective drawing showing a portion of this proposed development is presented in Figure I-7.

3. ECONOMIC FEASIBILITY

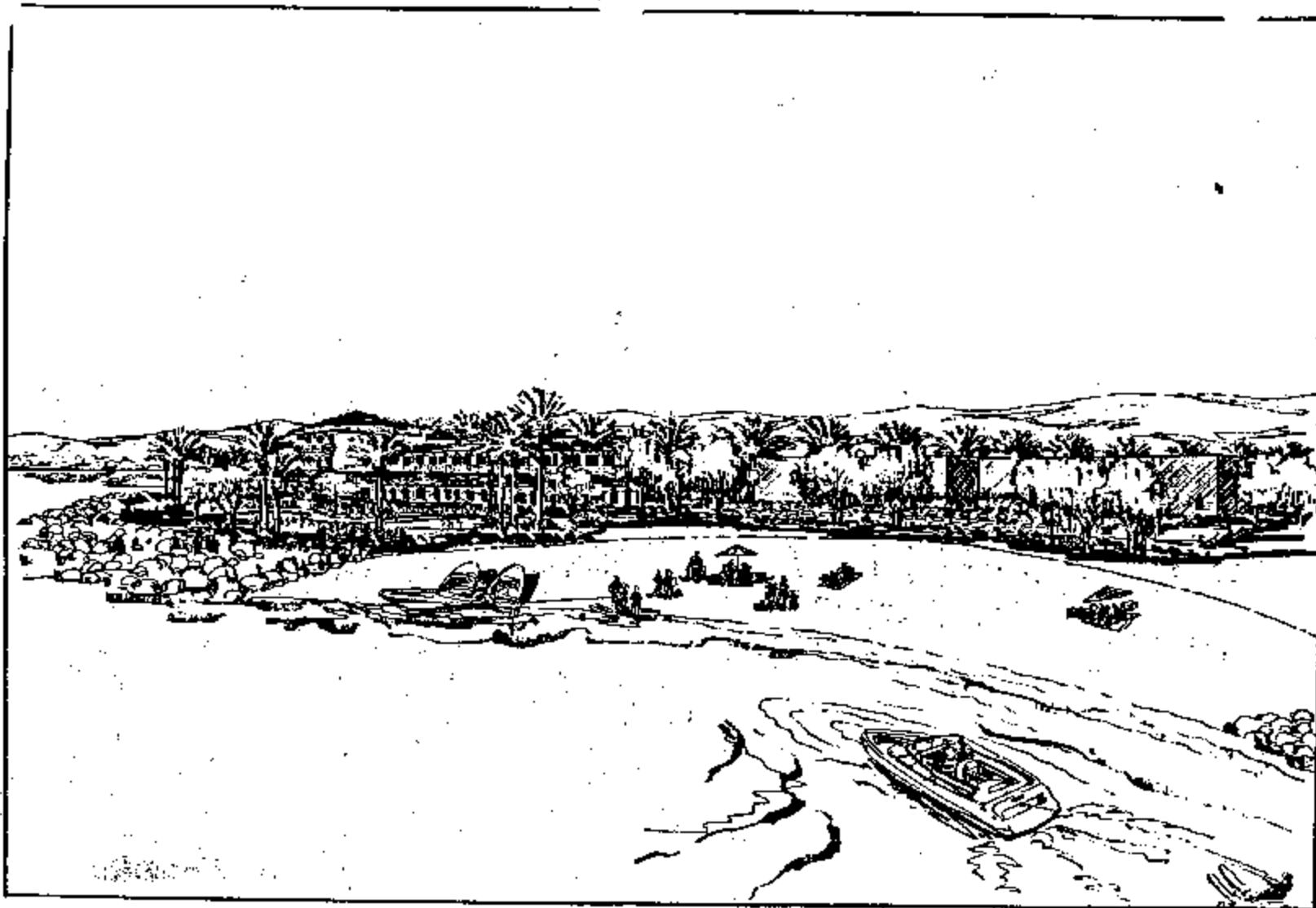
The proposed Lake Elsinore improvements presented in this Master Plan represent a public and private investment of approximately \$100 million (1994 dollars), exclusive of any land acquisition costs, and development costs associated with the proposed resort hotel/restaurant complex on Recreation Island. These improvements will generate substantial revenue for the City in the form of lease revenues, Transient Occupancy Tax (TOT), sales taxes, business licenses, development fees, user fees, etc. The success of Lake Elsinore will depend partially on an adequate, sustained level of both public and private improvements.

It is recommended that the City operate the lake as an enterprise fund in order to both secure dedicated revenue at the lake to fund its improvements, and to create incentives for more efficient management by enhancing revenue and operating efficiently. It is also recommended that the capital improvements be phased over the 20-year planning period to help minimize the need for debt financing, and that all types of public funding be pursued including the obtaining of State and Federal grants.

In order to initiate the active recreational use of the lake and to encourage the private sector's active participation in its development, it is recommended that initial development

of proposed lakefront facilities be prioritized in the order presented below:

1. Public boat launch ramp that can accommodate the range in design lake water levels, and that has sufficient adjacent boat trailer/car parking and other necessary improvements;
2. Special events area that can successfully promote and stage professional level competition boating events;
3. Swimming beach area with sufficient supporting facilities for families to truly enjoy the recreational beachside activities provided by the lake;
4. Marina boat berthing facility with supporting landside marine concessions and a restaurant for the general public's enjoyment of waterfront boating activities;
5. Improvement of either the existing City Park and Campgrounds or the existing Elsinore West Marina R.V. Park and Campgrounds to allow for enhanced waterside camping sites for the general public, and to provide additional boat launching, beach and marina facilities;
6. Development of Recreation Island as a world class destination resort in combination with a marina, swimming beach, parkland and a youth and group facility for the general public's use;
7. Development of public shoreline areas with pedestrian linear greenbelt walkway, boat beaches, benches, shade structures and restroom facilities.



SKI BEACH DROP-OFF/HOTEL COMPLEX

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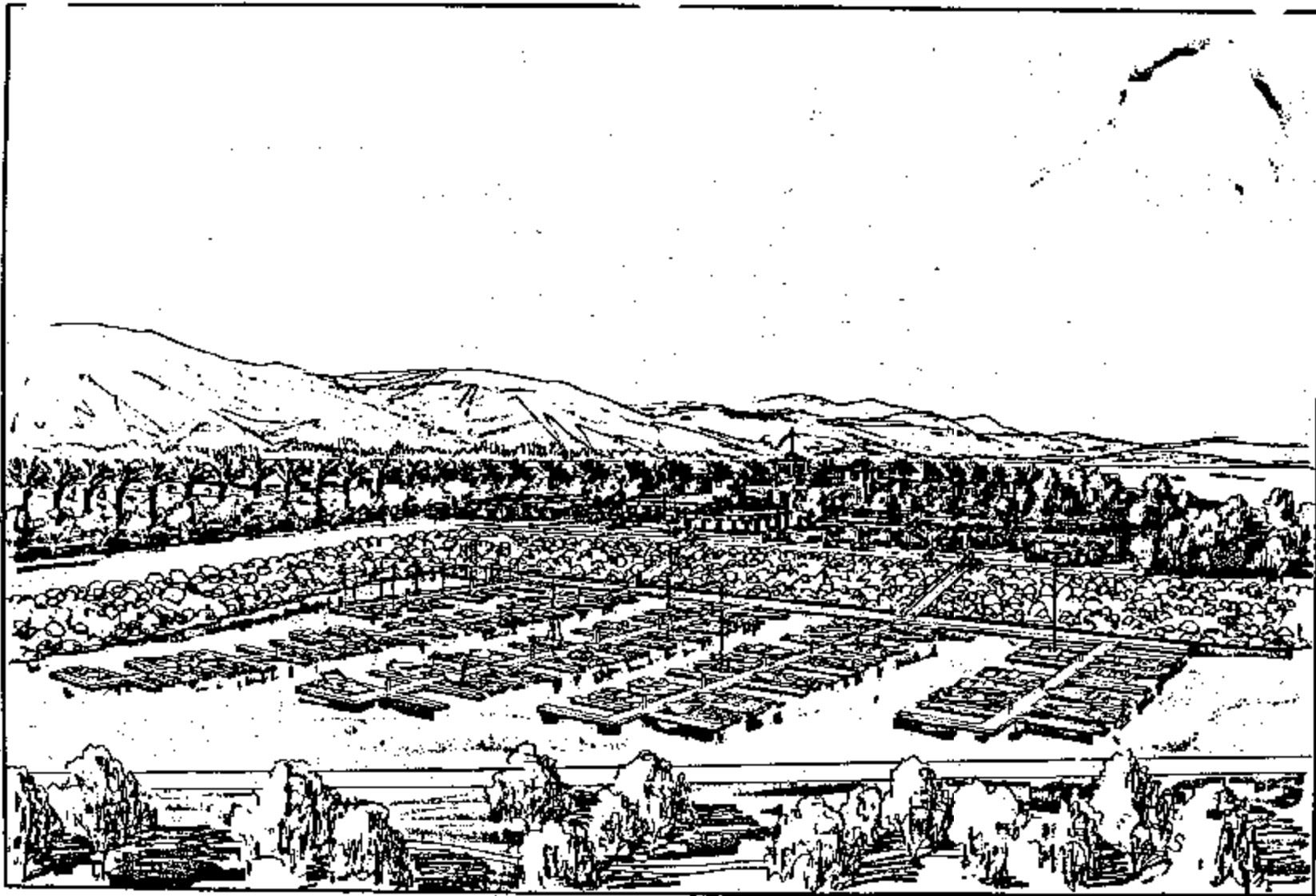
FIGURE 1-4



RECREATION ISLAND SWIM LAGOON/BEACH AREA

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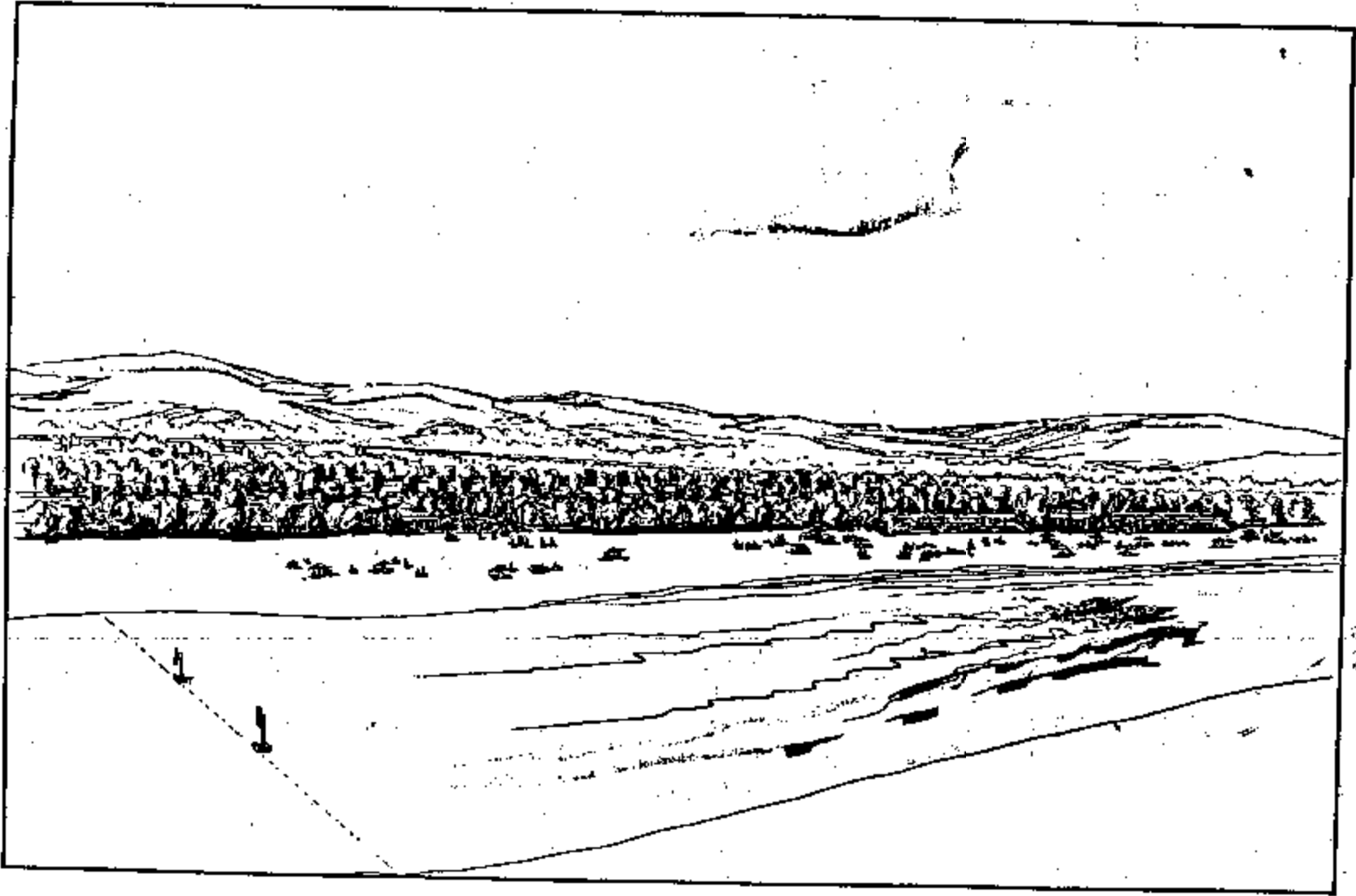
FIGURE 10



RECREATION ISLAND MARINA



FIGURE 16



SPECIAL EVENTS CHANNEL



FIGURE 17

II INTRODUCTION

I. BRIEF HISTORY OF LAKE ELSINORE

The Lake Elsinore Valley has had three distinct periods in its history. The lake was called "Etenguo Wumona" by its earliest Indian inhabitants, "Laguna Grande" by the Spaniards and "Lake Elsinore" by the American settlers. Throughout its history, the lake has served as a source of inspiration for its inhabitants.

The "Etenguo Wumona" period spanned several centuries until 1858 and the "Laguna Grande" period extended to 1883. During these two periods, the development related to the lake was minimal. Living in balance and respect for nature characterizes these periods in the history of the valley.

In 1883, the "Lake Elsinore" period began and the City of Lake Elsinore was incorporated in 1888. Since that time, the economic stability, growth and development of the community have been significantly influenced by the elevation of the lake. Throughout the drought of 1940 to 1978, a number of individuals and public agencies started to address the lake's management and stabilization. In 1949, the Lake Elsinore Recreation and Parks District was formed to manage and administer a program of lake stabilization and recreation facility development. In 1957, the State legislature established Lake Elsinore as a unit of the State park system. In 1993, the lake was turned over to the City of Lake Elsinore.

In an effort to stabilize the lake's water level, and thus the economic stability of the City, the City of Lake Elsinore and several other agencies, including the City of Lake Elsinore Redevelopment Agency, California Department of Parks and Recreation, Elsinore Valley Municipal Water District, Santa Ana Watershed Project Authority and the County of Riverside, have formed the Lake Elsinore Management Authority (LEMA). This joint powers agency has developed the Lake Elsinore Management Project, a construction program designed to allow the lake's water level to be managed and to provide other lake improvements.

With the implementation of the Lake Elsinore Management Project, other forward-minded civic projects were also proposed to stimulate the growth and prosperity of the City. The

Lake Master Plan is one of the projects, which will enhance the water recreation activities within the lake.

2. PURPOSE

The purpose of this Master Plan Study is to provide the City with a document that presents an orderly methodology for the successful development of Lake Elsinore to expand the diversity and quality of recreation, and protect the aquatic wildlife. This depends on the balanced provision of public recreation, the management of environmental resources, and the operation of economically successful commercial leisure enterprises.

From a recreation objective it is important that the lake's land and water acreage support a diversity of water sports and recreational activities such as power boating, sailing, rowing, fishing, waterskiing, special events, swimming, beaching, picnicking, walking, jogging, bicycling, and simply enjoying the lake's views. From a commercial perspective, it is important that the lake attract and expand on a number of economically viable leisure-industry leases such as resort hotels and restaurants, various marine concessions, marinas, and recreational vehicle camping. In addition, not-for-profit leases such as youth and group facilities, and rowing and sailing facilities are important to the overall lakefront development plan. From an environmental viewpoint, it is essential that the lake's water quality be enhanced, that its water level be stabilized and that the surrounding wetlands and upland habitats be conserved.

3. SCOPE

The scope of work for preparation of this Master Plan Study as identified by the City, consists of the following elements:

- **Master Plan Elements**

- Management Strategies:**

- Time and space allocations
 - Waterskiing - public
 - Water skiing - school

- Personal watercraft (jet skis and wave runners)
 - entire lake
 - designated area
- Sailing/cruising
- High speed area
- Fishing

Water Use Capacity (Maximum Size of Boat/Draw or Draft):

- Power crafts
 - Personal watercraft
 - Sailing
 - sailboards
 - catamarans
- Need weekday, weekend, off-season, peak season

Water Access:

- Boat launching facilities - private boat docks and standards
- Day use facilities
- Marinas - wet slips and moorings
 - dry storage
 - parking
- Swimming areas

Rules and Regulations:

- Boating
- Swimming
- Sailboarding
- Personal watercraft
- Fishing

Concessions/Leases:

- Campground
- Water leases (yacht clubs, ski clubs, personal watercraft clubs)
- Dock leases
- Land leases

Special Events:

- International hot boats
- Thunder boats
- Triathlons/biathlons
- Sailboat regattas
- Sailboard events
- Jet ski races
- Water ski competitions and shows
- Rowing regattas

• Economic Feasibility Elements

New Facilities:

- Impact on current concession (based on capacity)

Development Costs:

- Types of improvements
- Estimated costs

Operational Costs:

- City operated
- Private or concession (to include water, land and facilities)

Revenue Generations:

- Estimated land leases
- Water leases
- Public versus private
- Boat launch and lake use (resident, non-resident, commercial)
- Annual launch/use fee

III. LAKE SETTING

Lake Elsinore, situated within the southwestern segment of Riverside County, is located about 75 miles southeast of downtown Los Angeles, about 22 miles south of the City of Riverside, and about 80 miles north of the City of San Diego, as shown in Figure III-1. The lake, acting as a natural sink for the San Jacinto River, is bounded by the Santa Ana Mountains to the northwest, by the Elsinore Mountains to the south and by the Community of Lake Elsinore to the north and northeast, as illustrated in Figure III-2.

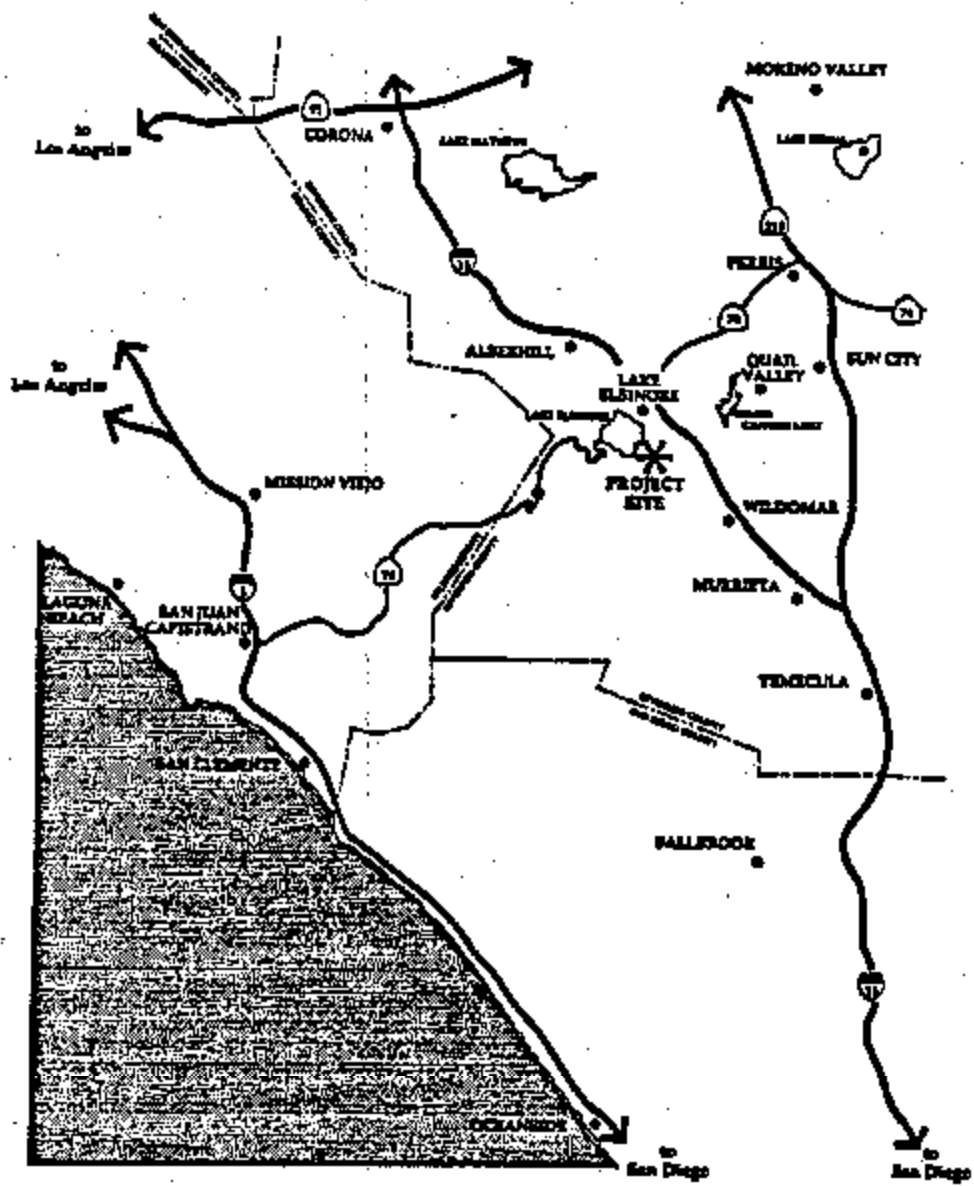
1. PHYSICAL CHARACTERISTICS

Lake Elsinore, a natural lake, has a rectangular shape with the major axis orientated northwest to southeast. The lake is comprised of a main basin and a flood control plain situated on the southeastern portion of the lake, as shown in Figure III-2. The lake, in general, is shallow with the deepest area located in the southwest section of the main basin. However, the lake bottom is nearly level at an elevation of 1,223 feet, NGVD. The approximate volume and surface area of the lake in relation to its elevation within the main basin is listed in Table III-1.

TABLE III-1
LAKE LEVEL AND VOLUME IN THE MAIN BASIN

Lake Elevation (Feet)	Lake Volume (Acres-Feet)	Surface Area (Acres)
1,236	26,935	2,892
1,240	38,519	3,074
1,245	54,504	3,319
1,250	71,443	3,463
1,255	89,114	3,606
1,260	107,877	3,882

Source: Black and Veatch, 1991



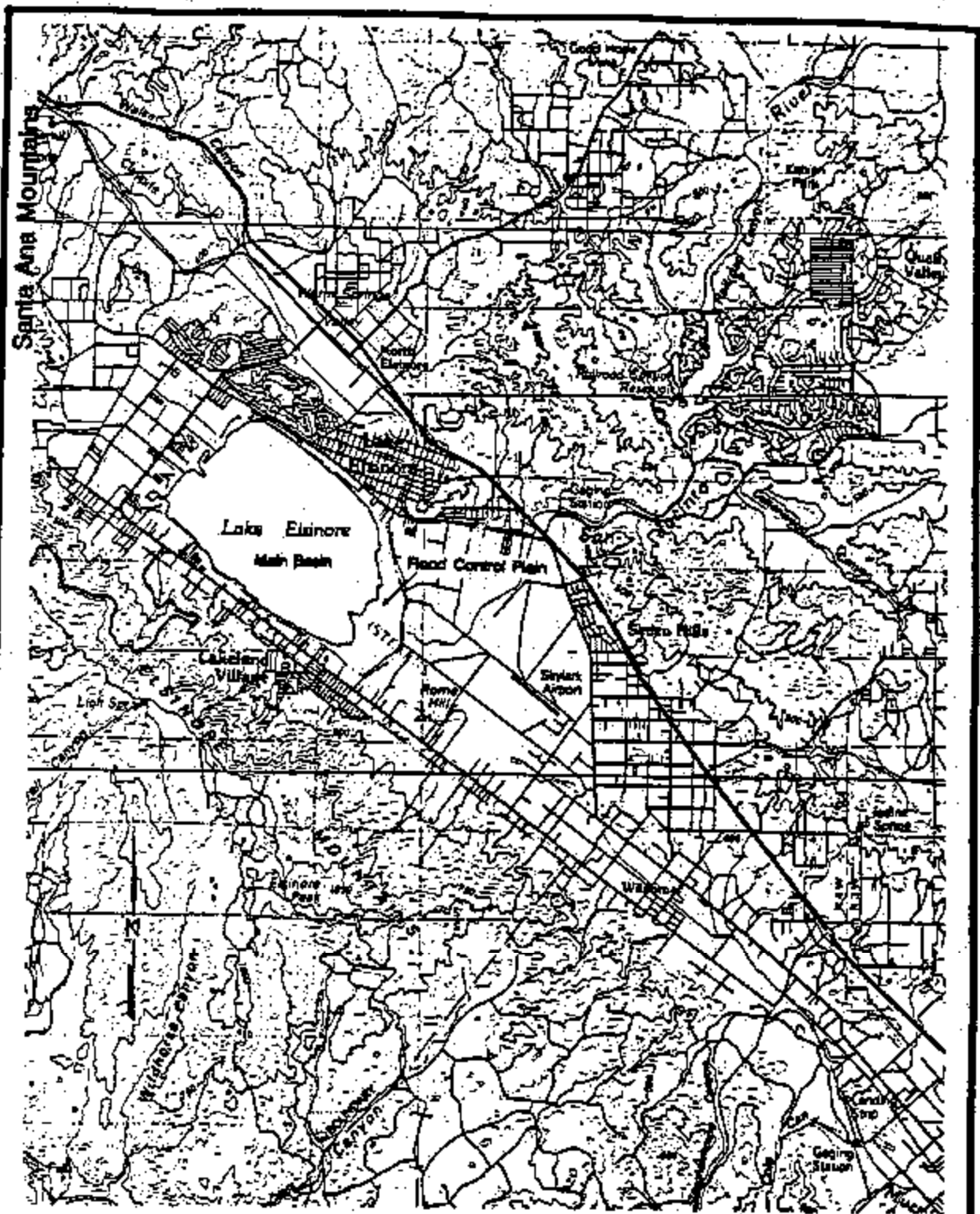
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LOCATION MAP

Source: East Lake Specific Plan, 1993



FIGURE III-1



SCALE 1 : 100,000

VICINITY MAP

Source: Topographic Map, 1983.



W/11/25 III, 2

Based on recent aerial mapping performed by Lung and Associates (1990), for the above water surface elevation of 1,227 feet, NGVD, steeper shoreline slopes are observed on the north and the south banks (5 to 10 percent), while flatter slopes are reported on the east and west banks (1.5 to 2 percent).

Lake Elsinore lies in the peninsular ranges geomorphic province which has a distinct northwest structural grain, expressed by alignment of mountains, valleys and faults. This province is a large batholic block, uplifted along the eastern edge and tilted upward. A complex faulted trough with an elongated and depressed crustal block forms the so-called Elsinore Valley. The valley is bounded by northwest trending faults, known as the Elsinore fault, which consists of two major zones: the Willard fault zone on the west and the Wildomar fault zone on the east.

The Lake Elsinore area contains a variety of rock types which include an assemblage of mildly to moderately metamorphosed rocks of sedimentary and igneous origin, intruded by younger igneous rocks. These collectively consist of a group of rock units called the "basement complex". The basement complex rocks are exposed in all the mountain areas around the lake. Overlying the basement complex is the pleistocene-aged Pauba formation composed of medium to coarse grained granite, boulder bearing non-marine sandstone conglomerate, siltstone, and beds of clay which are the principal water-holding formation under the lake. Above the Pauba formation, an alluvium layer consisting of sand, silt and some gravel forms the lake bottom and shoreline.

2. CLIMATOLOGY

The climatology of the Lake Elsinore area is mediterranean, with a mean annual temperature of 63.6 degrees Fahrenheit. Winter temperatures below freezing are reached occasionally, and temperatures of more than 100 degrees Fahrenheit are common during the summer. Average daily minimum/maximum winter temperatures range from 35 to 65 degrees Fahrenheit, while the corresponding summer temperatures are about 90 to 100 degrees Fahrenheit. Table III-2 shows the mean, average maximum, and average minimum temperatures for Lake Elsinore.

Most precipitation occurs during the winter months. Summer rainfall is unusual, but thunderstorms do occur occasionally. Table III-3 shows the mean monthly precipitation.

**TABLE III-2
TEMPERATURE RECORDS AT LAKE ELSINORE, CALIFORNIA**

Month	Mean (F°)	Average Maximum (F°)	Average Minimum (F°)
January	50.9	66.0	35.8
February	53.2	68.3	38.0
March	55.2	70.2	40.1
April	59.3	75.3	43.3
May	64.9	81.4	48.4
June	72.0	90.0	53.9
July	78.9	98.7	59.1
August	78.6	97.8	59.1
September	75.0	94.1	56.0
October	66.1	84.2	47.9
November	57.2	73.9	40.4
December	51.7	67.7	35.6

Note: Latitude 33°40', Longitude 117°20', Elevation 1,285 feet, NGVD
Source: National Ocean Atmospheric Administration, 1982

with a mean annual precipitation of 11.66 inches. It is understandable that there can be large year-to-year variability in monthly as well as annual precipitation.

Snow in Southern California is relatively uncommon at elevations below 4,000 feet and is extremely rare below 2,000 feet. Although even the valley floor has experienced light snow on isolated occasions, snowfall and snowmelt are not considered to be significant hydrologic factors in the Lake Elsinore area.

The average monthly evaporation rate derived from recorded pan evaporation rates is presented in Table III-4. In summer months, average monthly evaporation can reach about eight inches.

The prevailing daily wind pattern in the Lake Elsinore area is a daytime sea breeze followed by a nighttime land breeze. In winter months, winds from the southeast are ahead of an approaching storm and average 25 to 35 miles per hour, with occasional gusts to more

TABLE III-3
PRECIPITATION DATA AT LAKE ELSINORE, CALIFORNIA

Month	Mean (inches)
January	2.75
February	2.34
March	1.89
April	0.76
May	0.20
June	0.02
July	0.03
August	0.17
September	0.32
October	0.22
November	1.19
December	1.77
ANNUAL:	11.66

Note: Latitude 33°40', Longitude 117°20', Elevation 1,285 feet, NGVD
Source: National Ocean Atmospheric Administration, 1981

than 50 miles per hour. West to northwest winds that are behind storms can sometimes exceed 40 miles per hour. The wind pattern may be broken by the northeasterly dry Santa Ana winds coming from the mountains and deserts.

Table III-5 lists the seasonal recorded wind data by wind directions and average speed for a nearby station at Riverside.

3. EXISTING LAKEFRONT FACILITIES

When the lake water level is between 1,232 and 1,255 feet, NGVD, the lake is popular to a wide variety of water sport enthusiasts. All forms of passive and active recreation are practiced including waterskiing, personal watercrafting, general pleasure boat cruising, fishing, sailing, rowing and swimming. It has been estimated that roughly 95 percent of the

**TABLE III-4
AVERAGE MONTHLY TOTAL EVAPORATIONS
FROM LAKE ELSINORE**

Month	Average Total Evaporation (ft.)
January	0.15
February	0.13
March	0.24
April	0.37
May	0.48
June	0.56
July	0.65
August	0.66
September	0.55
October	0.43
November	0.27
December	0.19
TOTAL:	4.68 feet

Source: National Oceanic and Atmospheric Administration, 1982
Black and Veatch, 1991

use on Lake Elsinore has been from some form of power boating. Sailboats account for only a minor percentage of boating use. Fishing boats are most popular during the off season (October through March).

Existing lakefront facilities to serve the water-related recreation activities around the lake's perimeter are tabulated in Table III-6 and illustrated in Figure III-3. Existing lakefront facilities along Lakeshore Drive include the City's temporary boat launch ramp, fishing beach, day use picnic beach and swimming beach. These facilities are operated and maintained by the City of Lake Elsinore. When the lake's water level dropped below 1,255 feet in November 1993, the City's temporary boat launch ramp became unusable.

Recreational facilities located along Riverside Drive are operated by concession contract (Lake Elsinore City Park) or by private commercial owners (Lake Park Resort and Motel,

**TABLE III-5
SEASONAL AND ANNUAL AVERAGE WIND DATA AT RIVERSIDE**

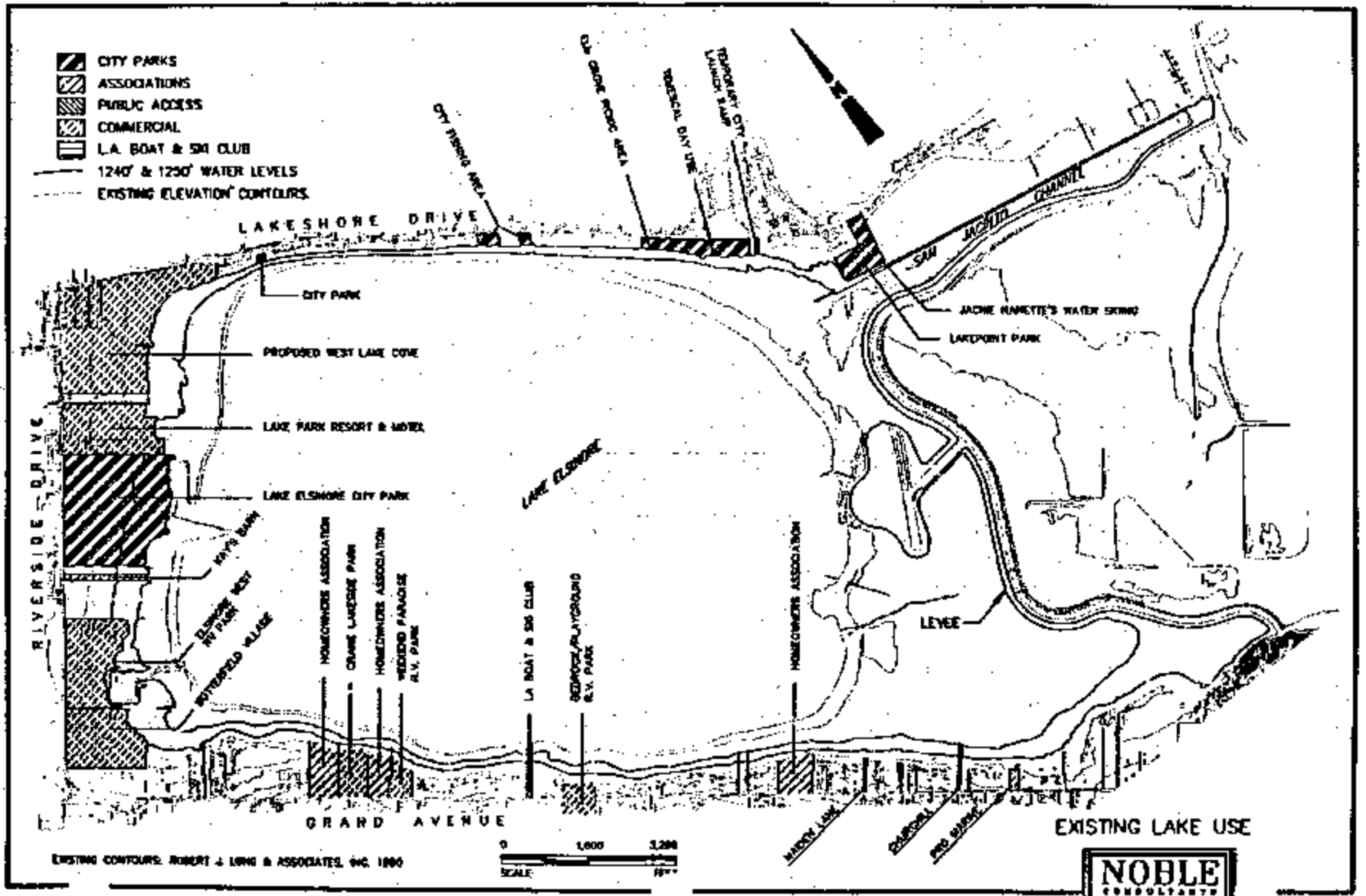
Direction	Winter		Spring		Summer		Fall		Annual	
	% of Time	Mean Speed (mph)	% of Time	Mean Speed (mph)	% of Time	Mean Speed (mph)	% of Time	Mean Speed (mph)	% of Time	Mean Speed (mph)
N	8.6	5.6	2.9	3.5	1.7	5.9	4.5	5.1	4.1	5.2
NNE	7.6	3.9	9.1	2.1	1.5	3.2	3.5	4.1	8.5	3.5
NE	11.0	2.2	2.7	1.6	1.2	2.5	5.2	2.1	4.4	2.1
ENE	7.8	1.7	2.9	1.8	1.0	1.4	4.2	1.7	3.5	1.7
E	6.7	1.3	2.9	2.1	2.1	1.2	4.8	1.6	4.2	1.5
ESE	7.1	1.6	4.0	2.0	2.0	1.8	4.6	1.8	4.1	1.8
SE	7.1	1.5	4.6	2.0	4.2	1.7	5.7	1.6	6.8	1.8
SSE	4.6	1.5	4.7	2.0	6.0	2.0	5.7	2.0	5.4	1.9
S	3.7	2.3	4.2	2.1	5.8	2.1	5.0	1.8	5.1	2.0
SSW	3.5	2.7	2.6	3.0	3.0	2.1	3.5	2.1	3.1	2.4
SW	3.6	3.4	5.4	4.3	4.2	2.8	5.3	3.0	4.7	3.3
WSW	7.0	3.2	12.8	5.9	12.7	4.5	13.0	4.6	11.8	4.5
W	11.1	3.8	29.5	5.6	39.2	6.4	22.9	5.4	27.5	5.9
WNW	9.6	2.5	9.6	3.9	10.9	4.5	6.0	3.4	6.0	4.6
NW	2.8	2.0	4.2	2.6	2.8	2.7	3.2	2.0	3.2	2.4
NNW	2.0	3.4	3.4	2.5	1.6	4.5	2.9	3.3	2.2	3.8

Note: Station at Latitude 33°57', Longitude 117°04', Elevation 417 feet.
Source: California Surface Wind Climatology, 1984.

Kay's Barn, Elsinore West Marina, and Butterfield Village). These facilities include boat launch ramps, campgrounds, R.V. parks, mobile home residences and a motel. The boat launch ramp at the City Park is unusable for all lake water levels above 1,240 feet.

The general flavor of the Riverside Drive area is one of a dense and, in part, cluttered recreational use area. On the other hand, the dense canopy of trees makes this one of the most pleasant spots along the Lake Elsinore shoreline, especially through the hot, dry summer. The area is extensively landscaped with a variety of non-native shrubs.

Private commercial lake use development along Grand Avenue provides facilities which include boat launch ramps, R.V. parks, campgrounds and a marine repair shop. The only



**TABLE III-6
EXISTING BOATING FACILITIES AND ACTIVITIES**

Location	Lake Frontage (ft)	Boat Launch Ramp		R. V. Park	Camping	Picnicking & Fishing	Dockage	
		No. of Lanes					Boat Slips	
		Boat	PWC				Present	Future
Lakeshore Drive Area:								
City of Lake Elsinore		4(a)	0	No	No	Yes	0	0
Riverside Drive Area:								
Lake Park Resort and Motel	800	0	0	Yes	Yes	Yes	0	?
City Marine Park	2,000	10(a)	0	Yes	Yes	Yes	1	?
Key's Barn	100	1	0	Yes	Yes	Yes	0	?
Elsinore West Marina	1,600	11(b)	10(b)	Yes	Yes	Yes	1	?
Butterfield Village	300	0	0	Yes (c)	No	No	0	?
Grand Avenue Area:								
Crane Lakeside Park	443	1	0	Yes (c)	Yes	Yes	0	24
Weekend Paradise R.V. Park	246	2	0	Yes	No	Yes	0	0
Pro-Marine	160	1	0	No	No	No	10	16
Bedrock/Playland R.V. Park	532	2	0	Yes	No	No	0	20
San Jacinto Channel Area:								
Jackie Nanette's Waterskiing	(d)	0	0	No	No	No	0	0

Notes: (a) Ramp unusable for operating lake levels
 (b) Ramp has much lower capacity due to limited parking and traffic circulation
 (c) Mobile Homes
 (d) San Jacinto Inlet Channel

existing water recreation facility located along the lake's eastern shoreline is the waterskiing school located off the City's Lakepoint Park, on the San Jacinto Channel, which is operated by Jackie Nanette through a concession contract.

4. LAKE STABILIZATION

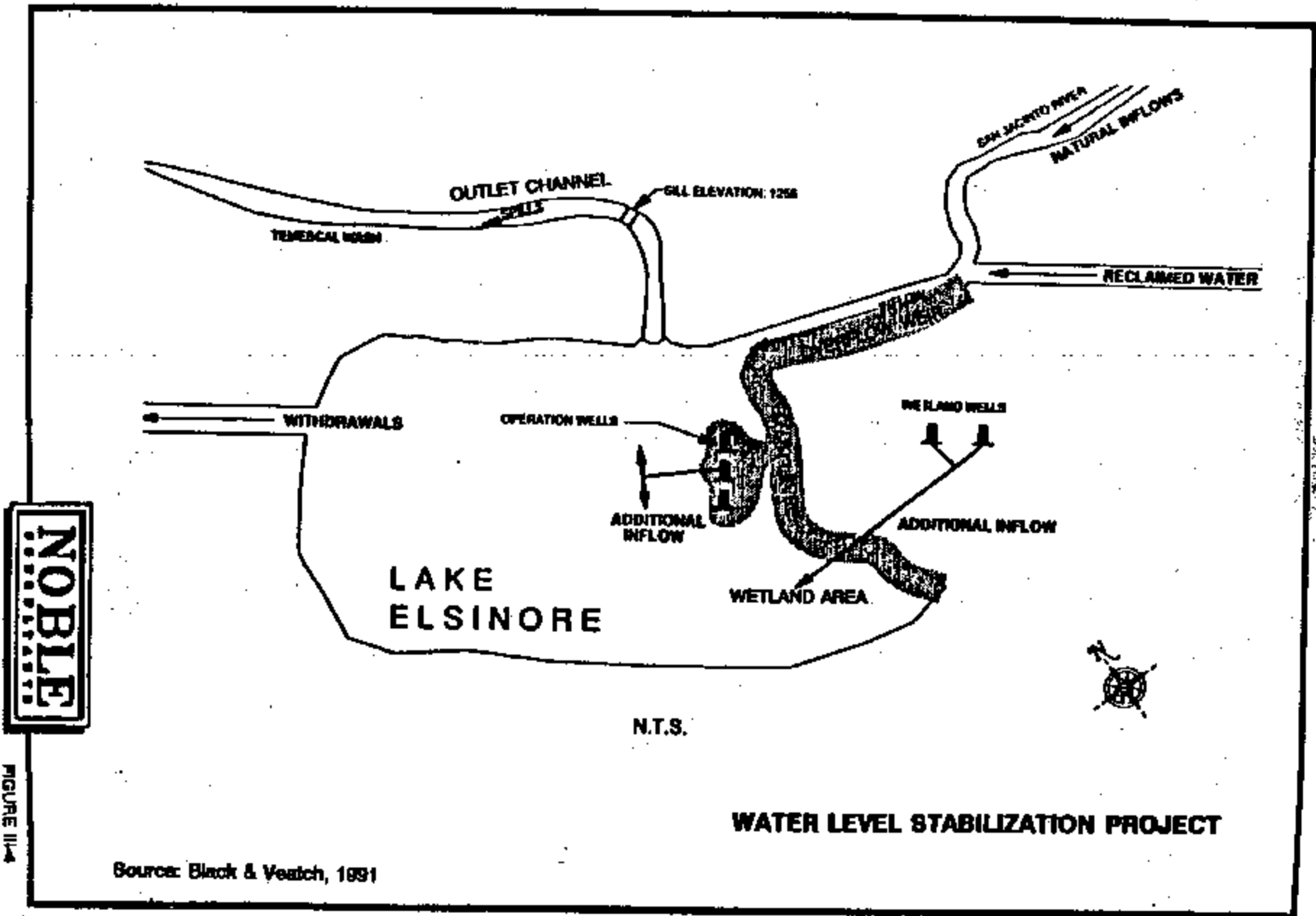
Historical lake levels have fluctuated drastically during the past 50 years. When the lake water level drops to low levels, the lake becomes unusable for recreation. During normal lake operations, the lake pool will now be managed between elevations 1,240 and 1,249, NGVD. A pool at elevation 1,240 will provide an adequate minimum level of water quality and recreation benefits, while elevation 1,249 maintains adequate reserve storage for flood protection as determined in previous studies (Black and Veatch, 1991).

To prevent a large difference in the lake water levels, a major management project including the excavation and embankment construction to create the lake type inlet, wetlands, levee structure and operations island has been undertaken by the Lake Elsinore Management Authority (LEMA) and supervised by the Santa Ana Watershed Project Authority (SAWPA) since 1989 (Black and Veatch, 1991). A 17,800-foot rolled earth-filled levee was constructed to separate the main basin from the flood plain, as illustrated in Figure III-4. An outlet channel with a sill elevation of 1,255 feet, NGVD was also proposed to drain the excessive water during the flood events, and is currently under construction. In addition, a 1,600-foot overflow weir was also constructed from the end of the levee across the San Jacinto River Channel to divert excess flood water, which cannot be absorbed by the lake and the outflow channel, into the back basin for storage.

During the drought period, existing project wells (three) that were placed on the operation island are planned to provide supplemental lake make-up water. When restored, the wells will be capable of producing approximately 10,320 acre-feet per year. Groundwater to stabilize the lake will be supplemented with recycled water imported from Eastern Municipal Water District that meets Title 22 water quality standards and is approved for body contact by State and Local Departments of Health. Also, new wells (two) are planned north of the wetlands to provide a continuous water supply for the wetland habitat.

5. WATER QUALITY

Changes in water quality (aquatic chemistry) take place over periods of time. Evaporation will produce increases in total dissolved solids. Nutrients tend to accumulate and cycle between aquatic plants and algae and the various dissolved particulate chemical forms of nitrogen and phosphorus, both in the water column and the benthos (bottom muds).



NOBLE

FIGURE III-4

Source: Black & Veatch, 1991

Lake Elsinore has encountered numerous water quality problems in the past. Due to the flooding condition which occurred in 1993, algae bloom became significant in the summer months of 1993. Mitigation measures, such as microbes treatment, were implemented to significantly improve the lake's water quality. The continuous monitoring and management of the lake's water quality is essential to warrant the successful implementation of water recreational activities.

The City, in cooperation with the Lake Elsinore Management Authority (LEMA), has completed a water quality management plan study which evaluated 14 management alternatives. This study, prepared by Black and Veatch (1993), evaluated the effects of future reclaimed wastewater used as replenished water supply, and different restoration alternatives such as nutrient and algae control and dissolved oxygen improvement on the water quality. Black and Veatch's final recommendations have been broken down with eight (8) options for dealing with "Nutrient Control"; five (5) options for dealing with "Algae Control"; and three (3) options for improving Dissolved Oxygen Content.

Of the options proposed, the City and LEMA are actively pursuing the Algae Harvesting through oil technology method and the lake aeration system. There will be a pilot program with the Pelican Boat (harvesting) this summer and, if successful, an ongoing program will be developed. In addition, an aeration program test area has been funded to test the results of aerating the lake to improve Dissolved Oxygen and water quality.

IV. LAKE MASTER PLAN ELEMENTS

1. MANAGEMENT STRATEGIES

Over the years, Lake Elsinore has been utilized and enjoyed by a wide variety of water sport enthusiasts including water-skiers, power boaters, fishermen, personal watercraft users, rowers, paddle boaters, canoeists and kayakers, sailors and swimmers. Also, the lake has been utilized for organized water sports such as power boat racing, water ski racing and sailing regattas. However, there have been numerous lean years of water sports activity on the lake during periods of either extremely low or high water levels or due to poor water quality conditions. A stabilized lake with good water quality, available for the recreational water sport activities year-round, will be a major asset to the immediate and surrounding communities alike.

A growing population in both the City of Lake Elsinore and Riverside County, and an increasing diversity of water recreation activities will place even greater demands on a stabilized and clean lake. It is therefore imperative that the lake be managed efficiently by adapting a plan that addresses water-use space and time allocations, and water access limitations.

The first requirements for lake management are to stabilize the lake's water level and improve its year-round water quality. These two lake improvements are not within the scope of this Master Plan; however, the entire plan is based on their successful implementation. The Lake Elsinore Management Project, overseen by LEMA, is a phased construction program underway that is designed to allow the lake's water level to be managed. The lake level is to be operated between the 1,240 feet and 1,249 feet elevations with a maximum 100-year flood level of 1,263.3 feet. The City of Lake Elsinore is currently addressing water quality management issues for keeping the lake clean year-round.

In order to maximize the safety of a diversity of water sport activities on and around the lake, the following management strategies are recommended:

- Designated water areas for:
 - Five miles per hour/no wake buffer zone
 - High speed boat operations

- Personal watercraft
 - Water ski take-off and drop-off from shore
 - Swimming
 - Fishing
 - Special events activities
 - Waterskiing concession
- **Boat travel direction of:**
 - Counter-clockwise movement beyond the five miles per hour/no wake buffer zone, except for sailboats.
 - Any direction within five miles per hour/no wake buffer zone.
 - Counter-clockwise direction in the designated high boat speed and PWC areas.
- **Maximum boat speed of:**
 - Forty miles per hour within the interior active lake area, except higher speeds are allowed within the restricted high boat speed area.
 - Five miles per hour or less, if boat wake occurs, within the five miles per hour/no wake buffer zone.
- **Maximum boat size of:**
 - Thirty feet in length, except for special authorized commercial pontoon boats or other boats approved by the City.
 - Majority of boats should be no longer than 26 feet in length.
- **Boat operating hours of:**
 - Sunrise to sunset (maximum not-to-exceed between 6:00 am to 9:00 pm in summer, and 7:00 am to 6:00 pm in winter), except for special authorized commercial boats.
 - 7:00 am to 6:00 pm (for summer) and 8:00 am to 4:00 pm (for winter) in high boat speed designated area.
- **Lake patrol to:**
 - Adequately patrol the lake.
 - Enforce the adopted lake rules and regulations.

Figure IV-1 identifies the location and size for the above-described designated water areas. Personal watercraft are allowed within the entire lake, as long as they fully obey the governing rules and regulations. Otherwise, they are allowed only in their identified restricted areas, which are exclusively for PWC. Initially, only two PWC restricted areas are to be utilized, with two additional future restricted areas available if the demand warrants their use. Water-skiers should start and stop within the lake's active zone, except they may take-off and drop-off from shore at the identified Recreation Island locations.

San Jacinto Channel is restricted for special events and waterskiing concessions. No waterskiing jumps, slalom courses, or concessions are allowed within the lake. Certain special events will be allowed within the lake, besides those events planned for the channel area. The designated fishing water area is not solely restricted to fishermen. Other boats may enter this area if they maintain the five miles per hour/no wake speed limitations.

In general, it is expected that a majority of the non-powered boats less than eight feet in length will operate within the five miles per hour/no wake buffer zone. This zone consists of 635 acres at the 1,240-foot water level and 964 acres at the 1,250-foot water level. This zone extends around the lake's perimeter, and is set sufficiently away from the shoreline edge to allow for safe boat operations in either direction.

Figure IV-1 also presents the location of other proposed water access improvements that are described later. However, these improvements have been proposed to facilitate the above-identified management strategies.

2. WATER USE CAPACITIES

Table IV-1 presents the number of boats registered with the State of California for the five counties most likely to use Lake Elsinore for recreational boating. Tables IV-2 and IV-3 present a yearly summary of boat counts and a monthly summary of boat counts for 1993 for Big Bear Lake, Lake Castaic and Lake Perris. Based on the numbers shown for Lake Perris, a stabilized, clean and improved Lake Elsinore should attract a heavy boating population.

In order to determine a maximum water use boat capacity that is considered reasonable for Lake Elsinore, many factors and assumptions must be taken into account. However, after

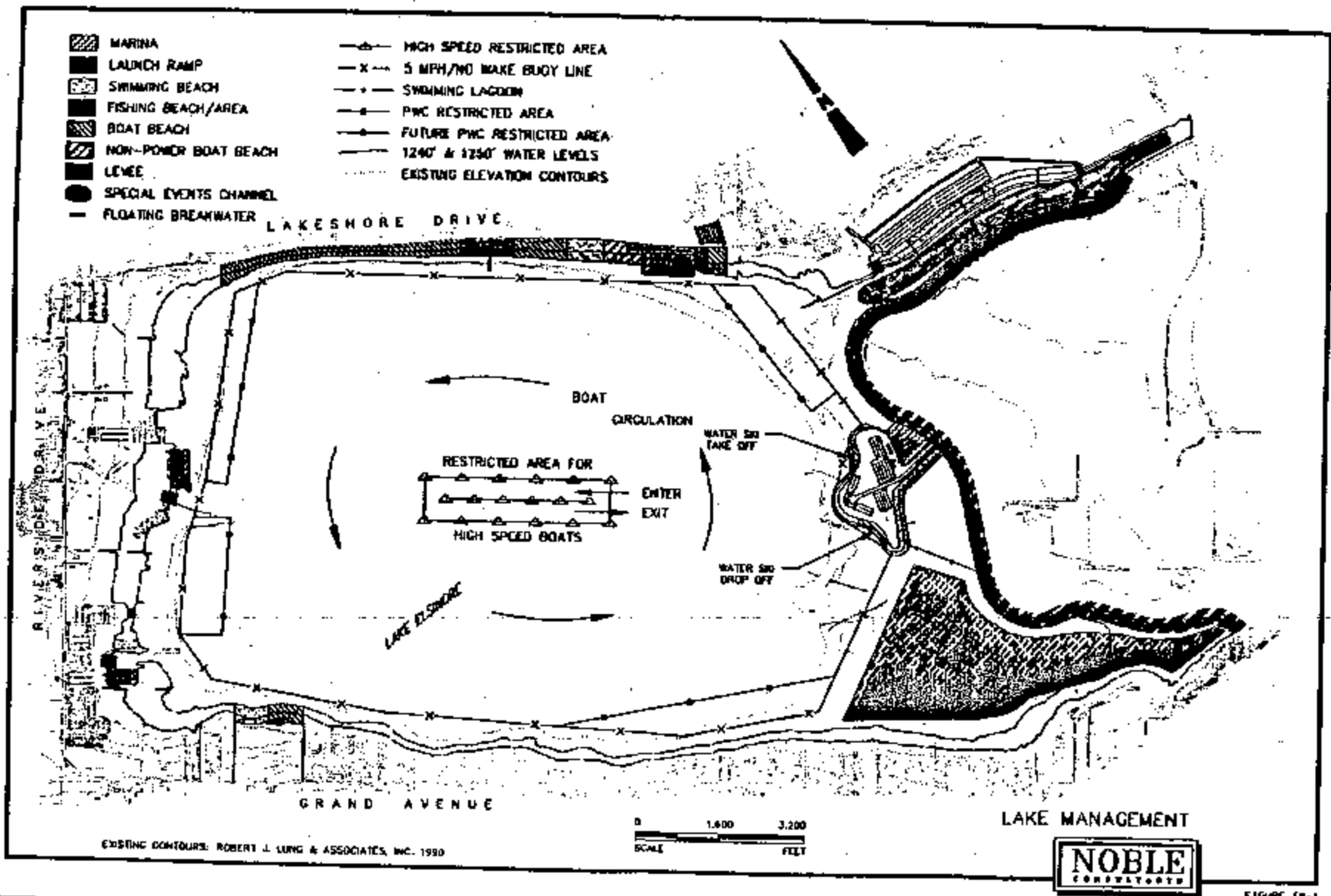
**TABLE IV-1
COUNTY BOAT REGISTRATION**

YEAR	San Diego County	Riverside County	San Bernardino County	Orange County	Los Angeles County	Statewide
1976	28,469	10,396	14,932	40,847	102,770	502,325
1980	32,650	13,906	18,081	48,743	98,071	538,707
1981	30,397	13,603	18,256	43,285	86,637	503,369
1982	33,268	14,592	19,403	45,624	91,047	529,410
1983	35,611	15,736	20,421	48,070	95,581	559,964
1984	40,153	17,109	22,242	52,656	104,122	609,530
1985	41,759	18,293	23,245	53,983	105,181	627,296
1986	45,195	20,455	25,480	56,928	109,759	664,082
1987	47,650	22,320	27,452	59,178	112,900	692,630
1988	50,338	24,551	29,725	61,715	116,795	718,449
1989	52,500	27,541	32,346	63,682	117,937	743,833
1990	55,037	30,405	35,289	66,526	122,027	778,037
1991	55,608	31,822	37,030	66,848	121,068	790,419
1992	55,790	32,844	37,918	67,236	119,831	796,496
1993	55,834	33,942	38,608	67,479	118,525	804,340

Source: California Department of Motor Vehicles

identifying and evaluating the various site parameters, reasonable assumptions can be made to arrive at the maximum number of watercraft that should be permitted in any given body of water. The more important parameters consist of:

- Water body acreage
- Management strategies/designated areas
- Percentage mixture of boating activities
- Shoreline perimeter and improved uses
- Percentage of boats along shoreline



**TABLE IV-2
YEARLY SUMMARY OF BOAT COUNTS**

Year	Big Bear Lake*	Lake Castaic	Lake Perris
1983	36,701		
1984	39,199		
1985	44,771		
1986	54,378		
1987	53,033		
1988	57,069	87,076	90,298
1989	62,064	82,864	87,546
1990	52,649	77,204	113,029
1991	44,579	86,110	101,033
1992	37,469	68,971	117,656
1993	43,234	73,181	122,713

*For six-month season.

**TABLE IV-3
MONTHLY SUMMARY OF BOAT COUNTS
FOR 1993 SEASON**

Month	Big Bear Lake	Lake Castaic	Lake Perris
January		2,016	2,032
February		2,824	2,818
March		7,111	7,712
April	800 *	5,374	14,275
May	5,987	6,244	16,203
June	5,266	9,002	16,331
July	8,970	11,788	19,234
August	7,392	10,564	19,417
September	5,224	7,669	11,513
October	2,309 **	4,482	7,467
November		2,246	3,503
December		1,861	2,208

Notes: * Only last eight days of April counted.
 ** Only first eight days of October counted.

- Percentage of boats operating within five miles per hour/no wake buffer zone
- Daily boat turnover percentage

The available water body surface areas for Lake Elsinore are presented in Table IV-4. Table IV-5 presents the assumed percentage distribution of boating activities and their expected ideal and more realistic actual operational area requirements. Dividing the total lake surface area of 3,000 acres by an average boating operational area of 2.5 acres per boat results in a total capacity of 1,200 boats, as shown in Table IV-6. In actuality, these 1,200 boats would be distributed along the shoreline, within the five miles per hour/no wake zone, and within the lake's active interior zone.

The percentage of boats temporarily along the shoreline versus the boats operating on the water has been observed to range at other recreational lakes from a low of 25 percent to a high of 75 percent. This study has assumed a low side number of 29 percent, even though the recommended shoreline improvement plan should maximize the use of shoreline areas for the boaters. It has further been assumed that the five miles per hour/no wake buffer zone contains an average of one boat for every two acres of buffer area. The assumed distribution of boats within this zone could be on the high side in comparison to other lakes; however, the proposed shoreline improvement and water access plan should promote more boating close to the shoreline, especially for the smaller non-power boats.

Table IV-7 presents the above-discussed distribution of boats using a lake capacity of 1,200 boats. This table shows that the active lake area may have only 475 boats operating at any given moment of the 1,200 boats, which results in an average of 4.7 acres per boat. A rough rule of thumb that has been used for water body areas with a mixture of boating usage is five acres per boat.

The maximum water use capacity of 1,200 boats at any one time is only recommended after the lake has been improved with the types of water access improvements presented within this plan. Initially, the maximum capacity should be reduced until it is proven that the lake's operations and shoreline improvements can safely accommodate a higher boat count. A starting capacity of around 650 to 750 boats should be considered until lake improvements have been initiated. In addition, if more than 500 boats at any given time are operating within the lake's active zone (5 to 40 miles per hour zone), then a reduced maximum boat capacity would be recommended.

**TABLE IV-4
LAKE ELSINORE WATER AREAS**

Lake Elevation (ft. MSL)	Area Description	Surface Area (Acres)		
		Lake	Channel	Total
1,240	5 mph/No Wake Zone*	835		
	Active Zone**	2,236		
	Swimming Lagoon	48		
	Subtotal	2,917	68	2,985
1,250	5 mph/No Wake Zone*	964		
	Active Zone**	2,236		
	Swimming Lagoon	57		
	Subtotal	3,257	66	3,323

Notes: * Fishing area includes 257 acres at 1,240' or 351 acres at 1,250'.
 ** High speed area includes 64 acres.
 Use: Active zone 2,236
 5 mph/no wake zone 800 (Avg. between 1,240 and 1,250)
 Deline for Marina, etc. 68
 Total 3,200 acres

**TABLE IV-5
SUMMARY OF SINGLE UNIT BOAT OPERATING CAPACITIES**

Type of Boat	Population Usage %	Single Unit Area			
		Ideal Conditions*		Actual Conditions**	
		sq. ft	acres	sq. ft	acres
Power Boat (General Recreation)	45	185 x 350	1.5	800 x 400	3.0
Power Boat (Fishing)	5	125 x 250	0.75	150 x 300	1.0
Power Boat (Waterskiing)	15	270 x 400	2.5	325 x 500	4.5
Personal Watercraft PWC	25	125 x 250	0.75	200 x 325	1.5
Sailboat	5	125 x 250	0.75	150 x 300	1.0
Non-power Boat	5	100 x 210	0.5	100 x 210	0.5
Average Value		175 x 340	0.75	275 x 400	2.52

Notes: * "Sailboat" includes Mono Hulls, Catamarans and Sailboards
 "Non-Power Boat" includes Canoes, Kayaks and Paddle Boats
 * Good boating operator skills, calm lake conditions, minimum interference from other boat wakes and a well maintained boat that is safely operated.
 ** Average conditions expected from the boat, operator and lake; however, it will expect the safe operation of boats obeying the lake's posted rules and regulations.

**TABLE IV-6
BOAT CAPACITY BASED ON
AVERAGE SINGLE BOAT OPERATING CRITERIA**

Lake Body Water Area	Designated Acreage (acres)	Single Boat Area (acres)	Boat Capacity (no. of boats)
Active Area (5 to 40 mph zone)	2,236	2.5*	895 (2,236/2.5=895)
Buffer Area (5 mph/no wake zone)	764**	2.5*	305 (764/2.5=305)
Total Water Area	3,000	-	1,200

Notes: * Based on average value of single unit boat operating capacity.
 ** Average acreage between lake levels at 1,240 ft. and 1,250 ft. with exclusion of 36 acres of inactive marina area.

**TABLE IV-7
ZONE DISTRIBUTION OF BOAT POPULATION**

Lake Body Water Area	Designated Acreage (acres)	Boat Capacity (no. of boats)	Equivalent Single Boat Operating Area (acres)
Total Water Area + Beach Area	3,000	1,200 (3,000/2.5=1,200)	2.5
Beach Area *** (Shoreline zone)	0	343 (1,200/3.5=343)*	0
Total Water Area	3,000	857 (1,200-343=857)	3.5 (3,000/857=3.5)
Buffer Area (5 mph/no wake zone)	764	382 (764/2.0=382)	2.0**
Active Area (5 to 40 mph zone)	2,236	475 (857-382=475)	4.7 (2,236/475=4.7)

Notes: * Assume a ratio of 2.5 boats operating on lake versus 1.0 boats beached.
 ** Assume 2.0 acres/boat on average.
 *** Beach area includes boats pulled up along the beach and boats temporarily docked at visitor boat docks around the lake's edge.

A daily boat turnover rate of 30 percent has been used in this study to develop total lake boat counts and revenue generation. This turnover rate is low when compared to other lakes. For instance, a review of the Lake Perris boat count statistics shows a maximum turnover rate of 120 percent. Therefore, the same annual total lake boat count and revenue generation as used in this study could still be generated for a lower maximum boat capacity associated with a higher turnover rate.

Using the 30 percent turnover rate results in a peak day boat count of 1,560 boats when using the 1,200 maximum boat capacity. For comparison, the peak day count at Lake Perris during 1993 was 1,133 boats for a lake that has approximately 73 percent of the surface area as Lake Elsinore. Table IV-8 presents the maximum expected peak boat counts at Lake Elsinore for the season and weekday of operation. These seasonal and weekday distributions are based on actual operating conditions experienced at Lake Perris as shown in Table IV-9. Appendix A contains boat counts, camping site use and vehicle counts for years 1988 through 1993 at Lake Perris. Daily, weekday, weekend and monthly statistics and graphs are included within this Appendix. Table IV-10 presents lake boat capacity comparisons for Lakes Castaic, Perris, and Arrowhead, and for Big Bear Lake.

3. WATER ACCESS

The proposed water access improvements are presented in Figure IV-2, and are discussed in detail under Section V, "Specific Lake Development Plan". These proposed improvements are recommended in order to maximize and control the recreational water sports usage of Lake Elsinore. This is accomplished by providing for a balanced diversification of water sport activities around the lake's perimeter, consisting of:

- Launch ramps and marinas for boater's access to the lake
- Boat rental concessions
- Boat excursion concessions
- Long stretches of boat beaches where boaters can stop for picnicking and shoreside activities
- Visitor boat slips in marinas and retail areas for boaters to stop
- Fishing areas
- Swimming beaches and lagoons where families can enjoy waterfront activities

**TABLE IV-8
MAXIMUM PROBABLE DAILY BOAT CAPACITY**

Maximum Operating Boats within total Water Area (no. of boats)	Maximum Daily Operating Boats (no. of boats) (1,200*1.3=1,560)	Peak Season Maximum Daily Operating Boats		Off Season Maximum Daily Operating Boats	
		Weekday	Weekend	Weekday	Weekend
		(no. of boats)		(no. of boats)	
1,200	1,560*	889**	1,560	135**	390**

Notes: * Daily boat turnover rate of 20%.
** Based on 8 years of visitation records at Lake Perris.

**TABLE IV-9
BOAT COUNTS AT LAKE PERRIS**

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1988	137	306	506	396	561	619	675	693	506	369	101	48
1989	153	199	261	535	368	484	494	457	448	382	390	148
1990	117	242	384	538	646	687	690	834	706	448	311	104
1991	217	384	309	583	645	563	762	675	696	618	258	82
1992	148	246	251	781	811	659	647	616	735	461	242	123
1993	111	198	547	753	616	780	851	815	675	426	338	112
AVG.	147	257	377	604	641	702	781	782	629	434	238	103

MONTHLY AVERAGE WEEKEND BOAT COUNTS

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1988	137	306	506	396	561	619	675	693	506	369	101	48
1989	153	199	261	535	368	484	494	457	448	382	390	148
1990	117	242	384	538	646	687	690	834	706	448	311	104
1991	217	384	309	583	645	563	762	675	696	618	258	82
1992	148	246	251	781	811	659	647	616	735	461	242	123
1993	111	198	547	753	616	780	851	815	675	426	338	112
AVG.	147	257	377	604	641	702	781	782	629	434	238	103

MONTHLY AVERAGE WEEKDAY BOAT COUNTS

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1988	37	66	121	188	224	311	403	388	221	111	39	37
1989	36	45	155	247	216	329	392	374	237	123	116	82
1990	40	59	149	233	291	444	534	446	287	167	67	47
1991	40	100	65	174	246	320	385	428	240	172	90	43
1992	58	74	79	280	325	435	498	474	295	156	88	43
1993	44	81	145	378	363	459	514	609	378	183	73	57
AVG.	42	68	119	248	276	383	453	457	290	147	84	48

Note: Number for August 1988 is an average value, not an actual count.

**TABLE IV-10
LAKE BOAT CAPACITY COMPARISONS**

Item	Lake Catalina	Lake Perris	Big Bear Lake	Lake Elmore*	Lake Arrowhead
Water Surface Area (ac)	2,200	2,200	3,000	3,000	782
Active Surface Area** (ac)	1,850	1,500	?	2,236	
Maximum One Time Boat Capacity	500	450	no limit	1,300 (a)	no limit
Maximum Daily Recorded Boats	Approx. 800(b)	1,133	822	1,550(c)	1200-1400 (d) 450-500 (e)
Maximum Boat Turnover Rate	1.6	2.2		1.8	
Annual Boat Passes Sold in 1993	1,142	2,212	4,414	1,506 (f)	2,483 (g)
Maximum PWC Capacity	75	included	included	included	
Maximum Nonpower	included	included	included	included	
Boats in Water/Boats on Shore	75/25	65/25 -75/25	?	71/29	?
Boats in Active Zone/Boats in No Wake Zone	80/20	90/10	?	65/46	?
Average Boat Unit in Active Zone (ac/boat)	4.6 (h)	6.3 (i)	?	4.7 (j)	?
Total Water Area/Maximum Daily Boats	0.96	0.52	0.27	0.52	0.64
PWC only area (ac)	150	none	none	194.6(k)	none
Marina Slips	0	300	1,244(l)	828(m)	2,328 (n)
Dry Storage	0	100	winter storage lake freezes	300	winter storage lake freezes

- Notes:
- * Proposed Design Criteria
 - ** Water area that allows boat speeds of over 6 mph
 - (a) Based on 643 boats in active zone (0 mph), 352 boats in no wake zone (5 mph), and 475 boats in active zone (5-40 mph).
 - (b) Personal communication with Mr. Brian Roney, Lake Catalina.
 - (c) Design maximum daily capacity based on turnover rate of 80%.
 - (d) On 4th of July (5 mph or less).
 - (e) On Labor Day (86 mph or less).
 - (f) Annual passes measured for generation of lake use revenue for year 2001 in Table VI-13. This number could be increased.
 - (g) Registered boats for 1993 season.
 - (h) $1850 / (576 * 0.78 * 0.8) = 4.8$
 - (i) $1500 / (450 * 0.7 * 0.6) = 8.3$
 - (j) $2236 / (1200 * 0.715 * 0.65) = 4.7$
 - (k) Present 75.7 ac; future additional 94.6 ac.
 - (l) 577 single slips, 238 double slips, 109 end ties, 73 side ties and 148 mooring buoys.
 - (m) Proposed three marinas = 571 slips; future fourth marina (City Park) = 257 additional slips.
 - (n) 2,128 private slips plus 200 marina boat slips.
- Sources: Mr. Brian Roney, Catalina Lake, 1993
 Ms. Reelene Manson, Big Bear Lake, 1993
 Mr. Paul Frost, Lake Perris, 1993
 Ms. Paula Corso, Lake Arrowhead, 1993

- Waterskiing concession area where all levels of water-skiers can train and be taught
- Special events area for power boat, waterskiing, rowing and sailing races
- Restricted water use areas for high speed boats and personal watercraft
- Improved lakefront R.V. park and campground facilities
- Shoreline linear greenbelt walkway

Proposed shoreline and water access improvements along Lakeshore Drive between Lakepoint Park and Four Corners consist of a new marina complex with launch ramp, boat slips, restaurant, marine concessions, boat rental concessions, swimming beach and boat beaches, a fishing beach and pier, and a long stretch of boat beach. This plan supports the previous proposed Seaport Village, a retail/restaurant complex extending down Spring Street to the lakefront.

Proposed water access improvements along Riverside Drive consist of the eventual development of a marina at the City R.V. Park and Campgrounds, along with required improvements to its existing boat launch ramp, swimming beach and R.V./campground facilities, and development of a marina with minor improvements to the two existing launch ramps and swimming beach at the privately-owned Elsinore West R.V. Park. In addition, there are other existing and proposed private commercial developments along this section of lakefront.

Proposed water access improvements along Grand Avenue consist of a Nautical Center with a swimming beach and non-power boat beach on an approximate 40-acre parcel of land where the existing old Military Academy encompasses 20 of these acres. It is envisioned that the 40-acre Nautical Center could include rowing club and yacht club facilities, a non-power boat beach for their use, a swimming beach for family use, a yacht brokerage/boat sales center, a marine retail center, and an aquarium/marine museum for visitor use. The remaining Grand Avenue shoreline consists of four existing commercial facilities with boat launch ramps, three homeowner's associations, a parcel of land belonging to the Los Angeles Boat and Ski Club, and individual private lakefront properties all of whom could apply to the City for boat launch and boat dock privileges.

A 17,800-foot-long earthen levee was recently constructed to elevation 1,265 feet to limit the lake's eastern boundary. Recreational levee improvements are proposed to include a

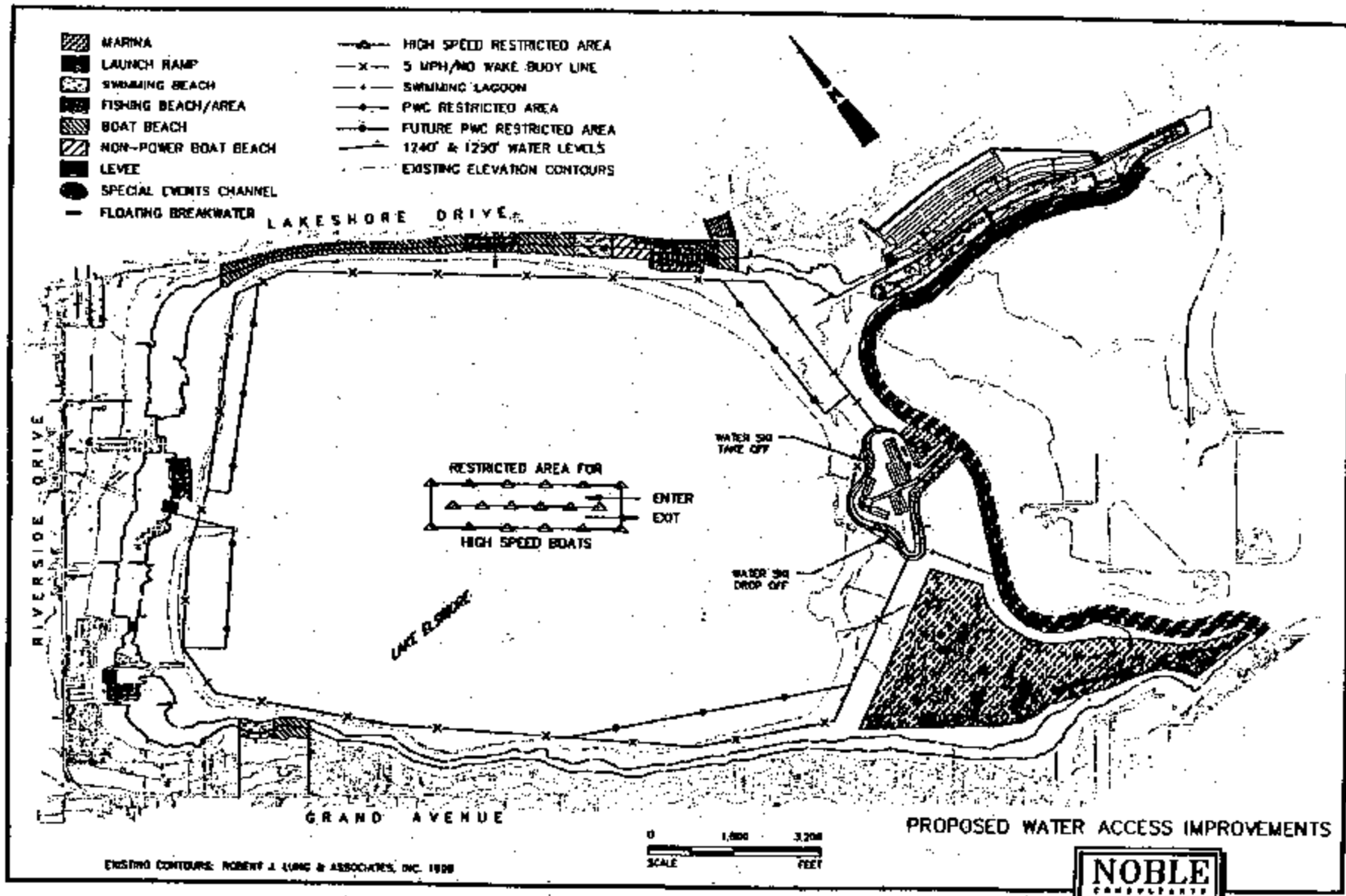


FIGURE IV-2

linear walkway with benches, shade structures and landscaping for the general public's viewing of the lake. Presently, a partial island exists that was constructed off the center portion of the levee during the levee's construction. A major waterfront recreational complex is proposed with the further development of this island. Water access facilities proposed on this island include a marina, boat and marine concessions, a youth and group facility, a swimming beach and lagoon area, parkland areas, a deluxe hotel/restaurant complex, and waterskiing take-off and drop-off beaches.

Proposed water access improvements along the San Jacinto Channel include widening the central portion of the channel, and providing shoreline facilities for the channel to be used as a major swimming beach area along the shoreline and as a water skiing concession area within the channel. During the scheduling of special boating events, the entire channel and shoreline area would be devoted to the scheduled activity.

Figure IV-3 identifies the location of all existing and proposed public boat access points to the lake. The only other boat access points would be from private property whose owners have applied for and obtained annual launching rights from the City. During days of high boat usage, a vast majority of boats would obtain access to the lake from the identified public access points. If required, the lake's boat capacity could be controlled by either limiting or closing access at these public locations.

Based on the proposed water access plan, Tables IV-11 and IV-12 present the expected boat access for the first full year of operation assumed in 1996 and for the sixth year in 2001. Marina boat slip counts used in Table IV-12 are developed in Table IV-13 from specific marina plans identified in Section V, "Specific Lake Development Plan". A summary of projected annual lake usage passes, including types of passes, for years 1996 and 2001 is presented in Table IV-14. Table IV-15 presents the projected public boat launch ramp counts, while Table IV-16 presents the potential public boat launch facilities and capacities to meet the expected public launch demand.

Proposed private boat dock construction design standards are presented within the special provisions section incorporated in the City's recently developed Private Property Boat Launch program. The proposed private boat dock construction design standards are contained in Appendix B.

**TABLE IV-11
BOAT ACCESS TO LAKE (YEAR 1996)**

FACILITY	MARINAS				LAKE FRONT				
	General Public	Rentals	Commercial	Y & G Facility	General Public	Rentals	PWC Rentals	Y & G Facility	Clubs
Jacinto Channel Launch Ramp									
Seaport Marina Launch Ramp					*		20		
Seaport Marina									
NPB Concession Beach (a)									
City Marine Park Marina					*				
City Marine Park Launch Ramp					*				
Kay's Barn Launch Ramp					*				
Elmhurst West Marina							20		
Elmhurst West Launch Ramps									
Nautical Center									
Orme Lakeside Park					*	10			
Weekend Paradise					*				
Bedrock/Playland					*	10			
Pro Marina					*	5			
Recreation Swim Lagoon									
Recreation Island Marina									
Jacinto Narrows (b)									
Special Events (c)									
Private Property					**				
TOTALS						25	40		

- Notes:
- (a) Non-power boats (NPB), located adjacent to Seaport Marina
 - (b) Waterskiing concession within San Jacinto Channel
 - (c) Special Events initially located along lakefront offshore of Lakeshore Drive between Lewis and Spring Streets
 - * Launch ramps available for general public
 - ** Only for property owner with annual pass on his/her property

4. RULES AND REGULATIONS

Following are rules and regulations recommended for adoption by the City in order to maintain safe and orderly lake operations.

4.1 General

- Every boat owner should have thorough knowledge of boat operation. Coast Guard Auxiliary classes are recommended.
- California boating law (see ABC's of the California Boating Law) as well as Riverside County Boating Ordinances are enforced.

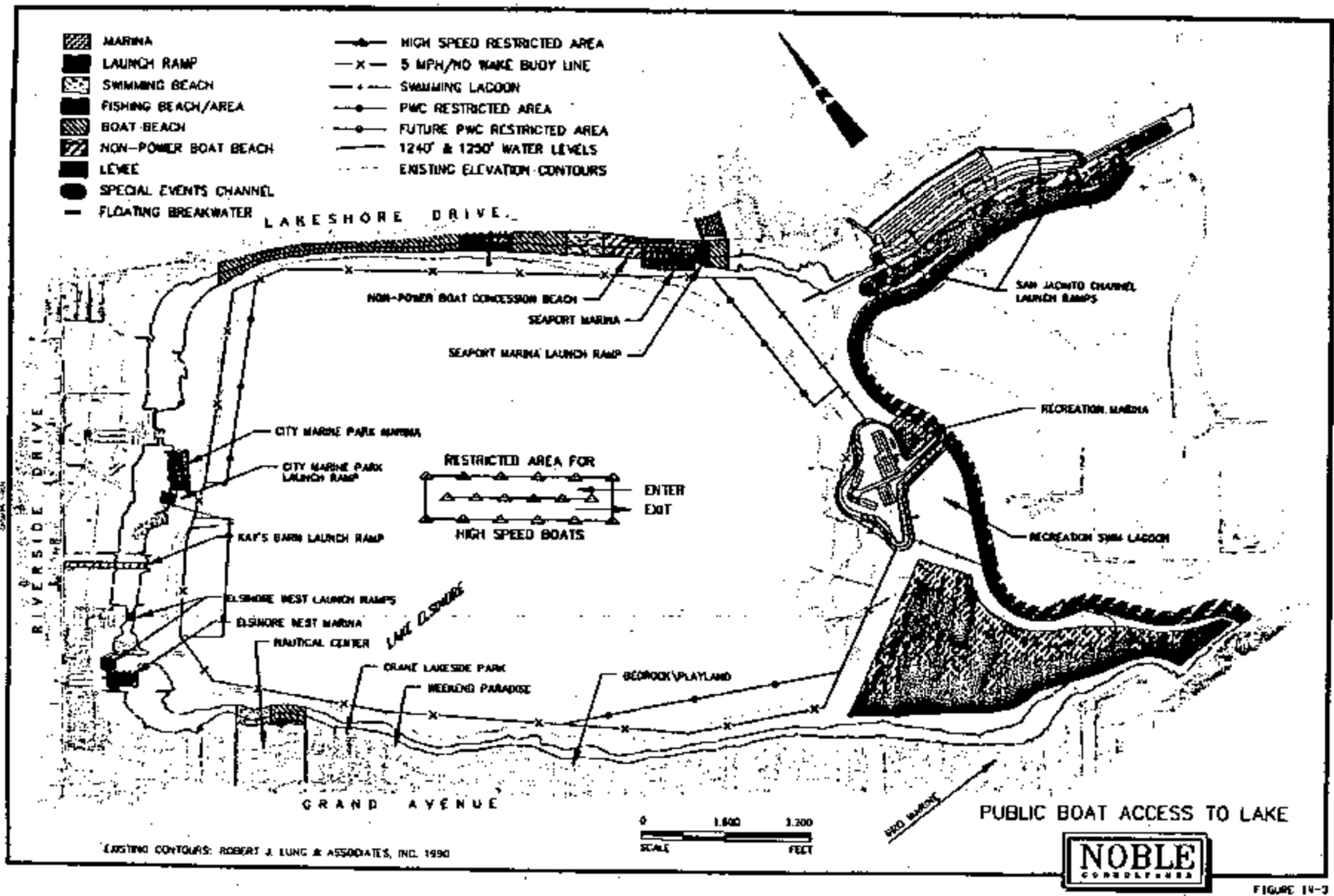


FIGURE IV-3

**TABLE IV-12
BOAT ACCESS TO LAKE (YEAR 2001)**

FACILITY	MARINAS				LAKE FRONT				
	General Public	Rentals	Commer- cia)	Y & G Facility	General Public	Rentals	PWC Rentals	Y & G Facility	Clubs
Jacinto Channel Launch Ramp					*				
Seaport Marina Launch Ramp					*				
Seaport Marina	888	20	7		**		20		
NPB Concession Beach (a)						25			
City Marina Park Marina (b)	(238)	(16)							
City Marina Park Launch Ramp					*				
Key's Barn Launch Ramp					*				
Esplanade West Marina	154	10			*		20		
Esplanade West Launch Ramps					*				
Nautical Center						15			80 (e)
Crane Lakeside Park					*	10			
Weekend Paradise					*				
Bedrock/Playland					*				
Pro Marina					*	10			
Recreation Swim Lagoon (c)					*	8			
Recreation Island Marina	185	22	5	42	**	(20)		16	
Jacinto Narrows (d)									
Special Events (d)									
Private Property					***				
TOTALS	596	82	12	42		65	40	16	80

- Notes:
- (a) Non-power boats (NPB), located adjacent to Seaport Marina
 - (b) Future 238 slips - not included in totals
 - (c) No access to lake (only lagoon) - not included in totals
 - (d) Waterskiing concession & Special Events within San Jacinto Channel
 - (e) Rowing and Sailing Clubs
 - * Launch ramps available for general public
 - ** Boat crane available
 - *** Only for property owner with annual pass on his/her property

- All boats must have a current and valid lake permit and C.F. numbers. Any alteration to or trade of a boat permit will void the permit.
- All boats must be subject to inspection at any time.
- Maximum boat length allowed will be 30 feet, unless approval has been obtained from the City for boats longer than 30 feet for specified usage.
- Launching and retrieval of all vessels must remain in designated areas.
- Public docks located at the City's launch facilities are for loading and unloading only.
- Refueling your vessel must be done either out of the water or at the dock.
- Glass containers are prohibited.

**TABLE IV-13
MARINA BOAT SLIP COUNT**

Location	Slip Size (ft)	Number of Slips	Rentable Lineal Feet
Seaport Marina	20	126	2,520
	24	114	2,736
	28	68	1,904
	32	14	448
	Subtotal	322	7,608
City Marine Park Marina	20	126	2,520
	24	114	2,736
	28	17	476
	Subtotal	257	5,732
Elsinore West Marina	20	68	1,360
	24	80	1,920
	Side Ties	16	400
	Subtotal	164	3,680
Recreation Marina	20	55	1,100
	24	103	2,472
	28	32	896
	32	11	352
	Side Ties	8	200
	Subtotal	209	5,020

- Vehicles are not permitted to drive on the lake sloped bank or levee, and they must obey the posted speed signs and operate in accordance with vehicle codes.
- Fires or barbecues are strictly prohibited except in designated areas.
- No littering. Trash receptacles or trash bags must be used. Secure trash in your boat before proceeding.

**TABLE IV-14
ANNUAL PASS AND LAKE USAGE**

TYPE OF ANNUAL PASS	1st Year (1996)		6th Year (2001)	
	Total Issued	On Lake*	Total Issued	On Lake*
LAKE FRONT FACILITY				
Private Property Owner	150	60	150	60
Gen. Public @ Launch Ramps	200	100	300	125
Boat/PWC Rentals	66(a)	60(b)	106(c)	60(d)
Youth & Group Facilities	-	-	15	5
Rowing & Sailing Clubs	5	2	30	10
Subtotal	421	202	601	260
MARINA FACILITY				
General Public w/ Slips	-	-	598	90
Commercial	-	-	13	9
Boat Rentals	-	-	52	40
Youth & Group Facility	-	-	42	21
Subtotal	-	-	705	160
Total Annual Pass	421	202	1,306	440
LAKE USAGE CAPACITY				
	1st Year (1996)		6th Year (2001)	
	Total Issued	On Lake	Total Issued	On Lake
Peak at One Time		565		1,200
Peak Day		734		1,580
Annual		60,000		170,000
% Annual Passes		95.8(e)		36.7(f)

- Notes:
- * Total number of boats with annual passes on lake at any one time.
 - (a) 28 boats and 40 PWC (PWC launched at public launch ramps)
 - (b) 20 boats and 30 PWC
 - (c) 66 boats and 40 PWC (PWC launched at public launch ramps)
 - (d) 60 boats and 30 PWC
 - (e) $202/565 = 0.358$
 - (f) $440/1200 = 0.367$

**TABLE IV-15
PUBLIC BOAT LAUNCH RAMP COUNT**

BOAT/PWC COUNT		1996	2001
Peak day boat count		734	1,560
Less boats not using public launch ramps + 30% turnover		-94 (a)	-370 (b)
	Subtotal Boat Count	640	1,190
Less small boats not requiring launch ramps (c)		-64	-119
Estimated boats/PWC launched at public launch ramps		576	1,071

Notes: (a) $(202-100-30) \times 1.3 = 94$
 (b) $(440-125-30) \times 1.3 = 370$
 (c) Approximately 10 percent of total launched.

**TABLE IV-16
AVAILABLE PUBLIC BOAT LAUNCH FACILITIES/CAPACITIES**

LAUNCH RAMP FACILITY			CAPACITY (IN/OUT)*	
Location	Number of Lanes	Year Available	1996	2001
Seaport	8	1995/96	(400)	400
City Park	10	1999/2004		(240)
Elsinore West	11	1994	240	240
Elsinore West (PWC)	10	1994	240	240
San Jacinto Channel (a)	8	1996/99		(240)
Kay's Barn	1	1994	12	12
Crane Lakeside	1	1994	12	12
Weekend Paradise	2	1994	24	24
Bedrock/Playland	2	1994	24	24
Pro Marine	1	1994	12	12
TOTALS	54		564 - 964	964 - 1,444

Note: * Assumed capacity based on launch facility improvements/location, toll taking operation, overall traffic circulation and parking capacity for cars/boat trailers.

(a) If used also as public launch ramp

4.2 Boat Operations

- All boats 16 feet or over must have one Type I, II or III (wearable) personal flotation device for each person on board and one Type IV (throwable) in each boat.
- All other vessels less than 16 feet require one Type I, II, III or IV for every person aboard.
- All power vessels must carry a fully charged Type B-1 or equivalent fire extinguisher that is readily available.
- All motorboats or motor vessels except open boats, using gasoline as fuel, shall have at least two ventilator ducts fitted with cowls or their equivalent.
- All boats must be properly muffled at all times to meet State and local noise requirements. No unmuffled or "dry stack" exhaust systems. (NOTE: Noise levels may not exceed 86 decibels as measured at a distance of 50 feet.)
- If a boat operator is faced with a potentially unsafe situation (overcrowded turn with many fallen skiers) shut down operation of the vessel.
- The vessel on the right or the vessel you overtake has the right-of-way.
- A sailing vessel has the right-of-way over a motor craft in all situations.
- Absolutely no bow, gunwale or transom riding. All passengers must sit securely in the boat.
- Operating a vessel while under the influence of alcohol or drugs is strictly prohibited. Violators will be punished to the full extent of the law.
- Consumption of alcohol and open alcohol containers while a boat is operating on the lake is strictly prohibited. Violators will be punished to the full extent of the law.
- Boating accidents must be reported immediately to the proper authority.
- All boats shall maintain a counter-clockwise direction beyond the five mile per hour zone (except boats under sail).
- Maximum speed on the lake is 40 miles per hour, except when operating within the designated high speed area.
- Boats requiring trailers may be launched only from designated launch ramps. All other small boats may be carried and launched at designated recreational or public access points after obtaining a boat permit.
- Mooring to navigational markers is prohibited.
- Overnight mooring is allowed at marinas or for private property owners with

proper (valid) permits.

- Boat operating hours are restricted between sunrise to sunset, except for permitted activities. (Permits must be approved and obtained from the City of Lake Elsinore.)

4.3 Waterskiing

- The number of water-skiers being towed by one boat at the same time is limited to two.
- One observer is required onboard besides the operator, and must be over 12 years old, while a boat is towing a skier.
- A red signal flag must be displayed when a fallen skier or ski rope is in the water.
- Starts and drop-offs must be done in deep water or designated take-off and drop-off areas.
- Skiing in or around marker buoys or within 100 feet of other vessels, skiers or hazards is strictly prohibited.
- When one skier falls during a double tow, the other skier must immediately let go of the tow rope and both skiers should stay together at all times.
- When a skier falls the boat operator shall return in a safe manner as soon as possible in a tight counter-clockwise direction when practical to retrieve the fallen skier.
- The slalom course area is operated only within the City concessioned ski instruction area in San Jacinto Channel.
- Passing a tow line over another boat or skier or towing a skier within 100 feet of another boat, skier or downed skier is prohibited.
- Loose skis must be retrieved immediately.
- It is unlawful for any person to employ a tow line longer than 75 feet in length.
- Ski ropes must be retrieved immediately when skiing is discontinued.

4.4 Personal Watercraft (PWC) and Similar Devices

- Operators must follow the same rules of operation which govern all boats on Lake Elsinore.

- All PWC's must have Coast Guard approved life jackets on board for each person on vessel.
- All operators must carry a fully charged Type B-1 or equivalent fire extinguisher.
- All PWC's must be properly muffled at all times to meet State and local noise requirements.
- All PWC's may carry no more passengers than manufacturer's designation.
- All operators should be cautious when turning or overtaking another vessel and must yield the right-of-way to the vessel on the right or the vehicle being passed.
- Passing too close to other vessels can be dangerous at any speed. Keep a distance of 25 feet minimum from any other vessel.
- The required age for operating a PWC is 14 years or older.
- The PWC program was designed to promote safe, enjoyable operation. Speeding, racing or reckless operation is strictly prohibited.
- In addition, to the open lake area, there are designated PWC areas for PWC operations only.

4.5 Fishing

- A California State fishing license is required for all individuals fishing at all times.
- Fishing is allowed from shore in designated areas only.
- Trolling in the designated ski and PWC area is prohibited.
- All fish and game regulations are strictly enforced.
- Cleaning of fish on the water or shoreline is strictly prohibited.
- Fishing from launch ramps and docks is prohibited.

4.6 Swimming

- Swimming is allowed only in designated areas.
- Scuba diving is prohibited.

5. CONCESSIONS

Currently, the City has two leases with concessionaires for concession operations on the lake. The main lease is a carry-over from the State of California's prior ownership of the lake. This lease is with Lake Elsinore Recreation Area Incorporated (LERA) to operate the City's R. V. Park and Campground facility along Riverside Drive. The facility has an existing boat launch ramp; however, since the top elevation of this ramp is at 1,240 feet, major improvements are required before this launch ramp can return to operation for the planned lake operating elevation in the 1,245 feet plus range. The second lease is with Jackie Nanette for a waterskiing school concession within San Jacinto Channel.

The proposed lakefront improvement plan allows for the full range of waterfront concessions, including leases for activities taking place on the water, marina and dock leases; and landside leases for supporting all marine-related activities. Potential concession activities are listed in Section V, "Specific Lake Development Plan", for the specific proposed improvements around the lake's perimeter.

6. SPECIAL EVENTS

Over the years, Lake Elsinore has been the site for a variety of special events. The potential for numerous special events returning to the lake, under a stabilized and clean lake condition, is wide open. There are already several special interest promoters interested in holding upcoming events on Lake Elsinore. Between the lake and an improved San Jacinto Channel area, the lake can accommodate almost any type of special event the City desires to undertake, including:

- International hot boats
- Thunder boats
- Unlimited hydroplanes
- Personal watercraft competition
- Water ski competition
- Rowing regattas
- Sailboard events
- Sailboat regattas
- Triathlons/biathlons

The ideal location for many of the above events is San Jacinto Channel. However, the channel will require some widening at its mid-point once the water level starts receding below the 1,255 feet elevation. This channel widening is proposed within the recommended lake shoreline improvement plans.

Of the special events listed above, power boats and water ski competition will generate the largest revenue. The powered boats (except for the unlimited hydroplanes), water ski competition and rowing shells are ideally suited for an improved San Jacinto Channel. This channel area can provide excellent landside facilities (as shown on the proposed plan), calm water, good security and safety, and excellent spectator viewing.

The lake's main water body is required for holding certain events, i.e., unlimited hydroplane racing, water ski marathons and sailing regattas. Sailboard events may be held wherever wind conditions are suitable. Promoting an unlimited hydroplane race requires a significant financial commitment in addition to fulfilling numerous landside and waterside requirements. If there is a desire to pursue the holding of an unlimited hydroplane race in Lake Elsinore, a recommended two-mile course layout that fits within the proposed lake improvement plan is shown in Figure IV-4. The Unlimited Racing Commission's Race Site Manual, which documents their unlimited hydroplane racing requirements, is contained in Appendix C. Their 1991 through 1993 race schedule/attendance, tentative 1994 race schedule and a demographic analysis of their race fans are contained in Appendix D.

















Until the San Jacinto Channel area is improved to accommodate the discussed special events, these events could be staged directly offshore Lakeshore Drive between Lewis and Spring Streets as shown in Figure IV-5. When the channel is improved it will provide boat racing in a long narrow channel, giving spectators the ideal vantage point to watch the entire race course as illustrated in Figure IV-6.

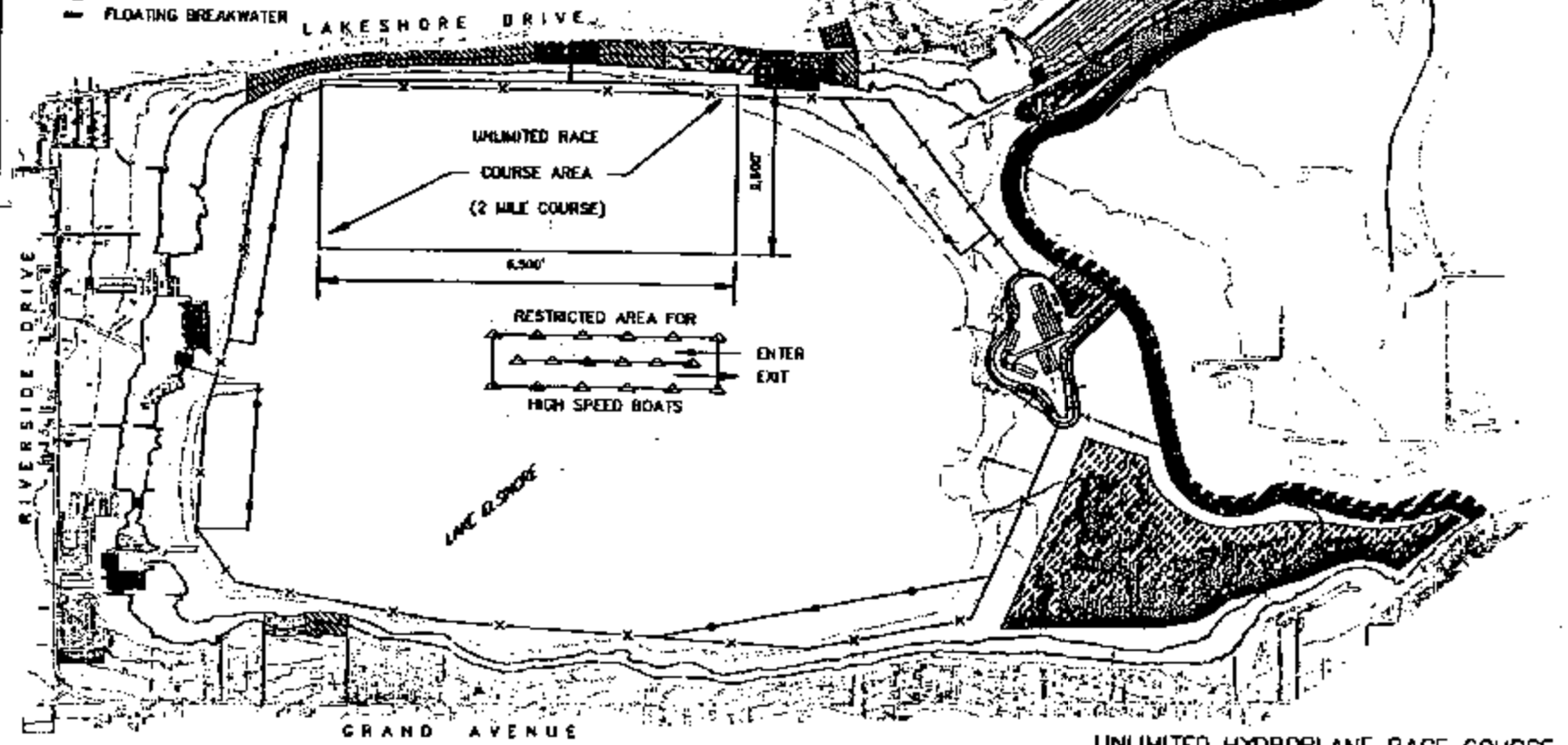
General event requirements for promoting international hot boats, thunder boats, water ski competition, jet boat competition, and other events are presented below.

6.1 Boat Drags

Boat drags consist of quarter-mile acceleration, side-by-side racing of two boats paired at a time. Boats stage in front of an electronic starting lights system and attempt to complete

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-  MARINA
-  LAUNCH RAMP
-  SWIMMING BEACH
-  FISHING BEACH/AREA
-  BOAT BEACH
-  NON-POWER BOAT BEACH
-  LEVEE
-  SPECIAL EVENTS CHANNEL
-  FLOATING BREAKWATER
-  HIGH SPEED RESTRICTED AREA
-  5 MPH/NO WAKE BUDY LINE
-  SWIMMING LAGOON
-  PWC RESTRICTED AREA
-  FUTURE PWC RESTRICTED AREA
-  1240' & 1250' WATER LEVELS
-  EXISTING ELEVATION CONTOURS



EXISTING CONTOURS: ROBERT J. LANG & ASSOCIATES, INC. 1990



UNLIMITED HYDROPLANE RACE COURSE



FIGURE IV-4

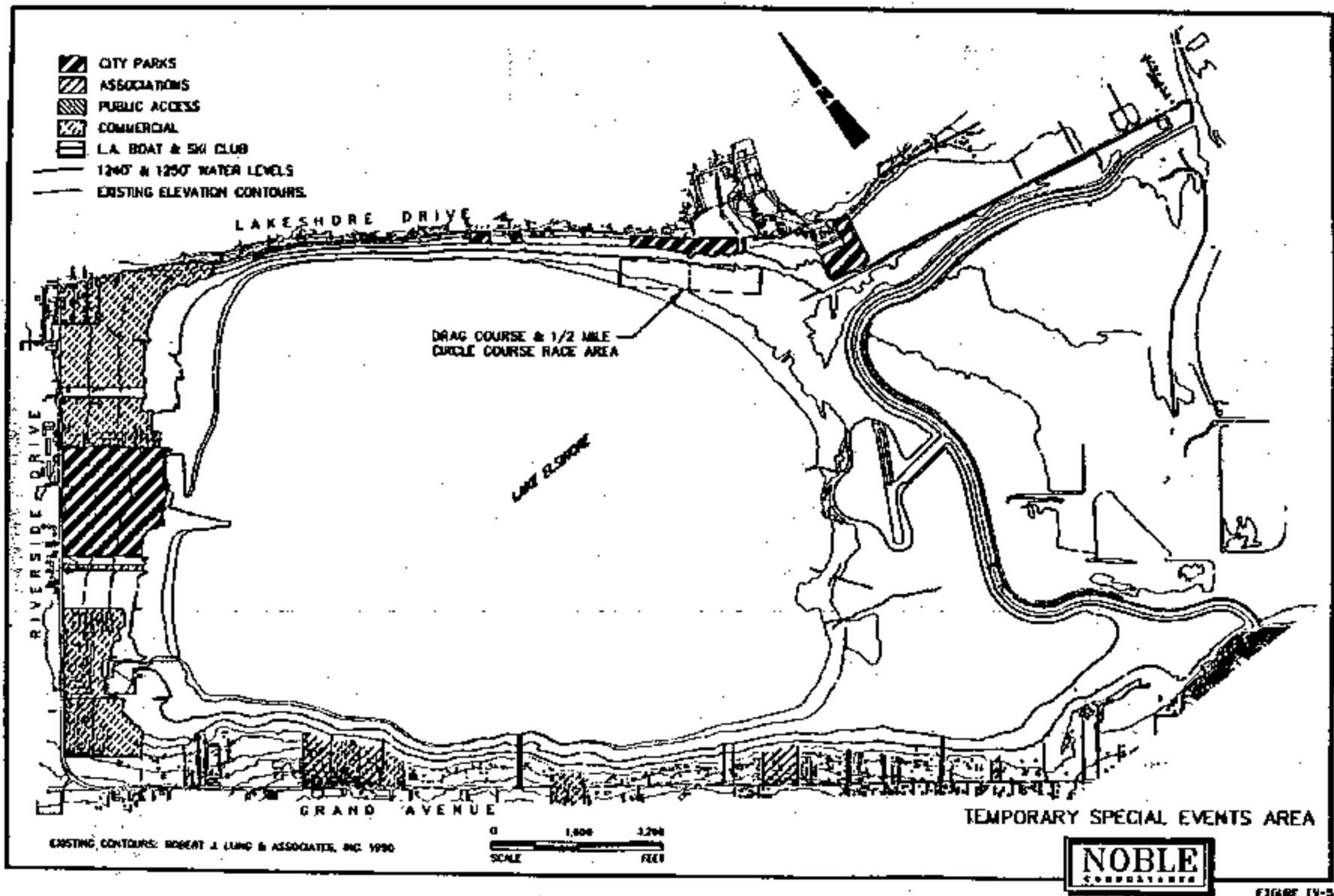
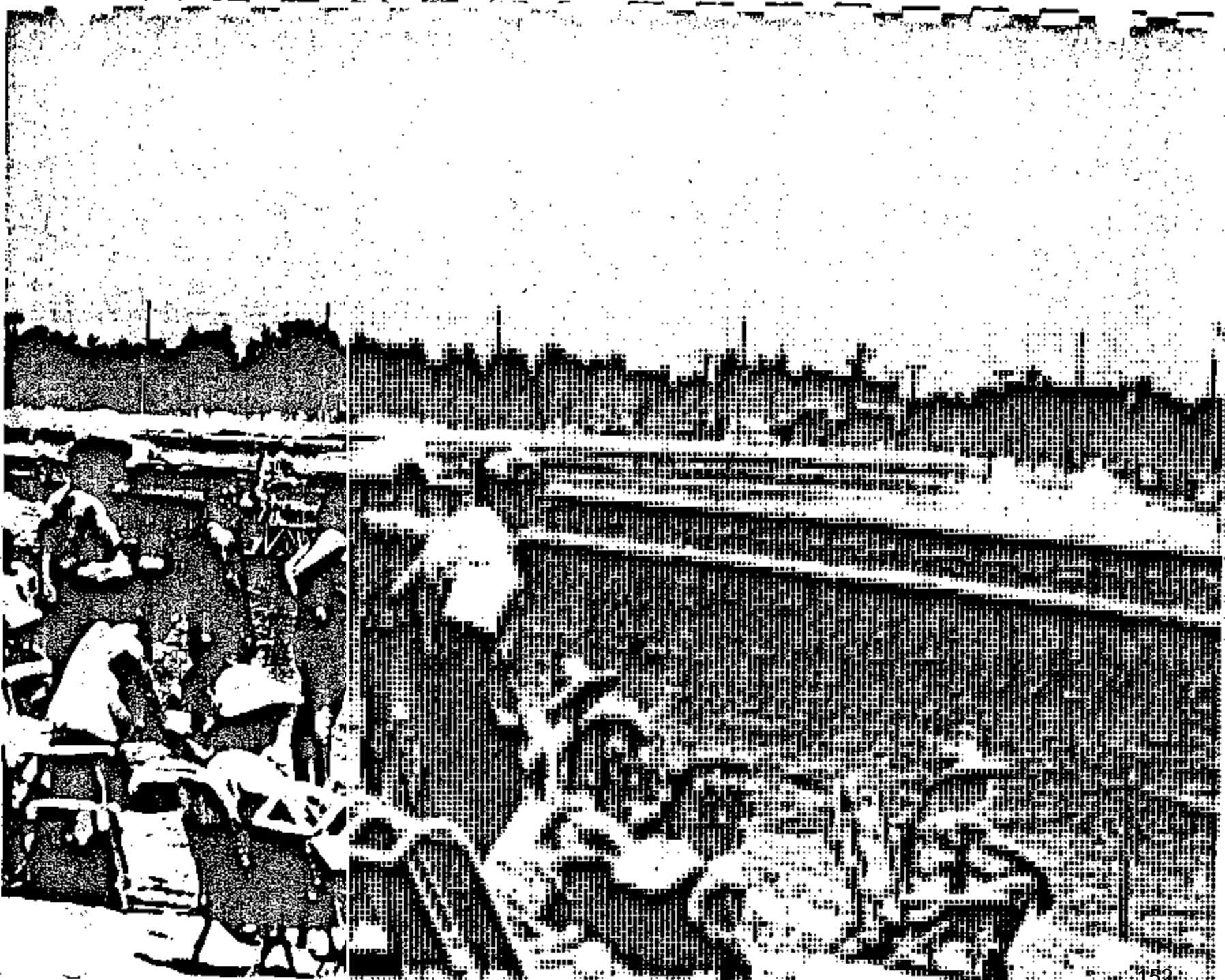


FIGURE IV-5



BOAT RACE CHANNEL

FIGURE IV-6

the quarter-mile race course in the shortest possible time at the highest possible top speed. Top fuel drag boats are able to reach speeds in excess of 220 miles per hour with estimated times of approximately five seconds. Lower class racing begins in designated speed brackets (e.g., 75 to 80 miles per hour) with additional professional classes divided by hull, engine and fuel type. Top professional events routinely attract 150 to 200 boats in various professional and amateur classes. Figure IV-7 shows drag boats waiting their turn to run the course from the staging area "holding rope".

Following are primary associations in Southern California conducting/sanctioning these events:

IHBA (International Hot Boat Association) - 100 to 150 participants
Mr. Chuck Coyne
619 N. Poplar Street
Orange, CA 92668
(714) 634-4422

NJBA (National Jet Boat Association) - 125 to 175 participants
Mr. Harold Bruce
13342 Felson Place
Cerritos, CA 90701
(310) 926-7908

6.2 Circle/Sprint Boat Races (Inboard/Outboard)

Circle/sprint boat racing consists of inboard and outboard powered race boats competing on a "closed" course (lap-type) track. Races normally consist of a predetermined number of laps, usually five. Boats compete in classes determined by size, hull type, engine type, etc. The maximum number of entries on the race course at one time is 10 to 12 boats. Top speeds vary according to classification; however, they range from 50 to 135 miles per hour.

Possibly the most exciting and fastest form of closed-course circle boat racing belongs to the outboard tunnel hulls known as champ boats or Mod U's. These 17- to 18-foot twin hulled boats are powered by 250-horsepower V-6 outboards capable of hitting speeds in

BOAT DRAG RACING

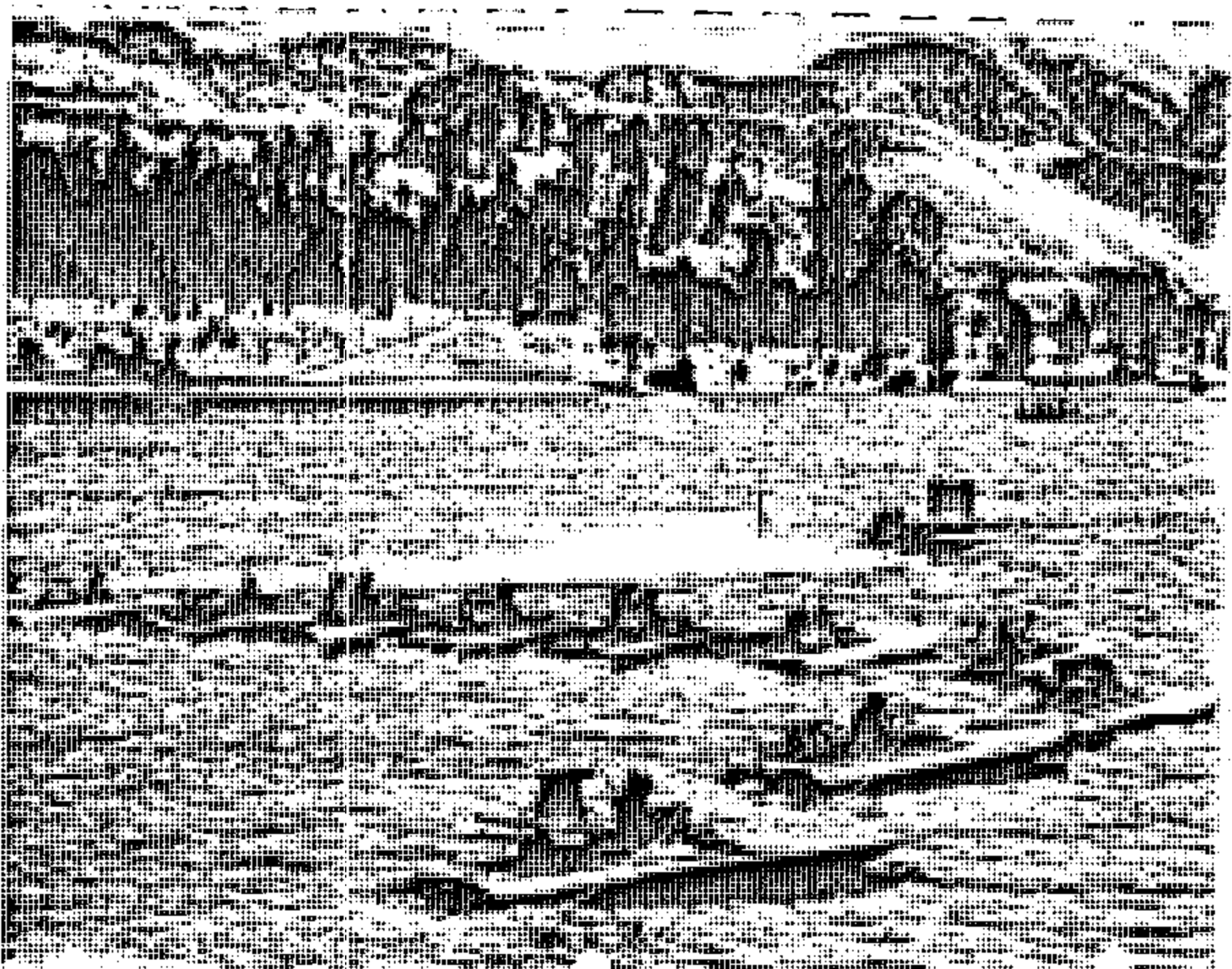


FIGURE M.7

excess of 125 miles per hour on the straight-a-ways and taking a one-pin 180-degree turn at better than 90 miles per hour. These boats are equipped with driver safety capsules to minimize the chance of injury to the racer. Figure IV-8 shows tunnel boats in action.

Limited inboard runabout circle racing is always a crowd favorite. These flatbottom ski boat-type hulls are powered by modified automotive V-8 engines and V-drive gear boxes. Depending on the class, some of these boats are powered by supercharged engines generating over 1,500 horsepower, and routinely hit top speeds over 110 miles per hour on the straight-a-ways. Figure IV-9 shows these boats on the race course.

Circle race competition has numerous limited inboard hydroplane classes. These boats are very much like scaled-down unlimited hydroplanes, as shown in Figure IV-10, racing in five-lap sprint events. Top speeds are in excess of 100 miles per hour.

The true "grass roots" of boat racing are the "knee-jockeys", so named because the driver rides on his or her knees for the entire race, as shown in Figure IV-11. Boats are divided into two basic categories, hydro or runabouts. All are powered by vintage or new model outboard motors. Speeds range from a low of 35 miles per hour in novice divisions, up to 90 miles per hour for the experts. Most hulls are less than 13 feet long.

Following are primary associations in Southern California conducting/sanctioning these events:

COBRA (California Outboard Racing Association) - 75 to 100 participants
Mr. Jim Wilkes
3005 Halladay
Santa Ana, CA 92705
(714) 540-8908

APBA (American Power Boat Association)
Mr. Fred Hauenstein, Jr., President
17640 E. Nine Mile Road
East Detroit, MI 48021
(313) 773-8898

TUNNEL BOAT RACING

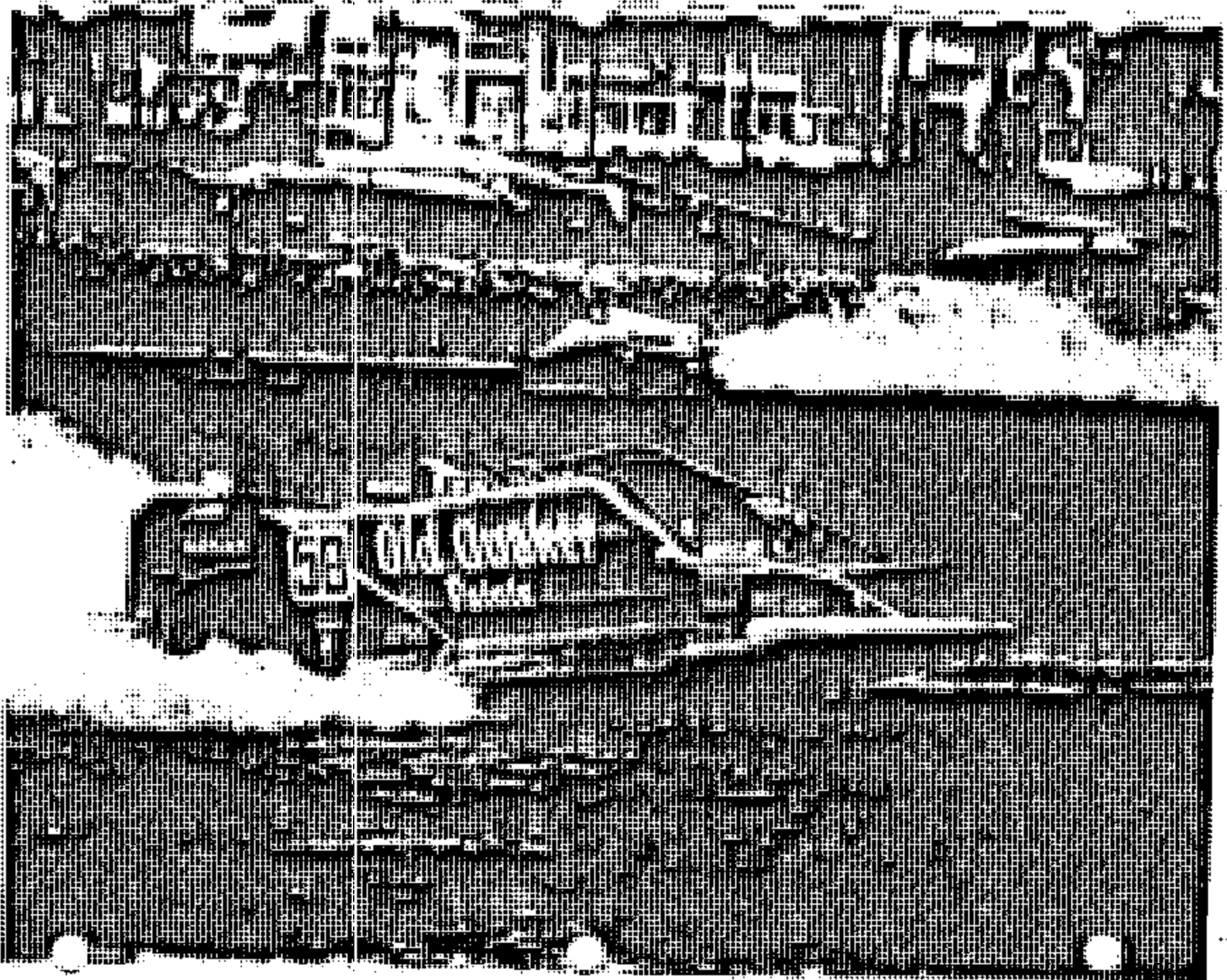


FIGURE M-9

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LIMITED INBOARD RUNABOUT RACING

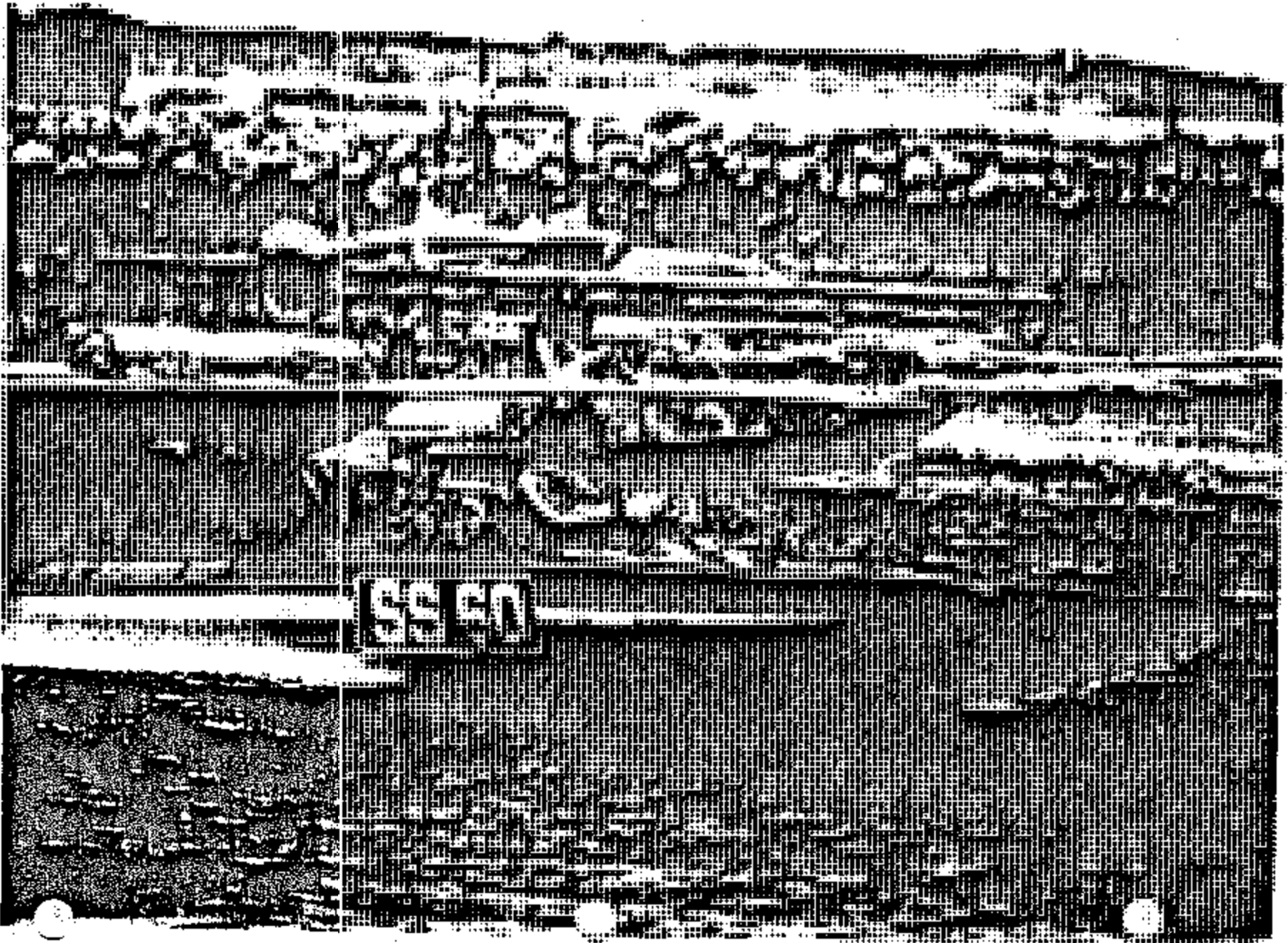


FIGURE 149

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LIMITED INBOARD HYDROPLANE RACING

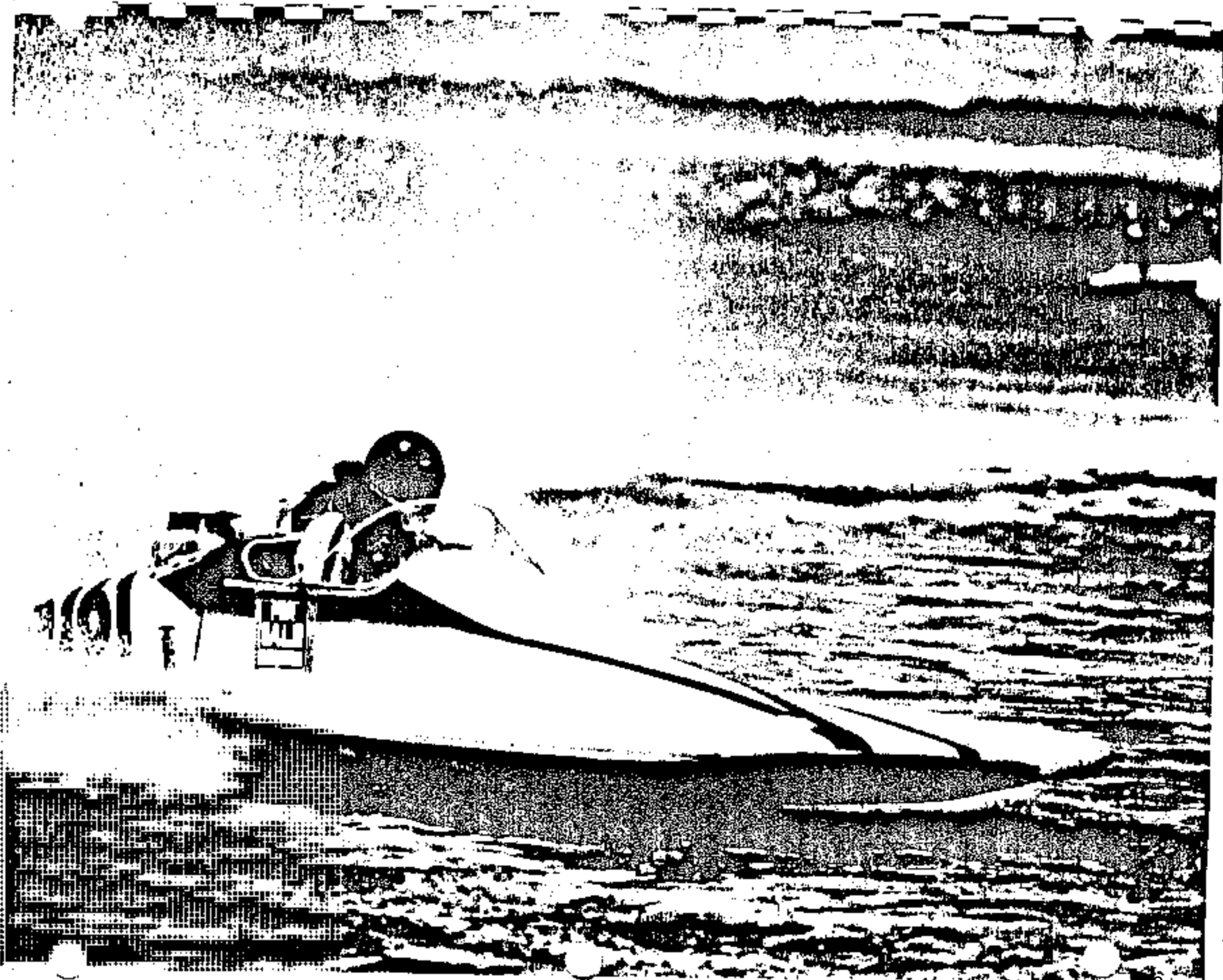


FIGURE N-10

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OUTBOARD HYDROPLANE/RUNABOUT RACING

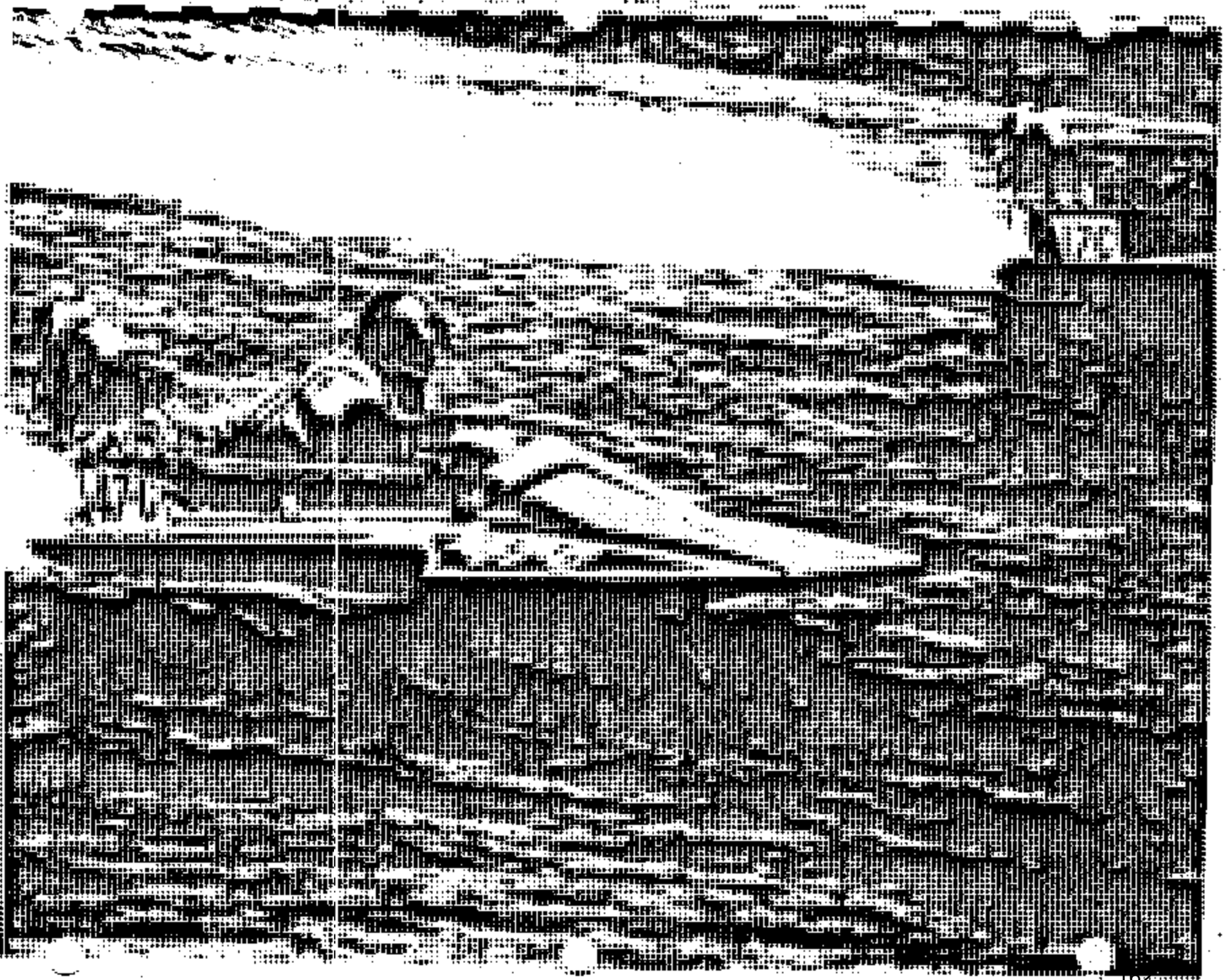


FIGURE IV-11

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6.3 Jet Ski/Personal Watercraft

"Closed" course PWC competition consists of pitting various types of PWC's in motocross style racing, slalom racing and freestyle exhibitions. Competition classes are divided by gender, experience, personal watercraft type and speed. Unlike the early days of personal watercraft competition when only jet skis competed, today's racing format encourages all brands of personal watercrafts to participate. Major events often attract 200 to 300 participants for two- and three-day races. Figures IV-12 and IV-13 show personal watercraft activity during race day.

Following are primary associations in Southern California conducting/sanctioning these events:

NJSA (National Jet Ski Association)
Ms. Jeri Richards
9950 Jeronimo Road
Irvine, CA 92718
(714) 770-0400

6.4 Professional Water Ski

Tournament water ski competition is a rapidly growing sport. The "Pro Tour" features the world's best men and women water-skiers in slalom, jump and freestyle competition, with large cash purses for the winners. Participants number 40 to 60. Special "wake" and "kneeboard" exhibitions are also conducted. Because water conditions are so important, most tournaments are conducted on narrow, well-sheltered bodies of water as shown in Figure IV-14.

In addition, water ski marathon racing is a popular sport. Such an event was recently held on Lake Elsinore, with another one planned for September 1994. These are timed events held over distances of 50, 100 or more miles, and require a race area within the main lake similar to that shown for unlimited hydroplane racing in Figure IV-4.

Following are primary associations that conduct/sanction these events:

PERSONAL WATERCRAFT COMPETITION

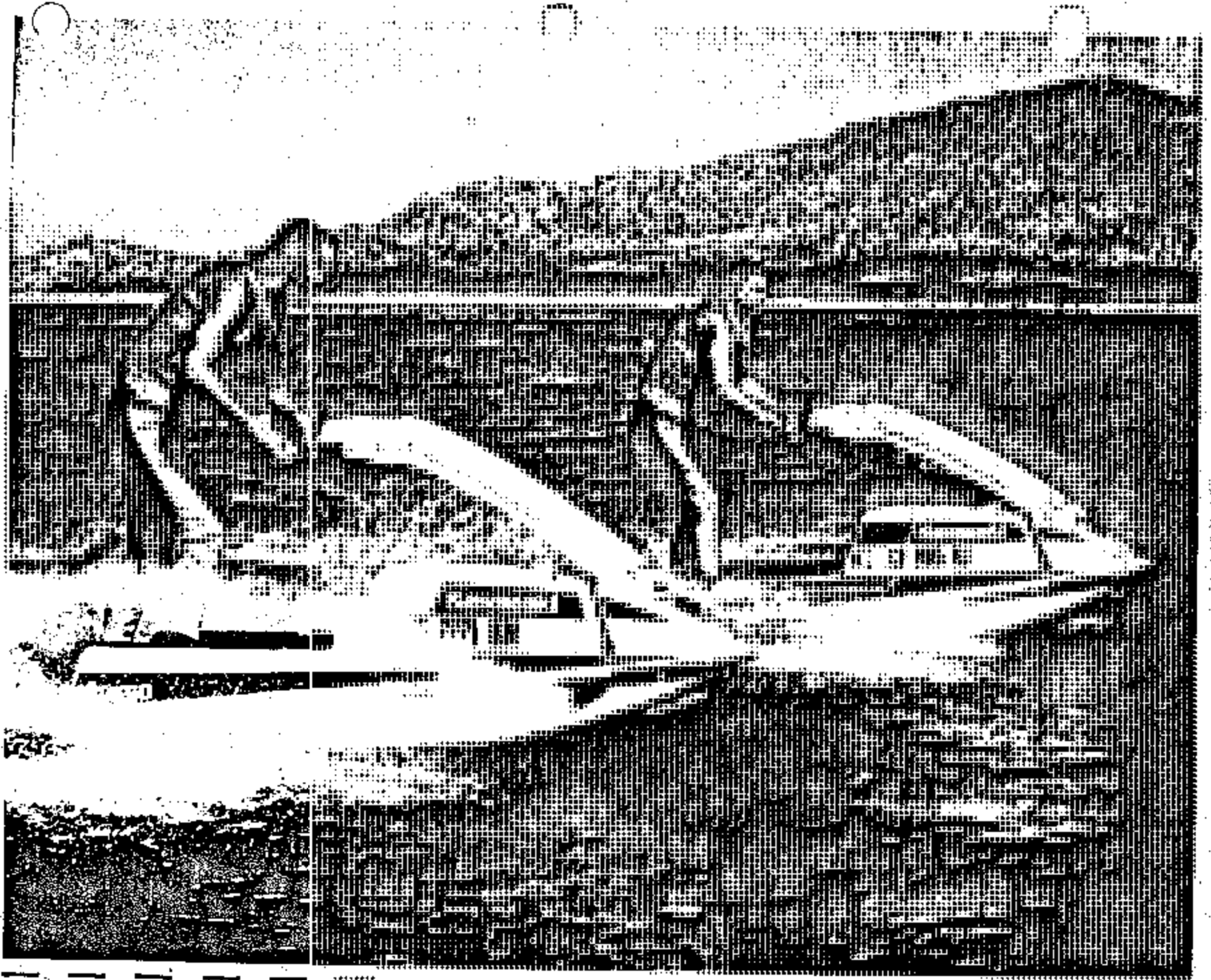
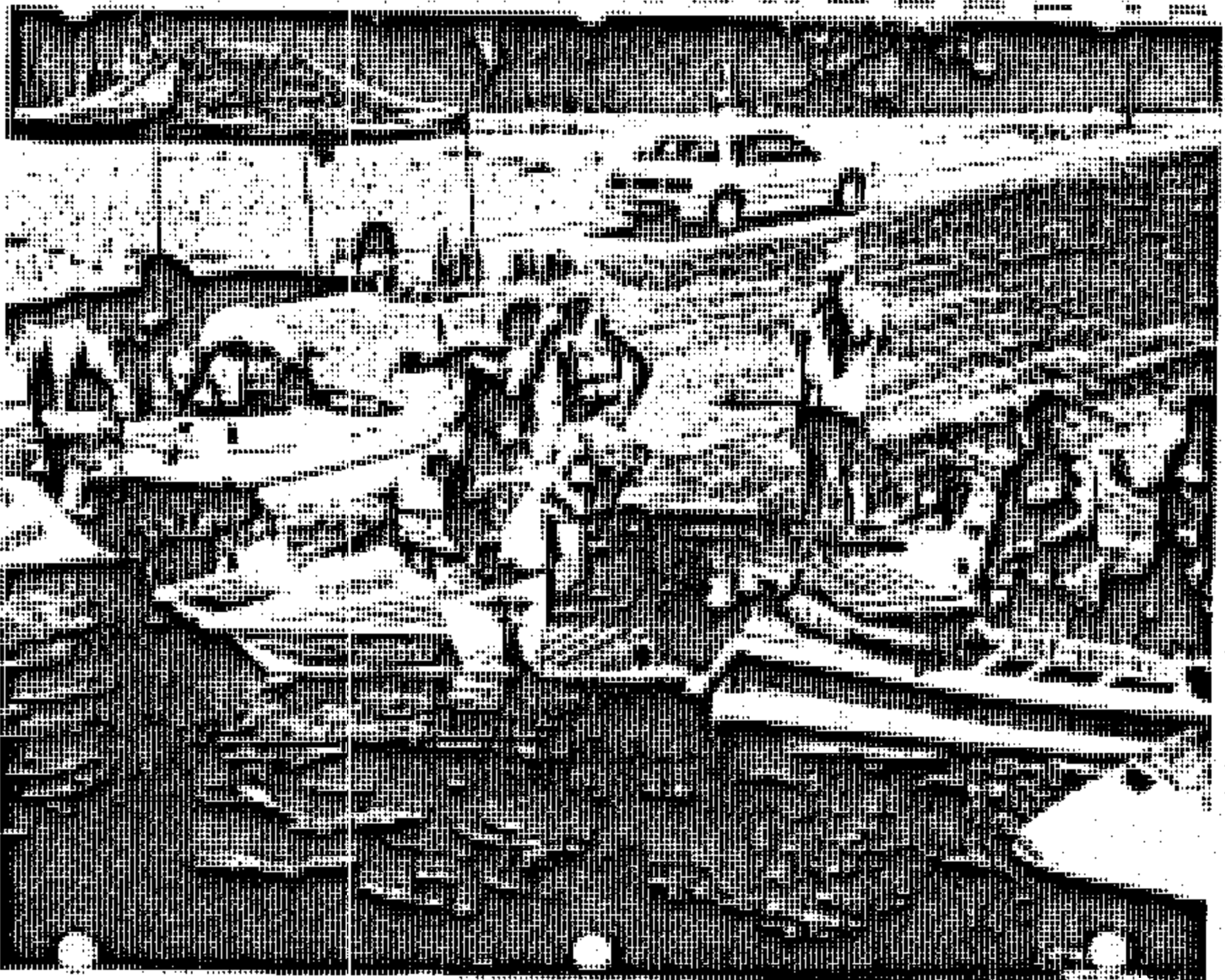


FIGURE N-12



PERSONAL WATERCRAFT PARTICIPANTS

FIGURE IV-13

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TOURNAMENT WATER SKI COMPETITION

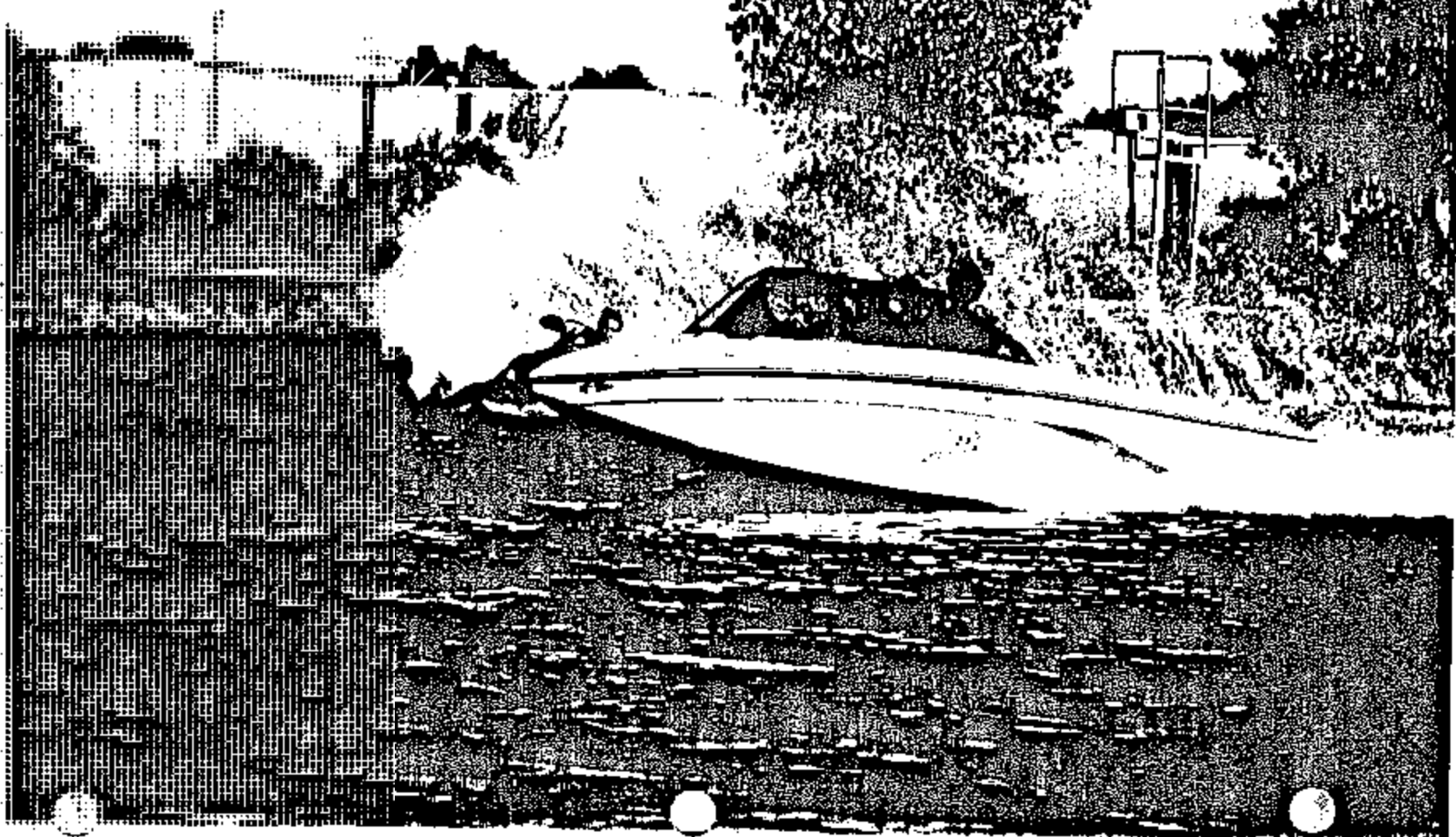


FIGURE N-14

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Pro Tour

c/o Water Ski Magazine/World Publications
Mr. Terry Snow, Mr. Terry Dornier or Mr. Drew Townes
130 W Canton Avenue
Winter Park, FL 32789
(407) 628-4802

National Speedboat and Water Ski Association

Mr. Wayne Bouchard
5291 Sorrento Circle
La Palma, CA 90623
(714) 528-4989

6.5 Other Events

Additional events such as rowing, outrigger regattas, ski clinics, sailboard regattas/clinics, etc., could be scheduled on an "as available" basis. Since it is unlikely that these types of events would have a significant positive revenue impact on the San Jacinto Channel stadium, they might best be handled on a "flat" rental fee charge. In addition, the San Jacinto Channel and shoreline or the main lake and shoreline could be used to stage triathlon or biathlon events. The main lake could also be utilized for sailing regattas and clinics. These events would be non-revenue generating, only requiring a use permit from the City.

6.6 Operating Guidelines

It is imperative that event "conduct guidelines" be established and adhered to by all users of the San Jacinto Channel stadium and the main lake for the staging of special events. "Guidelines" need to include:

- Decision on alcoholic beverages
 - Onsite sale only
 - "Stadium rules apply" regarding coolers and ice chests
 - Restricted area of alcoholic consumption (beer pavilion)

- Use and purpose of PA system
- Noise regulations pertaining to participants
- Operation hours (when gates open and close)
- Off-site parking and pedestrian flow

6.7 Promoters

There are two basic methods in which boat racing events are normally conducted. The most common method is to contract with individual organizations and/or associations to be responsible for the entire event package (promotion, advertising, insurance, event sanctioning, safety, conducting the event, etc.). These organizations/associations normally have established rules, staffing and procedures for running the event. The advantage of working with individual organizations is that they specialize in their own brand of racing and bring a high level of expertise to the event. They also have close ties and alliances with the racing participants.

A second method of event promotion involves a master lease or contract agreement with an outside company or individual specializing in motor sports productions who also has the capability of promoting rowing, sailing and triathlon/biathlon events if requested. It would be the responsibility of that company or individual to subcontract with independent associations or organize their own staff to conduct various events.

Regardless of which method is used, it is recommended that the City of Lake Elaine designate to an existing governmental department (e.g., parks and recreation) the responsibility of overseeing the use permits granted for the special events at the San Jacinto Channel stadium and the main lake. If no suitable governmental department presently exists, a separate entity should be created.

Responsibilities of the special event promotor would include the following:

- **Event Administration**
Pull appropriate sanctions, solicit participants, process entries/collect fees and memberships, and scoring and tabulation of final results.

- **Insurance**
Provide participant and spectator liability coverage, must provide proof of insurance to prescribed limits set by City. Also must provide property damage coverage.
- **Promotion/Advertisement**
Must prove capability and willingness to adequately publicize event.
- **Security/Medical**
Provide mandatory security and on-site medical as to City requirements.
- **Prize Money**
Must put guaranteed purse into escrow 30 days prior to event.
- **Event Staff**
Responsible for providing:
 - Designated patrol/rescue boats
 - Launch ramp/pit workers
 - Judges, referees, scorers, announcers, registration personnel, gate workers, safety inspectors and media/publicity coordinator
- **Concessions/Special Display Exhibitors**
Depending on City agreement, promotor could be responsible for food/beverage service as well as on-site exhibit area.
- **Safety**
Erection of temporary safety barrier/fence to protect spectators.
- **Abide by City Ordinances**
Traffic, noise, alcohol, etc.

6.8 **Insurance**

Normally, the event promotor and/or sanctioning organization/association pays for and

provides the City with proof of liability insurance. Such policies for powered boat events generally include \$5,000,000 to \$10,000,000 of spectator/participant liability coverage, no participant medical, and a nominal amount (\$10,000) of accidental death for participants.

It is incumbent on the City to check with the insurance carrier direct (not an agent) to verify that the policy is in force prior to the event. The City should also carry an additional rider on its primary liability coverage for the City as extra umbrella protection.

6.9 Security

Special event security is normally the primary responsibility of the event promotor. Depending on the anticipated total attendance, security and medical guidelines set forth by the City should be followed.

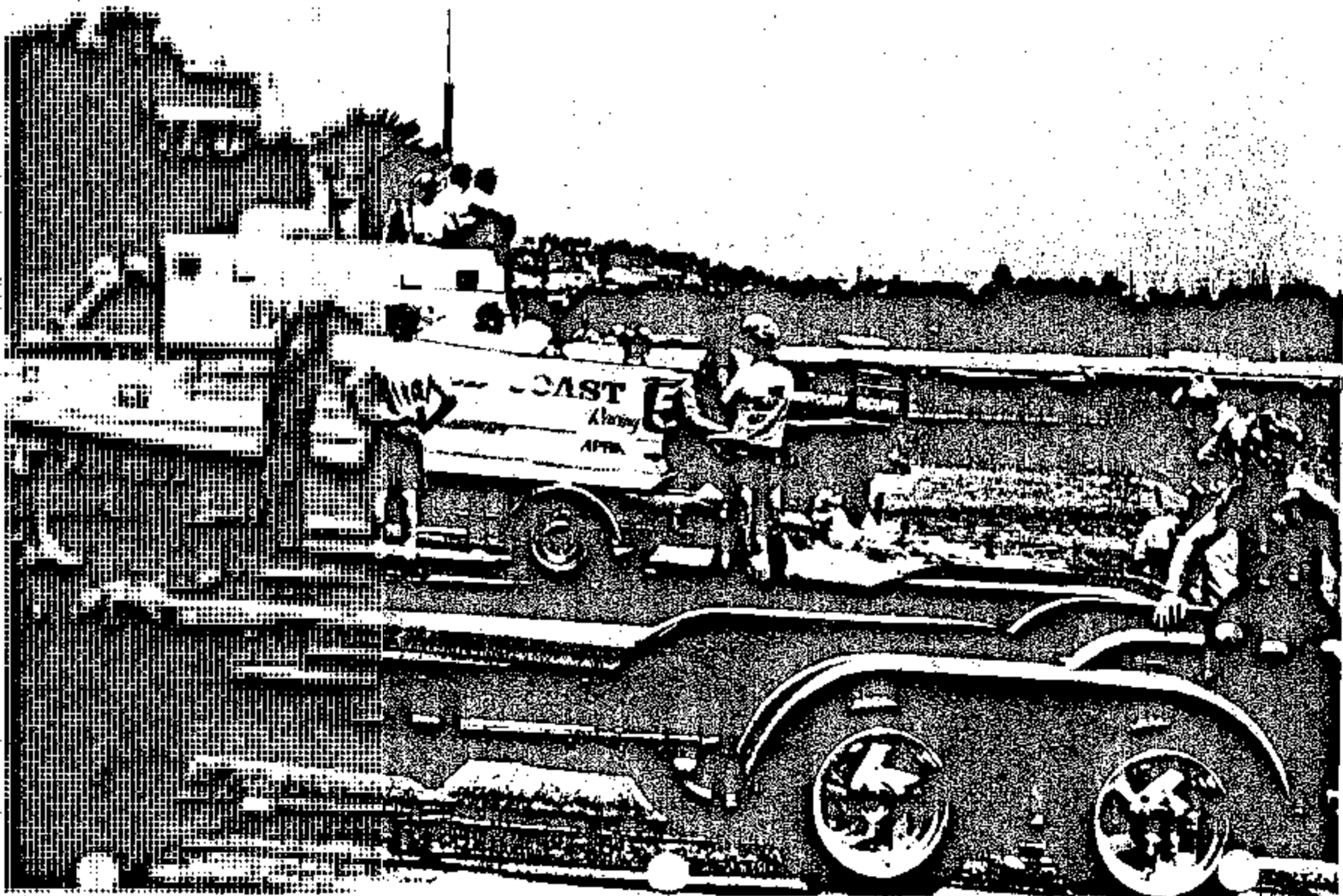
Security generally consists of non-armed private security staff, ticket takers, and parking control personnel. That security staff is augmented for major powered boat events by armed, off-duty police or sheriffs who are also paid outside security by the promoter.

6.10 Physical Lay-Out

Following are typical special event layout requirements for the San Jacinto Channel stadium or for the temporary special events area shown in Figure IV-5.

- **Water Dimensions**
500 feet to 600 feet width, by 4,500 feet to 5,000 feet length.
- **Launch Ramps**
Minimum of two concrete ramps located at each end of stadium (eight boats wide) within its own recessed harbor area. The launch ramp is a busy place at the start of each race, as seen in Figure IV-15. Boats in the next heat of competition stage on the launch ramp waiting for the signal from the referee to start their warm up laps. Launch ramps connected with paved access road and paved trailer/vehicle parking pad at each end. (75 to 100 vehicle/trailers per pad.)

RACE COMPETITION LAUNCH RAMP



- **Judge's Stand**
 Permanent judge's stand structure located mid stadium. Needs to be a two-level structure – lower level available for entry and general administrative functions; upper level for judging, scoring and announcing.
- **PA System**
 Permanent PA system (covering both sides of stadium) with underground wiring and removable speakers. Optional system: Discrete AM band radio transmitter capable of broadcasting within the stadium facility to spectators bringing their own portable radios. Optional system significantly reduces noise level.
- **Electronic Tote Board**
 Lighted billboard display activated by race officials to designate boat speeds and identify race leaders/winners by number.
- **Perimeter Fencing**
 Permanent chain link fencing surrounding entire stadium facility providing efficient method of crowd control and admission charging.
- **General Parking**
 Open lot parking (not paved) adjacent to stadium to accommodate a minimum of 2,500 to 3,000 vehicles.
- **Spectator Seating**
 Open amphitheater style seating along both shorelines – sand/beach area. Also, concrete pads with permanent bleachers for up to 2,000 to 2,500 spectators.
- **Safety Barriers for Spectators**
 A removable, continuous chain link fence line (minimum five feet tall) with a one-inch diameter steel retaining cable approximately 2.5 to 3 feet from top of fence for powered boat events. Fence line must extend along the entire active area of the race course.

6.11 Use Permits, Charges and Fees

Methods by which fees and revenues are collected by the City:

- **Straight Fee Rental**
A flat per day rental fee for stadium usage. Fee would include certain minimum City services (i.e., utilities, administration, groundskeeping, etc.)
- **Percentage of Gate**
Individual event promoters may be required to pay a percentage of gross revenues (admission, concessions, etc.) directly to the City. Percentages normally range from 13 to 18 percent. That gross revenue percentage includes certain minimum City services.

6.12 Food/Beverage Concessions

- **Option 1:** Master contract with an outside food service company. Provides all service at all events.
- **Option 2:** Sublease food/beverage concession rights to individual event promoters for a "flat" fee or a percentage of the gross.
- **Option 3:** Retain rights to food/beverage concessions and utilize volunteer/service groups within City to staff.

6.13 Example 1994 Special Events Powered Boat Schedule

March 26 - 27	IHBA (International Hot Boat Association) Boat Drags
April 17	COBRA (California Outboard Racing Association) Inboard and Outboard Circle/Sprint Races
May 14 - 15	NJSA (National Jet Ski Association) Jet Ski Races

June 5	NJBA (National Jet Boat Association) Boat Drags
June 25 - 26	Pro Water Ski Tour
July 23 - 24	Slalom, Jump and Freestyle Water Ski Competition IHBA
August 20 - 21	Boat Drags COBRA (California Outboard Racing Association)
September 24 - 25	Inboard and Outboard Circle/Sprint Races NJBA (National Jet Boat Association)
October 1 - 2	Boat Drags NJSA (National Jet Ski Association) Jet Ski Races

V. SPECIFIC LAKE DEVELOPMENT PLAN

This section presents conceptual plans for the proposed lakefront improvements described within Section IV.3, "Water Access", and summarizes potential recreation and retail activities provided by these improvements.

1. LAKESHORE DRIVE AREA

The proposed lakefront improvements between the existing Lakepoint Park and the Four Corners area are identified in Figure V-1. This plan would support the envisioned rerouting of Lakeshore Drive along Limited Avenue between Lowell Street and Main Street, the cul-de-sac street ends for the existing Lakeshore Drive on each side of the new outlet channel with a pedestrian bridge crossing the outlet channel, and a future civic center/park site and Seaport Village mixed-use complex in the area between Limited Avenue and the lakefront, and between the new outlet channel and Line Street. The proposed Seaport Marina/Boat Launch improvements are located at the easterly end of the proposed Lakeshore Drive development where sufficient land area and connecting streets are available to handle the increased traffic and parking requirements for these facilities.

The proposed improvements westerly of Lewis Street will require minimum parking and street access to these facilities. This stretch of shoreline is fairly narrow (average of 200 feet from Lakeshore Drive to the 1,245-foot elevation), with limited area available for parking, and with a current mixture of private and public property. It is recommended that this stretch of shoreline be turned into a public boat beach, with 1,000 lineal feet used for a fishing beach/pier, and that the entire stretch be connected by a linear pedestrian walkway. This proposed usage would provide needed shoreline area for boaters to temporarily come ashore, and for pedestrians to leisurely wander along the lakefront. Some parking would be provided for the fishing beach/pier area; however, parking would not be required along the boat beach stretch.

1.1 Seaport Village (~1,200 LF Shoreline)

Seaport Village is not part of this lakefront master plan, but is envisioned to consist of mixed usage for:

- Retail shops/stores
- Restaurants

1.2 Seaport Marina Complex (3,000 LF Shoreline)

Figure V-2 illustrates the conceptual design of the Seaport Marina complex which consists of a boat launch facility, a transition boat beach, a boat trailer/car parking area, a marina complex, a non-power boat concession beach, and a swimming beach. Figure V-3 presents an enlargement of the conceptual marina complex/boat launch facility layout. The marina basin would be dredged to elevation 1,234 feet and protected by a perimeter vertical sheetpile breakwater system. The landside area would be filled to elevation 1,265 feet and supported by a vertical bulkhead system. Section A-A of Figure V-3 indicates that the dredged cut material could be used to balance the landside fill requirements.

The boat launch facility is sized as an eight-lane facility. The toe of the ramp would extend down to the 1,236 feet elevation and the top of the ramp would extend up to the 1,260 feet elevation, with a staging area extending to 1,265 feet. This boat launch facility could therefore operate under all expected lake water levels. Depending on actual launch ramp capacity requirements, the ramp could initially be constructed with four lanes and later be expanded up to eight lanes.

Figure V-4 presents a full plan view of the entire Seaport Marina complex including supporting facilities and the linear greenbelt shoreline walkway. Figure V-5 presents section elevation views through the marina facility, while Figure V-6 presents section elevation views through the boat launch ramp facility and swimming beach area. The upper two feet of sand for the non-power boat concession beach and swimming beach would be imported beach sands. The natural beach slope is 15:1 (horizontal:vertical) with a nearshore (below elevation 1,240 feet) slope of 18:1. These slopes are ideal for use by families with small children. During a low lake level of 1,240 feet, there would be 310 feet of available beach width, while during a high lake level of 1,249 feet there would be 170 feet of available beach width.

Following is an itemization of proposed improvements and potential retail/recreational facilities for the 3,000 lineal feet of Seaport Marina Complex.

1. BOAT TRAILER/CAR PARKING AREA
2. SEAPORT VILLAGE
3. BOAT BEACH (350 LF)
4. B-LANE LAUNCH RAMP & STAGING AREA (250 LF)
5. SEAPORT MARINA (1,000 LF)
6. NON-POWER BOAT CONCESSION BEACH (700 LF)
7. SWIMMING BEACH (700 LF)
8. BOAT BEACH (1,000 LF)
9. FISHING BEACH & PIER (1,000 LF)
10. BOAT BEACH (4,500 LF)
11. PWC RESTRICTED AREA (30.0 AC)

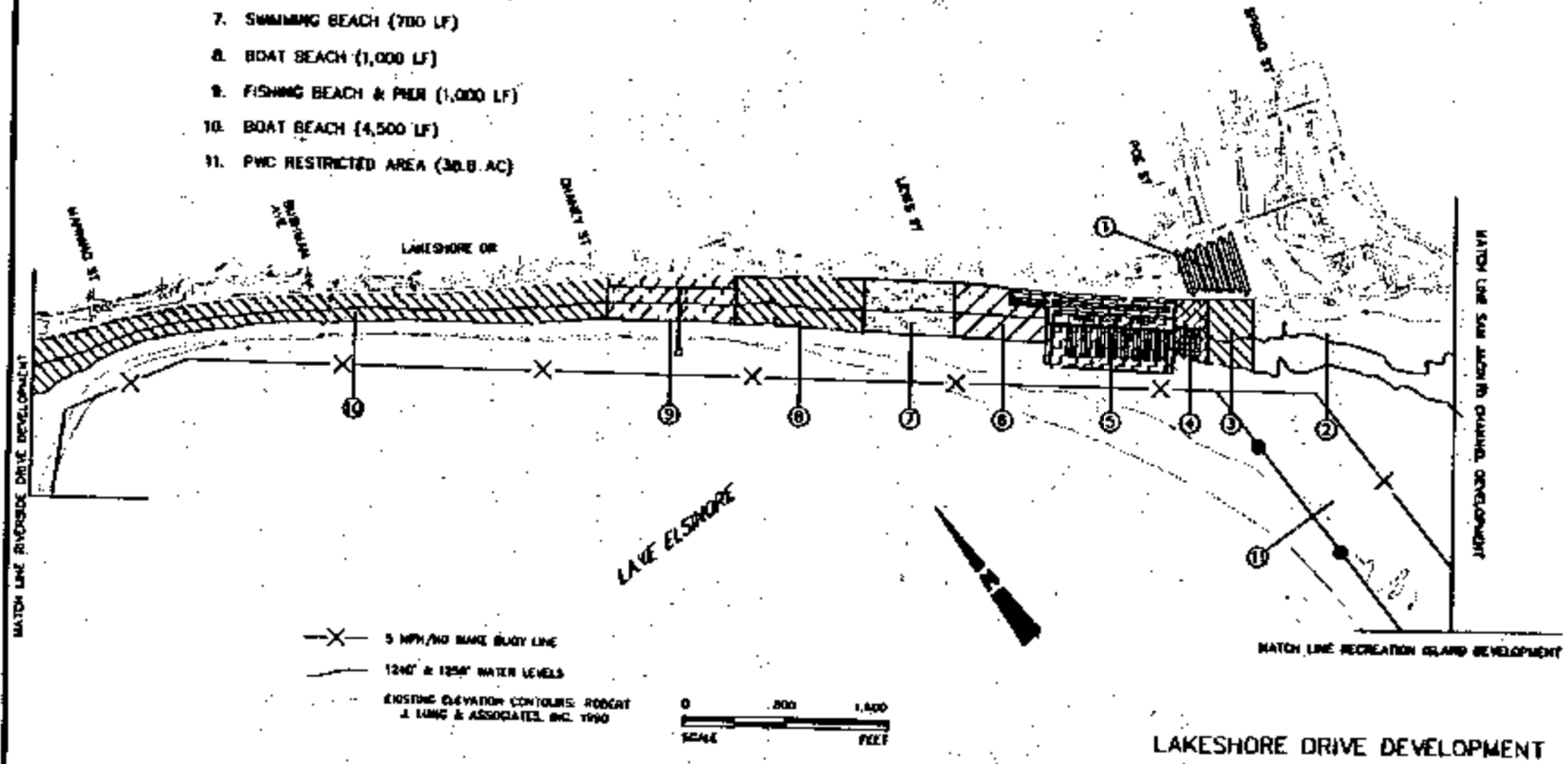
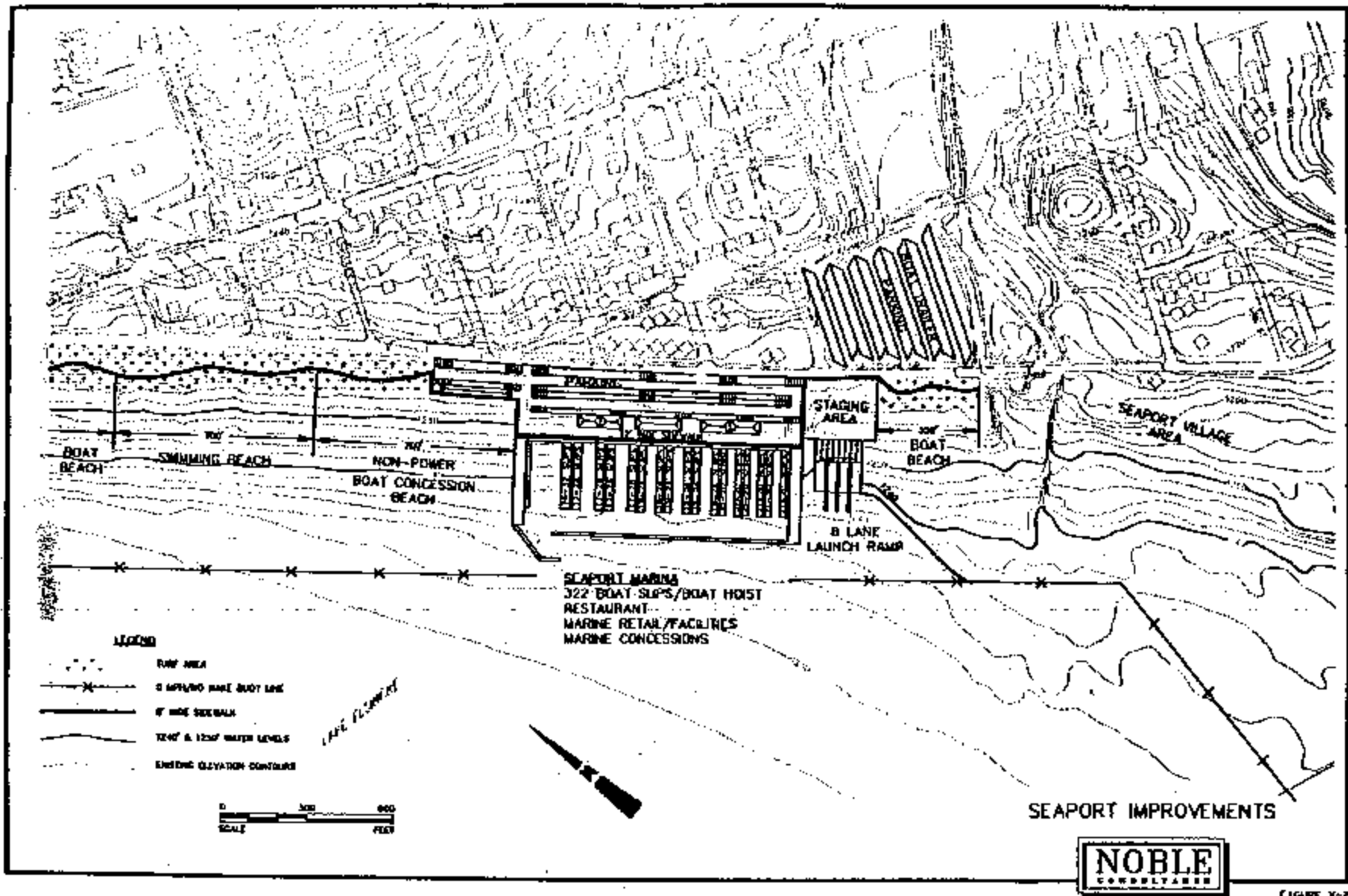


FIGURE V-1



SEAPORT IMPROVEMENTS



FIGURE V-2

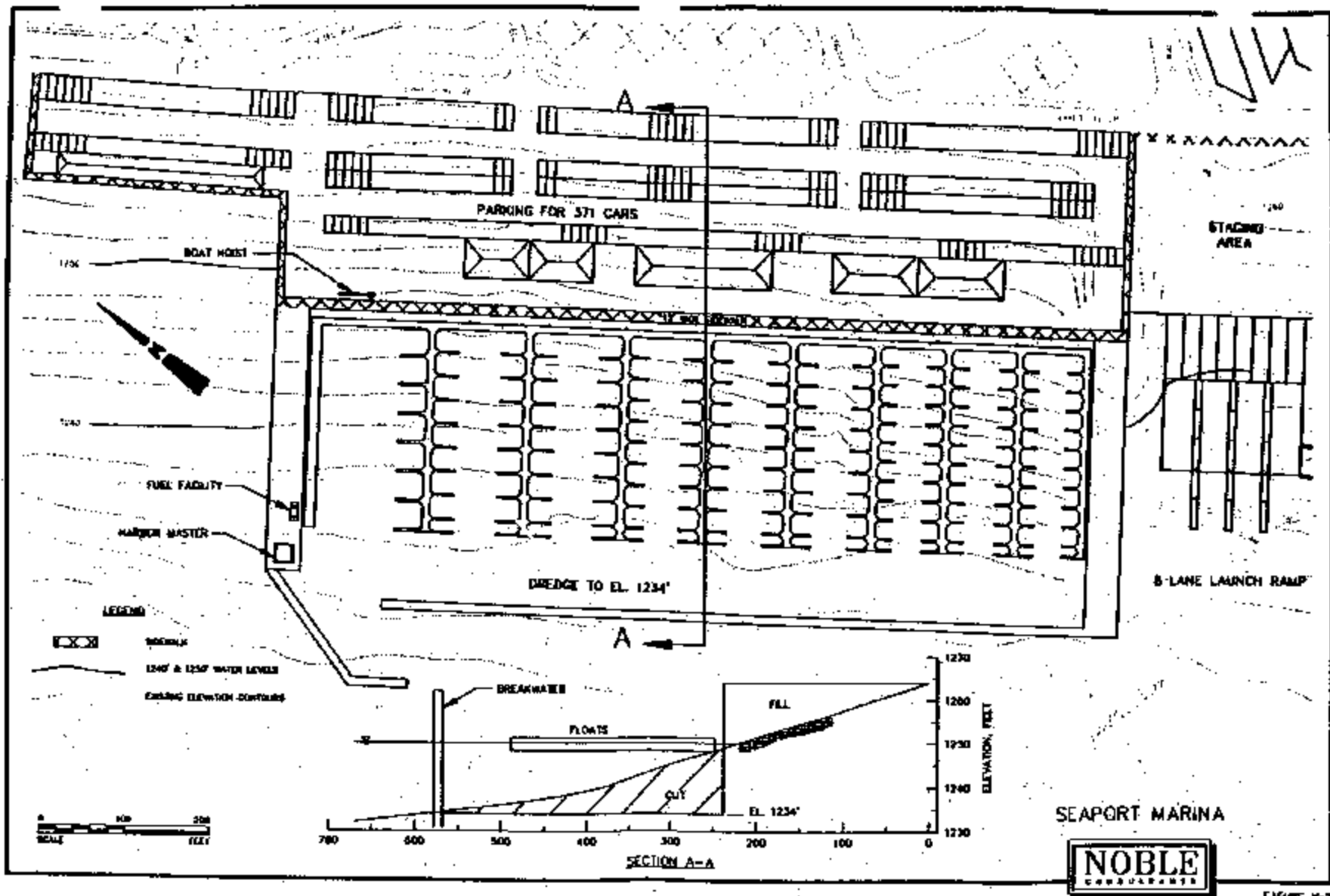
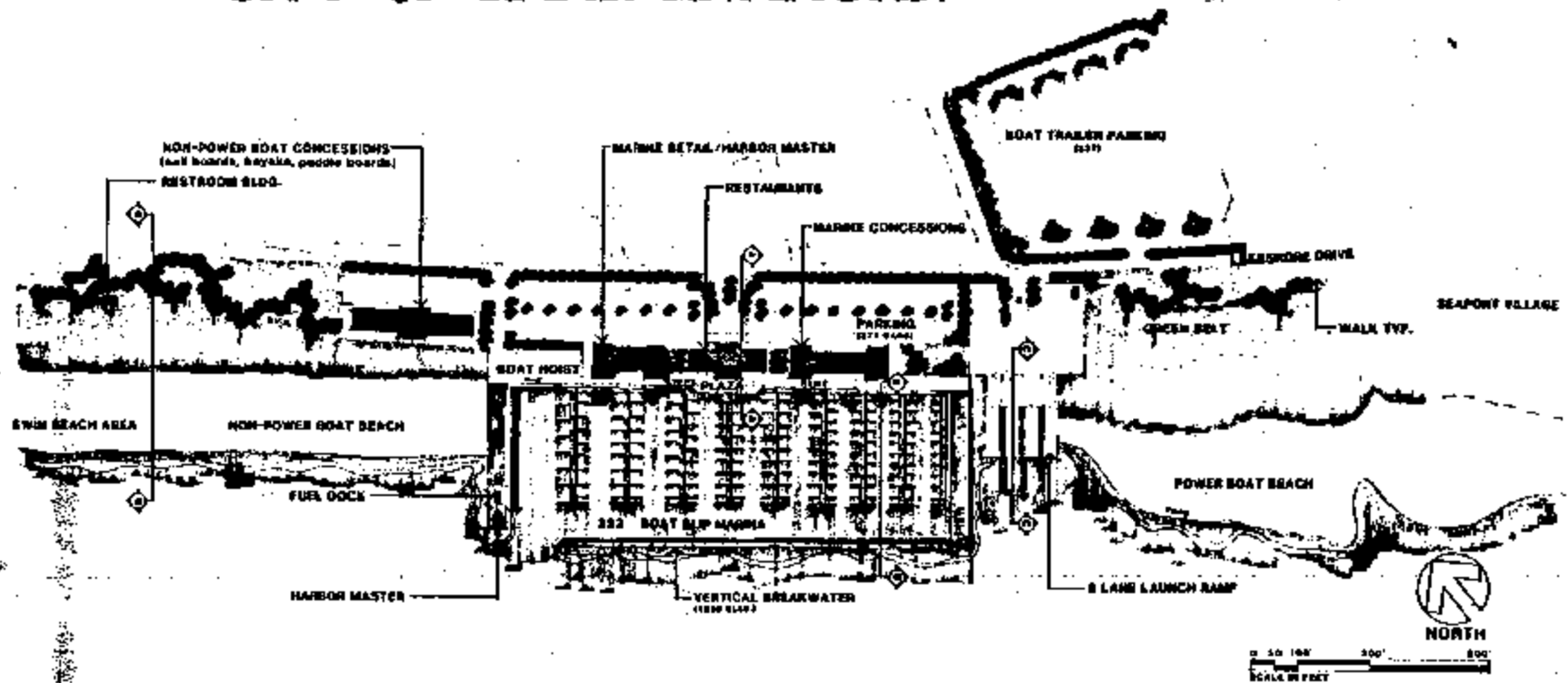


FIGURE V-2

SEAPORT MARINA CITY OF LAKE ELSINORE



NOBLE
ENGINEERS
FIGURE V-1

SEAPORT MARINA



SECTION AA



SECTION BB

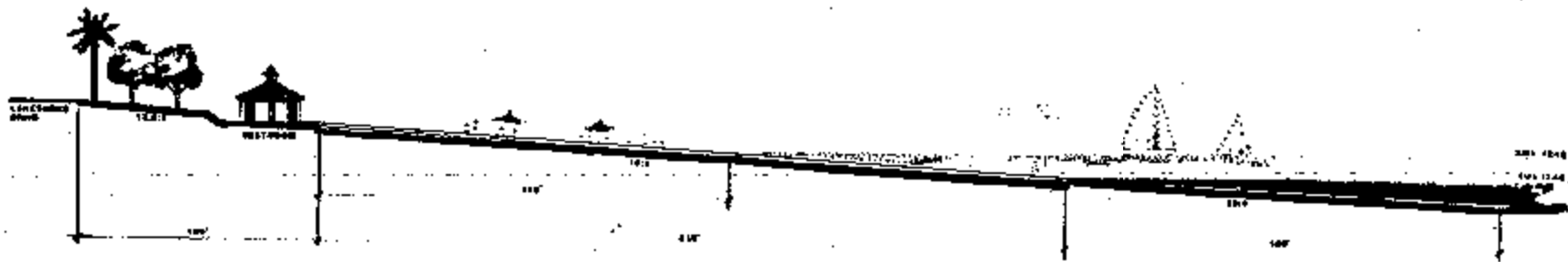
NOBLE
ARCHITECTS

FIGURE V-6

SEAPORT MARINA



SECTION CC



SECTION DD

NOBLE
ENGINEERS
FIGURE V-8

- Boat beach (350 LF)
- Six- to eight-lane boat launch facility (250 LF) and boat trailer/car parking for 237 vehicles
- 322 boat slip marina (1,000 LF)
- Marina parking for 371 cars
- Boat hoist/fuel dock
- Restaurant (8,000 SF)
- Marine concessions and retail facilities (17,500 SF)
 - Excursion boats
 - Party fishing boats
 - Para sailing
 - Boat rentals & charters
 - Marine hardware and supplies
 - Bait and tackle shop
 - Snack shop
 - Restroom/shower facilities
 - Storage lockers
 - Marina manager office and maintenance space
 - Harbor master/patrol headquarters
 - Lifeguard headquarters
 - Potential boat repair yard
- Non-power boat beach (700 LF)
 - Non-power boat concessions (6,250 SF)
(sailboards, kayaks, paddle boards)
- Swimming beach (700 LF)

1.3 Boat Beach (1,000 LF)

This beach shoreline area, as located in Figure V-1, would remain essentially in its existing condition along the beach face with some minor cleanup/grading, while the backshore area would be improved with the linear greenbelt walkway.

1.4 Fishing Beach and Pier (1,000 LF)

This fishing beach would remain essentially in its existing condition, with the additional

improvements shown in Figure V-7 and itemized below. Additional offsite parking could be provided, if necessary.

- 515-foot-long pier (8,080 SF)
- Parking for 180 cars
- Bait/food kiosk at foot of pier
- Restroom at foot of pier

1.5 Boat Beach (4,500 LF)

The remaining 4,500 lineal feet of shoreline along Lakeshore Drive would be used and improved as a boat beach similar to the boat beach described under 1.3, "Boat Beach (1,000 LF)".

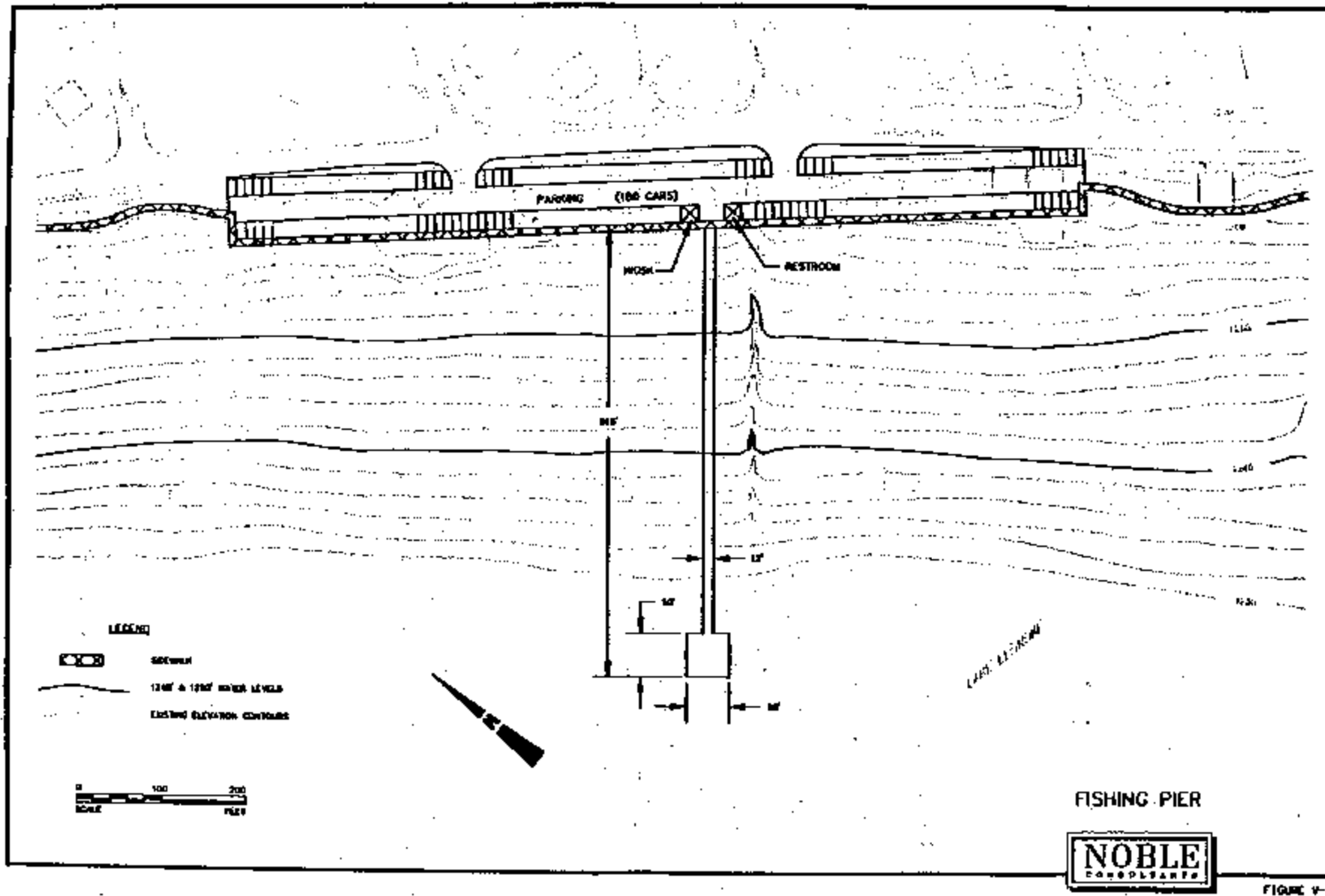
2. RIVERSIDE DRIVE AREA

The lakefront shoreline along Riverside Drive, between Lakeshore Drive and Grand Avenue, has a relatively flat topography and contains primarily recreational vehicle camping, campgrounds and mobile home park uses. This entire stretch of shoreline is privately owned except for the City Park campground area located within the central portion of this shoreline. Over the years, the developed areas along Riverside Drive have been the most extensively utilized shoreline for mobile home living, recreational camping, beach front facilities, and the launching and docking of boats for use on the lake.

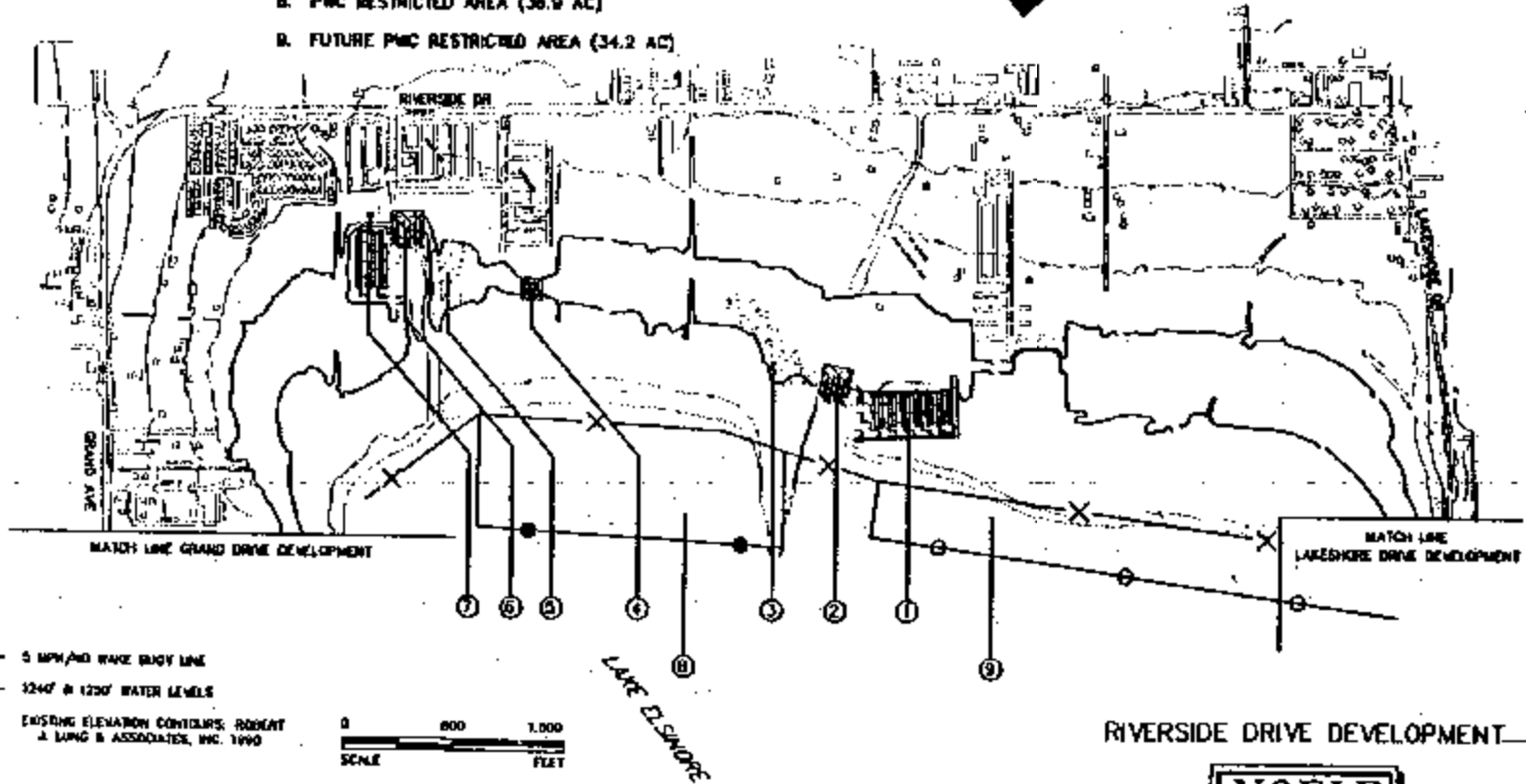
The proposed lakefront improvements for this area are identified in Figure V-8. These recommended improvements will enhance the existing waterfront recreation uses at the existing Elsinore West Marina R.V. Park and Campground, and the City Park Campground facilities.

2.1 City Marine R.V Park (~2,000 LF & 84 Acres)

This facility has been operated by a concessionaire since 1964, and when fully operated it included a 340 unit campground, two combination buildings, 18 group camp areas, a ten-lane boat launch ramp, 300 car/boat trailer parking spaces, three day use areas, a trailer sanitation station, entrance station, fencing and landscaping. Since about one-half of this



1. CITY MARINE PARK MARINA
2. CITY MARINE PARK 10 LANE LAUNCH RAMP
3. CITY MARINE PARK SWIMMING BEACH (700 LF)
4. ELSHORE WEST 10 LANE PWC LAUNCH RAMP
5. ELSHORE WEST SWIMMING BEACH (300 LF)
6. ELSHORE WEST 11 LANE LAUNCH RAMP
7. ELSHORE WEST MARINA
- B. PWC RESTRICTED AREA (36.9 AC)
- B. FUTURE PWC RESTRICTED AREA (34.2 AC)



NOBLE
CONSULTING

FIGURE V-8

facility is below elevation 1,256 feet, a significant number of camp sites have been rendered unusable during the past year's high water levels. Most of these sites still remain unusable with the water level currently at approximately the 1,253-foot elevation. In addition, since the top of the existing boat launch ramp is at elevation 1,240 feet and the existing beach berm areas are below 1,240 feet, these facilities will remain unusable during normal operating lake levels of 1,240 to 1,249 feet.

The proposed improvements, as illustrated in Figure V-9, include raising the site's grade to 1,255 feet, raising the top of the existing boat launch ramp to 1,255 feet, and developing a swimming beach area, car parking area and boat trailer/car parking area. Eventually, when justified, a marina basin for 257 boat slips could be developed as illustrated in Figure V-9. The landward side of this marina basin could be constructed using a rock revetted slope, while the lakeward two sides could be constructed using vertical sheet piles similar to the proposed Seaport Marina. Figure V-10 presents a plan view of the City Marine Park with improvements for the following facilities:

- RV park and campground sites
- Future 257 boat slip marina
- Future 10-lane launch ramp
- Future 700 LF swimming beach

2.2 Elsinore West R.V. Park (~1,600 LF & 52 Acres)

The Elsinore West Marina R.V. Park and Campground features two boat launch ramps, restroom/shower facilities, a community building, 300 R.V. sites with full service hook-ups, and fully landscaped grounds. The existing main 11-lane boat launch ramp is operational for lake water levels up to 1,254 feet, while the secondary 10-lane personal watercraft launch ramp is operational for lake water levels up to 1,250 feet. This R.V. Park and Campground facility is fully operational. The present owner has submitted expansion plans to add 200 R.V. sites, 63 boat slips, a fuel dock, a 2,000-square-foot swimming pool and an enlarged recreation area.

However, it is recommended that this site be improved by adding a swimming beach, a 148-boat slip marina, additional parking for 152 cars, a boat trailer/car parking area, and a potential dry boat storage area, as illustrated in Figure V-11, instead of the submitted

expansion plans.

The Elsinore West Park facilities identified below are further illustrated in the plan shown in Figure V-12:

- RV park (temporary and long-term)
- RV living facilities/amenities
- 148 boat slip marina
- 11-lane launch ramp
- 10-lane personal watercraft launch ramp
- Boat trailer parking
- Potential dry boat storage (300 boats)
- Swimming beach (300 LF)

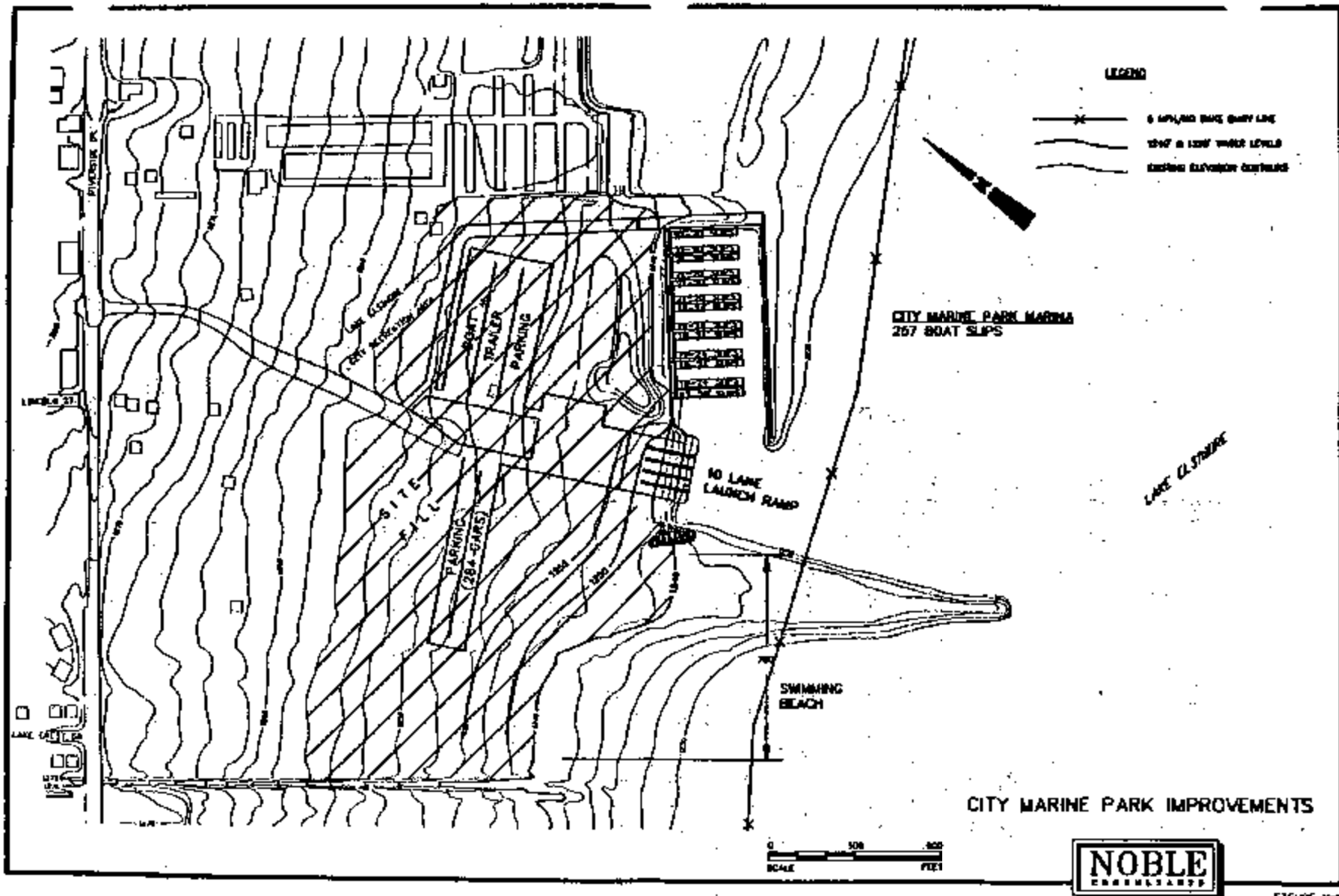
3. GRAND AVENUE AREA

Grand Avenue, on the southwesterly side of the lake, consists primarily of private residential developments. A majority of this shoreline is within the County of Riverside boundaries, which includes three homeowners associations and four commercial developments. Three of the commercial properties are R.V. parks, while the fourth is a boat sales/repair facility. Limited public boat launching is available at these commercial facilities. The old military academy is located between the lakefront and Grand Avenue just within the City limits near the Riverside Drive end of Grand Avenue.

Due mainly to private residential properties and limited public lake access along Grand Avenue, the only proposed lakefront improvement is to the approximately 40-acre parcel of land consisting of the old Military Academy and adjacent vacant land parcel, referred to as the Nautical Center in Figure V-13. In addition, a future personal watercraft restricted area and a lake fishing area are identified within the lake adjacent to the Grand Avenue shoreline.

3.1 Nautical Center (1,300 LF & 41 Acres)

This 40 plus acres of lakefront land and 1,300 lineal feet of shoreline could be developed into a multi-use recreational facility. Primary uses could consist of the following identified



PARK FACILITIES

BOAT TRAILER PARKING

ACCESS ROADWAY

PARKING
(24 CARS)

VERTICAL BREAKWATER
(1046' LONG)

FUTURE 267 BOAT SLIP MARINA

FUTURE 10 LANE LAUNCH RAMP

STONE JETTY

FUTURE SWIM BEACH
(700')



NORTH



MARINE PARK

CITY OF LAKE ELSINORE



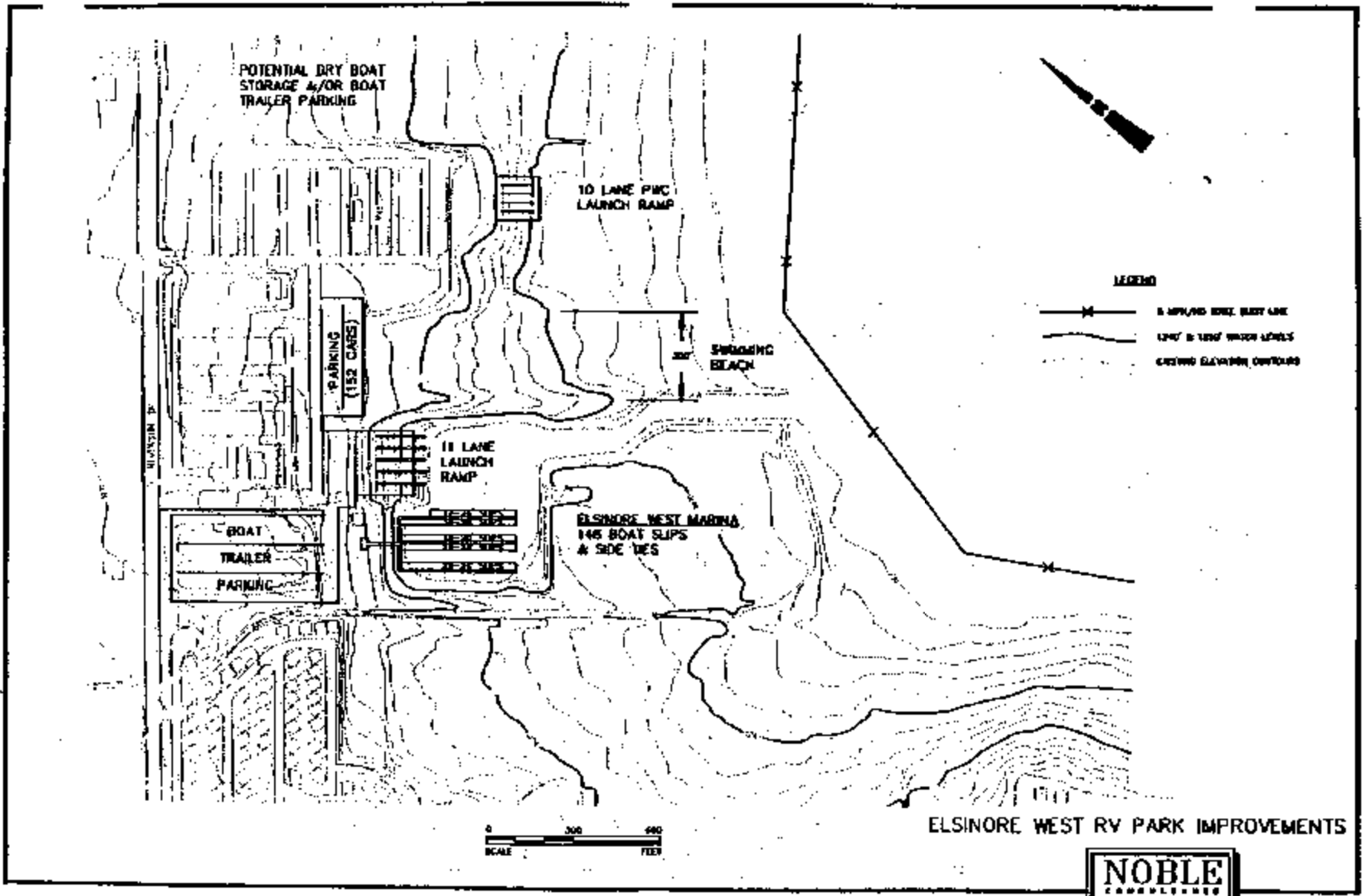
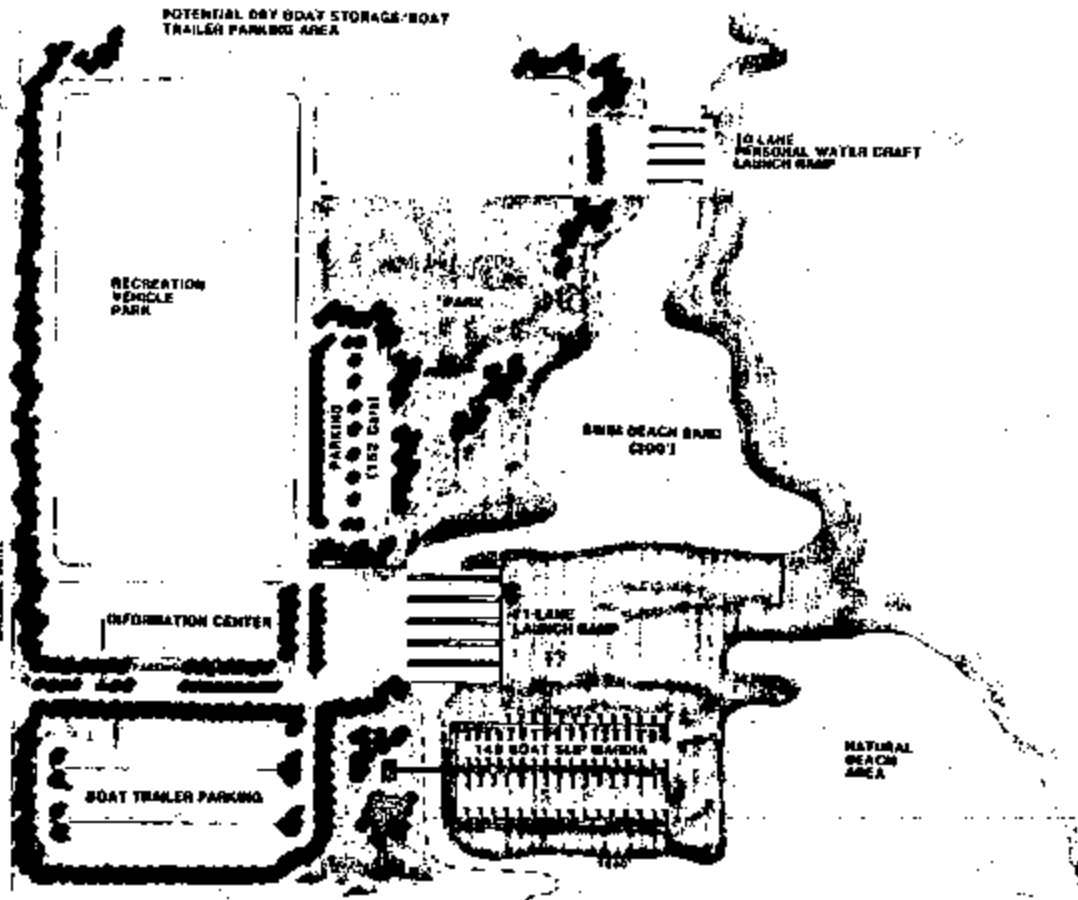


FIGURE 1-11



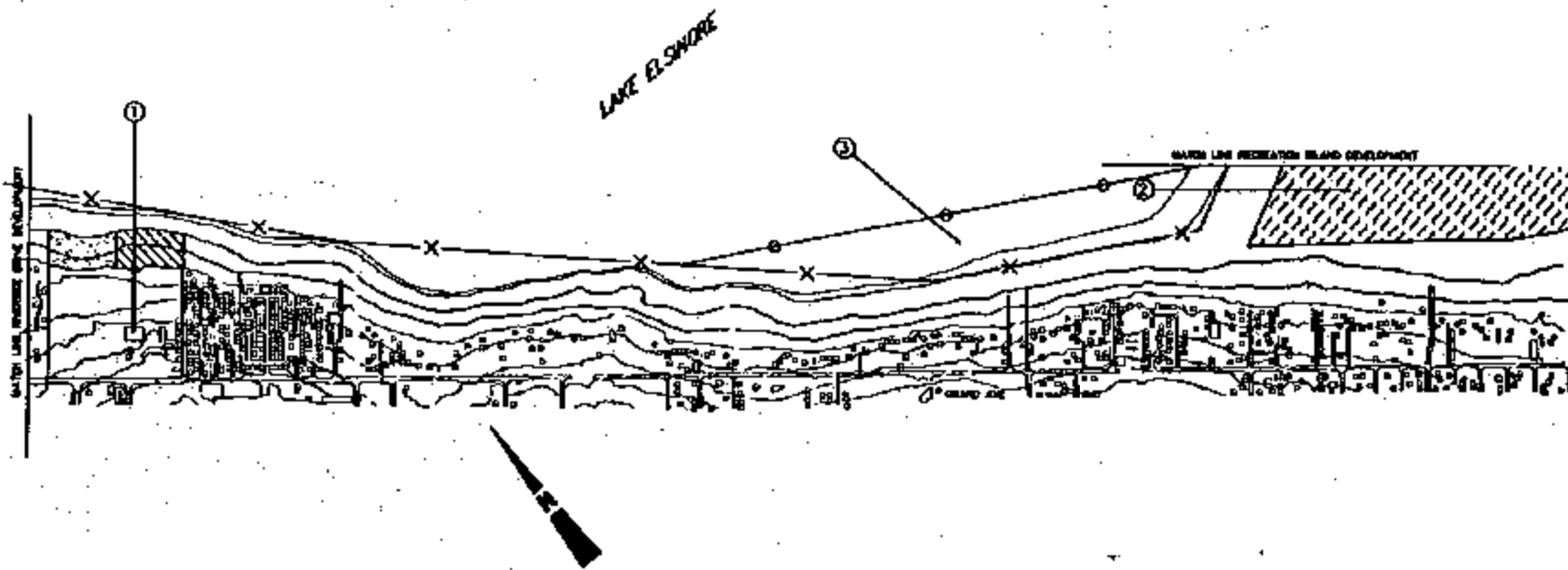
NORTH



ELSINORE WEST MARINA

NODLE
FIGURE V-12

1. NAUTICAL CENTER
2. FISHING AREA
3. FUTURE PWC RESTRICTED AREA (34.6 AC)



— X — 5 MPH/NO WAKE STUDY LINE
 ——— 1240' & 1250' WATER LEVELS
 ——— COSTING ELEVATION CONTOURS: ROBERT
 J. LUNG & ASSOCIATES, INC. 1980

0 1,000 2,000
 FEET
 SCALE

GRAND AVENUE DEVELOPMENT



FIGURE Y-13

facilities which would provide non-power boat lakefront facilities, a public swimming beach along Grand Avenue, a yacht brokerage/marine retail sales center, and a visitor's center for viewing marine related activities:

- Non-power boat beach (650 LF)
- Swimming beach (650 LF)
- Rowing club facilities
- Yacht club facilities
- Yacht brokerage/boat sales center
- Marine retail center
- Aquarium/marine museum

If feasible, the old Military Academy building could be converted into a marine museum/aquarium.

3.2 Fishing Zone (~250-350 Acres)

This area is located within the lake at the southeasterly end of Grand Avenue extending up to the levee and Recreation Island. During a lake water level of 1,240 feet, this area encompasses about 250 acres of water, while during a lake level of 1,250 feet it encompasses about 350 acres of water.

4. RECREATION ISLAND AREA (~50 ACRES)

The lake's southeastern boundary is defined by the earthen levee, which was constructed to elevation 1,265 feet. Towards the middle of this levee an operations island protrudes into the lake and connects to the levee by a causeway. This operations island supports three water wells which, when restored, will be capable of producing approximately 10,320 acre-feet per year of groundwater to help stabilize the lake's water level. A portion of the island was constructed to elevation 1,265 feet to protect the wells and provide access for maintenance.

The East Lake Specific Plan, which is a joint venture between Eastlake Community Builders and the City of Lake Elsinore, has proposed improving Operations Island to include parks, a marina and a world class destination resort. The existing island's perimeter

area above the 1,240 feet elevation contour is approximately 50 acres. The proposed improved island would contain approximately 40 acres constructed to the 1,265 feet elevation.

The proposed island, referred to as Recreation Island in this Master Plan Study, is fairly consistent with the East Lake Specific Plan. Figure V-14 indicates the proposed recreational uses for Recreation Island and the adjacent areas.

4.1 Levee Improvement

An earthen levee of approximately 17,800 lineal feet has been constructed to 1,265 feet extending from Rome Hill in a northerly direction to San Jacinto Channel and then in an easterly direction along the southern shoreline of San Jacinto Channel. Recommended improvements to the existing levee consist of a pedestrian walkway, landscaping, shade structures and benches along the top of the levee. These improvements would enhance the usage of this levee by the general public for strolling, picnicking and scenic viewing of the lake and its water activities.

4.2 Fishing Zone (Listed Under Grand Avenue Area)

The fishing area partially shown in Figure V-14, as discussed in 3.2, "Fishing Zone", will encompass approximately 250 acres during a 1,240 feet lake level and 350 acres during a 1,250 feet lake level.

4.3 Marina Complex

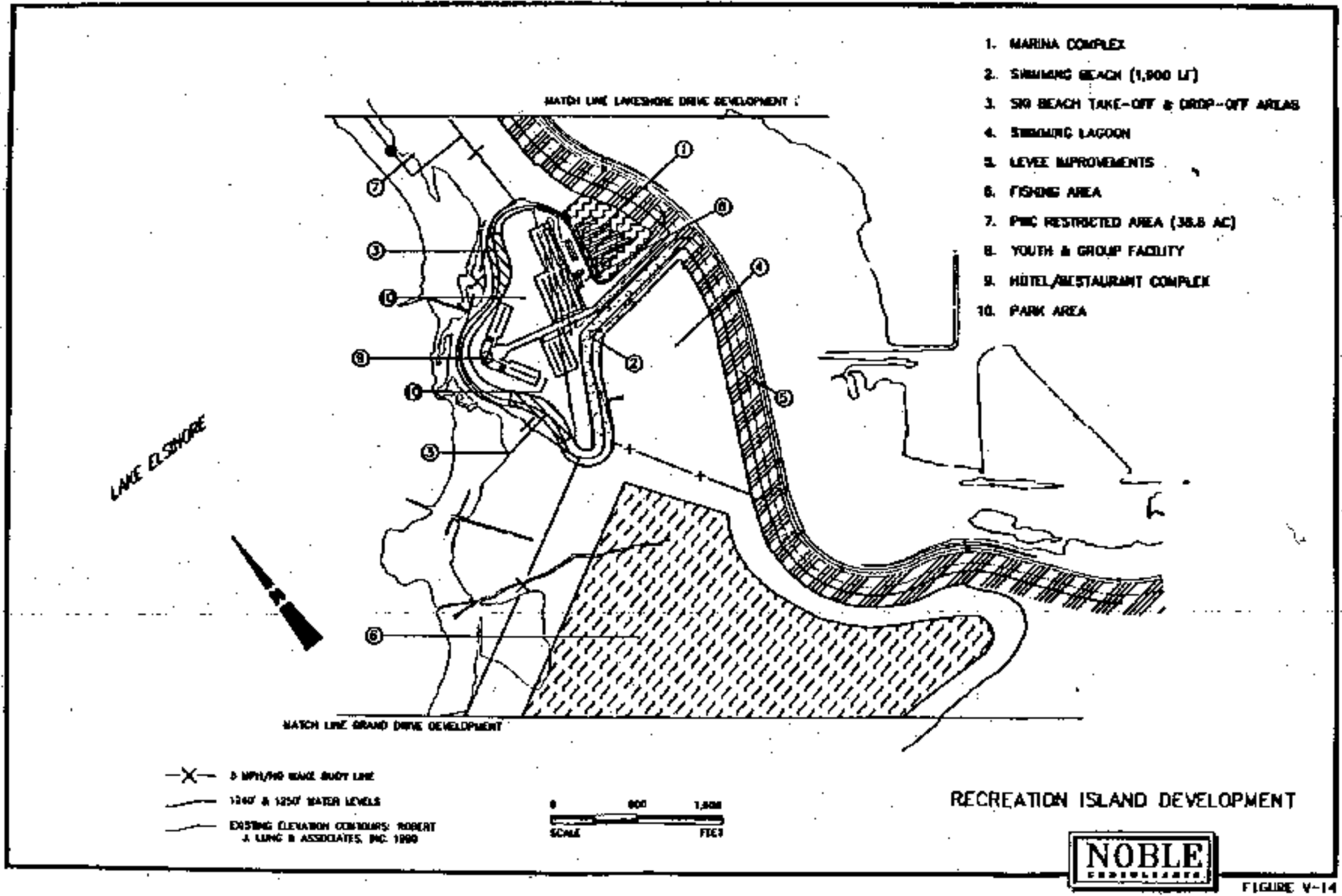
Figure V-15 illustrates proposed improvements for Recreation Island, and Figure V-16 presents a conceptual plan of these improvements. A marina complex as located within these figures would consist of the following amenities:

- 201 boat slips
- Boat hoist and fuel dock
- Youth and group facility (~ 1.75 Acres)
 - Building space of 10,000 square feet for administrative offices, maintenance, class rooms, conference room, parties, etc.

DATE: 11/13/83

PROJECT: RECREATION ISLAND DEVELOPMENT




SCALE: 1" = 100'



- 1. MARINA COMPLEX
- 2. SWIMMING BEACH (1,000 LF)
- 3. SKI BEACH TAKE-OFF & DROP-OFF AREAS
- 4. SWIMMING LAGOON
- 5. LEVEE IMPROVEMENTS
- 6. FISHING AREA
- 7. PICN RESTRICTED AREA (38.8 AC)
- 8. YOUTH & GROUP FACILITY
- 9. HOTEL/RESTAURANT COMPLEX
- 10. PARK AREA

LAKE ELSHORE



 3 MPH/HR WAKE BODY LINE
 1240' & 1250' WATER LEVELS
 EXISTING ELEVATION CONTOURS: ROBERT
 J. LING & ASSOCIATES, INC. 1980

0 500 1,000
 SCALE FEET

RECREATION ISLAND DEVELOPMENT



FIGURE V-14

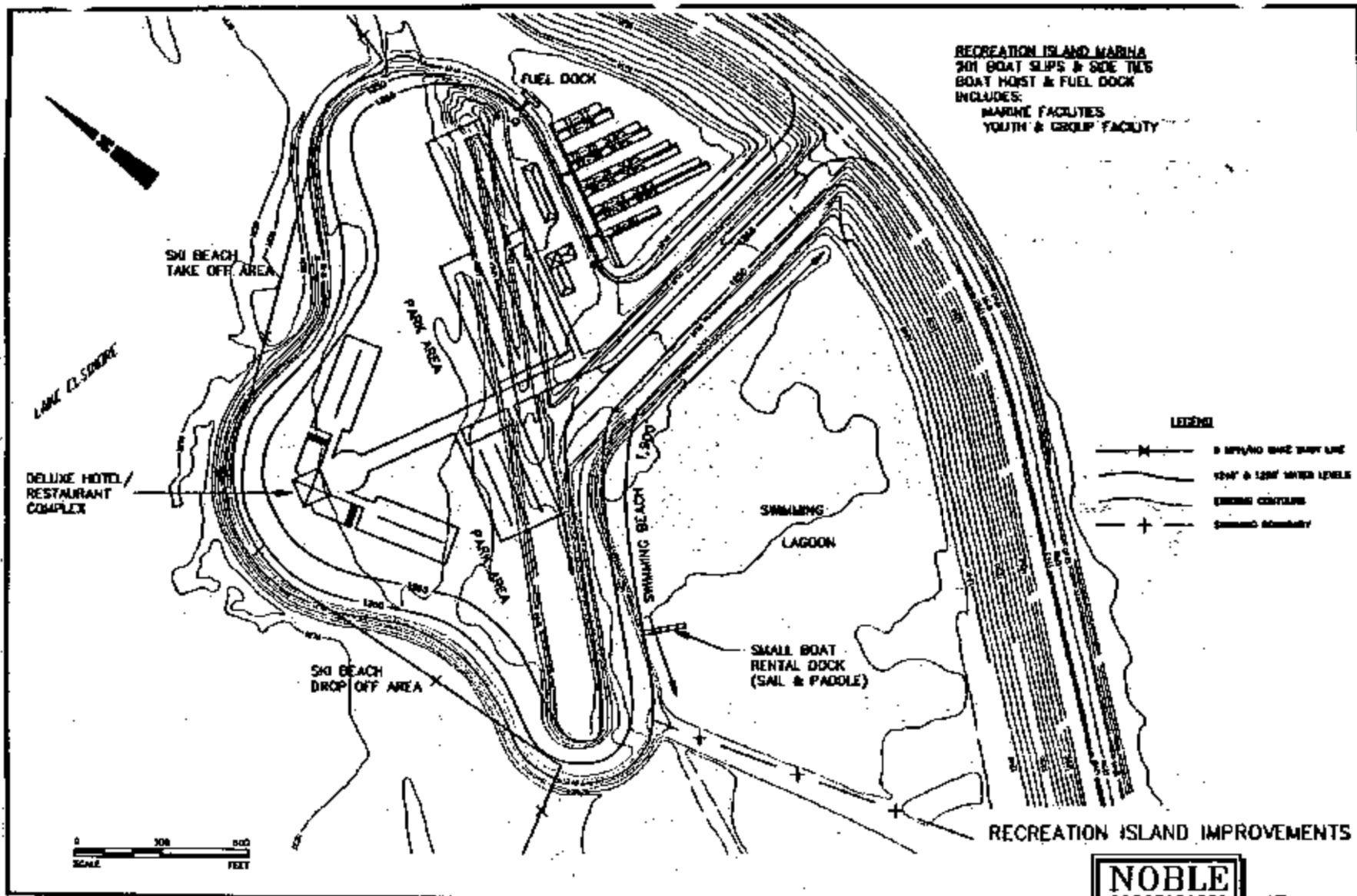
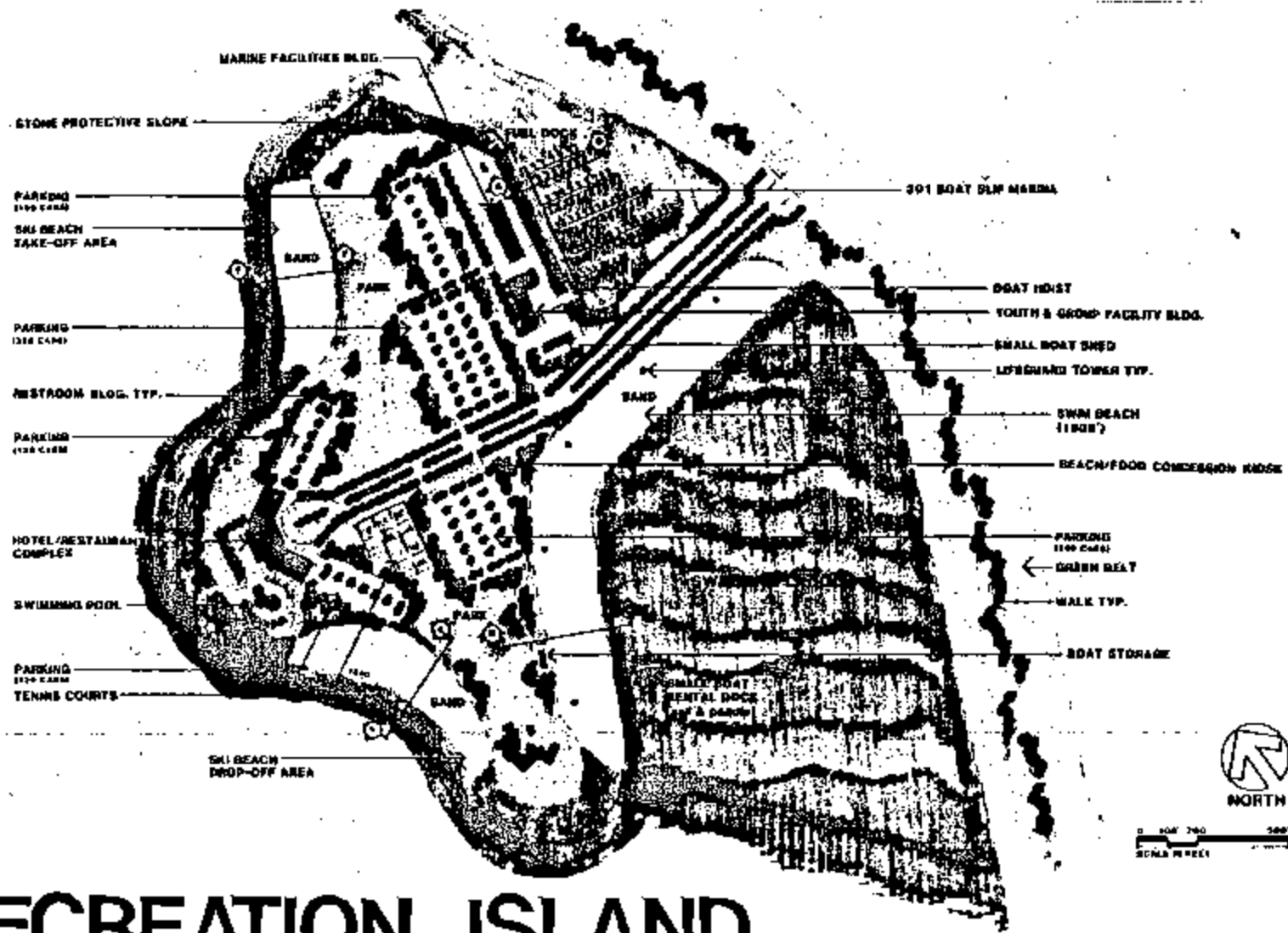


FIGURE V-13



0 100 200 300
SCALE IN FEET

RECREATION ISLAND

CITY OF LAKE ELSINORE

NOBLE
ENGINEERS
FIGURE V-14

- Building shed of 2,000 square feet for storage of small boats and equipment
 - Large outside open area including boat hoist for training classes, etc.
 - Facility is for public programs for youth and adults, for sailing lessons and events, basic boating, rowing/canoeing, marine safety education, aqua camps, etc. Also, available for rental by other groups. Such organizations as Boy Scouts, Girl Scouts and Coast Guard Auxiliary would use facility for public instruction, racing and recreation.
- Marine facilities and concessions building (10,000 SF)
 - Restrooms/showers
 - Lockers
 - Snack shop
 - Marine hardware/bait shop
 - Marina manager office/maintenance space
 - Park storage (equipment/maintenance)
 - Para sail concession
 - Boat rentals and charters
 - Excursion boats
 - Party fishing boats

The existing natural basin where the marina is located should require no dredging and no exterior protection. A rock reverted shoreline is proposed along the island side of the marina. Figure V-17 shows an elevation section through the reverted shoreline area. The conceptual marina design illustrated in Figure V-16 will berth 201 boats ranging in length from 20 to 32 feet. The fuel dock facility is located at the marina's entrance while the building for housing marine facilities and concessions is located directly behind the marina.

The youth and group facility is located at the southern end of the marina complex. This facility includes 1.75 acres of land with 10,000 square feet of building space, 2,000 square feet of storage shed, a boat hoist and boat slips available within the marina. It is proposed that this facility be patterned after the highly successful County of Orange youth and group facility located in Dana Point Harbor. This facility is dedicated to the promotion of boating, sailing and safety around the water, with numerous organizations using the facility for public instruction, racing and recreation. Their facility offers public programs for

youths and adults, with activities including basic boating, rowing, canoeing, sailing, surfing, windsurfing, competitive sailing events, marine safety education, aqua camps and tidepool walks. Educational and recreational programs of a broader nature are also offered. In addition, the public buildings are also available to rent for family gatherings or business conferences.

4.4 Swimming Lagoon (~ 50 Acres)

The swimming lagoon, as identified in Figures V-15 and V-16, would encompass about 50 acres of shallow water and include a 1,900 lineal feet swimming beach, a small boat rental concession with a floating dock for small sail and paddle boats, a food kiosk, restroom/shower facilities and lifeguard towers. The swimming beach would be ideally suited for families to enjoy beach and water activities, and would be capable of handling 2,300 beach-goers during a high lake level of 1,249 feet. There would be about 6.5 acres of beach down to the 1,245 feet elevation. Figure V-17 shows a typical elevation section view of this swimming beach area.

The swimming lagoon area is patterned after the highly successful Newport Dunes swimming lagoon in Newport Beach. Since the lagoon is fairly shallow and self-contained, a mechanical aeration, circulation, and/or oxygenation system could be installed along the lagoon's bottom to enhance overall water quality.

4.5 Park Facilities

The public park area, shown in Figures V-15 and V-16, represent about 15 acres of space. This area would be fully turfed and landscaped, and include restroom facilities, benches and shade structures.

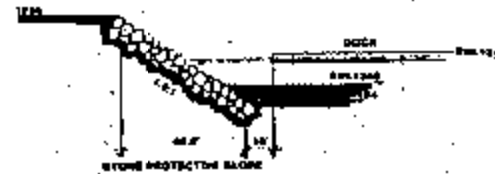
4.6 Hotel/Restaurant Complex

The hotel/restaurant complex shown in Figures V-15 and V-16 is proposed as a world class destination resort. This complex encompasses about 6.6 acres of land, however, hotel visitors would have walking access to all other recreation activities shown on Recreation Island, including the marine concessions located within the marina complex. In addition, hotel conventions could arrange for special boating programs funnelled through the youth

RECREATION ISLAND



SECTION EE



SECTION GG



SECTION FF

NOBLE
ENGINEERING

FIGURE V-17

and group facility. This hotel complex would also be an ideal facility for accommodating special events participants and spectators, for special events taking place either on the lake or in the channel.

4.7 Water Ski Beaches

To either side of the hotel/restaurant complex, as shown in Figures V-15 and V-16, are two lakeside beaches designated as take-off and drop-off areas for water-skiers. The take-off beach is 500 lineal feet while the drop-off beach is 700 lineal feet in length. Figure V-17 shows a typical elevation section of these beach areas.

5. SAN JACINTO CHANNEL AREA (~ 150 ACRES)

Improvements proposed for the development of San Jacinto Channel are identified in Figure V-18. These include a public swimming beach, a water ski concession channel, a special events channel and improvements to the existing levee.

5.1 Water Ski Concession Channel

Currently, San Jacinto Channel is utilized by Jackie Nanette's water ski school. Since her water ski school concession started in early May 1993, she has been steadily booked and would like to expand her operations to handle three simultaneous sessions. The San Jacinto Channel can be divided into three segments by installing floating breakwaters across the channel as illustrated in Figure V-18. These breakwaters, if properly designed, will absorb a majority of the wave energy transmitted from the ski boat wakes or from short period wind waves within each segmented area. Therefore, there should be relatively minimum interference from the ski boats in the adjacent segment.

Since these floating breakwaters are anchored in place, they can be moved or relocated rather easily to allow for an open special events channel or to reconfigure the segmented channel areas. Appendix E presents detailed design and cost information for the construction and installation of one recommended type of floating breakwater.

5.2 Special Events Channel

The San Jacinto Channel has the potential to be developed into a first class special events channel for powered boat races (boat drags and circle boat races), rowing shells, water ski competition and personal watercraft competition. This channel provides a long narrow body of water that can easily be made secure from recreational boaters, and can provide excellent spectator viewing. Improvements required are illustrated in Figure V-19. Once the water level drops below the 1,255-foot elevation, the channel will require widening to use it as a special events channel. This channel will also require widening to continue its use as a water ski concession channel once the water level drops below the 1,250-foot elevation. Figure V-19 illustrates where this channel needs widening along its northern shoreline. Recommended new 1,236, 1,240, 1,250 and 1,260 foot contour lines are presented in this figure. Figure V-20 presents two elevation sections through the widened channel to illustrate areas of channel cut and fill along the backshore side. It is expected that the cut and fill requirements would be balanced.

Figure V-19 also shows channel race mark layouts, judge's stand location, temporary pit area and launch ramp locations. An eight-lane launch ramp is preferable for the main ramp while a secondary two-lane ramp would be beneficial for taking out the drag boats at the end of the drag boat run out area. The primary eight-lane launch ramp could be used as a public boat launch facility, except when special events are held. The western most floating breakwater shown in Figure V-18 could be relocated to the east side of the launch ramp to allow for the ramp's use as a public launch facility. The two-lane ramp could then be utilized by the water ski school concessionaire. Figure V-21 presents a conceptual layout of the water ski concession/special events channel and shoreside facilities.

5.3 Swimming Beach Facility (2,300 LF)

The northern shoreline of the San Jacinto Channel also is a suitable location for a 2,300-lineal-foot swimming beach, as shown in Figure V-19. During the widening of this channel, a 12:1 (horizontal:vertical) beach slope could be constructed from elevation 1,236 feet to 1,260 feet, as shown in Figure V-20. Imported beach sand would be used for the upper two feet of this beach face. It is recommended that the backshore area, that presently exists below elevation 1,260 feet, be backfilled and graded to 1,260 feet using cut material from the channel widening operation. This backshore area could then be developed and

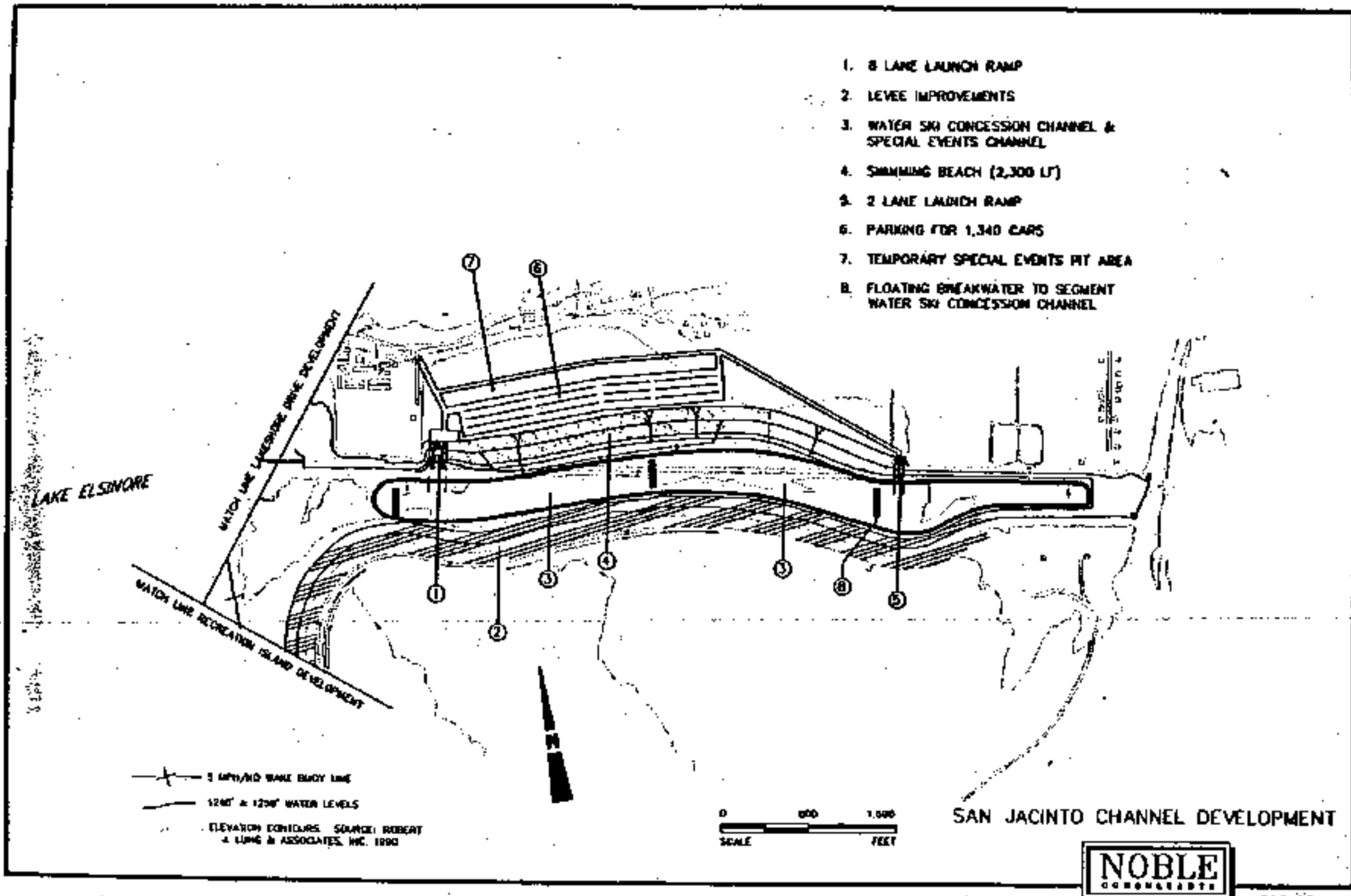


FIGURE V-10

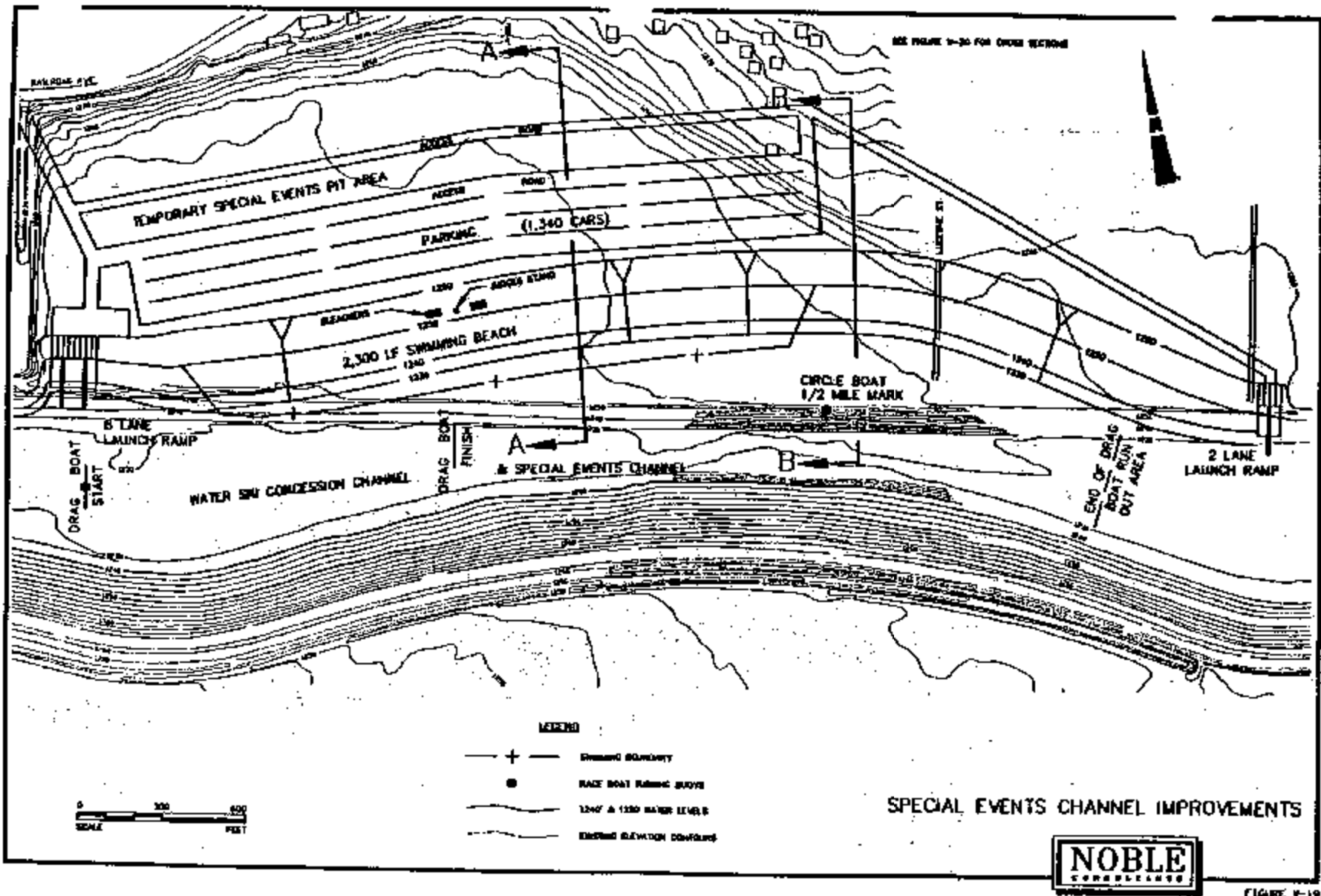
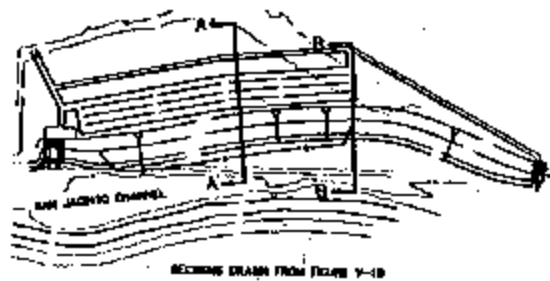
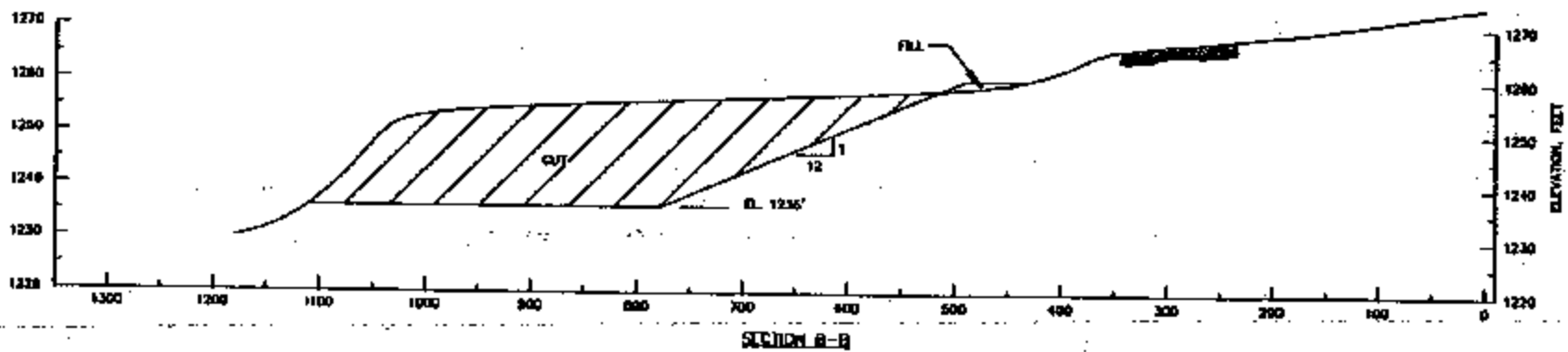
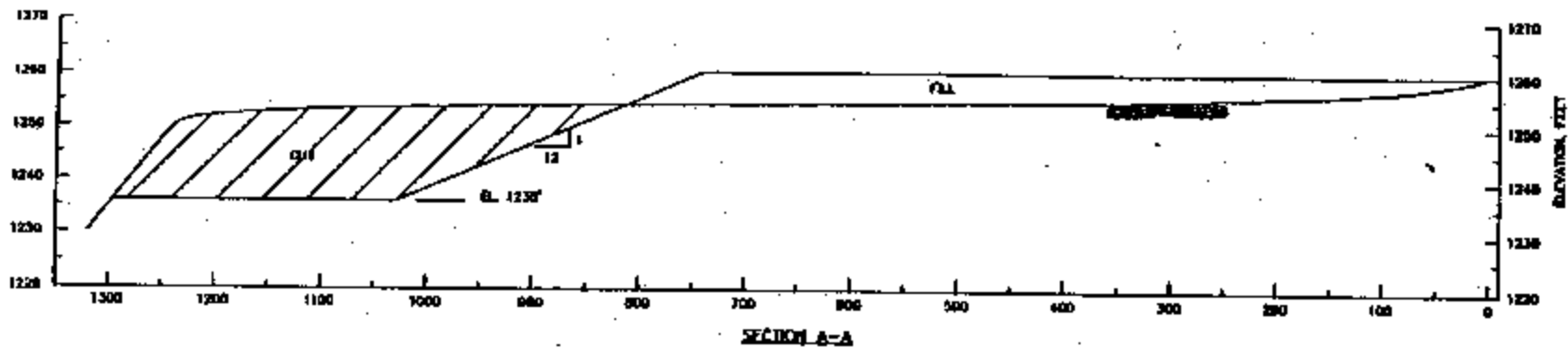


FIGURE 9-19



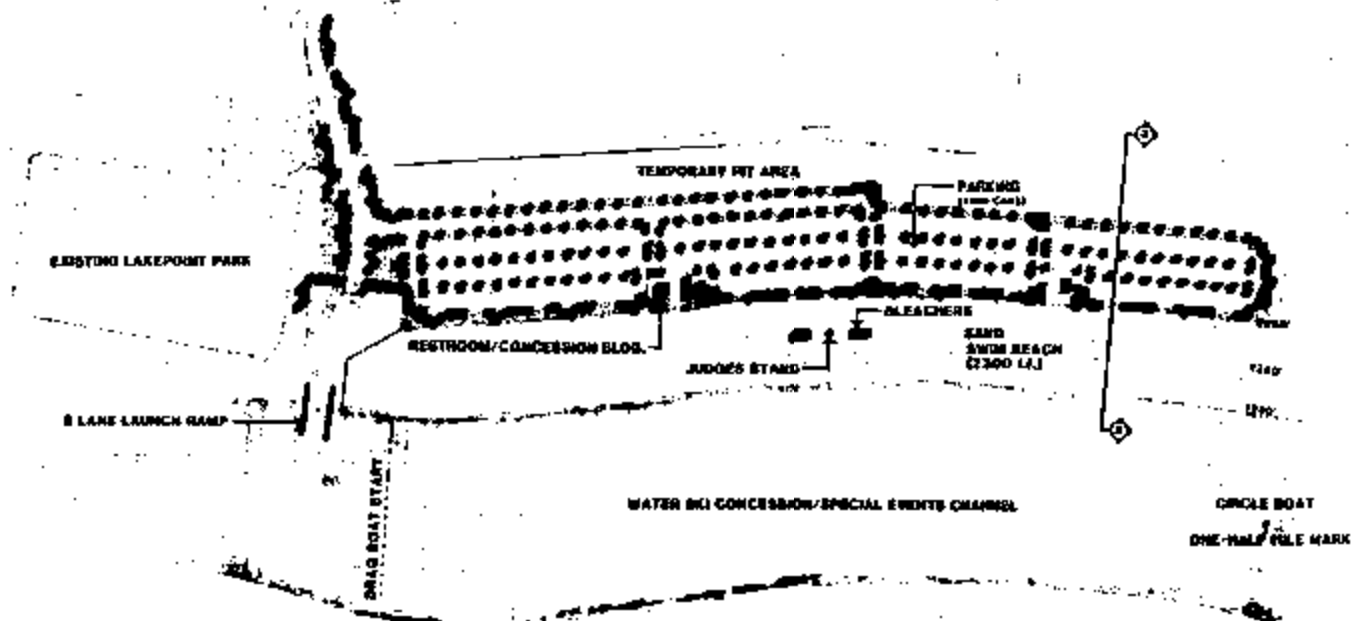
SPECIAL EVENTS CHANNEL CROSS SECTIONS



FIGURE V-29

SEAFORT VILLAGE

LAKEHORE DRIVE



WATER SKI/ RACE EVENT CHANNEL



NOBLE
ENGINEERS
FIGURE V-21

landscaped, and include restroom/food concession buildings and parking for 1,340 cars, as shown in Figure V-21. If additional parking is eventually required for either the public swimming beach or the special events, either offsite parking or the adjacent land area could be utilized.

During special events the swimming beach area would be utilized as a spectator viewing area; however, during the remainder of the beach season (approximately from May 1 through September 17), this area would be used as a public swimming beach. The swimming/water boundary would be buoyed 100 feet from the shoreline to separate it from the water ski school concession channel. Small waves generated by the water ski boat's wake would propagate towards the shoreline, but these small waves should not interfere with the swimming beach activities. Six lifeguard towers are recommended for the 2,300 lineal feet of beach. Figure V-22 presents a typical elevation section view through the swimming beach, parking and temporary special events pit area. Since the channel area is relatively narrow and shallow, the water quality could be enhanced within the swimming beach channel zone by the installation of oxygenation, circulation and/or aeration systems.

5.4 Levee Improvement (Listed under Recreation Island Area)

Improvements to the existing earthen levee along the channel's southern side would consist of a pedestrian walkway, landscaping, benches and shade structures as previously described under 4.1, "Levee Improvement".

6. LAKE MANAGEMENT

Lake management consist of the operation and maintenance of the entire lake, and of the public areas of the lake's shoreline improvements. This includes the ranger patrol required to maintain safe recreational boating activities throughout the lake. The ranger patrol will oversee the installation and maintenance of all lake buoys designating various speed zones, operating zones and channels. They will also patrol the lake to enforce the established rules and regulations, and to provide assistance to boaters in need. Lake management will also include lifeguard service for the lake and for supervising the lifeguards at public swimming beaches. Other operating and maintenance staff will be provided as required for public facilities.

6.1 Five Miles Per Hour/No Wake Zone

There is a perimeter five miles per hour/no wake buoy line extending around the lake. All boating activity within this shoreline water zone is to be travelling at five miles per hour or less in order to generate no boat wake.

6.2 Designated High Speed Boat Zone

There is a designated restricted area for high speed boats operating above 40 miles per hour in the central portion of the lake. This area measures 800 feet wide by 3,500 feet long and is divided down the center for counter clockwise boat movement.

6.3 Designated Personal Watercraft Zone

There are two designated restricted personal watercraft zones, one of 36.9 acres in the west corner of the lake and the other of 38.8 acres in the east corner of the lake. Both of these locations are close to either existing or proposed boat launch ramp facilities. If required, there are two additional identified restricted personal watercraft zones, one of 34.2 acres in the north corner of the lake, and the other of 54.6 acres in the south corner of the lake.

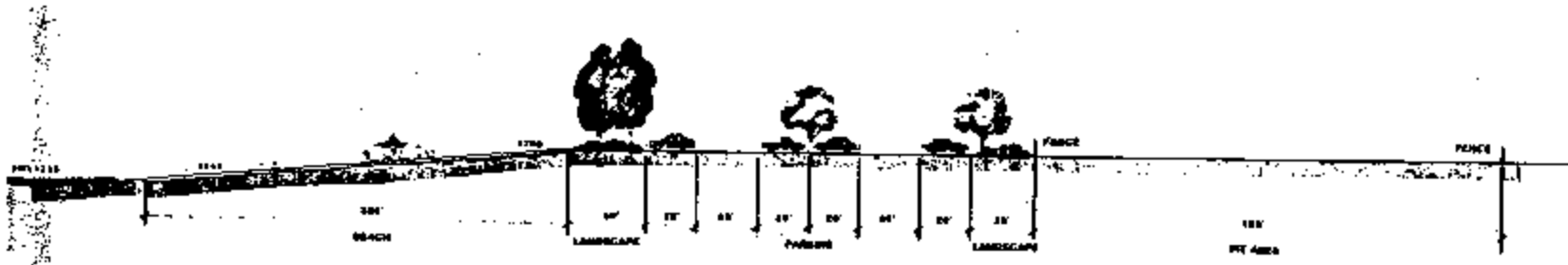
6.4 Designated Fishing Zone

The designated fishing zone is located in the southern corner of the lake, and varies in water area from 250 to 350 acres for respective lake water levels of 1,240 to 1,250 feet. This area is not restricted to fishing only. Other boaters may enter this area as long as they maintain the under five miles per hour/no wake requirements. In addition, 1,000 lineal feet of fishing beach plus an 8,000-square-foot fishing pier are identified along Lakeshore Drive.

6.5 Designated Swimming and Boat Beaches

Several designated swimming beaches have been identified around the lake's perimeter. These areas, if all developed, will total 6,550 lineal feet of beach. In comparison, there is 5,850 lineal feet of boat beach and 1,350 lineal feet of non-power boat beach identified around the lake.

WATER SKI/ RACE EVENT CHANNEL



SECTION HH

NOBLE
LANDSCAPE
FIGURE V-22

6.6 Designated Special Events/Water Ski Concession Channel

As fully described under 5.1, "Water Ski Concession" and 5.2, "Special Events Channel", the San Jacinto Channel area has been designated a joint special events/water ski concession channel.

VI. ECONOMIC FEASIBILITY

1. IMPACT ON CURRENT CONCESSION

The lakefront development plan to promote the optimization of water sport activities in and around the lake's perimeter, which is recommended in this Master Plan Study, should have no negative impact on the current concession (Lake Elsinore Recreation Area Incorporated) at the City Park. Once the lake level has been stabilized, the water quality addressed, and the recommended lakefront improvements implemented, there should be ample recreational lake and lakefront capacity to accommodate the recommended facilities presented in this plan. Due to the existing lake water levels, the new operating lake water levels (1,240 to 1,249 feet), and the existing City Park ground elevations, the Lake Elsinore Recreation Area Incorporated cannot use its existing boat launch ramp and has reduced its campground facilities available for use by the public.

Implementation of the proposed master plan lake development will accommodate a maximum of 1,560 user boats per day. This plan, which includes upgrade improvements to the City Park, will have a positive impact to the City Park concession. Presently, the City Park concession is based on a maximum of 600 user boats per day. However, with its existing lower ground elevations and top of launch ramp at elevation 1,240 feet, this facility cannot take advantage of the current maximum boat capacity. An improved City Park facility as recommended in this Master Plan, in combination with the proposed increase in boat capacity and lakefront development, would have positive impacts for generating a significant increase in operating revenue.

2. DEVELOPMENTAL COSTS

The construction costs to develop all lakefront facilities presented in this Master Plan have been estimated based on the conceptual plans presented in Section V, "Specific Lake Development Plan". These developmental costs are presented in Table VI-1, and show a detailed breakdown of construction work items, quantity, unit cost and total cost. These costs are in 1994 dollars and are only for construction. They do not include land acquisition, environmental report, archeology evaluation, geotechnical investigation, architectural and landscape design, engineering design, plan and specification preparation, permit application, and construction management and inspection costs. These costs are

**TABLE VI-1
DEVELOPMENTAL COSTS**

ITEM	QUANTITY	UNIT	UNIT COST	COST	SUBTOTAL
A. LAKESHORE DRIVE DEVELOPMENT					
1. Boat Trailer/Car Parking Area (228,000 SF)					
Earthwork (Grading)	228,000	SF	\$0.25	\$57,000	
A.C. Paving	228,000	SF	\$1.65	\$376,200	
Curbs	4,200	LF	\$10.00	\$42,000	
Site Lighting	228,000	SF	\$0.50	\$114,000	
Site Landscaping/Irrigation	24,000	SF	\$3.50	\$84,000	
Fencing	1,850	LF	\$10.00	\$18,500	
					\$710,000
2. Boat Beach (500 LF)					
Earthwork (Cut)	4,570	CY	\$5.50	\$25,135	
Earthwork (Grading)	122,500	SF	\$0.25	\$30,625	
Grass (8' wide)	8,800	SF	\$3.50	\$30,800	
Turf & Irrigation	88,000	SF	\$3.50	\$308,000	
Site Lighting		LS		\$10,000	
Site Ledges		LS		\$10,000	
					\$502,760
3. Launch Ramp (8 Lanes) & Staging Areas					
Earthwork (Cut)	5,000	CY	\$6.50	\$32,500	
Earthwork (Cut & Fill, In situ Soil)	5,000	CY	\$7.50	\$37,500	
Earthwork (Grading)	28,000	SF	\$0.25	\$7,000	
Reinforced Concrete Ramps (12" Base)	27,000	SF	\$13.50	\$364,500	
Floors (3-23' x 80')	1,820	SF	\$25.00	\$45,500	
Floot Anchor Systems	3	EA	\$600.00	\$1,800	
Floot Landings	3	EA	\$1,000.00	\$3,000	
A. C. Paving	61,800	SF	\$1.50	\$92,700	
Water (Wash Down Area)		LS		\$2,000	
Striping		LS		\$1,500	
Pay Booth	1	EA	\$3,000.00	\$3,000	
Restroom	500	SF	\$120.00	\$60,000	
Sidewalk (8' Wide)	2,000	SF	\$8.50	\$17,000	
Site Lighting		LS		\$5,000	
Fencing	800	LF	\$10.00	\$8,000	
					\$661,420
4. Seaport Marina (322 Boat Slips)					
Earthwork (Cut & Fill, In situ Soil)	84,100	CY	\$7.50	\$630,750	
Earthwork (Fill, In situ Soil W/ SGC)	3,400	CY	\$4.00	\$13,600	
Earthwork (Grading)	290,200	SF	\$0.25	\$72,550	
Bulkheading (30' Steel/Tied)	820	LF	\$850.00	\$697,000	
Bulkheading (30' Steel/Tied)	250	LF	\$275.00	\$68,750	
Breakwater (40' Wide with 50' Double Steel Sheets)	550	LF	\$1,800.00	\$990,000	
Breakwater (90' Concrete Sheets W/ Barbed)	420	LF	\$1,000.00	\$420,000	
Breakwater (Entrance Protection)	220	LF	\$1,000.00	\$220,000	
Floating Docks (Concrete)	42,700	SF	\$40.00	\$1,708,000	
Guide Piles (Concrete)	51	EA	\$1,500.00	\$76,500	
Gangway (Handicap)	1	EA	\$30,000.00	\$30,000	
Gangway (Normal)	3	EA	\$10,000.00	\$30,000	
Boat Hoist (5 Tons)	1	EA	\$20,000.00	\$20,000	
Sidewalk/Walkways (12' Wide)	12,000	SF	\$2.50	\$30,000	
Sidewalk (8' Wide)	18,840	SF	\$2.50	\$47,100	
Benches etc.		LS		\$50,000	
A. C. Paving (Parking Areas)	107,000	SF	\$1.00	\$107,000	
Curbs	3,100	LF	\$10.00	\$31,000	
Restroom/Shower Building	1,000	SF	\$120.00	\$120,000	
Restroom	500	SF	\$120.00	\$60,000	
Restaurant (8)	5,000	SF	\$90.00	\$450,000	
Retail Building (4)	7,500	SF	\$60.00	\$450,000	
Concession Building (4)	7,500	SF	\$60.00	\$450,000	
Fuel Facility	1	EA	\$50,000.00	\$50,000	
Harbor Master Building	500	SF	\$100.00	\$50,000	
Site Landscaping/Irrigation	68,200	SF	\$3.50	\$238,700	
Site Lighting	190,000	SF	\$0.50	\$95,000	
Site Ledges		LS		\$30,000	
					\$7,778,550

**TABLE VI-1
DEVELOPMENTAL COSTS
(CONTINUED)**

ITEM	QUANTITY	UNIT	UNIT COST	SUBTOTAL
5. Non-Power Boat Development Beach (700 LF)				
Earthwork (Cut & Fill, Inst. Soil)	8,800	CY	\$7.50	\$62,250
Earthwork (Cut)	10,000	CY	\$5.50	\$55,000
Imported Beach Sand (2' Thick From El. 1,227 to 1,256)	18,000	CY	\$15.00	\$270,000
Earthwork (Grading)	280,000	SF	\$0.25	\$70,000
Sidewalk (8' Wide)	8,040	SF	\$2.50	\$20,100
Retaining Wall	300	LF	\$50.00	\$15,000
A.C. Paving (Parking Area)	80,000	SF	\$1.85	\$148,000
Curbs	815	LF	\$10.00	\$8,150
Turf & Irrigation	90,000	SF	\$2.80	\$252,000
Benches etc.		LS		\$12,000
Restroom	800	SF	\$120.00	\$96,000
Concession Building (4)	5,750	SF	\$20.00	\$115,000
Site Lighting	80,000	SF	\$0.50	\$40,000
Site Utilities		LS		\$10,000
				<u>\$1,288,500</u>
6. Swimming Beach (700 LF)				
Earthwork (Cut)	16,700	CY	\$5.50	\$91,850
Imported Beach Sand (2' Thick From El. 1,227 to 1,256)	18,700	CY	\$15.00	\$280,500
Earthwork (Grading)	815,000	SF	\$0.25	\$203,750
Sidewalk (8' Wide)	3,000	SF	\$2.80	\$8,400
Walkways (5' Wide)	5,500	SF	\$2.80	\$15,400
Turf & Irrigation	105,000	SF	\$2.50	\$262,500
Shade Structures/Benches/Plastic Tables		LS		\$50,000
Restroom w/ Dressing Rooms & Outside Shower	1,500	SF	\$120.00	\$180,000
Drinking Fountain	2	EA	\$2,000.00	\$4,000
Life Guard Towers	2	EA	\$10,000.00	\$20,000
Site Lighting		LS		\$10,000
Site Utilities		LS		\$15,000
				<u>\$600,500</u>
7. Boat Beach (1,000 LF)				
Earthwork (Grading)	300,000	SF	\$0.25	\$75,000
Sidewalk (8' Wide)	3,000	SF	\$2.50	\$7,500
Turf & Irrigation	40,000	SF	\$2.50	\$100,000
Shade Structures & Benches		LS		\$18,000
Restroom	500	SF	\$120.00	\$60,000
Site Lighting		LS		\$10,000
Site Utilities		LS		\$15,000
				<u>\$325,500</u>
8. Fishing Beach & Pier (1,000 LF)				
Earthwork (Grading)	400,000	SF	\$0.25	\$100,000
Sidewalk (8' Wide)	3,120	SF	\$2.50	\$7,800
A.C. Paving (Parking Area)	70,000	SF	\$1.65	\$115,500
Curbs	1,780	LF	\$10.00	\$17,800
Pier Structure - Timber	3,060	SF	\$50.00	\$153,000
Restrooms	500	SF	\$120.00	\$60,000
Site Lighting	70,000	SF	\$0.50	\$35,000
Site Utilities		LS		\$15,000
				<u>\$450,000</u>
9. Boat Beach (4,500 LF)				
Earthwork (Grading)	1,088,000	SF	\$0.25	\$272,000
Sidewalk (8' Wide)	36,000	SF	\$2.50	\$90,000
Turf & Irrigation	180,000	SF	\$2.50	\$450,000
Shade Structures & Benches		LS		\$40,000
Restroom (2 @ 500sf)	1,000	SF	\$120.00	\$120,000
Site Lighting	180,000	SF	\$0.25	\$45,000
Site Utilities		LS		\$25,000
				<u>\$1,019,750</u>
B. ROVERDALE DRIVE DEVELOPMENT				
1. City Marina Park Marina (257 Boat Slips)				
Earthwork (Cut & Fill, Inst. Soil)	4,200	CY	\$7.50	\$31,500
Earthwork (Fill, Imported Soil)	182,250	CY	\$9.00	\$1,640,250
Earthwork (Grading)	720,000	SF	\$0.25	\$180,000
A.C. Paving	488,700	SF	\$1.85	\$904,095
Curbs	3,500	LF	\$12.00	\$42,000

**TABLE VI-1
DEVELOPMENTAL COSTS
(CONTINUED)**

ITEM	QUANTITY	UNIT	UNIT COST	SUBTOTAL
Slope Revatment	5,870	TN	\$20.00	\$118,400
Breakwater (40' Wide with 60' Double Steel Sheets)	480	LF	\$1,400.00	\$672,000
Breakwater (60' Concrete Sheets W/ Battered)	740	LF	\$1,000.00	\$740,000
Finishing Docks (Concrete)	29,880	SF	\$40.00	\$1,195,200
Guide Piles (Concrete)	35	EA	\$1,500.00	\$52,500
Gangway (Handicap)	1	EA	\$20,000.00	\$20,000
Gangway (Normal)	1	EA	\$10,000.00	\$10,000
Sidewalk/Walkways (12' Wide)	700	SF	\$2.50	\$1,750
Benches etc.		LS		\$20,000
Restroom/Shower Building	1,000	SF	\$100.00	\$100,000
Site Landscaping/Irrigation	600,000	SF	\$3.50	\$2,100,000
Site Lighting	288,700	SF	\$0.50	\$144,350
Site Utilities		LS		\$50,000
2. City Marine Park Launch Ramp (10 Lanes)				\$7,302,300
Earthwork (Fill, Imported Soil)	60,000	CY	\$9.00	\$540,000
Earthwork (Grading)	280,000	SF	\$0.25	\$70,000
Reinforced Concrete Ramps (12' Base)	15,000	SF	\$12.00	\$180,000
Floods (4 @ 5' x 10')	2,500	SF	\$20.00	\$50,000
Flood Anchor Systems	4	EA	\$500.00	\$2,000
Flood Landings	4	EA	\$1,000.00	\$4,000
A. C. Paving	4,800	SF	\$1.50	\$7,200
Water (Wash Down Area)		LS		\$2,000
Riprap Shore Protection	800	TN	\$20.00	\$16,000
3. City Marine Park Swimming Beach (700 LF)				\$270,775
Earthwork (Fill, Imported Soil)	148,000	CY	\$2.00	\$296,000
Earthwork (Cut & Fill, In Situ Soil)	11,200	CY	\$7.50	\$84,000
Imported Beach Sand (2" Thick From El. 1,237 to 1,255)	11,200	CY	\$16.00	\$179,200
Earthwork (Grading)	289,000	SF	\$0.25	\$72,250
Shade Structures/Benches/Picnic Tables		LS		\$40,000
Drinking Fountain	2	EA	\$2,000.00	\$4,000
Life Guard Towers	2	EA	\$10,000.00	\$20,000
4. City Marine Park Landside Improvement (A)				\$9,274,718
5. Elmore West Marina (148 Boat Slips)				\$6,074,718
Earthwork (Grading)	40,000	SF	\$0.25	\$10,000
Floating Docks (Concrete)	18,400	SF	\$40.00	\$736,000
Access Pier (8' x 100')	800	SF	\$40.00	\$32,000
Guide Piles (Concrete)	23	EA	\$1,000.00	\$23,000
Gangway (Handicap)	1	EA	\$30,000.00	\$30,000
Gangway (Normal)	1	EA	\$10,000.00	\$10,000
Restroom/Shower Building	1,000	SF	\$120.00	\$120,000
Site Lighting	18,400	SF	\$0.50	\$9,200
Site Utilities		LS		\$20,000
6. Elmore West Launch Ramps (10 & 11 Lanes) (C)				\$1,504,000
Water (Wash Down Area)		LS		\$1,500
7. Elmore West Swimming Beach (300 LF)				\$2,000
Earthwork (Cut)	15,000	CY	\$5.50	\$82,500
Imported Beach Sand (2" Thick From El. 1,237 to 1,255)	18,800	CY	\$15.00	\$282,000
Earthwork (Grading)	210,000	SF	\$0.25	\$52,500
Shade Structures/Benches/Picnic Tables		LS		\$40,000
Drinking Fountain	2	EA	\$2,000.00	\$4,000
Life Guard Tower	1	EA	\$10,000.00	\$10,000
8. Elmore West Marina Landside Concrete Improvement				\$464,850
A.C. Paving	375,000	SF	\$1.50	\$562,500
Curbs	5,100	LF	\$10.00	\$51,000
Site Landscaping/Irrigation	240,000	SF	\$2.50	\$600,000
Site Lighting	215,000	SF	\$0.50	\$107,500
Site Utilities		LS		\$20,000
				\$1,457,000

**TABLE VI-1
DEVELOPMENTAL COSTS
(CONTINUED)**

ITEM	QUANTITY	UNIT	UNIT COST	SUBTOTAL
C. RECREATION ISLAND DEVELOPMENT				
1. Marina Complex (201 Boat Slips)				
Earthwork (Cut & Fill, In Situ Soil)	100	CY	\$7.30	\$1,125
Earthwork (Fill, Imported Soil)	26,100	CY	\$9.00	\$234,900
Earthwork (Grading)	30,880	SF	\$0.23	\$7,098
Slope Reinforcement	7,800	TN	\$20.00	\$156,000
Fuel Facility		LS		\$50,000
Fuel Dock	1,000	SF	\$28.00	\$28,000
Fuel Gangway	1	EA	\$10,000.00	\$10,000
Floating Docks (Concrete)	25,580	SF	\$40.00	\$1,022,000
Guide Piles (Concrete)	31	EA	\$1,000.00	\$31,000
Gangway (Handicap)	1	EA	\$20,000.00	\$20,000
Gangway (Normal)	2	EA	\$10,000.00	\$20,000
Beet Holes (5 Tons)	1	EA	\$20,000.00	\$20,000
Sidewalk (12' Wide)	9,000	SF	\$3.50	\$31,500
Benches etc.		LS		\$20,000
Marina Paving	30,880	SF	\$4.00	\$1,235,200
Restroom/Showers Building	1,000	SF	\$120.00	\$120,000
Marina Facility and Concession Buildings (4)	10,000	SF	\$80.00	\$800,000
Site Lighting	30,880	SF	\$0.50	\$15,440
Site Utilities		LS		\$20,000
				\$3,504,513
2. Youth and Group Facility				
Earthwork (Fill, Imported Soil)	64,880	CY	\$9.00	\$583,920
Earthwork (Grading)	87,180	SF	\$0.25	\$21,795
A.C. Paving	87,180	SF	\$1.66	\$1,447,708
Main Building	10,000	SF	\$110.00	\$1,100,000
Storage Building	2,000	SF	\$50.00	\$100,000
Site Lighting	87,180	SF	\$0.50	\$43,590
Site Utilities		LS		\$10,000
				\$2,217,013
3. Swimming Beach (1,800 LP)				
Earthwork (Fill, Imported Soil)	88,500	CY	\$9.00	\$796,500
Earthwork (Cut & Fill, In Situ Soil)	33,880	CY	\$7.50	\$254,120
Imported Beach Sand (2' Thick From Bl. 1,237 to 1,238)	25,000	CY	\$19.00	\$475,000
Earthwork (Grading)	487,400	SF	\$0.23	\$112,192
Walkways (8' Wide)	18,000	SF	\$2.50	\$45,000
Shade Structures/Benches/Picnic Tables		LS		\$40,000
Restroom w/ Dressing Rooms & Outside Shower	1,000	SF	\$120.00	\$120,000
Restroom	500	SF	\$120.00	\$60,000
Small Concession Building (4)	800	SF	\$60.00	\$48,000
Drinking Fountain	4	EA	\$2,000.00	\$8,000
Life Guard Towers	5	EA	\$10,000.00	\$50,000
Small Boat Rental Float (10x80)	500	SF	\$22.00	\$11,000
Swimming Lagoon Buoy		LS		\$1,000
Site Lighting		LS		\$20,000
Site Utilities		LS		\$10,000
				\$1,788,678
4. Old Beach Take-off & Drop-off Area (1,800 LP)				
Earthwork (Fill)	82,880	CY	\$9.00	\$745,920
Earthwork (Grading)	234,000	SF	\$0.25	\$58,500
				\$798,000
5. Island Park Area / Hotel Complex				
Earthwork (Fill, Imported Soil)	1,008,700	CY	\$9.00	\$9,078,300
Earthwork (Grading)	1,203,000	SF	\$0.25	\$300,750
A.C. Paving (Parking Areas)	412,000	SF	\$1.66	\$683,920
Access Roadway	130,000	SF	\$1.88	\$244,400
Curbs	28,878	LP	\$10.00	\$288,780
Site Landscaping & Irrigation	227,000	SF	\$3.00	\$681,000
Turf & Irrigation	224,000	SF	\$2.50	\$560,000
Shade Structures/Benches/Picnic Tables		LS		\$100,000
Site Lighting	843,000	SF	\$0.50	\$421,500
Site Utilities		LS		\$25,000
Restroom (2@ 800 sq)	2,400	SF	\$120.00	\$288,000
Hotel & Restaurant Complex (4)				
				\$14,857,910

**TABLE VI-1
DEVELOPMENTAL COSTS
(CONTINUED)**

ITEM	QUANTITY	UNIT	UNIT COST	SUBTOTAL
D. LEVEE IMPROVEMENT (a)				\$1,488,450
E. SAN JACINTO CHANNEL DEVELOPMENT				\$1,848,450
1. Boat Launch Ramps (one 8 lanes & one 2 lanes)				
Earthwork (Cut)	18,850	CY	\$8.50	\$160,225
Earthwork (Cut & Fill, In situ Soil)	1,400	CY	\$7.50	\$10,500
Earthwork (Grading)	54,000	SF	\$0.25	\$13,500
Reinforced Concrete Ramps (18" Base)	83,750	SF	\$13.00	\$1,088,750
Flats (2@8'x100')	1,800	SF	\$28.00	\$50,400
Flot Anchor Systems	2	EA	\$500.00	\$1,000
Flot Landings	2	EA	\$1,000.00	\$2,000
A. C. Paving	11,250	SF	\$1.68	\$18,900
Water (Wash Down Area)		LB		\$8,000
Site Lighting		LB		\$9,000
				\$1,808,725
2. Swimming Beach (2,300 LF)				
Earthwork (Cut & Fill, In situ Soil)	20,280	CY	\$7.50	\$152,100
Earthwork (Cut)	853,780	CY	\$5.50	\$4,695,795
Imported Beach Sand (2' Thick From EL 1,250 to 1,265)	58,880	CY	\$13.00	\$765,440
Earthwork (Grading)	882,400	SF	\$0.25	\$220,600
Shade Structures/Benches/Picnic Tables		LB		\$100,000
Restroom w/ Dressing Rooms & Outside Shower	1,000	SF	\$120.00	\$120,000
Restroom	800	SF	\$120.00	\$96,000
Drinking Fountain	4	EA	\$8,000.00	\$32,000
Life Guard Towers	5	EA	\$10,000.00	\$50,000
Site Utilities		LB		\$30,000
				\$5,443,900
3. Parking Area				
Earthwork (Fill, In situ Soil, w/1 500')	276,000	CY	\$4.00	\$1,104,000
Earthwork (Grading)	1,090,575	SF	\$0.25	\$272,644
Unpaved Pit Area	300,000	SF	\$0.25	\$75,000
A.C. Paving	848,825	SF	\$1.65	\$1,400,761
Curbs	12,500	LF	\$70.00	\$875,000
Landscaping/Irrigation	257,000	SF	\$3.50	\$900,000
Site Lighting	526,825	SF	\$0.50	\$263,413
				\$5,970,618
4. Special Events				
Judge's Stand		LB		\$15,000
Benches		LB		\$35,000
Communication Speaker System		LB		\$48,000
Electronic Score Board		LB		\$10,000
				\$110,000
5. Water Ski Concession				
Floating Dressing	2	EA	\$40,000.00	\$80,000
				\$80,000
F. LAKE MANAGEMENT				
Control Buoys Installation	250	EA	\$280.00	\$70,000
				\$70,000
SUBTOTAL (ROUNDED)				\$85,887,000
CONTINGENCY @ 15%				\$12,883,050
TOTAL COST (ROUNDED)				\$98,770,050

Notes: The developed costs do not include land acquisition, environmental study, archeology evaluation, geotechnical investigation, architectural & landscaping design, engineering drawings preparation, permit application or project construction & management.

(a) Shell building cost only (Concessionaire provides interior improvements)

(b) Per City Marine Park Landside Renovation Plan

(c) Use existing float system

(d) Construction provided by outside concessionaire (Cost not included)

(e) Per City's levy improvement plan

variable depending on land ownership and site specific conditions.

3. OPERATIONAL COSTS

Operational costs are presented for only those waterfront facilities/activities that either the City of Lake Elsinore would be expected to maintain/operate or that the City might consider owning, maintaining and operating. Facilities that are expected to be developed and operated by a concessionaire are not included in this section. Operational costs as presented in this study consist of maintenance, operating and capital costs. Developmental costs are presented in VI-2, "Developmental Costs". Table VI-2 presents a summary of estimated maintenance, operating and capital costs for facilities/activities the City may directly be involved in maintaining/operating. These costs are in 1994 dollars.

3.1 Maintenance Costs

A summary of expected maintenance costs is presented in Table VI-2. These costs include all labor, materials and equipment required for the performance of routine annual maintenance in order to maintain facilities in a clean, workable and safe operating state. They do not include major repairs that may be required as the useful life of facility components need either significant repair or replacement. These costs would be associated with capital replacement of facilities and are not included within this Study.

A majority of maintenance costs are presented as an annual cost per acre of the facility being maintained. These unit costs have been derived in consultation with City staff based on past experience in maintaining various types of park facilities. The higher unit costs are for areas with a higher percentage of soft landscape versus hard landscape, where more intensive labor is required. Maintenance costs for the four proposed marinas and the fishing pier have been developed by estimating the individual labor, materials and equipment costs to maintain these facilities. The marina costs are for the waterside facilities, and do not include landside facilities. Table VI-3 shows the expected typical labor work schedule, while Table VI-4 shows the labor costs and Table VI-5 presents a summary of the total maintenance costs for these five marina/pier facilities.

**TABLE VI-2
OPERATING, MAINTENANCE AND CAPITAL EQUIPMENT COST SUMMARY**

ITEM	Maintenance			Operating			Capital Equipment (\$)
	Areaage (\$/ac)	Unit Cost (\$/ac)	Subtotal (\$)	Personnel (\$)	Expenses (\$)	Subtotal (\$)	
A. LAKESHORE DRIVE DEVELOPMENT							
1. Seaport Boat Trailer/Car Parking Area	6.17	3,500	18,065	23,948	500	23,948	
2. Seaport Boat Beach (350 LP) Turf & Landscape Area Natural Beach Area	1.81	7,000	11,270				
3. Seaport Launch Ramp & Staging Area (8 Lanes)	1.84	3,500	6,440	79,484	1,300	80,984	3,700
4a. Seaport Marina (322 Boat Slips)*			24,088	133,929	24,720	158,649	6,400
4b. Seaport Marina Fuel Facility				17,747	1,500	19,247	2,700
5. Non-Power Boat Concession Beach (700 LP)** Turf & Landscape Area Beach Area	1.18	7,500	8,330				
6. Seaport Swimming Beach (700 LP) Turf & Landscape Area Beach Area	2.73	5,000	13,657	31,718	600	32,318	3,400
7. Boat Beach (1,000 LP) Turf & Landscape Area Natural Beach Area	2.50	7,000	18,100				
8. Fishing Beach & Pier (1,000 LP) Parking Area Fishing Beach Area Pier Area (3,000 SF) Bait/Food Kiosk	4.13	5,000	20,650				
9. Boat Beach (4,500 LP) Turf & Landscape Area Natural Beach Area	6.20	7,000	43,400	20,215	500	21,315	1,000
	11.86	1,500	17,820				
	SUBTOTAL:					334,049	17,200
B. RIVERSIDE DRIVE DEVELOPMENT							
1. City Marina Park Marina (Future 267 Boat Slips)			25,981	102,834	15,000	117,834	3,200
2. City Marina Park Launch Ramp (10 Lanes)	2.75	3,500	6,800	38,185	900	40,085	2,700
3. City Marina Park Swimming Beach (700 LP)	3.21	5,000	16,030	31,718	800	32,518	8,400
4. City Marina Park Landside R.V. Development	45.00	5,000	225,000	845,566	284,898	600,164	
5. Elsinore West Marina (145 Boat Slips)			17,348	87,279	12,860	99,339	3,200
6. Elsinore West Marina Launch Ramps (10 & 11 Lanes)	2.26	3,500	7,980	59,185	900	60,085	2,700
7. Elsinore West Marina Swimming Beach (300 LP)	3.64	5,000	17,300	15,889	900	16,189	3,200
8. Elsinore West Marina Landside R.V. Development	25.00	4,000	100,000	138,000	228,000	266,000	
	SUBTOTAL:			418,188		1,306,004	17,400
C. RECREATION ISLAND DEVELOPMENT							
1a. Marina Complex (201 Boat Slips)*			23,043	100,740	18,240	127,983	3,200
1b. Marina Fuel Facility				62,848	5,404	68,177	2,700
2. Youth and Goup Facility (1.75 Acres)	1.47	3,500	5,145				
3. Swimming Beach (1,800 LP)	6.54	6,000	32,700	78,290	1,500	80,790	3,500
4. Ski Beaches (1,200 LP)	3.78	5,000	18,850				
5. Island Park Parking & Streets Park Areas	12.48	5,000	43,680				
	16.20	7,000	117,600				
	SUBTOTAL:			78,277		234,962	16,400
D. LEVEE IMPROVEMENT							
Levee Improvement (87 Acres)	69.00	4,000	238,000				
	SUBTOTAL:			238,000		0	0
E. SAN JACINTO CHANNEL DEVELOPMENT							
1. Boat Launch Ramps	1.23	3,500	4,270	104,540	1,500	106,340	3,700
2. Swimming Beach (2,300 LP)	9.20	3,000	67,500	82,155	1,500	83,655	10,200
3. Parking Area (Cars)	19.28	3,500	67,480				
4. Special Events ***							
5. Walk Ski Concession ****							
	SUBTOTAL:			116,295		209,296	13,900
F. LAKE MANAGEMENT							
			24,000	510,325	43,480	552,805	216,800
	SUBTOTAL:			24,000		552,805	216,800

Notes: * City operates marina only, landside fully concessioned
 ** Fully concessioned, City only maintains turf, landscaping and beach areas
 *** Operated by promoters
 **** Operated by concessionaire

**TABLE VI-3
MAINTENANCE STAFF WORK SCHEDULE (TYPICAL)
(FOR MARINA/PIER FACILITIES ONLY)**

FACILITY	Hourly Rate	A.M.						P.M.						# Days Per Wk	# Hours Per Day
		6	10	12	2	4	6	6	10	12	2	4	6		
1. Support Marina Maintenance															
a. Full Year															
Maintenance Man	P \$8.00													5	4
Maintenance Man	P \$8.00													5	4
2. Fishing Pier Maintenance															
a. Full Year															
Maintenance Man	P \$8.00													5	2
Maintenance Man	P \$8.00													5	2
3. City Marine Park Marina Maintenance															
a. Full Year															
Maintenance Man	P \$8.00													4	4
Maintenance Man	P \$8.00													4	4
4. Elsinore West Marina Maintenance															
a. Full Year															
Maintenance Man	P \$8.00													2	4
Maintenance Man	P \$8.00													2	4
5. Recreation Island Marina Maintenance															
a. Full Year															
Maintenance Man	P \$8.00													4	4
Maintenance Man	P \$8.00													4	4

Note: P = Part-time employee.

3.2 Operating Costs

A summary of expected operating costs is presented in Table VI-2. These costs include all labor required for operations of the indicated facility. The expense costs, however, do not include debt service costs, and do not always include costs for such items as insurance, promotion, advertising and training programs.

Operating costs presented for the Riverside Drive Development (City Marine Park and Elsinore West Marina facilities) should be adequate except for the deletion of debt service. The landside R.V. campground operations of these two facilities were based on existing and expected operating cost records, while additional operating costs have been included to operate the expanded requirements shown for the marina, launch ramp and swimming beach facilities at these two existing R.V. park sites.

**TABLE VI-4
MAINTENANCE STAFF COSTS
(FOR MARINA/PIER FACILITIES ONLY)**

Operating Facility	Staff Position	Work Span (months)	Number of Staff	Annual Total Hours	Unit Cost (\$/hr)	Annual Subtotal (\$)
1. Seaport Marina	Maintenance Man P	12	1.00	2,088	8.00	19,889
2. Fishing Pier	Maintenance Man P	12	0.80	1,648	8.00	9,845
3. City Marine Marina	Maintenance Man P	12	0.80	1,680	8.00	15,751
4. Elsinore West Marina	Maintenance Man P	12	0.80	1,648	8.00	9,845
5. Recreation Island Marina	Maintenance Man P	12	0.70	1,480	8.00	13,762

Note: P = Part-time employee (18% benefits).

**TABLE VI-5
SUMMARY OF MAINTENANCE COSTS
(FOR MARINA/PIER FACILITIES ONLY)**

Operating Facility	Staff (\$)	Materials (\$)	Equipment (\$)	Annual Total (\$)
1. Seaport Marina	19,889	12,000	2,400	34,089
2. Fishing Pier	9,845	3,600	2,400	15,845
3. City Marine Marina	15,751	8,400	1,800	25,951
4. Elsinore West Marina	9,845	6,000	1,500	17,345
5. Recreation Island Marina	13,762	7,200	2,100	23,062

Table VI-6 shows the expected typical operating staff work schedule for the identified facilities, while Table VI-7 shows the operating staff costs. Operating labor costs estimated for the four marina facilities are based on the City only operating one of the marina facilities. If the City were to operate more than one marina facility then there could be some reduction in the combined marina operating labor costs. Table VI-8 shows estimated operating expenses for marina and lake management operating office space along with other expenses.

**TABLE VI-6
OPERATING STAFF WORK SCHEDULE (TYPICAL)**

FACILITY	Hourly Rate	A.M.										P.M.										# Days Per Week	# Hours Per Day												
		8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3			4	5	6	7	8	9	10	11	12			
1. Seaport Boat Trailer/Car Parking (A.1.)																																			
a. May - August (4 months)																																			
Parking Controller	P \$8.00	[Shaded]																																7	15
b. April & September (2 months)																																			
Parking Controller	P \$8.00	[Shaded]																																7	14
2. Seaport Launch Ramp (A.3.)																																			
a. May - August (4 months)																																			
Cashier	P \$8.00	[Shaded]																																7	15
Cashier	P \$8.00	[Shaded]																																7	9
Traffic Controller	P \$8.00	[Shaded]																																7	15
b. April & September (2 months)																																			
Cashier	P \$8.00	[Shaded]																																7	14
Traffic Controller	P \$8.00	[Shaded]																																7	14
c. March & October (2 months)																																			
Cashier	P \$8.00	[Shaded]																																7	14
d. November - February (4 months)																																			
Cashier	P \$8.00	[Shaded]																																7	12
3. Seaport Marina (A.4.a.)																																			
a. April - September (6 months)																																			
Harbor Master	F \$23.75	[Shaded]																																5	8
Asst. Harbor Master	P \$8.00	[Shaded]																																7	15
Secretary	P \$8.00	[Shaded]																																5	8
Bookkeeper	P \$8.00	[Shaded]																																5	4
b. October - March (6 months)																																			
Harbor Master	F \$23.75	[Shaded]																																5	8
Secretary	P \$8.00	[Shaded]																																5	8
Bookkeeper	P \$8.00	[Shaded]																																5	4
4. Seaport Fuel Facility (A.4.b.)																																			
a. April - September (6 months)																																			
Cashier	P \$8.00	[Shaded]																																7	8
b. October - March (6 months)																																			
Cashier	P \$8.00	[Shaded]																																7	8
5. Seaport Swimming Beach (A.6.)																																			
(2 Towers)																																			
a. May 1st - Sept. 17th (20 wks)																																			
Lifeguard	P \$8.00	[Shaded]																																7	12
Lifeguard	P \$8.00	[Shaded]																																7	12
6. Fishing Pier Seafood Kiosk (A.8.)																																			
a. March - October (8 months)																																			
Cashier	P \$8.00	[Shaded]																																7	9
7. City Marine Park Marina* (B.1.)																																			
a. Full Year (12 months)																																			
Harbor Master	F \$23.75	[Shaded]																																5	8
Secretary	P \$8.00	[Shaded]																																5	8
Bookkeeper	P \$8.00	[Shaded]																																4	4
8. City Marine Park Launch Ramp* (B.2.)																																			
a. May - August (4 months)																																			
Cashier	P \$8.00	[Shaded]																																7	10
Traffic Controller	P \$8.00	[Shaded]																																7	14
b. April & September (2 months)																																			
Cashier	P \$8.00	[Shaded]																																7	10
Traffic Controller	P \$8.00	[Shaded]																																7	10
9. City Marine Swimming Beach (B.3.)																																			
(2 Towers)																																			
a. May 1st - Sept. 17th (20 weeks)																																			
Lifeguard	P \$8.00	[Shaded]																																7	12
Lifeguard	P \$8.00	[Shaded]																																7	12

Notes: F = Full-time employee, P = Part-time employee.
* Additional operating staff required above the existing staff for operating the seawalk R.V. facilities.

TABLE VI-6
OPERATING STAFF WORK SCHEDULE (TYPICAL)
(CONTINUED)

FACILITY	Hourly Rate	A.M.								P.M.								# Days Per Wk.	# Hours Per Day	
		6	8	10	12	2	4	6	8	10	12	2	4	6	8					
10. Edmore West Marina* (B.3.) a. Full Year (12 months) Harbor Master	F \$23.75																		5	8
Secretary	P \$8.00																		3	8
Boatkeeper	P \$8.00																		3	4
11. Edmore West Launch Ramps* (B.4.) a. May - August (4 months) Cashier	F \$8.00																		7	10
Traffic Controller	P \$8.00																		7	14
b. April & September (2 months) Cashier	F \$8.00																		7	10
Traffic Controller	P \$8.00																		7	10
12. Edmore West Swimming Beach (B.7.) (1 Tower) a. May 1st - Sept. 17th (20 weeks) Lifeguard	P \$8.00																		7	12
13. Recreation Island Marina (C.1.A.) a. April - September (6 months) Harbor Master	F \$23.75																		5	8
Asst. Harbor Master	P \$9.00																		4	8
Secretary	F \$2.00																		5	4
Boatkeeper	F \$8.00																		4	4
b. October - March (6 months) Harbor Master	F \$23.75																		5	8
Secretary	F \$8.00																		5	4
Boatkeeper	F \$8.00																		4	4
14. Recreation Island Fuel Facility (C.1.B.) a. April - September (6 months) Cashier	P \$8.00																		7	4
Cashier	P \$8.00																		5	4
b. October - March (6 months) Cashier	P \$8.00																		2	8
15. Recreation Island Swimming Beach (C.2.) (5 Towers) a. May 1st - Sept. 17th (20 weeks) Lifeguard	P \$8.00																		7	12
Lifeguard	P \$8.00																		7	12
Lifeguard	P \$8.00																		7	12
Lifeguard	P \$8.00																		7	12
Lifeguard	P \$8.00																		7	12
16. San Jacinto Channel Launch Ramp** (E.1.) a. May - August (4 months) Cashier	P \$8.00																		7	16
Cashier	P \$8.00																		7	8
Traffic Controller	F \$8.00																		7	18
Parking Controller	P \$8.00																		7	18
b. April & September (2 months) Cashier	P \$8.00																		7	14
Traffic Controller	P \$8.00																		7	14
Parking Controller	P \$8.00																		7	14
c. March & October (2 months) Cashier	P \$8.00																		7	12
d. November - February (4 months) Cashier	P \$8.00																		7	10

Notes: F = Full-time employee, P = Part-time employees
*Additional operating staff required above the existing staff for operating the on-aisle R.V. facilities.
**1/2 time ramp used for public boat launching

**TABLE VI-6
OPERATING STAFF WORK SCHEDULE (TYPICAL)
(CONTINUED)**

FACILITY	Hourly Rate	A.M.							P.M.							# Days Per WK	# Hours Per Day
		8	9	10	11	12	1	2	3	4	5	6	7	8	9		
17. San Jacinto Channel Swimming Beach (E-2)																	
a. May 1st - Sept. 17th (20 weeks)																	
Lifeguard	P \$8.00	[Shaded]														7	12
Lifeguard	P \$8.00	[Shaded]														7	12
Lifeguard	P \$8.00	[Shaded]														7	12
Lifeguard	P \$8.00	[Shaded]														7	12
Lifeguard	P \$8.00	[Shaded]														7	12
Lifeguard	P \$8.00	[Shaded]														7	12
18. Lake Management (F.)																	
Administration:																	
a. Full Year (12 months)																	
Lake Manager	F \$26.04	[Shaded]														6	8
Special Events Coord.	F \$22.78	[Shaded]														6	8
Officer/Ranger	F \$22.75	[Shaded]														6	8
Secretary/Ranger	F \$8.00	[Shaded]														6	8
b. March 20 - October 20 (31 weeks)																	
Lifeguard Captain	P \$11.00	[Shaded]														6	8
Lifeguard Lieutenant	P \$10.00	[Shaded]														6	8
Lifeguard Lieutenant	P \$10.00	[Shaded]														6	8
c. Overtime (20 weeks)																	
Lifeguard Captain	P \$11.00	[Shaded]														1	8
d. April - September (8 months)																	
Assistant Officer/Ranger	F \$10.00	[Shaded]														7	10
Lake Patrol:																	
a. May - August (4 months)																	
Ranger (1)	P \$8.00	[Shaded]														7	10
Lifeguard (1)	F \$8.00	[Shaded]														7	10
Ranger (2)	P \$8.00	[Shaded]														7	10
Ranger (2)	P \$8.00	[Shaded]														7	10
Lifeguard (3)	F \$8.00	[Shaded]														7	10
Ranger (4)	P \$8.00	[Shaded]														7	10
b. April & September (2 months)																	
Ranger (1)	P \$8.00	[Shaded]														7	10
Lifeguard (1)	P \$8.00	[Shaded]														7	10
Ranger (2)	F \$8.00	[Shaded]														7	10
Ranger (2)	P \$8.00	[Shaded]														7	10
c. March & October (2 months)																	
Ranger (1)	F \$8.00	[Shaded]														7	10
Ranger (2)	P \$8.00	[Shaded]														7	10
d. November - February (4 months)																	
Ranger (1)	F \$8.00	[Shaded]														7	10
Ranger (2)	P \$8.00	[Shaded]														7	10

Notes: F = Full-time employees, P = Part-time employees

**TABLE VI-7
OPERATING STAFF COSTS**

Operating Facility	Staff Position		Work Span	Number of Staff	Annual Total Hour (hr)	Unit Cost (\$/hr)	Annual Subtotal (\$)	
1. Seaport Boat Trailer/Car Parking (A.1.)	Parking Controller	P	4 months	2.83	1,545	8.00	17,417	
	Parking Controller	P	2 months	2.45	840	8.00	7,930	
							Subtotal:	25,348
2. Seaport Launch Ramp (A.3.)	Cashier	P	4 months	4.20	2,932	8.00	27,867	
	Traffic Controller	P	4 months	2.53	1,945	8.00	17,417	
	Cashier	P	2 months	2.45	840	8.00	7,830	
	Traffic Controller	P	2 months	2.45	840	8.00	7,830	
	Cashier	P	2 months	2.10	744	8.00	7,023	
	Cashier	P	4 months	1.75	1,300	8.00	11,328	
							Subtotal:	79,494
3. Seaport Marina (A.4a.)	Harbor Master	F	6 months	1.00	1,040	23.75	24,560	
	Assist. Harbor Master	P	6 months	2.80	2,928	8.00	23,424	
	Secretary	F	6 months	1.00	1,040	8.00	11,848	
	Bookkeeper	P	6 months	0.50	520	8.00	4,936	
	Harbor Master	F	6 months	1.00	1,040	23.75	24,560	
	Secretary	F	6 months	1.00	1,040	8.00	11,848	
	Bookkeeper	P	6 months	0.50	520	8.00	4,936	
							Subtotal:	185,996
4. Seaport Fuel Facility (A.4b.)	Cashier	P	6 months	1.40	1,484	8.00	13,820	
	Cashier	P	6 months	0.40	416	8.00	3,927	
							Subtotal:	17,747
5. Seaport Swimming Beach (A.5.)	Lifeguard	P	20 weeks	4.20	3,360	8.00	31,718	
							Subtotal:	31,718
5. Fishing Pier Bath/Food Kiosk (A.6.)	Cashier	P	6 months	1.56	2,208	8.00	20,815	
							Subtotal:	20,815
7. City Marine Park Marina* (B.1.)	Harbor Master	F	12 months	1.00	2,080	23.75	69,160	
	Secretary	F	12 months	1.00	2,080	8.00	23,296	
	Bookkeeper	P	12 months	0.50	1,040	8.00	9,648	
							Subtotal:	102,301
8. City Marine Park Launch Ramp* (B.2.)	Cashier	P	4 months	1.75	1,330	8.00	11,811	
	Traffic Controller	P	4 months	2.45	1,722	8.00	16,256	
	Cashier	P	2 months	1.75	800	8.00	5,664	
	Traffic Controller	P	2 months	1.75	800	8.00	5,664	
							Subtotal:	39,195
8. City Marine Swimming Beach (B.3.)	Lifeguard	P	20 weeks	4.20	3,360	8.00	31,718	
							Subtotal:	31,718
10. Elsinore West Marina* (B.5.)	Harbor Master	F	12 months	1.00	2,080	23.75	69,160	
	Secretary	P	12 months	0.50	1,251	8.00	11,819	
	Bookkeeper	P	12 months	0.50	625	8.00	5,007	
							Subtotal:	86,886
11. Elsinore West Launch Ramps* (B.6.)	Cashier	P	4 months	1.75	1,330	8.00	11,811	
	Traffic Controller	P	4 months	2.45	1,722	8.00	16,256	
	Cashier	P	2 months	1.75	800	8.00	5,664	
	Traffic Controller	P	2 months	1.75	800	8.00	5,664	
							Subtotal:	39,195
12. Elsinore West Swimming Beach (B.7.)	Lifeguard	P	20 weeks	2.10	1,580	8.00	15,859	
							Subtotal:	15,859

Notes: F = Full-time employees (40% benefits), P = Part-time employees (18% benefits)
 * Additional operating staff required above the existing staff to operate the shore-side R.V. facilities

**TABLE VI-7
OPERATING STAFF COSTS
(CONTINUED)**

Operating Facility	Staff Position	Work Span	Number of Staff	Annual Total Hour (hr)	Unit Cost (\$/hr)	Annual Subtotal (\$)	
13. Recreation Island Marina (C.1a.)	Harbor Master	F 6 months	1.00	1,040	23.75	24,550	
	Asst. Harbor Master	P 6 months	0.80	837	8.00	6,694	
	Secretary	F 6 months	1.00	1,040	8.00	11,648	
	Bookkeeper	P 6 months	0.40	418	8.00	3,349	
	Harbor Master	F 6 months	1.00	1,040	23.75	24,550	
	Secretary	F 6 months	1.00	1,040	8.00	11,648	
	Bookkeeper	P 6 months	0.40	418	8.00	3,327	
Subtotal:						108,216	
14. Recreation Island Fuel Facility (C.1b)	Cashier	P 6 months	1.00	1,087	8.00	18,756	
	Cashier	P 6 months	0.40	418	8.00	3,327	
Subtotal:						22,083	
15. Recreation Island Swimming Beach (C.9.)	Lifeguard	P 20 weeks	10.50	5,400	8.00	79,296	
Subtotal:						79,296	
16. San Jacinto Channel Launch Ramp (E.1.)	Cashier	P 4 months	4.20	2,952	8.00	27,667	
	Traffic Controller	P 4 months	2.83	1,845	8.00	17,417	
	Parking Controller	P 4 months	2.83	1,845	8.00	17,417	
	Cashier	P 2 months	2.45	840	8.00	7,930	
	Traffic Controller	P 2 months	2.45	840	8.00	7,930	
	Parking Controller	P 2 months	2.45	840	8.00	7,930	
	Cashier	P 2 months	2.10	744	8.00	7,023	
	Cashier	P 4 months	1.75	1,200	8.00	11,328	
Subtotal:						104,841	
17. San Jacinto Channel Swimming Beach (E.2.)	Lifeguard	P 20 weeks	12.60	10,080	8.00	95,155	
Subtotal:						95,155	
18. Lake Management (F) Administration:	Lake Manager	F 12 months	1.00	2,080	28.44	78,993	
	Special Event Coordinator	F 12 months	1.00	2,080	23.75	69,180	
	Officer/Ranger	F 12 months	1.00	2,080	23.75	69,180	
	Secretary/Ranger	F 12 months	1.00	2,080	8.00	23,296	
	Lifeguard Captain	P 32 weeks	1.00	1,280	11.90	17,874	
	Lifeguard Lieutenant	P 32 weeks	2.00	2,560	10.80	32,825	
	Lifeguard Captain	P 20 weeks	0.13	100	11.80	1,404	
	Asst. Officer/Ranger	P 8 months	2.80	2,672	10.80	37,314	
	Subtotal:						327,926
	Lake Patrol:	Ranger	P 4 months	8.40	8,904	8.00	62,700
		Lifeguard	P 4 months	6.80	3,936	8.00	37,156
		Ranger	P 2 months	7.00	2,400	8.00	25,488
		Lifeguard	P 2 months	2.80	960	8.00	9,062
Ranger		P 2 months	4.20	1,488	8.00	15,803	
Ranger		P 4 months	4.20	2,680	8.00	30,560	
Subtotal:						180,785	

Note: F = Full-time employee (40% benefits), P = Part-time employee (18% benefits)

**TABLE VI-8
MARINA/LAKE MANAGEMENT OPERATING EXPENSES**

Operating Facility	Item	Unit Cost (\$)	Annual Total (\$)
1. Seaport Marina	Office - 800 SF Marina Utilities / Misc.	2.20/SF/MO 300/MO	21,120
			3,600
			24,720
2. City Marine Park Marina	Office - 500 SF Marina Utilities / Misc.	2.20/SF/MO 150/MO	13,200
			1,800
			15,000
3. Elsinore West Marina	Office - 400 SF Marina Utilities / Misc.	2.20/SF/MO 125/MO	10,660
			1,500
			12,060
4. Recreation Island Marina	Office - 600 SF Marina Utilities / Misc.	2.20/SF/MO 200/MO	15,840
			2,400
			18,240
5. Recreation Island Fuel Facility	Office - 93 SF Dock Utilities / Misc.	2.20/SF/MO 80/MO	2,534
			960
			3,494
6. Lake Management	Office - 1,200 SF Boat / Car Gas, License, Tax, etc. Miscellaneous Supplies	2.20/SF/MO 600/MO 100/MO	31,680
			9,600
			1,200
			42,480

3.3 Capital Equipment Costs

A summary of expected capital equipment costs is presented in Table VI-2. A breakdown of these costs is shown in Table VI-9. These costs do not include office furnishings.

4. REVENUE GENERATION

Table VI-10 presents a summary of potential revenue generation in 1994 dollars from the recommended waterfront facilities presented in this study. This table presents potential annual gross revenue for each identified revenue source, and potential annual gross revenue to the City for years 1996 and 2001. Year 2001 assumes that all recommended waterfront facilities have been developed and are in full operation. This likely would not be the case by year 2001, but is presented to illustrate the potential revenue generation from the lake when all recommended waterfront facilities are in operation. The City's revenue is dependent on which facilities the City owns and operates, and from which facilities it collects leasehold rent.

4.1 Lake Use Permits/Boat Launch Ramps

Table VI-11 presents existing fees for lake use, boat launching, marina slip rental, dry boat storage and camping spaces at other comparable waterfront facilities. Based on a review of these fees and on present market conditions, the recommended fees presented in Table VI-12 have been utilized for developing potential revenue in this study. Table VI-13, which shows lake use permit revenue generation for years 1996 and 2001, was developed using information contained in Table IV-14 and the recommended fee structure shown in Table VI-12. This entire revenue goes to the City.

Table VI-14, showing boat launch ramp revenue generation for years 1996 and 2001, was developed using information contained in Tables IV-15 and IV-16 and the recommended fee structure shown in Table VI-12. City revenue from boat launch ramps presented in Table VI-10 assumed that the City owns and operates launch ramps totalling 40 percent of the annual public launches and collects a ten percent rent on gross revenue from the remaining 60 percent of annual public launches in year 1996. In year 2001, it is assumed that these percentages change to 50 percent owned and operated, and 50 percent rent to the City.

**TABLE VI-9
CAPITAL EQUIPMENT COSTS**

Facility	Item	No.	Unit Cost (\$)	Total Cost (\$)
1. Seaport Launch Ramp	Radios	1	1,200	1,200
	Cash Registers	2	500	1,000
	Misc. Equipment		LB	1,500
				3,700
2. Seaport Marina	Radios	2	1,200	2,400
	Misc. Equipment		LB	4,000
				6,400
3. Seaport Fuel Facility	Radios	1	1,200	1,200
	Cash Registers	1	500	500
	Misc. Equipment		LB	1,000
				2,700
4. Seaport Swimming Beach	Radios	2	1,200	2,400
	Misc. Equipment		LB	1,000
				3,400
5. Fishing Pier Bait / Food Kiosk	Cash Registers	1	500	500
	Misc. Equipment		LB	500
				1,000
6. City Marine Park Marina	Radios	1	1,200	1,200
	Misc. Equipment		LB	2,000
				3,200
7. City Marine Park Launch Ramp	Radios	1	1,200	1,200
	Misc. Equipment		LB	1,500
				2,700
8. City Marine Park Swimming Beach	Radios	2	1,200	2,400
	Misc. Equipment		LB	1,000
				3,400
9. Elsinore West Marina	Radios	1	1,200	1,200
	Misc. Equipment		LB	2,000
				3,200
10. Elsinore West Launch Ramp	Radios	1	1,200	1,200
	Misc. Equipment		LB	1,500
				2,700
11. Elsinore West Swimming Beach	Radios	2	1,200	2,400
	Misc. Equipment		LB	1,000
				3,400
12. Recreation Island Marina	Radios	1	1,200	1,200
	Misc. Equipment		LB	4,000
				5,200
13. Recreation Island Fuel Facility	Radios	1	1,200	1,200
	Cash Registers	1	500	500
	Misc. Equipment		LB	1,000
				2,700
14. Recreation Island Swimming Beach	Radios	5	1,200	6,000
	Misc. Equipment		LB	2,500
				8,500
15. San Jacinto Launch Ramp	Radios	1	1,200	1,200
	Cash Registers	2	500	1,000
	Misc. Equipment		LB	1,500
				3,700
16. San Jacinto Swimming Beach	Radios	3	1,200	3,600
	Misc. Equipment		LB	3,000
				10,200
17. Lake Management	Command Comm. Ctr.	1	6,000	6,000
	Patrol Radios	8	1,200	7,200
	Lifeguard Radios	3	1,200	3,600
	Pickup Trucks*	4	16,000	64,000
	Patrol Boats*	3	40,000	120,000
	12' Zodiacs*	2	8,000	16,000
				216,800

* Fully equipped.

**TABLE VI-10
GROSS ANNUAL REVENUE SUMMARY**

SOURCE	GROSS REVENUE (\$)		CITY REVENUE (\$)	
	1996	2001	1996	2001
1. Lake Use Permits (1)	286,975	622,805	286,975	622,805
2. Boat Launch Ramps (2)	578,500	700,740	178,225	585,407
3. Marine Bays (3)	0	1,059,268	0	502,056
4. Dry Boat Storage (4)	0	172,800	0	8,840
5. City Marine Park Campground(5)	1,309,448	1,511,807	60,472	75,560
6. Elshore West R.V./Campground (6)	1,080,000	1,329,891	0	0
7. Parking - San Jacinto Beach (7)	0	600,250	0	650,250
8. Parking - Recreation Is. Beach/Park (7)	0	485,100	0	45,510
9. Special Events (8)		1,254,500	31,000	194,483
10. Jackie Narvaez Skj Concession (8)	129,000	165,000	12,600	15,600
11. Youth & Group Facility (10)	0	375,000	0	375,000
12. Dock Permits (11)	20,000	80,000	20,000	80,000
13. Lake Stations (11)	4,000	8,000	4,000	8,000
14. Other Revenue (12)	0	10,000,000	0	1,000,000
TOTAL:	3,063,221	19,220,021	588,575	3,910,821

- Notes:
- (1) See Table VI-13
 - (2) See Table VI-14
 - (3) See Table VI-15
 - (4) Based on 300 boats; see Section 4.2
 - (5) Based on State projections; see Section 4.3
 - (6) Based on City projections; see Section 4.3
 - (7) See Section 4.4
 - (8) See Section 4.5
 - (9) See Section 4.6
 - (10) See Section 4.7
 - (11) See Section 4.8
 - (12) Section 4.9 and Table VI-16

**TABLE VI-11
SUMMARY OF EXISTING LAKE FEES**

LOCATION	ENTER	LAKE PERMIT	LAUNCHING		CAMPING	FLV. PARK
			BOAT	PWC		
Lake Perris	\$5	Included	\$5	\$5	\$14-\$18	\$14-\$18
Lake Castaic	\$5	Included	\$5	\$5	N/A	N/A
Big Bear Lake	\$0	\$15 (a)	Included	Included	\$0-\$20	\$15-\$22
Newport Dunes (1)	\$5	N/A	\$7-\$10	\$7-\$10	\$25-\$50 (b)	\$25-\$50 (b)
Lake Park Resort (2)	\$0	\$5	N/A	N/A	\$15	\$15
Lake Elsinore City Park (2)	\$4	\$5	\$5	\$5	\$11-\$15	
Elsinore West Marina (2)	\$0	\$5	\$4.50	\$4.50	\$12-\$18	\$12-\$18
Weekend Paradise (2)	\$5	\$5	\$5	\$5	\$5	\$5
Crane Lakeside Park (2)	\$0	\$5	\$7	\$7	\$18	\$309 (c)

- Notes: (a) Seasonal pass \$60 (Apr.-Dec.); Daily 1st - \$15, 2nd - \$10, 3rd - \$5.
 (b) Off season \$22 - \$45.
 (c) Monthly rental only.
 (1) Not a lake, located in Upper Newport Bay, Newport Beach.
 (2) Located on Lake Elsinore.

LOCATION	MARINA BOAT BERTHS				DRY BOAT STORAGE	
	DAILY	WEEKLY	MONTHLY	YEARLY	MONTHLY	YEARLY
Lake Perris (1)	\$9.75-\$12.50	\$55	\$175	\$900-\$1175	\$50	\$2/ty/mo.
Newport Dunes (2)	\$253-\$322 per month				\$100	\$5/ty/mo.
Big Bear Lake (3)	\$500-\$600 per six months					

- Notes: (1) For boat lengths of 20' to 28'.
 (2) Not a lake, located in Upper Newport Bay, Newport Beach; for boat lengths of 22' to 28'.
 (3) For boat lengths of 20' to 28'.

**TABLE VI-12
RECOMMENDED BOATING FEES**

ITEM	FEE
Annual Pass	
Private Property	\$150
General Public Launching (a)	\$75
Commercial (b)	\$150
Rental (Marinas)	\$75
Rental (PWC + Other)	\$75
Rental (Small Boats)	\$25
General Public Berthing (c)	\$75
Rowing & Sailing Clubs	\$25
Youth & Group Facility	\$15
Daily Pass	
Normal (d)	\$5
Reduced (e)	\$2
Others	
Boat Launch	\$8 per launch
Boat Slip	\$4.50 per LF per month
Boat Slip Side-Tie	\$3.75 per LF per month
Private Dock Permit	\$200 per year

- Notes:
- (a) Boats using public launch ramps.
 - (b) All commercial boating operations, including excursion boats, party fishing boats, parasailing boats, boat testing by manufacturers/sales/repair shops, etc.
 - (c) Boats berthed in marina slips.
 - (d) All power boats and all boats over 8 feet in length (assume 90% of daily boats).
 - (e) All non-power boats 8 feet and less in length (assume 10% of daily boats).

**TABLE VI-13
LAKE USE REVENUE**

ITEM		1996		2001	
Yearly Boat User Count		80,000		170,000	
Annual Pass Boat User Count*		28,000		59,800	
Daily Pass Boat User Count**		52,000		110,500	
Type of Pass	Fee (\$)	Quantity	Revenue (\$)	Quantity	Revenue (\$)
Annual Pass					
Private Property	150	150	22,500	150	22,500
General Public Launching (a)	75	200	15,000	800	22,500
Commercial (b)	150	-	-	13	1,950
Rental (Marinas)	75	-	-	52	3,900
Rental (PWC+Other)	75	66	4,950	66	4,950
Rental (Small Boats)	25	-	-	40	1,000
General Public Berthing (c)	75	-	-	598	44,850
Rowing & Sailing Clubs	25	5	125	80	750
Youth & Group Facility	15	-	-	57	855
Subtotal		421	42,575	1,306	103,255
Daily Pass					
Normal (d)	5	46,800	234,000	89,450	497,250
Reduced (e)	2	5,200	10,400	11,050	22,100
Subtotal		52,000	244,400	110,500	519,350
TOTAL REVENUE			286,975		622,605

Notes:

- * Assume 35% of total boat user count.
- ** Assume 65% of total boat user count.
- (a) Boats using public launch ramps.
- (b) All commercial boating operations, including excursion boats, party fishing boats, parasailing boats, boat testing by manufacturers/sales/repair shops, etc.
- (c) Boats berthed in marina slips.
- (d) All power boats and all boats over 8 feet in length (assume 90% of daily boats).
- (e) All non-power boats 8 feet and less in length (assume 10% of daily boats).

4.2 Marina Slips/Dry Boat Storage

Table VI-15, showing potential marina slip users and revenue, was developed using information contained in Tables IV-12 and IV-13 and the recommended fee structure shown in Table VI-12. The marina slip revenue is based on a 90 percent occupancy rate for all four marinas, and assumes the City owns and operates the Seaport Marina and collects 25 percent rent of gross slip revenue from the other three marinas.

TABLE VI-14
LAUNCH RAMP REVENUE

ITEM	1996	2001
Annual Boat Count	80,000	170,000
Peak Day Boat Count	734	1,560
Peak Day Launch Ramp Count	576	1,071
Launch Ramp Count Percentage	0.785	0.687
Annual Launch Ramp Count	62,800	116,790
Annual Revenue @\$ per Launch	\$376,800	\$700,740
Revenue From City Launch Ramp(s)		
@30% Total Launches	\$113,040	
@40% Total Launches	\$150,720	\$280,296
@50% Total Launches		\$350,370
Lease Revenue to City @10%		
@70% Total Launches	\$26,376	
@60% Total Launches	\$22,608	\$42,044
@50% Total Launches		\$35,037
Total City Revenue		
@30% - 70%	\$139,416	
@40% - 60%	\$173,328	\$322,340
@50% - 50%		\$385,407

Revenue from dry boat storage is based on a non-City operated 300 boat storage facility with an average boat length of 24 feet. The storage fee is \$2 per foot of boat length. Gross revenue shown is based on 100 percent of occupancy with a five percent rent of gross revenue going to the City.

4.3 Existing R.V. Park Facilities

Revenue projections developed in 1991 by the State of California, Department of Parks and Recreation, for the City Park Campground facilities stated the camping facilities had the potential to generate \$1,511,807 in gross revenue for a lake elevation of 1,240 feet. This figure has been used for year 2001 to allow time for improvements to this facility. Revenue from camping facilities for year 1996 has assumed 80 percent of the year 2001 revenue. The City should receive a minimum of five percent of this gross camping revenue from the concessionaire. However, the City should receive more than five percent if they undertake

**TABLE VI-15
POTENTIAL MARINA SLIP USERS AND REVENUE**

Location & User		Slip Size (ft)	Number of Slips	Rentable Lineal Feet	Monthly Fee (\$/LF)	Monthly Revenue (\$)	Subtotal (\$)
Seaport Marina	Public	20	121	2,420	4.50	10,890	
		24	93	2,232	4.50	10,044	
		28	66	1,904	4.50	8,568	
		32	7	224	4.50	1,008	
		Subtotal	289	6,780		30,510	
	Rentals	20	5	100	4.50	450	
	Commercial	24	15	360	4.50	1,620	
	Patrol	32	7	224	4.50	1,008	
		24	6				
City Marine Park Marina	Public	20	126	2,520	4.50	11,340	
		24	65	2,280	4.50	10,260	
		28	17	476	4.50	2,142	
		Subtotal	238	5,276		23,742	
	Rentals	24	19	456	4.50	2,052	
							25,794
Elsinore West Marina	Public	20	66	1,380	4.50	6,120	
		24	70	1,680	4.50	7,560	
		Side Ties	18	400	3.75	1,500	
		Subtotal	154	3,440		15,180	
	Rentals	24	10	240	4.50	1,080	
							16,260
Recreation Marina	Public	20	37	740	4.50	3,330	
		24	51	1,044	4.50	4,746	
		28	32	656	4.50	2,952	
		32	5	160	4.50	720	
		Subtotal	156	3,740		16,830	
	Rentals	24	22	528	4.50	2,376	
	Commercial	32	6	192	4.50	864	
	Y & G	20	18	360	4.50	1,620	
	Side Ties On Dock	8	200	3.75	750		
							22,440

Location	Maximum Monthly Revenue (\$)	Occupancy Rate (%)	Monthly Expected Revenue (\$)	Yearly Expected Revenue (\$)
Seaport Marina	33,588	90	30,229	362,748
City Marina	25,794	90	23,215	278,580
Elsinore West Marina	16,260	90	14,634	175,608
Recreation Marina	22,440	90	20,196	242,352
Total:				1,059,288

the significant expenditure of improving the park facilities instead of a developer/concessionaire doing so.

A gross revenue of \$1,060,000 for R.V. site rentals and product sales has been projected for the Elsinore West Marina R.V. Park and Campground facility, based on income projections (by others) of improvements to be completed, and on the City's review of financial records. This figure has been used for year 1996, with a three percent annual growth increase for year 2001. Since this facility is privately owned and the R.V. site rentals occur on this property, the City would receive no revenue from this operation.

4.4 Beach Parking Facilities

Paid parking is recommended for a proposed public swimming beach facility, owned and operated by the City, within San Jacinto Channel. Using a fee of \$5 per car, peak weekend parking of 1,300 cars, peak weekday parking of 741 cars (57 percent of weekend), a daily turnover rate of 15 percent, a 20 week season, and deducting five weekends for special events during the 20 week period, a gross parking revenue of \$650,250 is generated. During a peak weekend, the proposed San Jacinto swimming beach can accommodate 3,680 people, which represents 2.8 people per car for 1,300 cars.

Paid parking is also recommended for use of swimming beach and park ground facilities on Recreation Island. It is assumed that proposed facilities on Recreation Island will be operated by a concessionaire, except for the youth and group facility. Using \$5 per car, 560 of the Recreation Island parking spaces for swimming beach and park usage, and estimating peak season weekend/weekday and off season weekend/weekday beach/park car parking, a gross annual parking revenue of \$455,100 is projected. The City should receive a minimum of ten percent of gross revenue from this parking. There are California cities that receive up to 25 percent of gross revenue from parking facilities. The final percentage should depend on the City's involvement towards improving these facilities.

4.5 Special Events

It is expected that a majority of special events revenue will be generated by powered boat events. Using the example 1994 special events schedule presented in IV.6.13, "Example 1994 Special Events Powered Boat Schedule" for year 2001, and assuming that the proposed

San Jacinto Channel improvements are completed and the special events program is fully developed, the following paid attendance is projected:

March 26 - 27	10,000
April 17	4,500
May 14 - 15	2,500
June 5	5,000
June 25 - 26	7,000
July 23 - 24	12,000
August 20 - 21	6,000
September 24 - 25	7,500
October 1 - 2	3,500
Total Annual Attendance	58,000 (PAID)

Based on this nine event paid attendance of 58,000 spectators, the following annual revenue is projected:

Attendance/Gate (\$14 per person average)	\$ 812,000
Parking (\$3 average per car/2.5 people per car)	\$ 69,600
Food/Beverage Concessions* (\$4 per person)	\$ 232,000
Souvenir Concessions (\$2 per person)	\$ 116,000
Miscellaneous (pit passes, special display areas, etc.)	\$ 25,000
Estimated Total Gross Revenues	\$1,254,600

- * Does not include beer sales -- if alcohol sales are permitted at events, increase gross revenue potential by \$250,000.

Based on a 13 to 18 percent of gross revenue to the City from the special events promoter, potential revenue to the City is \$163,098 to \$225,828. Table VI-10 uses 15.5 percent of gross revenue. For year 1996, a gross annual special events revenue of \$200,000 has been estimated, with \$31,000 going to the City.

4.6 Jackie Nanette Ski Concession

Based on seven months of operation for one water ski course, Jackie Nanette has averaged

\$390 per month in gross revenue. There has been sufficient demand to accommodate three separate water ski courses within San Jacinto Channel. An annual gross revenue of \$126,000 is projected for year 1996 when expanding to three courses and assuming 90 percent of the current average monthly revenue per course. For year 2001, an average monthly gross revenue of \$425 per course was assumed. The City would receive ten percent of gross revenue for this operation.

4.7 Youth and Group Facility

It is difficult at this time to estimate potential revenue from this source. Details of this facility and its expected programs, along with public interest and a potential fee structure are required to adequately project revenue from this facility. However, the County of Orange's Dana Point Harbor facility generated almost \$300,000 of gross revenue during 1992. Since the proposed youth and group facility on Recreation Island would be similar to the Dana Point facility, a projected gross income of \$375,000 is estimated for year 2001. It is proposed that the City would develop, own and operate this facility.

4.8 Dock Permits/Lake Citations

Potential revenue from dock permits and lake citations at this point is only a rough estimate. For year 1996 it is assumed that 100 private properties will pay a \$200 annual fee in order to have a dock on their property. It is estimated that this number would increase to 150 private properties in year 2001.

Revenue from lake citations is assumed to be \$4,000 in year 1996, and \$6,000 in year 2001.

4.9 Other Revenue

The recommended specific lake development plan presented in Section V, "Specific Lake Development Plan", lists potential marine concessions and recreational lakefront concession activities. For those activities that either take place on City-owned land, on the City-owned lake, or require permit City approval, the City can either negotiate a lease fee or establish a permit fee. For instance, this Master Plan Study has proposed a world class resort at Recreation Island, which would include a hotel and restaurant, a marina and fuel facility, various marine concessions, a swimming beach and lagoon, and parklands. As owner of

this land, the City could complete the construction of the proposed island configuration, and negotiate a contract with a master lessee to develop and operate all proposed facilities on this island with the master lessee paying the City a percentage rent from the various operations. All or a portion of the operations proposed for the Seaport Marina complex could also be operated through a master lessee. Table VI-16 presents a percentage range for lease charges on concession activities based on gross revenue for the identified concession activities.

Presently, the potential amount of gross revenue from these other sources, not already accounted for in Table VI-10, is unknown. It would be dependant on the range of waterfront facilities eventually developed, on their ownership and lease arrangements, and on the market conditions at that time. However, based on the proposed facilities presented in this Master Plan, the potential gross annual revenue from all other sources not already addressed could range between \$4 million to \$20 million. Assuming these facilities are operated through either a leasehold agreement or on a permit basis and the average rent is ten percent, the City could generate between \$400,000 to \$2,000,000 on an annual basis.

A gross revenue figure of \$10 million has been used in Table VI-10 at this time. In addition, there are other revenue sources that the lake's development would generate for the City, which have not been accounted for in Table VI-10. These would include revenue from such sources as Transient Occupancy Tax (TOT), sales taxes, business licenses, development fees, etc.

**TABLE VI-16
LEASE CHARGE FOR CONCESSION ACTIVITIES**

CONCESSION ACTIVITIES	LEASE CHARGE*
Marine Slips	20-25
Transient Boat Slips	20-25
Boat Storage Open /Stacked	5-11
Storage Lockers	20-25
Dinghy Racks	20-25
Party Fishing Boats	15
Excursion Boats	15
Parachute Bailing	10
Boat/PWC Rentals	20
Boat Launch	5-10
Boat Charters	5
Boat Sales (New)	1.8-2
Boat Sales (Used)	1.5
Brokerage Commissions	10
Boat Instructions/Lessons	10
Water Ski/PWC Lessons	10
Equipment Rentals	10
Insurance Brokerage	10
Boat Repairs	2-4
Do-It-Yourself Repairs	2-5
Ships Chandlery	2-4
Repair Parts	1-2
Boat Hoist	10
Sanitary Pump-Out Station	5
Fuel Sales	5
Bait and Tackle Shop	5-6
Parking	10-25
Boat Trailer Parking	10
Day Use	5
Overnight Camping	5-25
R.V. Park	5-25
R.V. Convenience Store	4-5
Snack Stands	4-5
Office Rent	10
Retail Store	5
Hotels/Motels Rooms	5-8
Guest Telephone Service	3-5
Miscellaneous	5
Health Club	5
Gift Shop	4-7
Meeting Rooms	5-6
Restaurants	5-6
Alcohol	5-7
Coffee Shop/Catering - Food	5
Coffee Shop/Catering - Beverage	5-8
Outside Caterers	10
Game Machines	5
Vending Machines	5
Newspaper Racks	5
Pay Phone	50

*Percentage range of gross revenue.

VII. IMPLEMENTATION RECOMMENDATIONS

A substantial commitment will be required from both the public and private sectors in order to realize the full optimization of water sport recreational benefits for Lake Elsinore. This will require the development of waterfront facilities and landside infrastructure either as outlined in this Master Plan Study or as modified to allow for maximizing water sports and recreational activities in and around the lake's perimeter. Since this development will require substantial resources and take many years to reach development goals, priorities need to be identified to initially pursue those facilities which will have a more immediate impact on the lake's usage. In addition, a public/private partnership must be planned in order to optimize public resources on facilities that will spearhead the lake's continued development, provide maximum public recreational uses and be financially sound. Decisions concerning the recommended ownership, development, operations and construction phasing of the proposed improvements must also be addressed.

1. PRIORITIES

It goes without saying that the absolute first priority is to stabilize the lake's water level and to ensure adequate clean water and overall water quality in order to satisfy the general public's perception of water quality prior to their active use of the lake. With this priority satisfied, Lake Elsinore has the potential to become a highly successful all-around lake that will support a full mixture of water sport activities and other shoreside recreational benefits.

It is recommended that the following waterfront facilities be prioritized in the order presented:

1. Public boat launch facility that can accommodate all design lake water levels, and that has sufficient adjacent boat trailer/car parking and other necessary improvements.
2. Special events area that can successfully promote and stage professional level competition boating events.
3. Swimming beach area with sufficient supporting facilities for families to truly enjoy the recreational beachside activities provided by the lake.

4. Marina boat berthing facility with supporting landside marine concessions and a restaurant for the general public's enjoyment of waterfront boating activities.
5. Improvement of either the existing City Park and Campgrounds or the existing Elsinore West Marina R.V. Park and Campgrounds to allow for enhanced waterside camping sites for the general public, and to provide additional boat launching, beach and marina facilities.
6. Development of Recreation Island as a world class destination resort in combination with a marina, swimming beach, parkland and a youth and group facility for the general public's use.
7. Development of public shoreline areas with a pedestrian linear greenbelt walkway, boat beaches, benches, shade structures and restroom facilities.

1.1 Boat Launch Facility

The proposed Seaport boat launch ramp facility presented in V.1.2, "Seaport Marina Complex (3,000 LF Shoreline)", will accommodate boat launching from a low lake level of 1,240 feet to a design flood lake level of 1,263 feet. This facility has all the required improvements including sufficient boat trailer/car parking. An alternative boat launch ramp facility which could be designated for public use, is the proposed San Jacinto Channel facility presented in V.5.2, "Special Events Channel". This launch ramp facility could be used for both public boat launching and for special events. During special events, it would not be available for public boat launching. To make this facility available for the general public, the proposed westerly most floating breakwater discussed in V.5.1, "Water Ski Concession", to define the water ski school concession channel, would need to be relocated to the east side of the launch ramp. Either of these facilities could eventually be constructed to full eight-lane launch ramps, as detailed in this Master Plan Study. However, initially they could be constructed as four-lane facilities. The proposed San Jacinto launch ramp will accommodate boat launching from a low design lake level of 1,240 feet to a maximum lake level of 1,258 feet. The temporary special events pit area would be utilized for boat trailer/car parking if this facility is used for public boat launching.

1.2 Special Events Area

The development of the San Jacinto Channel for the staging of special events, if fully developed as described in V.5, "San Jacinto Channel Area (~ 150 Acres)", would provide a 2,300-linear-foot swimming beach facility with parking, in addition to the special events arena, boat launch ramp facilities and water ski school concession area. Presently, the existing channel would be unusable for special events once the lake level drops below the 1,255-foot level, and would be significantly reduced in width for the water ski school concession once the lake level drops below the 1,250-foot level. Therefore, the proposed channel widening is essential in order to operate these events during the expected normal range in lake levels of 1,240 to 1,249 feet.

1.3 Swimming Beach Area

The initial public swimming beach area, with supporting facilities, can be provided either during the development of San Jacinto Channel or during the development of the Seaport Marina complex discussed in V.1.2, "Seaport Marina Complex (3,000 LF Shoreline)".

1.4 Marina Boat Berthing Facility

The Seaport Marina complex as proposed, would provide an excellent marina boat berthing facility with supporting landside marine concessions, and a restaurant for the general public's enjoyment of waterfront boating activities.

1.5 Enhanced Campground Facilities

Either one or both of the existing City Park and Elsinore West Marina campground facilities along Riverside Drive could be improved to provide enhanced waterside camping sites for the general public, in addition to boat launch facilities, a beach and marina facilities. The City Park is owned by the City and operated by an existing concessionaire, while Elsinore West Marina is under current private ownership.

Elsinore West Marina requires a lower dollar investment to improve its facilities, however, all its campsites are for recreational vehicles. Its main boat launch ramp is currently usable. The City Park site is more than double the size of Elsinore West Marina when the

lake water level is 1,240 feet or lower. Therefore, it has the potential to provide more campsite facilities, and waterside recreational access and facilities. However, a substantial dollar investment is required to raise the site's overall ground elevations in order to reach this potential for lake water levels exceeding 1,240 feet. This park facility also provides campground sites in addition to R.V. campsites; however, without increasing the existing ground level, the facility is required to operate at reduced capacity. The campground operating capacity is currently dependent on the height of the lake's water level. Also, without significant site improvements, recreational boating access from this facility is essentially lost since the existing launch ramp is under water.

1.6 Development of Recreation Island

The planning and permitting process for the eventual development of Recreation Island into a world class destination resort should be ongoing at this time. Its full potential as proposed in this Master Plan is discussed in V.4, "Recreation Island Area (~ 50 Acres)". Besides its potential use as a destination resort, it will provide the general public with a full spectrum of water sport and shoreside recreational activities.

1.7 Development of Public Shoreline Access

To realize the full recreational benefit of Lake Elsinore, it is important to develop as much of the shoreline area as possible with a public greenbelt walkway and with natural boat beaches for boaters to pull up along the shoreline. These areas have mainly been identified along Lakeshore Drive and along the existing earthen levee.

2. PUBLIC/PRIVATE PARTICIPATION

Due to the significant level of effort and substantial investment required to fully develop Lake Elsinore as proposed in this Master Plan Study, it is essential to have the support of both the public and private sectors in a public/private partnership. Other successful water/land recreational developments, such as Mission Bay Park in San Diego, have successful public/private partnerships, with the private sector contributing over one-half the total investment.

3. RECOMMENDATIONS

It is important that investment dollars from the City and other public sources be targeted towards those proposed waterfront facilities which will: (1) help initiate the increased use of the lake in order to attract private investment; (2) most directly benefit public recreational activities; and (3) be sound financial investments. Table VII-1 presents financial information for proposed facilities that the City should initially consider for developing/improving and operating.

3.1 Seaport Launch Ramp/Parking Facility

It is recommended that the City apply for a State of California, Department of Boating and Waterways grant to develop the proposed Seaport boat launch ramp and boat trailer/car parking facility. The State's filing deadline for their 1995/96 fiscal year funding was June 1, 1994. Since this facility qualifies under the Boating and Waterways grant program, no payback is required on these funds. An approved project may obtain a grant to cover 100 percent of the design, construction and construction administration costs. Gross operating revenue shown for this facility is based on it handling 33 percent of the total annual public boat launches shown in Table VI-14. This facility could initially be constructed as a four-lane launch ramp, which would reduce its initial development cost by approximately \$200,000. It is recommended that this boat launch facility be developed and operated by the City.

3.2 Seaport Marina

It is also recommended that the City apply for a Boating and Waterways low interest (three percent), 30-year loan, to design and construct the proposed Seaport Marina. The development cost of \$6,262,550 shown in Table VII-1, is taken from Item A.4 in Table VI-1, and excludes development costs for the restaurant, retail building, concession building, fuel facility and barbor master building. It is recommended that the City develop the landside infrastructure, the marina basin and the floating dock marina, and that the City operates the floating dock marina. Depending on available financial resources, it is further recommended that the City either construct the proposed landside building shells and lease out all marine-related (except floating dock marina) and landside concessions, or that the City negotiate a master lease agreement with a developer to construct all landside buildings

**TABLE VII-1
FINANCIAL DATA FOR POTENTIAL CITY-OPERATED FACILITIES**

Facility	Development Cost (\$) (1)	Annual (\$)		
		O & M (2)	Revenue (3)	Profit (4)
1. Seaport Launch Ramp/Parking	1,392,928	131,375	231,248	99,871
2. Seaport Marina (5)	8,282,550	192,736	362,746	170,010
3. San Jacinto Channel Boat Launch Ramps Swimming Beach/Parking and Special Events	626,798	110,610	231,248	120,638
Subtotals	7,564,788	211,835	850,018	648,078
	8,191,526	322,545	1,091,259	768,714
4. City Marine Park Landside Campgrounds Marina Launch Ramp Swimming Beach	6,974,719	825,164	1,511,807	686,643
Subtotals	7,302,305	143,783	278,560	134,785
	878,778	48,755	140,148	90,393
	1,693,750	48,368	-	(48,368)
	16,950,548	1,067,072	1,930,535	863,463
5. Elsinore West Marina Landside R.V. Sites Marina Launch Ramps Swimming Beach	1,437,000	460,000	1,228,831	768,831
Subtotals	1,004,000	118,884	178,608	58,924
	2,000	48,075	260,266	232,221
	464,250	33,359	-	(33,359)
	2,907,250	658,118	1,684,735	1,028,617
6. Public Beaches, Walkways and Lake Management (6)	8,094,310	804,115	(7)	

NOTES:

- (1) From Table VI-1, does not include land acquisition, environmental, permitting, design and construction management costs.
- (2) Annual operating and maintenance costs from Table VI-2.
- (3) Annual gross operating revenue derived from Table VI-10.
- (4) Annual net operating profit exclusive of debt service, depreciation, capital expenditure, insurance and miscellaneous other operating costs.
- (5) Profit is for marina only, does not include additional profit from marina landside concessions.
- (6) Includes Facilities A.2., A.3. (excluding concession building), A.6., A.7., A.8. (excluding bait/food kiosk), A.9., D and F presented in Table VI-2.
- (7) Revenue generated from lake use permits, dock permits, lake citations, and other revenue listed as Source Items 1, 12, 13 and 14 in Table VI-10 could be considered to cover these O & M costs. Annual revenue from these sources for year 2001 totals \$1,658,605.

and operate all marine-related (except floating dock marina) and landside concessions.

3.3 San Jacinto Channel

The development cost and annual operating cost and revenue shown in Table VII-1 for the San Jacinto Channel boat launch ramps includes an eight-lane main launch ramp facility, used for public boat launching except during special events. The development cost also includes some funds for the development of a minimum use, two-lane ramp towards the east end of the channel for the removal of special events boats. Even though an eight-lane main launch ramp is preferable for major special events, for the launching of boats at the channel's westward end, a four-lane launch ramp could suffice. If this ramp is utilized for public boat launching, then it could either replace or reduce the required capacity of the proposed Seaport boat launch ramp facility. If the San Jacinto boat launch ramp is constructed as a four-lane ramp, its development cost would be approximately \$400,000, including the two-lane ramp at the channel's eastward end, and the annual operating cost and revenue shown in Table VII-1 would be reduced by about 40 percent.

The other proposed improvements to the San Jacinto Channel consist of the swimming beach and parking facility on the shoreside, and the special events/water ski school concession channel on the waterside. A significant portion of the development cost shown in Table VII-1 is for widening the channel and raising the grade elevation on the landside. However, once this development is completed, the swimming beach facility and the special events channel would become very profitable enterprises.

It is recommended that the City either develop the San Jacinto Channel improvements, operate the boat launch ramp and swimming beach facilities, and negotiate land/water leases for special events and the water ski school concession, or that the City through its joint venture with Eastlake Community Builders develop all proposed facilities and operate them through a master land/water lease agreement.

3.4 Campground Facilities

Table VII-1 presents development costs and annual operating costs and revenue for improving the existing City Park Campground and Elsinore West Marina R.V. and Campground facilities along Riverside Drive. A review of these costs and their potential

revenue show that it would be costly to construct the proposed City Marine Park facility improvements, and would be less profitable on an annual basis when compared with the Elsinore West Marina facility. The existing land lease with Lake Elsinore Recreation Area Incorporated is well below current market value. In addition, by implementing capital expenditures of \$5 million to \$8 million, the entire landside campground and boat launch ramp facilities could be utilized. A reduced investment would also significantly improve its operating potential under a design operating lake level of 1,240 to 1,249 feet.

It is recommended that the City either renegotiate the existing lease with Lake Elsinore Recreation Area Incorporated, or that the City negotiates to buy out this existing lease and negotiate a new land/water lease with a major developer to improve and operate this City Park facility. It is also recommended that the City consider the potential purchase and improvements to the Elsinore West Marina facility after completing a detailed financial analysis of this facility.

3.5 Public Beaches, Walkways and Lake Management

It is essential that the public beaches and walkway facilities, as presented in this Master Plan Study, be developed by the City as funds become available, in order to realize the full leisure and recreational activities proposed in this Master Plan. These facilities consist of the proposed swimming, boating and fishing beaches along Lakeshore Drive; the fishing pier and linear greenbelt walkway along Lakeshore Drive; and the linear greenbelt walkway along the existing levee. These facilities will generate little or no direct revenue to the City, but are vital for the overall recreational development of the lake. There are various sources of State and Federal grants and loans available for these types of recreational improvements that should be looked into and pursued as appropriate.

Additionally, the annual cost to manage the lake is significant. This cost includes management personnel, lake ranger/lifeguard patrol personnel and supervisory lifeguard personnel. There should be sufficient funds generated from such revenue sources as lake use permits, dock permits, lake citations and other revenue listed in Table VI-10 to offset these public beach, walkway and lake management operating and maintenance costs as they are incurred during the lake's development.

3.6 Summary and Phasing

The proposed lake improvements recommended in this Master Plan Study represent a public and private investment of approximately \$100 million (1994 dollars), exclusive of any land acquisition costs and development costs associated with the proposed resort hotel/restaurant complex on Recreation Island. To undertake this significant investment in order to ensure the future potential of the lake as a recreation resource, it is essential that a strong public/private partnership be developed. These improvements will generate substantial revenue for the City in the form of lease revenues, Transient Occupancy Tax (TOT), sales taxes, business licenses, development fees, user fees, etc. Since the proposed capital improvements can be phased over a 20-year planning period, this will help to minimize the need for debt financing. However, it is still expected that such funding sources as general obligation bonds, lease revenue bonds, open space and park bonds, certificates of participation, and State or Federal low interest loans will be utilized for funding of public improvements. In addition, State and Federal grants should actively be pursued for improvements associated with shoreline restoration, coastal public access, habitat restoration and public boat launch facilities. The State of California's Department of Boating and Waterways, and Coastal Conservancy, and the Environmental Protection Agency's Wetlands Protection Program and Near Coastal Waters Grant Program are possible sources.

The City should strongly consider designating the lake as an enterprise fund, in order that all revenue generated from the lake be used only for maintenance, operations and capital costs incurred to manage Lake Elsinore. This would create an incentive to enhance revenue and to operate the lake efficiently.

Table VII-2 presents a summary of recommended facility implementation, listing the current land owner, and recommending potential action for the development, operation and construction phasing of all proposed improvements.

TABLE VII-2
RECOMMENDED FACILITY IMPLEMENTATION

FACILITY	CURRENT OWNER	RECOMMENDATION	PHASE
A. LAKESHORE DRIVE DEVELOPMENT			
1. Seaport Boat Trailer/Car Parking Area	City	City develop with State grant and operate	1
2. Seaport Boat Beach (350 LF)	City	City develop with State grant and maintain	2
3. Seaport Launch Ramp & Staging Area (8 Lanes)	City	City develop with State grant and operate	1
4a. Seaport Marina (322 Boat Slips)	City	City develop with low interest State loan and operate	2
4b. Seaport Marina Fuel Facility	City	City lease for development and operation	2
4c. Seaport Marina Landside Concessions (Restaurant, Marine Retail, Marine Concessions)	City	City either develop building shells and lease for interior improvements and operations, or lease for complete development and operation	2/3
5a. Non-Power Boat Concession Beach	City/Private	City purchase remaining land and either develop site and building shell and lease for interior improvements and operations, or lease for complete development & operation	2/3
5b. Non-Power Boat Beach (700 LF)	City/Private	City purchase remaining land and develop with State grant and maintain	2
6. Seaport Swimming Beach (700 LF)	Private	City purchase land, develop with State grant and operate	2
7. Boat Beach (1,000 LF)	City/Private	City purchase remaining land, develop with State grant and maintain	2/3
8a. Fishing Beach & Pier (1,000 LF)	City/Private	City purchase remaining land, develop beach with State grant and pier with low interest State loan and maintain	2/3
8b. Bar/Food Kiosk	City	City lease for development and operation	2/3
9. Boat Beach (4,500 LF)	City/Private	City purchase remaining land, develop with State grant and maintain	2/3
B. RIVERSIDE DRIVE DEVELOPMENT			
1. City Marina Park Marina (Future 257 Boat Slips)	City	City lease for development and operation	3
2. City Marina Park Launch Ramps (10 Lanes)	City	City lease for improvements and operation	3
3. City Marina Park Swimming Beach (700 LF)	City	City lease for development and operation	4
4. City Marina Park Landside R.V. Development	City	City lease for improvements and operation	4
5. Elmhurst West Marina (148 Boat Slips)	Private	City water/dock lease for development and operation by private party	3/4
6. Elmhurst West Marina Launch Ramps (10 & 11 Lanes)	Private	City fee for launching operation by private party	1
7. Elmhurst West Marina Swimming Beach (300 LF)	Private	Developed and operated privately	1/2
8. Elmhurst West Marina Landside R. V. Development	Private	Developed and operated privately	1/2

- Phase 1: 0 - 2 years
- Phase 2: 2 - 5 years
- Phase 3: 5 - 10 years
- Phase 4: 10 - 15 years
- Phase 5: 15 - 20 years

Implementation Recommendations

VII-10

09/16/94

**TABLE VII-2
RECOMMENDED FACILITY IMPLEMENTATION
(CONTINUED)**

FACILITY	CURRENT OWNER	RECOMMENDATION	PHASE
C. RECREATION ISLAND DEVELOPMENT			
1a. Marina Complex (201 Boat Slips/Landside Buildings)	City	City/Private joint venture development. (City develop island and Private develop facilities/infrastructure.) City master land/water/dock lease for operation of all island facilities except youth and group facility	4/5
1b. Marina Fuel Facility	City	City/Private joint venture development. (City develop island and Private develop facilities/infrastructure.) City master land/water/dock lease for operation of all island facilities except youth and group facility	4/5
2. Youth and Group Facility (1.25 Acres)	City	City develop with low interest Federal/State loan and operate	3/6
3. Swimming Beach (1,500 LF)	City	City/Private joint venture development. (City develop island and Private develop facilities/infrastructure.) City master land/water/dock lease for operation of all island facilities except youth and group facility	5/4
4. Old Beaches (1,500 LF)	City	City develop with State grant and maintain	5/4
5. Island Park Area	City	City/Private joint venture development. (City develop island and Private develop facilities/infrastructure.) City master land/water/dock lease for operation of all island facilities except youth and group facility	5/4
6. Hotel/Resort Complex	City	City/Private joint venture development. (City develop island and Private develop facilities/infrastructure.) City master land/water/dock lease for operation of all island facilities except youth and group facility	4/5
D. LEVEE IMPROVEMENT			
Levee Improvement (17,500 LF)	City	City develop with State/Federal grant and maintain	2/3
E. SAN JACINTO CHANNEL DEVELOPMENT			
1. Boat Launch Ramps	City/Private	City purchase remaining land, develop with grants, low interest loans or bonds and operate	2
2. Swimming Beach (2,500 LF)	City/Private	City purchase remaining land, develop with grants, low interest loans or bonds and operate	2
3. Parking Area (Cars)	Private	City purchase land, develop with grants, low interest loans or bonds and operate	2
4. Special Events	City	City land/water lease with event promoter	2
5. Water Ski Concession	City	City land/water lease with concessionaire	1
F. GRAND AVENUE DEVELOPMENT			
1. Nautical Center	Private	Developed and operated privately	4

- * Phase 1: 0 - 2 years
- Phase 2: 2 - 5 years
- Phase 3: 5 - 10 years
- Phase 4: 10 - 15 years
- Phase 5: 15 - 20 years

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APPENDIX A

**Lake Perris Boat Counts,
Camping Site Use, and
Vehicle Counts (1988 - 1993)
(Daily, Weekday, Weekend and Monthly
Statistics and Graphs)**

BOAT COUNTS AT LAKE PERRIS

MONTHLY BOAT COUNTS

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
1988	2,149	3,897	5,538	7,081	9,983	11,798	15,209	15,181	8,939	6,329	1,577	1,259	90,298
1989	2,172	2,480	5,649	10,280	7,921	11,097	13,171	12,260	8,995	5,862	4,640	2,799	87,548
1990	1,855	3,112	6,732	9,709	11,181	17,311	19,529	18,888	12,779	7,407	4,400	2,028	113,029
1991	2,647	4,827	4,498	8,339	10,845	12,237	15,123	17,249	11,238	8,182	4,199	1,689	101,033
1992	2,462	3,700	3,890	12,414	14,855	16,438	18,257	19,134	12,533	7,542	4,205	2,028	117,858
1993	2,032	2,818	7,712	14,275	16,203	16,931	19,234	19,417	11,519	7,487	3,503	2,208	122,713
Average	2,220	3,474	5,898	10,348	11,848	14,202	16,754	16,701	10,889	7,185	3,804	2,000	

MONTHLY AVERAGE WEEKEND BOAT COUNTS

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1988	137	308	508	898	581	819	878	693	509	898	101	48
1989	153	199	291	535	388	484	484	457	446	852	280	149
1990	117	242	384	538	648	887	890	834	705	448	311	104
1991	217	854	309	683	843	583	782	875	868	518	258	82
1992	148	248	251	781	811	839	847	818	755	481	242	123
1993	111	189	547	753	818	780	881	813	873	428	238	112
Average	147	257	377	594	641	702	761	782	629	484	258	103

MONTHLY AVERAGE WEEKDAY BOAT COUNTS

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1988	37	69	121	166	224	311	403	388	221	111	89	37
1989	38	45	155	247	218	329	382	874	237	129	118	62
1990	40	59	149	233	291	444	524	448	287	187	87	47
1991	40	100	85	174	248	820	388	428	240	175	80	43
1992	58	74	78	280	328	435	439	474	295	194	88	45
1993	44	81	145	875	863	458	514	509	278	159	78	57
Average	42	68	119	248	278	388	458	497	280	147	84	49

Note: Number for August 1988 is an average value, not an actual count.

DAILY BOAT COUNTS AT LAKE PERRIS

Year of 1953

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	147	80	63	164	618	300	493	615	434	411	107	31
2	88	64	57	205	876	300	693	457	375	723	60	35
3	123	61	64	785	269	360	697	448	480	694	74	71
4	36	80	103	604	178	657	697	459	718	254	66	187
5	31	80	173	241	184	274	626	700	814	241	140	172
6	5	322	517	242	236	420	440	642	768	147	407	30
7	3	154	709	413	340	197	421	685	300	232	457	23
8	16	16	145	494	744	247	501	1048	339	227	58	44
9	84	28	127	841	780	361	730	398	320	423	72	42
10	12	67	151	678	834	452	658	448	608	424	72	48
11	40	60	158	548	224	635	961	526	477	120	58	87
12	29	177	278	234	325	637	417	418	796	84	58	232
13	20	318	747	261	311	660	669	793	208	75	144	21
14	24	296	683	344	683	416	438	630	140	53	123	13
15	20	128	103	297	612	359	458	892	168	157	34	27
16	44	98	137	456	610	394	632	428	153	150	40	32
17	30	89	154	694	617	383	687	648	371	243	51	37
18	8	14	208	719	224	626	624	467	567	86	44	72
19	23	28	336	167	311	918	482	397	616	78	61	84
20	36	19	573	682	358	630	378	778	141	137	178	25
21	60	147	688	352	732	738	374	697	134	124	248	29
22	79	23	184	318	1036	428	401	638	108	146	38	48
23	182	19	218	516	608	637	724	359	93	607	20	34
24	217	71	200	729	277	557	661	354	267	425	83	68
25	39	96	104	685	250	642	651	351	729	149	97	34
26	51	63	104	349	358	661	353	441	668	121	201	98
27	62	68	253	262	543	1030	536	602	169	67	208	50
28	61	247	228	232	657	491	410	606	157	105	121	67
29	85		118	652	782	389	361	1004	206	169	51	133
30	222		140	675	741	618	611	384	184	311	42	147
31	133				725		969	324		360		228
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	2,032	2,816	2,712	14,275	16,266	16,391	19,234	19,417	11,512	7,467	3,503	2,206
WEEKEND DAY												
1	68	322	617	763	618	274	697	615	718	723	407	187
2	123	154	709	604	676	420	697	625	614	694	457	172
3	64	318	747	678	744	627	668	1048	477	423	144	87
4	12	296	685	648	733	650	661	630	768	424	125	232
5	44	19	573	694	612	618	637	632	567	150	178	72
6	30	147	688	719	610	639	624	637	616	245	248	34
7	182	68	233	729	1036	661	661	636	720	507	208	94
8	217	247	228	665	606	1030	651	600	668	426	121	69
9	222				702		969	1004		311		
10	133				741					360		
Total Weekend Days	10	8	8	8	10	8	8	9	8	10	8	8
Weekend Average	111	169	647	763	615	790	661	613	675	426	236	112
Total Weekdays	21	20	23	22	21	22	22	22	22	21	22	23
Weekday Average	44	61	145	375	383	459	614	600	278	163	73	57

DAILY BOAT COUNTS AT LAKE FERRIS

Year of 1962

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	87	213	195	104	491	318	374	873	272	228	272	57
2	43	238	7	131	938	334	584	929	344	451	80	54
3	5	37	32	268	848	344	878	359	320	700	83	33
4	89	59	58	582	218	358	878	330	464	899	105	6
5	28	60	54	698	201	658	862	398	648	145	84	85
6	22	12	48	137	213	834	478	542	781	168	168	133
7	2	13	217	182	187	783	384	742	577	223	387	18
8	36	162	254	215	428	302	220	763	236	183	334	22
9	48	172	52	200	798	342	336	1037	277	364	82	49
10	180	28	67	338	493	336	683	883	218	808	73	54
11	224	6	128	544	147	268	838	432	448	657	145	35
12	125	5	138	687	211	608	870	508	775	252	85	103
13	31	4	194	225	285	893	417	427	731	108	132	63
14	33	58	408	232	282	848	978	841	231	111	238	28
15	40	18	418	253	458	808	487	817	188	101	288	38
16	35	58	97	318	632	347	534	1012	247	288	53	54
17	48	148	122	785	838	483	854	882	227	428	55	38
18	178	88	117	872	238	484	1032	355	444	435	84	35
19	113	105	128	881	228	770	1052	422	832	111	83	117
20	122	71	58	298	248	878	448	470	834	104	89	103
21	24	118	78	303	310	800	378	783	281	81	121	33
22	84	851	103	221	828	444	487	883	208	75	188	83
23	48	487	25	288	701	408	413	877	227	123	40	88
24	83	78	89	848	735	441	791	341	301	178	38	81
25	248	132	71	844	778	488	828	178	488	285	72	23
26	174	144	70	1133	230	844	897	421	831	89	88	218
27	48	118	49	274	231	858	428	432	883	84	843	181
28	41	233	242	298	237	818	888	783	238	77	288	37
29	87	843	358	285	563	448	474	898	304	48	143	18
30	85		58	221	818	442	345	872	208	38	82	88
31	128		83		827		711	388		148		111
Total Monthly Days	31	29	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	2,462	3,700	3,880	12,414	14,855	18,438	18,257	19,134	12,835	7,842	4,295	2,028
WEEKEND DAY												
1	89	213	183	882	838	834	887	873	648	788	872	85
2	88	238	217	888	848	783	882	928	781	888	387	133
3	224	182	234	541	788	883	838	783	775	888	334	108
4	125	172	488	687	493	648	878	1037	781	887	238	53
5	178	18	418	872	832	878	1032	817	882	428	288	117
6	113	58	78	881	831	800	1052	1012	834	435	121	103
7	248	351	108	944	701	853	928	883	851	178	188	218
8	174	487	242	1133	735	818	897	877	883	285	288	181
9		843	358		818			898		148		
10					827			872				
Total Weekend Days	8	8	8	8	10	8	8	10	8	8	8	8
Weekend Average	148	246	231	781	811	858	847	816	735	481	242	123
Total Weekdays	23	20	22	22	21	22	23	21	22	22	21	23
Weekday Average	88	74	78	288	328	435	488	474	285	184	88	45

DAILY BOAT COUNTS AT LAKE PEPPAS

Year of 1991

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	159	35	107	87	171	482	433	369	802	176	83	34
2	39	204	155	94	138	658	403	589	637	237	256	29
3	17	217	253	173	269	282	437	900	263	245	348	8
4	9	58	66	218	670	280	634	872	308	406	92	45
5	99	65	54	312	655	248	617	412	219	727	117	27
6	295	65	54	698	238	255	799	335	827	794	133	44
7	31	112	60	548	265	377	857	404	695	180	122	110
8	9	96	145	154	247	633	351	463	739	208	140	85
9	8	295	508	307	136	717	362	658	275	195	373	15
10	38	646	260	299	379	288	405	632	168	165	359	14
11	22	143	71	168	522	311	424	981	180	337	285	33
12	189	76	3	318	583	832	543	341	168	679	86	17
13	254	81	89	821	250	258	790	429	257	731	96	61
14	42	68	63	674	149	404	899	401	857	337	38	127
15	54	228	49	147	226	698	385	394	684	207	47	160
16	44	306	221	107	232	648	335	582	168	170	248	37
17	60	293	301	139	345	322	321	793	178	159	229	30
18	93	255	54	158	615	297	303	944	220	274	30	27
19	434	95	13	163	663	278	461	424	217	229	54	28
20	281	113	6	318	208	302	674	317	802	614	69	25
21	46	107	42	484	153	420	800	407	593	152	38	89
22	27	158	116	98	168	584	366	372	738	94	75	42
23	38	477	362	49	250	584	278	578	171	84	219	42
24	32	491	204	90	398	629	382	638	177	68	231	51
25	35	65	5	110	675	243	97	859	201	126	62	31
26	68	89	28	246	780	282	497	324	168	202	88	112
27	186	53	25	692	609	250	804	327	947	177	79	148
28	9	6	161	691	187	808	639	424	627	42	62	85
29	37		222	187	167	397	363	377	790	63	142	58
30	30		482	202	171	684	286	452	189	74	49	21
31	50		369		238		183	555		47		106
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	2,847	4,827	4,488	8,399	10,645	12,287	15,123	17,249	11,233	6,162	4,196	1,899
WEEKEND DAY												
1	89	204	155	698	670	482	763	900	632	727	256	34
2	295	217	253	946	655	688	637	872	695	794	848	110
3	183	295	506	821	623	633	790	932	739	873	373	55
4	234	549	260	674	663	717	898	981	557	731	659	127
5	434	828	221	318	615	598	874	793	664	229	248	160
6	291	293	301	484	663	546	600	944	693	614	229	89
7	86	477	362	592	676	564	804	638	735	202	215	42
8	186	491	204	891	780	564	639	959	627	177	281	65
9			462		397							
10			369		664			639	780		46	58
Total Weekend Days	8	8	10	8	8	10	8	8	9	8	8	9
Weekend Average	217	354	369	563	643	583	782	875	688	518	268	62
Total Weekdays	23	20	21	22	23	20	23	22	21	23	21	22
Weekday Average	40	100	85	174	248	320	388	428	240	175	80	43

DAILY BOAT COUNTS AT LAKE PEPPES

Year of 1980

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	101	22	42	499	168	313	651	455	527	149	89	152
2	8	52	102	131	208	900	487	415	652	118	89	169
3	25	179	240	197	282	977	472	629	717	148	274	35
4	18	45	233	131	458	395	711	892	250	239	328	48
5	48	45	40	124	893	329	528	822	343	318	73	56
6	158	48	70	198	850	411	715	400	838	458	58	56
7	152	21	89	410	311	368	1022	344	484	434	59	82
8	45	39	78	486	239	819	1020	182	830	173	85	189
9	17	88	111	258	272	729	401	423	848	137	134	52
10	37	257	528	330	324	850	355	602	249	177	209	58
11	44	378	258	426	388	282	482	682	215	153	499	48
12	43	83	53	495	843	353	448	899	308	287	284	36
13	33	97	89	889	840	295	688	392	291	838	76	39
14	12	29	119	838	180	289	830	358	471	587	81	20
15	87	37	228	848	140	522	918	837	829	184	88	73
16	8	73	188	105	263	899	388	448	774	70	74	105
17	28	82	888	108	228	998	470	630	219	100	204	21
18	22	80	588	183	348	358	388	718	202	113	213	36
19	31	88	180	227	630	379	450	903	179	184	43	36
20	85	38	138	311	878	438	753	352	171	457	31	18
21	113	81	204	535	231	517	848	380	871	605	59	18
22	88	127	188	593	253	598	888	433	882	139	120	40
23	45	130	314	82	333	1004	841	426	859	113	833	37
24	40	457	485	108	310	1018	482	539	194	171	415	31
25	47	538	801	200	419	822	478	773	187	210	238	52
26	88	78	181	228	418	411	459	687	152	380	29	88
27	218	88	147	488	417	488	653	418	148	478	35	72
28	178	88	78	748	188	588	802	383	805	117	38	84
29	81		124	850	180	704	881	448	887	108	48	98
30	28		205	74	180	608	487	383	881	113	80	104
31	27		820		242		427	431		88		133
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	1,859	2,112	6,732	9,708	11,181	17,311	19,529	18,888	12,778	7,487	4,400	2,028
WEEKEND DAY												
1	189	178	240	498	883	800	831	882	527	458	274	162
2	132	43	233	410	850	977	1022	822	882	494	328	189
3	33	257	828	488	843	729	1020	882	800	838	298	189
4	12	378	258	838	840	830	888	888	848	887	498	52
5	89	32	188	348	830	889	918	718	828	457	204	73
6	113	80	808	928	878	888	848	803	774	805	213	105
7	218	457	485	593	419	1004	880	773	882	473	415	40
8	178	538	801	748	418	1018	802	687	838	117	238	37
9			820	858		808	881		587			98
10									681			104
Total Weekend Days	8	8	8	9	8	9	8	8	10	8	8	10
Weekend Average	117	242	384	838	848	887	888	834	705	448	311	104
Total Weekdays	23	20	22	21	23	21	22	23	20	23	22	21
Weekday Average	88	88	148	233	281	444	824	448	287	187	87	47

DAILY BOAT COUNTS AT LAKE PERUSS

Year of 1989

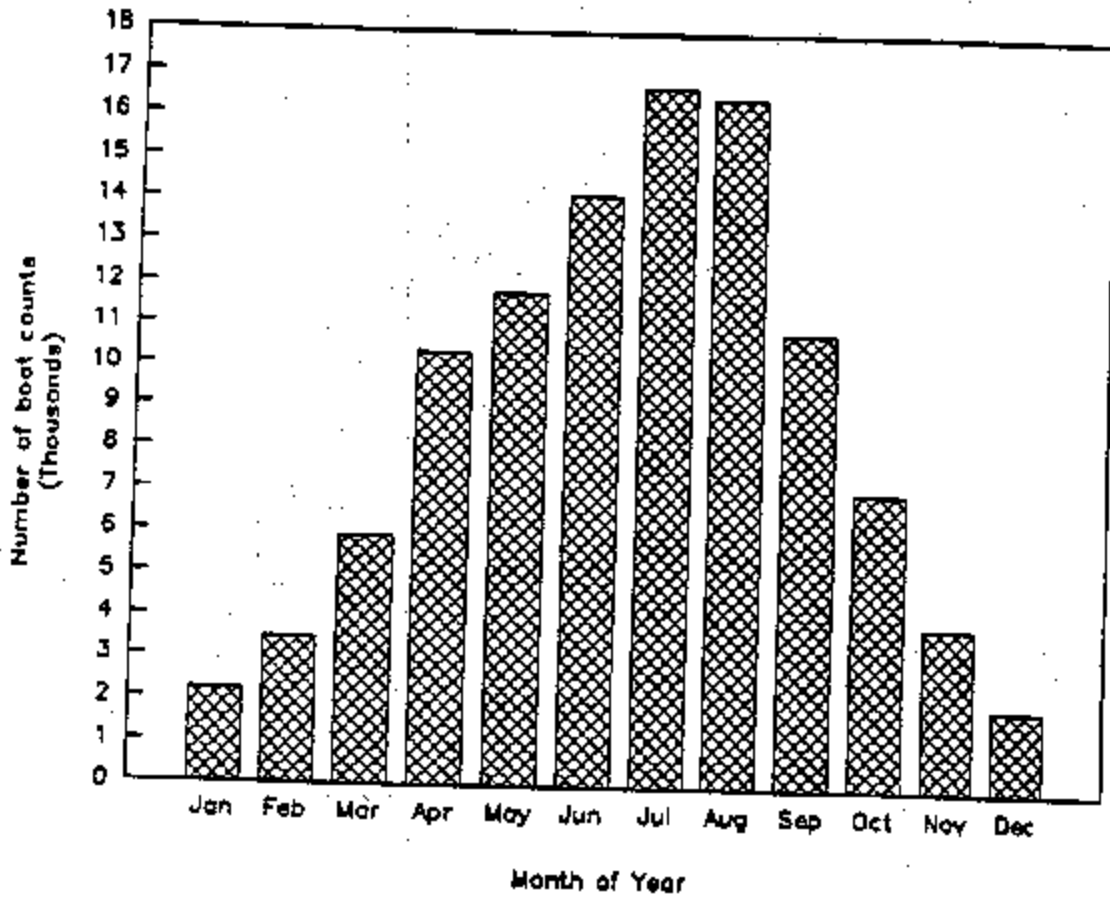
Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	87	58	37	725	180	249	473	303	370	472	57	83
2	158	20	20	818	191	375	287	204	288	108	40	188
3	6	20	20	187	217	494	480	194	306	123	13	191
4	4	19	136	197	354	404	270	558	334	137	460	62
5	8	24	117	282	437	187	323	487	257	170	438	55
6	17	11	83	338	618	187	341	488	265	273	20	55
7	68	4	38	628	613	185	489	307	327	304	72	62
8	85	8	80	770	248	194	551	368	600	581	88	81
9	28	11	53	504	152	304	571	398	474	219	95	187
10	27	37	138	254	82	378	340	428	463	132	358	131
11	4	53	178	209	80	422	653	688	182	134	435	81
12	10	143	155	183	237	237	354	405	188	110	480	41
13	42	33	39	177	352	383	408	600	214	189	68	60
14	133	29	57	183	178	300	608	383	210	400	87	21
15	178	74	148	627	41	275	525	391	311	355	10	39
16	77	48	122	450	82	495	648	408	435	81	117	83
17	30	80	165	145	130	553	337	437	332	85	344	86
18	24	287	587	180	182	404	287	583	100	122	234	45
19	48	185	319	179	332	357	328	550	71	133	72	38
20	45	180	181	228	451	289	388	651	141	221	79	84
21	208	23	262	818	449	405	617	304	208	219	178	27
22	207	84	292	578	228	458	543	340	359	159	143	72
23	28	84	274	323	218	529	453	378	535	71	333	173
24	28	17	471	78	233	489	341	369	623	73	248	84
25	24	883	167	100	239	638	347	438	150	45	81	17
26	24	613	209	258	427	677	353	444	145	81	41	103
27	47	74	145	171	253	298	388	224	180	109	75	128
28	208	28	163	383	228	574	624	340	158	221	62	131
29	218		198	234	243	448	487	290	285	257	63	64
30	58		240	118	189	440	482	316	538	62	63	204
31	74		388		258		342	294		48		143
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	2,172	2,490	5,848	10,280	7,921	11,087	18,171	12,260	8,995	5,882	4,840	2,788
WEEKEND DAY												
1	87	19	138	725	516	494	473	487	288	472	460	138
2	52	24	117	818	513	434	287	488	308	504	488	191
3	85	68	178	770	352	378	551	405	474	581	435	187
4	133	143	155	504	178	422	571	600	483	400	480	131
5	178	287	587	827	451	533	525	550	435	355	234	83
6	208	185	319	450	448	404	548	351	332	219	72	88
7	207	883	187	578	238	489	543	444	535	159	81	173
8	208	613	209	623	228	638	453	224	623	221	41	84
9				234			487		538	257		204
10	218			118			482					143
Total Weekend Days	8	8	8	10	8	8	10	8	8	9	8	10
Weekend Average	153	199	281	535	308	484	484	457	446	552	280	149
Total Weekdays	22	20	23	20	23	22	21	23	21	22	22	21
Weekday Average	36	45	155	247	216	329	302	374	257	123	118	82

DAILY BOAT COUNTS AT LAKE PEPSIS

Year of 1958

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	74	16	20	487	509	164	605		274	482	35	23
2	136	2	45	606	150	266	581		467	622	26	26
3	100	27	53	238	173	475	582		469	63	41	58
4	13	34	91	183	161	649	368		522	113	69	57
5	7	68	273	158	24	681	242		524	68	175	13
6	38	210	291	213	154	145	231		232	138	171	34
7	19	332	56	232	299	165	401		292	171	20	25
8	35	48	81	425	409	210	584		223	480	24	4
9	113	60	89	549	132	280	654		458	482	53	6
10	177	61	54	613	183	643	638		577	184	52	35
11	31	43	140	204	167	367	335		623	124	47	61
12	22	268	373	199	261	613	285		143	122	108	13
13	22	422	388	131	332	281	345		165	128	88	56
14	63	487	104	79	764	270	429		180	183	19	36
15	41	308	69	160	773	127	858		148	334	22	19
16	125	53	68	261	148	361	648		346	470	28	20
17	9	7	84	300	132	484	636		638	63	67	68
18	58	82	212	40	193	632	332		433	168	40	48
19	12	33	548	65	211	574	324		144	105	49	43
20	20	235	658	6	624	238	388		69	68	71	42
21	35	441	121	60	712	227	486		64	157	51	19
22	23	60	121	112	678	264	549		118	319	34	34
23	181	61	118	231	212	265	699		290	265	60	40
24	232	93	122	437	207	658	734		383	77	40	45
25	18	68	294	122	242	688	360		609	68	42	6
26	44	70	654	144	308	772	573		123	77	101	106
27	42	168	680	147	410	348	373		137	46	71	72
28	58	204	194	98	633	268	363		105	65	26	60
29	107	22	199	251	360	325	625		144	197	63	34
30	192		251	439	469	378	784		288	333	65	94
31	129		187		103		611			96		60
Total Monthly Days	31	28	31	30	31	30	31		30	31	30	31
Monthly Subtotal	2,149	3,897	6,838	7,061	9,063	11,789	15,208		8,939	8,329	1,677	1,259
WEEKEND DAY												
1	136	210	278	606	608	649	661		469	462	176	59
2	100	332	291	238	299	681	582		522	622	171	57
3	113	422	373	548	489	367	654		577	480	108	35
4	177	437	368	613	764	613	639		623	482	68	61
5	125	235	646	261	773	632	640		536	654	49	68
6	9	441	658	300	712	574	638		463	470	71	48
7	161	168	654	231	678	688	699		383	519	101	45
8	232	204	680	437	633	772	734		509	265	71	6
9	192			439	380		784			197		60
10	129						611			333		
Total Weekend Days	10	8	8	8	8	8	10		8	10	8	9
Weekend Average	137	306	608	398	661	619	675		609	590	101	48
Total Weekdays	21	21	23	21	22	22	21		22	21	22	22
Weekday Average	37	69	121	168	224	311	403		221	111	39	37

Note: Data in August is not available

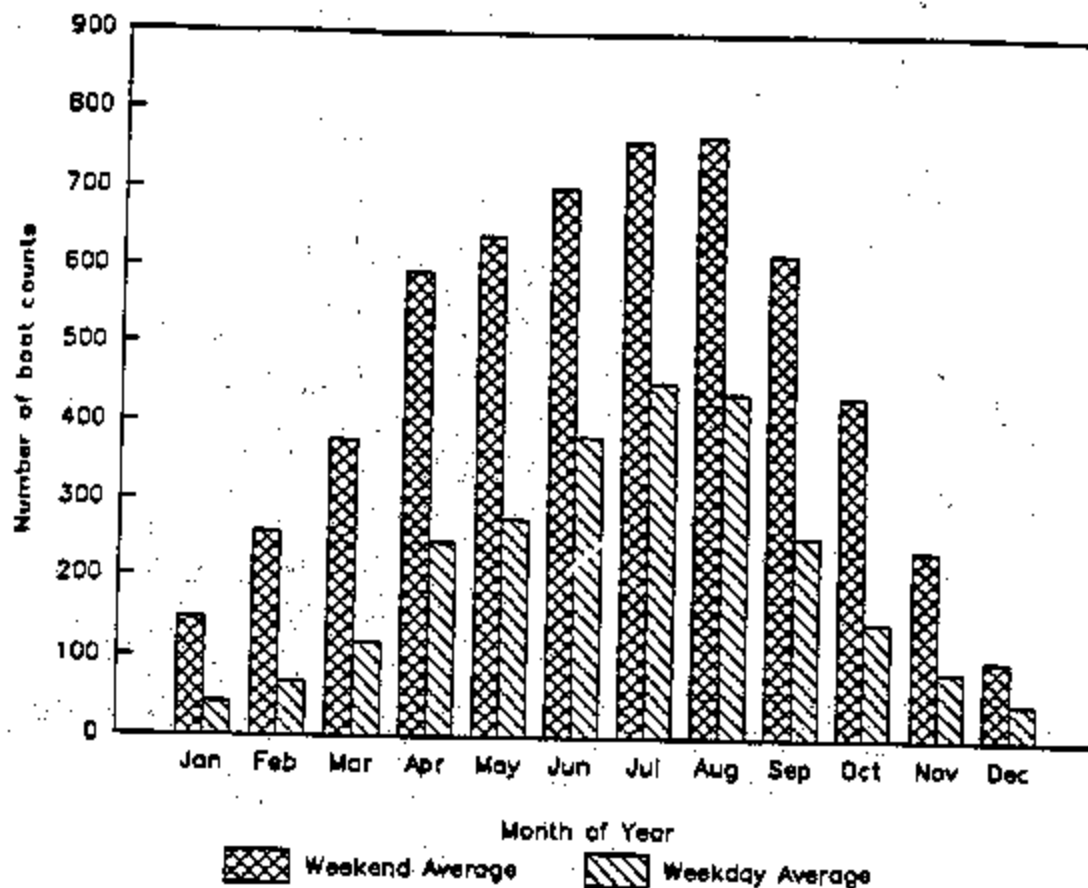


**LAKE PERRIS
MONTHLY AVERAGE TOTAL
BOAT COUNTS
(1988 - 1993)**

SOURCE: State of California,
Department of Parks and Recreation,
Lake Perris, 1993



Figure A-1



**LAKE PERRIS
WEEKEND & WEEKDAY
AVERAGE BOAT COUNTS
(1988 - 1993)**

SOURCE: State of California,
Department of Parks and Recreation,
Lake Perris, 1993



Figure A.2

CAMPING SITE USE COUNTS AT LAKE PERRIS

MONTHLY CAMPING-SITE USE

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
1988	1,473	3,161	4,070	4,811	5,137	4,751	7,058	6,848	4,999	3,295	2,649	975	48,225
1989	1,354	2,307	4,535	4,781	4,247	5,438	6,595	6,279	5,254	2,942	2,667	1,401	48,100
1990	1,343	2,094	3,248	5,163	5,123	5,890	6,471	6,560	4,692	3,171	2,262	963	47,000
1991	1,137	1,969	2,432	3,731	5,224	4,565	6,030	6,278	3,649	2,519	1,810	758	40,102
1992	1,482	1,918	1,963	4,528	5,048	4,188	5,420	5,420	4,080	3,018	2,154	1,105	40,232
1993	1,130	1,581	2,322	4,915	5,082	4,504	6,139	5,179	3,681	2,690	2,082	1,332	40,627
AVERAGE	1,320	2,172	3,095	4,822	4,979	4,891	6,286	6,097	4,393	2,939	2,034	1,099	

WEEKEND AVERAGE CAMPING-SITE USE (Friday and Saturday)

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1988	72	195	267	330	373	364	431	431	319	234	185	35
1989	68	155	268	383	320	382	420	413	338	218	179	60
1990	61	131	185	353	416	413	411	425	390	238	182	97
1991	63	146	155	320	369	308	427	425	308	220	92	85
1992	77	112	114	316	325	358	385	393	285	189	136	40
1993	51	98	157	317	350	341	388	394	264	159	122	52
AVERAGE	65	159	194	338	359	381	412	413	320	211	140	43

WEEKDAY AVERAGE CAMPING-SITE USE

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1988	58	78	64	68	84	78	131	128	102	64	62	30
1989	35	54	93	63	79	104	124	129	84	52	67	38
1990	97	52	67	108	78	118	188	125	56	58	51	29
1991	27	40	42	53	88	85	114	125	88	33	45	21
1992	38	48	41	61	68	61	89	86	82	49	48	34
1993	29	40	47	98	88	61	108	68	64	53	49	39
AVERAGE	38	51	62	60	64	87	117	118	78	48	54	32

DAILY CAMPING SITE USE COUNTS AT LAKE PEPPER

Year of 1968

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	72	28	31	48	432	58	173	73	100	101	33	38
2	83	88	82	148	57	49	331	64	89	177	48	43
3	29	32	36	332	53	54	432	85	431	53	54	80
4	31	32	39	150	35	233	432	81	431	52	48	63
5	25	78	88	121	42	179	103	103	431	50	88	40
6	24	88	43	129	48	85	84	317	48	43	138	39
7	25	32	48	182	212	35	89	431	47	69	48	40
8	25	32	48	201	279	44	138	79	84	151	43	38
9	32	27	41	382	37	48	320	79	82	288	42	38
10	31	33	44	432	40	72	481	89	144	81	38	48
11	37	48	57	128	49	388	102	95	387	48	43	55
12	27	178	118	123	39	432	98	121	84	60	70	33
13	28	239	254	128	43	55	78	368	41	88	102	38
14	28	164	93	132	331	52	84	431	48	85	40	36
15	30	38	43	144	431	88	85	90	88	148	43	35
16	31	25	48	247	78	87	358	77	42	182	41	32
17	25	30	83	382	37	82	431	100	187	78	43	31
18	20	31	54	88	34	371	89	95	301	87	42	38
19	24	31	168	38	34	403	88	113	47	48	87	32
20	80	48	320	89	48	88	88	885	28	47	81	84
21	82	32	81	80	272	68	88	431	78	58	41	28
22	83	33	51	74	388	80	89	90	70	170	41	37
23	80	83	88	258	432	81	383	78	38	182	47	38
24	35	38	50	408	89	108	431	89	184	48	88	35
25	34	82	89	78	47	378	70	98	224	47	138	38
26	31	80	120	47	89	431	78	100	43	48	188	43
27	38	88	182	67	201	431	85	383	47	44	238	45
28	37	48	81	57	382	83	79	431	88	48	48	49
29	46		88	82	432	80	87	71	82	78	38	54
30	72		48	888	432	83	343	89	84	122	42	54
31	37				83		428	82		40		112
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	1,130	1,881	2,222	4,815	5,092	4,504	6,138	5,179	8,881	2,890	2,082	1,332
WEEKEND DAY												
1	72	78	88	148	432	233	331	317	431	101	88	80
2	83	88	48	332	212	178	432	431	431	177	138	83
3	29	178	118	882	270	888	320	852	144	151	70	48
4	32	239	254	432	331	432	431	431	387	288	102	85
5	80	31	188	247	431	371	350	885	187	148	87	31
6	31	48	320	382	272	408	431	431	301	182	81	38
7	83	80	120	258	388	870	383	888	184	170	188	35
8	80	88	182	408	382	431	431	431	224	182	238	38
9	48			888	432		343			75		112
10	72						428			122		
Total Weekend Days	10	8	8	8	8	8	8	8	8	10	8	8
Weekend Average	81	88	187	317	380	341	388	384	284	188	122	82
Total Weekdays	21	20	23	21	22	22	21	23	22	21	22	22
Weekday Average	28	40	47	88	88	81	108	88	84	83	48	38

DAILY CAMPING SITE USE COUNTS AT LAKE PERROS

Year of 1982

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	26	104	58	45	208	33	97	424	68	24	48	32
2	33	49	34	53	267	38	137	80	372	151	27	28
3	31	40	39	170	352	28	442	75	348	303	26	32
4	38	49	38	274	48	38	431	89	398	39	28	27
5	25	82	41	82	39	215	118	89	431	26	38	44
6	22	41	33	72	38	442	65	81	431	44	105	34
7	15	78	113	78	49	43	82	308	37	53	175	27
8	17	123	60	78	183	33	78	408	31	81	64	25
9	32	48	41	89	341	35	101	84	28	288	35	30
10	89	47	37	150	44	29	325	102	27	358	38	29
11	97	42	41	308	45	38	407	113	110	108	32	38
12	24	38	51	118	50	243	128	178	311	83	33	41
13	31	33	145	131	44	387	78	121	37	53	73	31
14	27	48	218	143	50	88	94	388	33	48	112	30
15	38	81	47	184	336	40	83	422	41	57	41	28
16	34	88	49	182	388	61	101	77	38	241	28	34
17	71	42	51	431	57	78	378	77	41	300	35	28
18	115	48	61	427	43	88	390	83	184	78	42	40
19	79	43	85	114	31	842	83	70	833	58	47	43
20	40	40	89	88	32	431	88	87	38	41	51	37
21	44	81	125	87	101	93	71	365	27	45	100	32
22	44	182	28	88	431	85	55	378	28	48	43	34
23	35	48	24	104	431	88	71	88	27	105	38	33
24	69	58	31	418	431	88	331	81	28	132	47	33
25	90	45	27	352	91	89	385	58	102	42	125	43
26	37	88	27	53	57	388	115	78	840	38	182	43
27	41	80	72	48	40	431	82	89	42	38	258	45
28	48	129	94	81	47	74	81	410	89	42	215	48
29	52	213	42	85	257	81	72	431	81	38	83	38
30	42		37	84	415	101	83	128	28	39	35	40
31	85		37		108		401	44		80		55
Total Monthly Days	31	29	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	1,482	1,918	1,863	4,328	5,048	4,198	5,420	5,420	4,080	5,018	2,154	1,105
WEEKEND DAY												
1	31	104	53	170	208	218	412	424	88	151	108	27
2	39	78	113	274	287	442	431	308	431	303	175	44
3	89	123	143	150	183	243	325	408	110	288	73	38
4	87	48	218	308	341	387	407	308	311	358	112	41
5	71	81	89	431	338	842	378	422	184	241	51	40
6	115	81	125	427	383	431	390	365	833	300	100	43
7	89	182	72	415	431	388	331	378	182	105	258	43
8	90	128	84	352	431	431	388	410	840	132	215	45
9	85	213		257	415		401	431		39		
Total Weekend Days	8	8	8	8	10	8	8	8	8	10	8	8
Weekend Average	77	112	114	318	323	358	385	383	285	188	138	40
Total Weekdays	22	20	23	22	21	22	22	22	22	21	22	23
Weekday Average	36	48	41	91	88	81	88	88	82	48	48	34

DAILY CAMPING BITE USE COUNTS AT LAKE PERRIS

Year of 1991

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	50	53	50	50	72	247	74	72	431	22	50	18
2	32	50	77	57	38	33	76	382	28	28	63	17
3	28	15	48	63	217	39	232	431	45	37	30	20
4	28	23	38	78	401	44	431	88	53	137	22	18
5	47	20	21	328	427	40	431	89	65	275	30	20
6	13	22	25	331	37	72	431	72	265	32	28	38
7	19	31	32	75	43	402	78	81	348	29	31	35
8	18	53	83	74	32	390	88	89	24	40	122	17
9	19	182	158	83	48	59	95	431	57	50	139	12
10	22	33	40	83	391	48	73	431	48	38	101	18
11	35	28	32	93	408	82	89	121	48	328	88	15
12	85	32	38	284	48	61	398	88	41	431	23	17
13	48	30	38	372	37	68	431	108	210	87	22	22
14	23	48	42	80	28	75	85	80	387	43	24	37
15	18	225	34	50	34	31	69	108	58	87	43	22
16	23	407	82	48	83	28	87	431	52	47	89	18
17	18	243	87	39	401	58	88	431	48	63	18	17
18	88	28	15	49	411	88	108	111	48	144	22	15
19	143	24	24	229	81	80	431	120	48	288	23	21
20	87	28	21	354	87	120	431	82	291	42	38	22
21	24	35	24	44	78	420	88	104	275	24	24	24
22	28	89	88	18	84	420	88	102	21	18	34	22
23	28	149	110	37	178	421	73	431	25	18	74	21
24	35	88	88	34	431	81	85	431	28	22	30	24
25	71	34	42	84	431	58	178	128	23	88	30	37
26	82	17	88	334	431	87	431	101	24	114	38	35
27	37	18	83	328	38	110	431	85	278	14	188	50
28	17	80	88	28	24	358	107	82	418	17	178	51
29	20		431	28	23	431	111	111	38	14	233	23
30	18		431	34	47	194	123	431	28	21	72	24
31	28		75		238		127	431		22		32
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	1,137	1,868	2,432	3,731	5,224	4,885	8,830	6,278	3,848	2,818	1,818	738
WEEKEND DAY												
1	88	83	60	828	217	247	431	382	288	137	80	38
2	47	80	77	331	401	402	431	431	348	275	83	35
3	38	83	83	284	381	390	388	431	219	328	122	22
4	88	132	158	372	408	78	431	391	387	431	139	37
5	88	223	34	229	407	81	431	431	231	144	48	22
6	143	407	82	354	411	420	431	431	278	288	89	24
7	71	89	88	334	431	420	431	431	278	88	34	50
8	82	148	110	328	431	358	431	431	418	114	74	51
9			431		238		431					
10			431								233	
Total Weekend Days	8	8	10	8	8	8	8	8	8	8	10	8
Weekend Average	83	148	155	328	388	388	427	425	303	220	82	35
Total Weekdays	23	20	21	22	22	21	23	23	22	23	20	23
Weekday Average	27	40	42	83	88	85	114	128	68	33	45	21

DAILY CAMPING SITE USE COUNTS AT LAKE PERRIS

Year of 1990

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	15	48	43	64	82	401	239	85	431	50	28	43
2	30	72	98	75	28	431	284	115	431	32	34	17
3	25	95	108	38	224	82	352	431	56	90	88	17
4	33	86	39	42	431	89	237	413	44	43	35	16
5	82	53	47	88	431	56	247	109	50	318	28	21
6	99	55	48	202	72	54	378	128	82	403	22	23
7	29	98	49	282	59	61	412	119	431	431	22	23
8	31	42	73	118	49	431	118	111	416	57	23	21
9	38	74	158	178	52	431	74	107	20	68	80	30
10	42	142	178	181	40	52	80	431	14	84	180	18
11	35	59	69	150	342	58	178	421	24	85	57	17
12	53	82	46	238	388	58	123	108	21	224	87	21
13	68	37	43	377	45	47	388	80	48	395	37	20
14	48	43	64	431	48	81	431	135	314	68	33	22
15	47	58	89	72	47	317	98	149	431	84	33	27
16	38	185	150	83	42	431	88	154	38	34	57	15
17	32	214	228	85	41	89	80	420	86	35	108	18
18	33	133	84	58	431	48	168	412	82	38	30	20
19	83	38	40	310	431	83	237	127	38	53	33	20
20	47	38	54	431	81	81	431	125	34	188	42	18
21	32	34	42	407	80	392	431	143	412	43	58	18
22	38	38	58	183	47	431	87	188	337	32	130	22
23	43	54	198	88	102	431	78	187	34	27	352	35
24	38	189	325	58	147	82	88	431	28	23	300	39
25	48	54	351	80	431	85	100	431	37	25	273	42
26	45	39	57	210	431	87	104	122	38	117	38	43
27	88	41	47	238	431	82	391	101	50	184	20	57
28	28	38	34	883	84	111	431	132	378	33	19	81
29	34		44	51	89	431	83	128	380	23	18	69
30	38		117	24	48	431	83	124	63	15	31	83
31	43		298		44		89	431		17		78
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	1,543	2,094	3,248	5,163	5,123	6,890	6,471	8,580	4,892	3,171	2,282	363
WEEKEND DAY												
1	82	72	98	202	431	401	378	431	431	318	34	43
2	99	95	108	282	431	431	412	413	431	403	68	21
3	83	74	158	377	342	431	388	431	416	224	80	30
4	88	142	178	431	388	431	421	421	314	395	180	27
5	47	185	150	431	431	317	431	420	431	85	87	13
6	82	214	228	407	431	431	431	412	412	108	108	22
7	88	84	198	288	431	431	391	431	337	117	352	35
8	28	158	325	385	431	431	431	481	878	184	300	59
9			117									
10			298					431	380		31	83
Total Weekend Days	8	8	10	8	8	8	8	8	8	8	8	8
Weekend Average	81	131	185	553	416	413	411	425	380	258	132	37
Total Weekdays	23	20	21	22	23	22	23	22	21	23	21	22
Weekday Average	37	52	67	108	78	118	188	125	58	54	51	28

DAILY CAMPING SITE USE COUNTS AT LAKE PERRIS

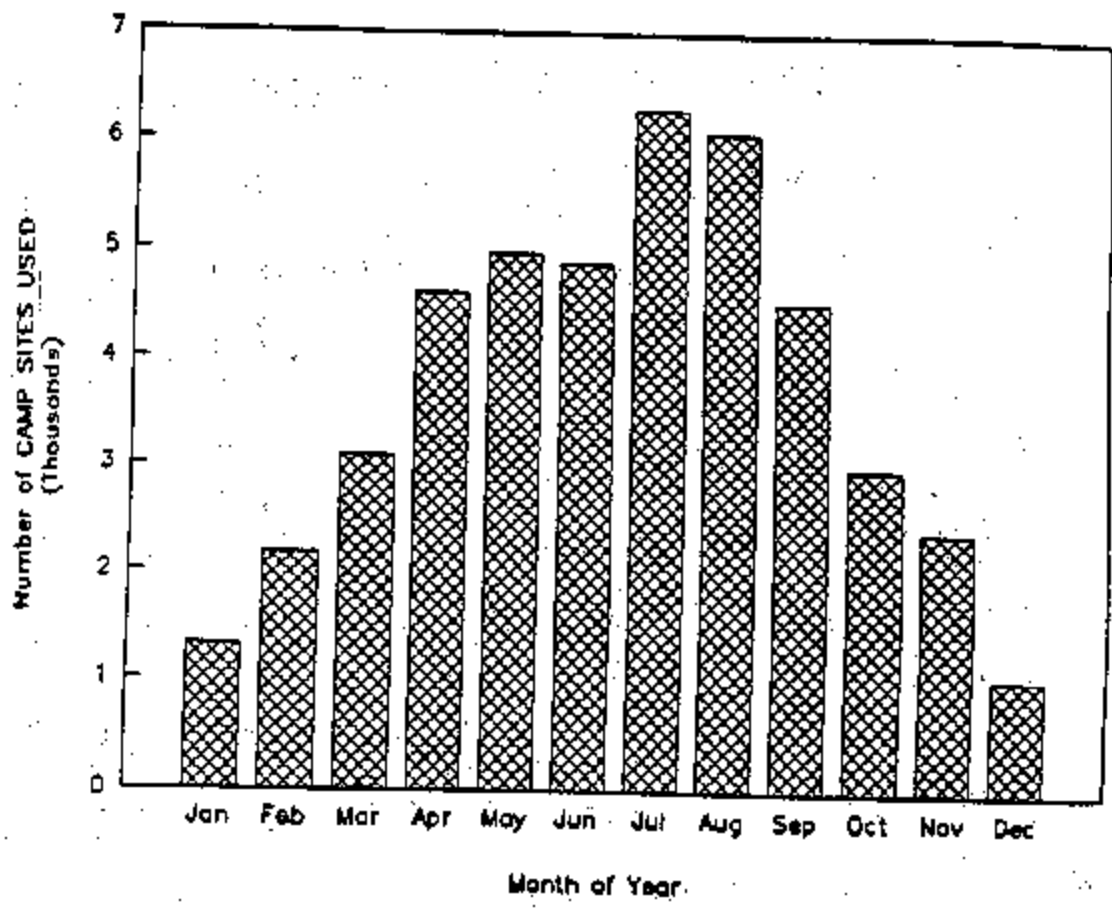
Year of 1988

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	57	37	33	288	52	138	431	88	431	31	35	67
2	29	29	84	78	47	378	431	95	431	23	37	46
3	21	33	73	56	52	425	431	121	431	48	58	35
4	21	31	155	37	102	73	135	388	431	80	108	32
5	21	11	53	59	268	65	90	430	68	77	28	38
6	20	23	47	67	431	70	78	80	74	298	32	35
7	48	27	41	431	78	72	427	89	95	270	43	36
8	25	23	44	431	49	85	431	111	330	110	47	81
9	21	24	38	78	45	345	47	114	420	43	75	77
10	21	38	342	72	48	394	53	150	48	62	207	34
11	31	72	302	114	48	68	101	392	31	68	274	35
12	31	41	43	114	238	4	102	432	32	78	307	30
13	54	83	38	15	285	41	127	144	38	242	51	32
14	90	21	38	248	42	48	431	88	43	321	59	21
15	58	38	80	431	32	82	431	100	211	71	53	31
16	38	52	73	53	43	421	52	182	310	44	89	28
17	43	321	801	45	58	431	62	188	38	48	85	23
18	38	338	403	57	62	118	102	431	32	42	118	24
19	58	238	143	81	341	45	88	431	38	65	84	22
20	73	78	128	85	404	57	132	431	44	201	62	28
21	92	83	148	406	88	44	431	106	281	223	81	28
22	47	43	188	431	88	87	431	127	307	54	81	34
23	38	87	188	43	70	118	110	118	318	37	244	34
24	28	180	431	27	73	431	60	127	38	25	288	33
25	38	228	431	28	77	61	78	371	22	27	288	37
26	38	68	152	88	108	118	88	431	38	60	67	48
27	62	87	147	80	431	138	87	88	45	67	67	64
28	108	61	132	354	414	148	418	118	82	138	32	71
29	48		122	431	62	288	431	118	227	37	13	82
30	35		118	82	61	328	128	118	400	38	88	128
31	34		158		23		134	128		32		106
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	1,354	2,207	4,835	4,781	4,247	5,438	6,585	6,278	5,284	2,842	2,887	1,481
WEEKEND DAY												
1	20	33	78	288	288	378	431	388	431	288	88	67
2	48	21	158	431	431	425	427	430	431	278	108	46
3	51	38	342	431	238	345	431	392	330	242	207	81
4	80	72	902	248	385	394	431	432	420	321	274	77
5	73	321	301	431	341	421	431	431	211	201	65	31
6	82	338	403	431	404	431	431	431	310	228	118	28
7	82	180	431	481	158	118	431	371	307	67	258	34
8	108	228	431	354	431	431	418	431	318	183	288	34
9			188	431		328	431		227			92
10									400			128
Total Weekend Days	8	8	9	9	9	9	9	8	10	8	8	10
Weekend Average	88	155	288	388	328	382	428	418	338	218	178	88
Total Weekdays	23	20	22	21	22	21	22	23	20	23	22	21
Weekday Average	35	54	83	88	73	104	124	128	94	82	67	38

DAILY CAMPING BITE USE COUNTS AT LAKE PEPPIS

Year of 1988

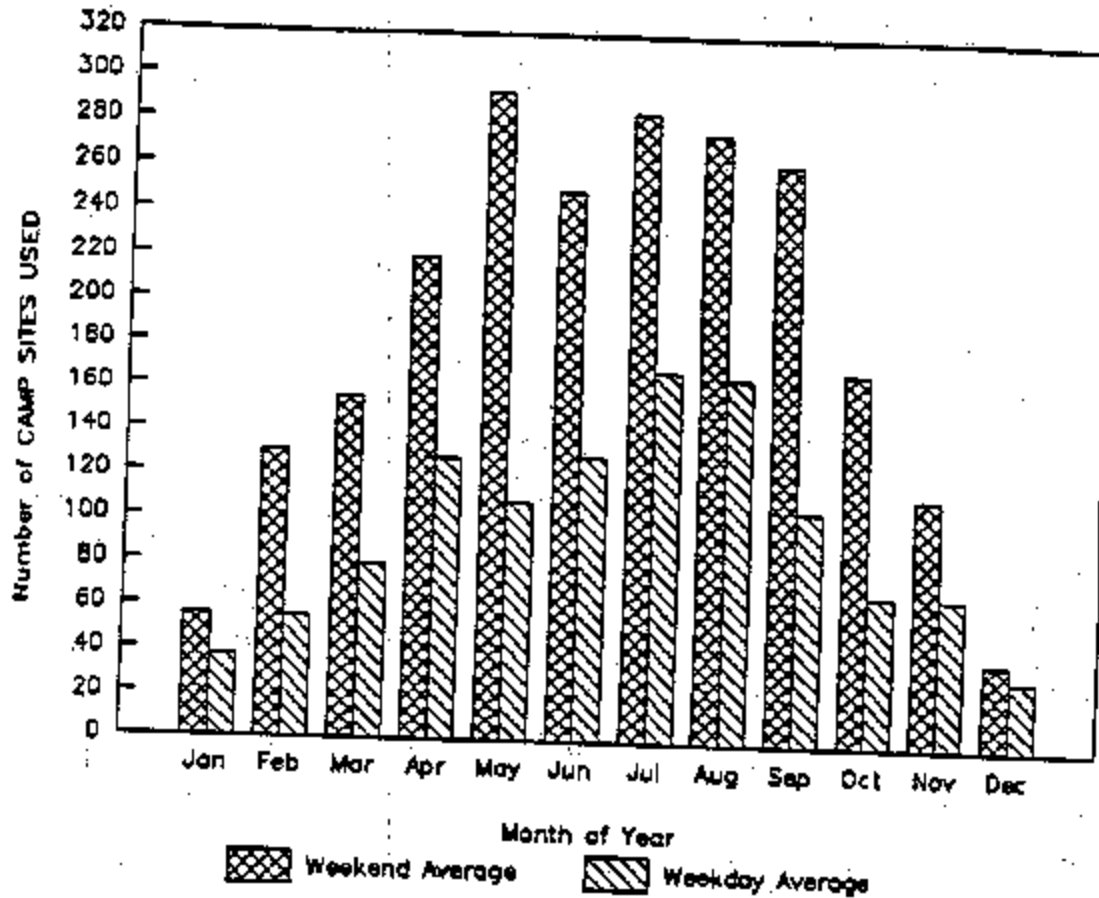
Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	83	38	39	431	64	43	431		120	298	38	48
2	59	38	46	417	41	62	431		378	61	48	51
3	28	35	58	83	60	178	431		431	40	47	64
4	20	42	121	125	60	430	81		431	42	143	29
5	24	80	210	69	47	64	52		431	72	178	32
6	27	120	72	78	188	62	73		65	76	58	28
7	28	48	81	83	282	50	148		45	188	29	28
8	62	47	70	431	60	49	431		80	338	37	28
9	65	58	50	491	45	64	431		360	119	82	29
10	33	50	58	85	48	430	138		402	84	248	35
11	28	94	174	88	49	430	117		78	58	287	33
12	35	348	280	82	54	79	104		41	68	234	24
13	38	431	41	91	388	88	88		36	74	78	23
14	38	288	47	85	428	73	125		33	251	28	24
15	83	50	68	212	431	62	431		33	342	33	28
16	112	88	67	302	67	73	431		297	84	28	28
17	37	50	73	41	51	352	80		348	20	28	29
18	87	48	202	26	58	394	104		44	43	41	23
19	29	90	362	23	82	82	83		40	35	60	21
20	44	173	68	25	388	63	87		34	68	87	22
21	45	180	51	28	491	71	114		25	188	58	21
22	48	63	53	181	52	101	431		37	258	68	21
23	58	64	62	188	48	138	431		298	58	188	20
24	48	61	74	44	48	431	102		125	38	201	24
25	80	82	355	48	54	431	106		402	38	312	21
26	80	108	430	48	228	115	89		73	45	283	29
27	44	188	235	62	431	62	78		54	41	34	27
28	48	108	130	88	431	48	119		28	38	28	37
29	80	41	140	368	431	82	431		48	168	28	41
30	88		158	837	68	153	431		237	48	82	63
31	38		218		88		402			38		60
Total Monthly Days	31	29	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	1,473	3,181	4,070	4,811	5,157	4,751	7,058	0	4,989	3,295	2,848	875
WEEKEND DAY												
1	83	80	121	431	188	178	431		378	298	143	51
2	59	126	210	417	282	430	431		431	188	178	64
3	62	348	174	431	388	430	431		360	338	287	29
4	65	431	280	431	428	430	431		402	291	234	35
5	83	85	202	212	388	352	431		297	342	41	28
6	112	173	362	302	431	394	431		348	188	50	29
7	48	108	353	181	431	431	431		288	288	312	20
8	58	188	430	188	431	431	431		125	88	258	24
9	60			368			431					
10	88			837			431		237	188		
Total Weekend Days	10	8	8	10	8	8	10	8	9	9	8	8
Weekend Average	72	185	267	330	573	394	431	0	319	234	183	35
Total Weekdays	21	21	23	20	23	22	21	23	21	22	22	23
Weekday Average	38	78	84	68	84	78	151	8	102	54	82	30



**LAKE PERRIS
MONTHLY AVERAGE TOTAL
CAMPING SITE USE
(1988 - 1993)**

SOURCE: State of California,
Department of Parks and Recreation,
Lake Perris, 1993





**LAKE PERRIS
WEEKEND & WEEKDAY AVERAGE
CAMPING SITE USE
(1988 - 1993)**

SOURCE: State of California,
Department of Parks and Recreation,
Lake Perris, 1993



Figure A-4

VEHICLE COUNTS AT LAKE PERRIS

MONTHLY VEHICLE COUNTS

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
1988	7,824	16,743	28,881	30,299	40,303	40,806	62,268	56,182	28,481	19,612	10,801	6,489	348,769
1989	7,713	10,435	24,399	30,937	27,580	34,015	45,765	38,634	21,088	18,031	11,805	6,416	289,838
1990	5,748	8,241	17,450	30,290	38,557	49,818	54,746	43,348	34,218	15,568	10,072	6,540	311,585
1991	6,702	12,384	12,539	25,832	32,204	38,898	47,449	45,568	31,895	18,458	8,586	4,052	283,577
1992	5,608	8,847	9,878	32,609	39,559	40,842	48,749	48,813	38,763	15,744	9,727	6,075	284,014
1993	6,395	7,345	18,862	34,578	42,773	42,307	50,768	47,141	29,042	16,950	9,042	5,832	310,235
AVERAGE	6,498	10,634	18,688	30,624	36,498	41,098	51,294	48,281	29,243	18,559	10,008	5,584	

WEEKEND AVERAGE VEHICLE COUNTS

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1988	442	1,241	2,918	1,918	2,657	2,804	3,493	3,215	1,857	1,805	787	329
1989	458	785	1,532	1,878	1,920	1,920	2,383	2,047	1,162	850	783	342
1990	344	633	1,173	1,819	2,898	3,013	3,025	2,487	2,085	1,082	665	313
1991	528	880	872	1,784	2,222	2,320	2,923	2,813	2,158	1,376	508	201
1992	823	573	810	2,147	2,480	2,585	2,940	2,978	2,180	1,030	558	277
1993	279	514	1,407	2,336	2,622	2,687	2,962	2,803	2,017	932	587	272
AVERAGE	397	778	1,818	1,882	2,483	2,523	2,858	2,721	1,908	1,088	648	288

WEEKDAY AVERAGE VEHICLE COUNTS

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1988	182	824	450	822	748	813	1,302	1,131	818	312	205	181
1989	163	228	528	609	531	848	1,041	881	608	244	252	143
1990	180	159	314	683	851	1,081	1,251	1,027	668	307	208	115
1991	108	238	182	488	627	775	1,048	820	688	824	191	102
1992	129	175	189	702	703	917	1,010	808	608	294	224	124
1993	124	162	335	722	788	942	1,088	898	597	354	205	183
AVERAGE	188	214	335	634	674	813	1,124	877	597	308	214	135

Note: Number of August 1988 is an average value, not an actual count

DAILY VEHICLE COUNTS AT LAKE PEPPER

Year of 1963

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	365	157	163	545	2240	376	1118	3538	780	562	270	173
2	93	187	187	459	2853	598	1409	975	694	1492	190	119
3	352	208	185	1811	471	837	3408	1107	680	1896	190	155
4	108	180	266	2251	419	738	3351	1156	2456	1400	249	418
5	88	210	432	432	538	387	8524	1483	3523	461	318	408
6	13	634	1266	567	571	1075	885	925	3353	265	623	81
7	43	848	1848	824	807	448	139	2786	581	231	1331	83
8	89	78	373	823	2122	588	1048	3482	829	570	215	132
9	183	114	317	1503	3050	751	1125	878	581	1021	249	110
10	44	159	341	2807	181	863	2555	823	609	962	174	140
11	128	176	408	3545	532	1102	3528	1179	3063	282	189	200
12	78	328	525	713	725	2712	1021	828	2208	248	195	375
13	73	701	1712	805	673	8880	816	1341	380	244	447	85
14	88	668	1832	852	1018	838	978	2190	318	215	577	76
15	38	398	223	694	1848	808	968	2637	329	284	181	83
16	90	281	328	858	3104	901	1208	637	272	337	109	108
17	57	184	370	1836	578	810	2761	848	848	830	176	122
18	17	48	443	1873	687	1304	3348	887	1003	192	138	228
19	102	20	717	485	687	2941	822	848	1373	252	187	154
20	142	82	1438	682	664	3937	857	1138	278	333	434	121
21	170	448	2025	788	808	1273	888	2517	238	262	470	86
22	180	89	448	863	2352	928	687	3109	281	342	122	148
23	602	84	802	738	2231	1238	1088	863	295	1042	188	130
24	587	183	481	2078	594	1338	2458	863	408	871	188	154
25	148	170	224	2801	648	1507	2732	829	1428	207	808	161
26	168	73	208	757	733	3078	728	881	2045	280	848	228
27	189	894	807	884	881	3783	723	1381	517	171	883	203
28	208	700	623	694	886	1187	758	2171	878	208	882	287
29	209		277	644	2785	1035	781	2734	447	340	124	334
30	494		827	827	3525	1180	1208	785	388	818	127	341
31	377				3581		2518	768		748		498
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	6,385	7,345	18,882	34,578	42,778	42,307	80,788	47,141	28,042	18,950	9,042	5,932
WEEKEND DAY												
1	80	634	1388	1811	2240	387	3408	3538	2458	1492	823	418
2	332	348	1848	2251	2853	598	1409	975	694	1492	190	119
3	189	701	1712	2807	2122	1075	3351	2788	3523	1896	1331	408
4	44	886	1832	3545	3050	880	3528	1160	2063	1021	447	200
5	80	82	1438	1836	1948	8941	2754	2637	1033	337	377	375
6	57	448	2025	1873	3104	8837	3348	2517	1373	630	470	154
7	302	334	607	2078	2352	8078	3458	3109	1428	1042	485	161
8	587	700	623	2804	2231	3783	2732	2171	2045	871	882	228
9	494				2785		2518	2734		818		
10	377				3525					748		
Total Weekend Days	10	8	8	8	10	8	8	8	8	10	8	8
Weekend Average	278	514	1,407	2,338	2,822	2,887	2,882	2,883	2,817	852	587	272
Total Weekdays	21	20	23	22	21	22	22	22	22	21	22	23
Weekday Average	124	182	335	722	788	942	1,088	996	587	354	205	183

DAILY VEHICLE COUNTS AT LAKE PERRIS

Year of 1962

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	252	453	579	253	719	588	825	2488	514	371	626	168
2	108	588	27	320	2265	733	1141	3453	675	550	224	124
3	10	105	98	516	2890	799	2671	907	584	1584	181	118
4	205	149	189	1059	470	698	3816	759	689	1568	224	22
5	38	156	151	1160	439	870	3251	881	1785	286	231	151
6	24	22	120	296	389	2028	1144	1043	3944	822	301	289
7	10	34	484	407	451	2235	815	1142	3378	445	739	36
8	88	480	585	532	893	891	500	2433	448	344	710	83
9	104	423	425	419	1647	703	830	3484	528	504	291	126
10	87	59	209	568	2038	590	1175	839	381	1254	150	125
11	477	24	302	1298	366	823	2212	1008	478	1628	312	74
12	323	13	314	2041	417	683	1817	1101	1359	483	188	240
13	70	19	451	518	821	2358	532	855	2723	845	254	177
14	110	174	891	503	592	2578	868	1130	419	240	578	97
15	88	38	1065	859	847	712	985	2718	888	237	895	98
16	101	138	263	734	2188	828	1167	3835	411	371	155	137
17	112	408	220	1283	2686	988	1309	835	434	888	141	104
18	353	178	258	2602	497	1040	2877	880	548	904	184	130
19	287	169	322	4258	480	1316	4084	960	1711	250	178	247
20	381	168	167	724	535	2887	808	875	2034	244	132	247
21	121	303	267	879	810	5552	858	885	434	198	334	181
22	151	813	287	812	814	1087	870	2780	440	185	477	120
23	132	1065	48	1201	2292	1045	811	2588	411	288	144	163
24	124	220	277	2888	8538	1288	1095	891	382	442	132	206
25	545	251	154	4138	8878	1284	2540	727	582	648	148	123
26	408	328	218	858	898	1478	3248	821	1831	244	348	452
27	147	302	162	858	483	2838	897	778	2150	202	708	410
28	132	421	331	873	489	2427	888	982	415	208	528	124
29	188	1150	824	894	781	833	1033	2448	877	151	817	89
30	181		142	511	2087	889	818	2478	401	122	108	287
31	288		187		3181		1175	880		351		
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	5,808	8,647	8,878	32,808	38,859	40,842	48,748	48,815	38,783	18,744	8,727	5,075
WEEKEND DAY												
1	205	453	579	1059	2265	2028	3818	2488	1789	1584	828	151
2	88	888	484	1160	2890	2235	8231	3453	3844	1588	733	289
3	477	490	889	1298	1647	2358	2212	2433	1838	1254	710	240
4	323	425	891	2041	2038	2578	1817	3484	2723	1628	578	177
5	353	88	1065	2602	2188	2887	2877	2718	1711	888	685	247
6	287	188	287	4258	2886	3552	4084	3835	2034	804	334	247
7	848	813	287	4138	2292	2888	2540	2780	1831	442	477	452
8	408	1068	531	858	8538	2427	3248	3686	2150	648	828	410
9					2087			2448		351		
10					3181			2478				
Total Weekend Days	8	8	8	8	10	8	8	10	8	9	8	8
Weekend Average	328	573	618	2,147	2,488	2,895	2,840	2,878	2,188	1,030	528	277
Total Weekdays	29	20	22	22	21	22	23	21	22	22	21	23
Weekday Average	129	178	189	782	789	817	1,010	988	888	294	224	124

DAILY VEHICLE COUNTS AT LAKE PERRIS

Year of 1991

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	354	116	117	223	345	1423	1081	854	4063	314	168	164
2	121	493	482	300	367	2280	1197	1091	4278	474	474	67
3	34	683	710	493	580	646	1156	2387	654	288	785	68
4	45	121	280	645	1845	692	3215	3082	658	631	185	82
5	290	148	121	878	2750	549	2012	845	348	1583	224	68
6	556	140	191	2018	642	548	3214	788	477	1914	281	64
7	77	228	224	1814	846	617	3140	945	1755	345	206	228
8	43	187	367	688	812	2223	787	1065	2101	368	247	100
9	62	839	1111	929	311	2811	1009	1184	361	367	688	47
10	85	1402	288	824	642	703	1035	2777	825	386	639	19
11	41	937	202	462	1472	568	1005	8221	313	649	607	57
12	231	202	254	963	2147	783	1141	880	544	1819	168	31
13	627	203	135	1944	558	538	2671	888	387	2051	183	69
14	105	236	188	2587	393	779	3449	931	1114	654	74	245
15	92	824	140	373	618	2111	969	835	3103	303	109	305
16	70	682	674	853	686	2828	849	1082	859	340	469	91
17	140	805	864	328	650	880	643	2578	483	820	474	79
18	128	720	189	345	1554	744	648	3168	391	820	88	56
19	688	244	29	444	2295	532	757	920	388	1280	127	47
20	697	820	34	949	478	837	2047	870	447	1589	137	67
21	144	253	120	1375	384	960	2824	994	1280	255	100	168
22	81	323	285	238	348	2334	824	782	2134	173	145	228
23	102	1337	654	212	581	2368	818	1258	894	183	433	125
24	102	1350	630	167	854	1331	988	2682	551	172	456	151
25	123	240	18	238	2384	789	561	8973	890	240	152	132
26	486	187	67	392	3231	611	919	734	847	413	144	284
27	380	116	67	1571	3302	782	2504	802	483	582	128	301
28	91	31	325	2088	442	1228	3538	827	1807	153	227	183
29	96		474	674	363	1630	821	777	2042	129	313	157
30	131		1151	524	318	3089	828	693	388	149	118	61
31	114		2160		418		413	2125		114		257
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	6,702	12,394	12,539	25,032	32,204	36,898	47,448	45,568	31,895	18,468	8,986	4,052
WEEKEND DAY												
1	280	493	482	2018	1845	1423	3214	2387	4069	1583	474	184
2	858	683	710	1814	2750	2280	3140	3082	1758	1914	785	228
3	681	639	1111	1944	1472	2223	2871	2727	2101	1818	688	100
4	627	1402	288	2587	2147	2811	3449	8221	1114	2051	889	245
5	808	692	674	949	1554	2111	2047	2578	3103	340	469	305
6	897	805	864	1378	2288	2828	2824	3168	1280	1589	474	168
7	486	1837	654	1571	2384	2334	2504	2682	2134	413	433	228
8	380	1850	630	2088	3231	2368	3538	3373	1807	582	458	183
9			1151		1630			2128	2042		118	157
10			2160		3089							
Total Weekend Days	8	8	10	8	8	10	8	9	9	8	9	9
Weekend Average	528	860	872	1,794	2,222	2,320	2,023	2,813	2,158	1,378	508	201
Total Weekdays	23	20	21	22	23	20	23	22	21	23	21	22
Weekday Average	108	238	182	485	627	773	1,048	920	685	324	191	102

DAILY VEHICLE COUNTS AT LAKE PERRIS

Year of 1990

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	387	78	141	1279	457	573	3275	1154	2267	267	141	339
2	43	112	204	357	634	2663	1268	878	3385	247	155	438
3	84	488	608	482	589	4453	1254	1329	3801	307	409	91
4	92	160	692	202	1061	1095	2394	2540	608	399	638	89
5	124	147	158	288	3087	891	894	2931	732	822	181	130
6	429	125	187	454	4417	872	1559	1000	815	1222	121	160
7	354	78	193	1112	882	906	8254	1004	818	1103	151	88
8	138	97	202	1338	707	1780	2928	1082	2149	397	190	400
9	80	189	250	797	834	1719	1049	1084	2578	265	252	501
10	141	697	511	1061	482	1892	1028	1218	510	968	698	95
11	135	1120	672	1288	581	858	1353	2379	515	319	1050	102
12	142	247	145	1770	1807	825	1144	2605	494	423	604	105
13	126	83	177	1743	2848	588	1250	927	841	1088	175	78
14	252	88	277	2362	427	835	2781	881	801	1180	180	78
15	270	128	309	3125	351	848	3032	708	2108	241	157	195
16	61	183	878	354	608	2412	889	865	2218	183	177	263
17	82	30	1574	397	603	8579	1201	1283	423	224	471	60
18	48	175	2078	488	858	868	1181	2157	427	226	518	108
19	100	318	473	818	1757	878	1158	2888	358	323	85	80
20	321	107	395	898	2348	1189	1868	989	350	873	75	58
21	919	147	585	1479	608	1185	3111	968	559	987	140	80
22	138	237	532	1907	747	1589	3182	1153	1752	287	415	94
23	112	218	780	271	789	3417	1054	1078	1487	288	863	131
24	143	1050	1033	358	707	3833	1158	1039	868	202	894	127
25	141	1343	2044	834	1011	1350	1251	1998	387	325	515	47
26	186	211	407	728	2454	1352	1152	2233	310	381	84	174
27	508	177	804	889	3360	1413	1454	808	320	840	114	177
28	452	222	187	2171	818	1441	2483	853	445	1214	102	198
29	182		253	1598	345	1773	3171	1158	1833	214	82	383
30	113		367	908	372	2847	1127	884	1882	344	118	381
31	95		1348		450		1112	884		232		318
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	8,748	8,241	17,458	20,280	36,857	48,818	54,748	43,948	34,213	15,956	10,072	8,540
WEEKEND DAY												
1	423	488	608	1278	3087	2883	8278	2540	2287	1222	488	338
2	854	160	692	1112	4417	4453	3294	2831	3385	1103	638	438
3	128	697	811	1338	1827	1719	3028	2578	2149	1088	688	400
4	252	1120	672	2362	2348	1892	2781	2888	2578	1188	1050	601
5	321	80	1674	3125	1767	2412	3032	2187	2108	873	471	195
6	318	175	2078	1479	2348	3579	3111	2688	2218	987	518	263
7	808	1050	1033	1907	2454	3417	3182	1889	1752	840	894	94
8	452	1843	2044	2171	3360	3833	2483	2233	1487	1214	515	131
9			1348	1598		2847	3171		1333			383
10									1582			391
Total Weekend Days	8	8	8	8	8	8	8	8	10	8	8	10
Weekend Average	544	688	1,173	1,818	2,886	3,018	3,023	2,487	2,885	1,882	685	813
Total Weekdays	23	20	22	21	23	21	22	23	20	23	22	21
Weekday Average	130	159	314	869	651	1,881	1,281	1,027	868	307	209	115

DAILY VEHICLE COURTS AT LAKE PEHRS

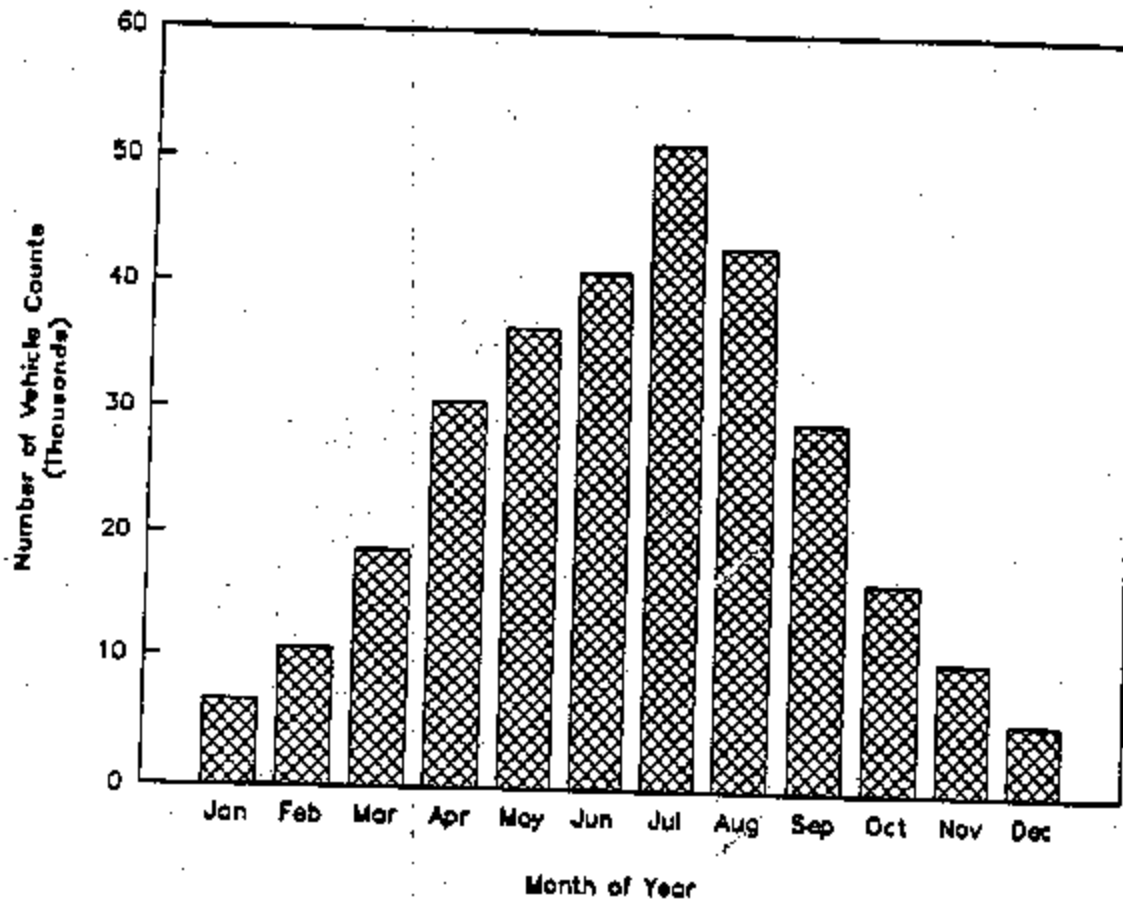
Year of 1965

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	343	189	210	1818	458	825	2087	808	720	1252	197	168
2	478	123	87	2761	500	793	2349	1091	259	208	234	407
3	73	106	205	439	531	1253	2338	990	2691	274	247	402
4	83	104	979	675	648	1433	2249	1121	2819	258	698	130
5	79	215	1602	871	680	469	802	1829	454	288	1093	124
6	72	88	382	874	1863	877	1081	2708	474	382	185	147
7	215	49	404	1243	2718	515	1238	876	851	1120	152	85
8	308	88	389	3159	487	408	2023	918	648	1918	214	178
9	188	35	414	2874	263	529	2844	872	1205	389	260	359
10	182	138	496	832	188	1093	932	894	1383	250	733	288
11	73	427	1545	720	172	1332	831	1081	268	322	842	83
12	87	489	2324	654	408	631	1085	2021	415	268	1002	74
13	188	180	348	700	1088	730	1189	2588	421	387	110	115
14	424	118	348	844	784	833	1202	857	438	774	178	80
15	542	183	414	1478	123	820	2282	831	570	714	179	110
16	448	183	830	1848	248	1088	3090	874	828	168	177	231
17	187	294	420	850	213	2854	689	967	691	218	253	275
18	184	814	1835	437	275	2602	770	1034	228	235	638	118
19	173	818	2187	418	553	881	802	1808	213	237	738	89
20	169	784	478	471	1845	858	863	2049	258	283	157	203
21	480	263	858	728	2738	883	1032	677	308	827	186	78
22	588	864	788	1913	572	882	2088	778	407	503	288	192
23	148	288	762	1733	638	1401	2712	789	1188	135	688	351
24	84	447	1053	148	818	2088	707	781	1288	177	888	188
25	108	1217	411	188	725	2738	783	721	188	178	712	45
26	118	1888	1586	178	862	1031	802	1552	345	187	348	247
27	170	871	496	884	2358	1088	888	1725	422	243	125	302
28	513	312	811	1022	2172	1245	882	637	388	717	188	258
29	725		735	1318	2073	1138	1844	742	858	788	107	188
30	192		779	883	358	1187	2553	784	887	183	134	485
31	289		1124		638		882	714		130		424
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	7,713	10,435	24,388	30,837	27,588	34,015	45,785	38,834	21,088	13,091	11,805	8,418
WEEKEND DAY												
1	843	104	878	1818	1882	1253	2087	1828	759	1252	898	407
2	215	215	1802	2761	2718	1433	2349	2708	2691	1120	1093	402
3	808	427	1943	3159	1088	1093	2023	8321	1205	1918	942	359
4	424	489	2324	2874	784	1332	2844	2588	1383	774	1002	288
5	842	814	1835	1478	1848	2854	2282	1808	828	714	638	231
6	480	818	2187	1848	2738	2882	3090	2049	691	827	738	275
7	688	1217	411	1313	2358	2088	2088	1552	1188	503	712	351
8	513	1888	1588	1733	2179	8738	2712	1725	1288	717	242	188
9				1318			1844		887	730		485
10				883			2853					424
Total Weekend Days	9	8	8	10	8	8	10	8	8	9	8	10
Weekend Average	498	735	1,532	1,878	1,920	1,820	2,383	2,047	1,182	850	783	342
Total Weekdays	22	20	23	20	23	22	21	23	21	22	22	21
Weekday Average	169	228	628	609	631	648	1,041	861	508	244	232	143

DAILY VEHICLE COUNTS AT LAKE PERRIS

Year of 1988

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	319	132	110	1408	1774	635	1474		802	1596	158	174
2	414	37	193	3104	422	698	3087		949	1740	162	186
3	317	157	224	2537	545	1259	3950		2361	288	201	453
4	90	180	264	811	450	2778	3350		3424	315	239	768
5	45	254	928	1817	50	2902	862		3468	330	893	101
6	114	795	1011	1102	258	370	1297		883	816	1238	200
7	118	1402	235	1029	651	469	1422		890	442	137	154
8	135	325	358	1105	1501	693	1517		598	1644	118	113
9	317	303	344	2597	460	655	2821		788	1818	218	100
10	807	278	218	3682	808	1128	3828		1751	627	170	491
11	117	328	412	983	724	1591	883		2148	400	487	557
12	121	1002	1458	787	815	2588	1054		2148	347	350	760
13	178	1825	1701	487	828	762	1198		449	438	778	185
14	208	2108	338	258	3184	817	1188		413	408	884	134
15	804	1845	292	418	3931	481	1285		888	1131	134	68
16	395	248	248	804	424	834	2858		647	1588	202	42
17	23	128	841	818	387	1040	4154		1393	307	168	174
18	840	202	688	198	829	2244	1089		1388	287	188	167
19	88	190	2141	212	842	2427	758		350	300	402	88
20	141	952	3741	22	1247	851	1318		210	281	671	84
21	138	1891	512	80	3448	774	1224		218	284	145	113
22	137	288	441	287	3692	1108	1284		327	1117	211	131
23	540	205	483	728	831	1108	3440		824	1030	234	141
24	898	278	810	1838	583	1428	4059		1047	198	898	157
25	158	267	878	414	713	2823	1132		1373	187	280	30
26	208	239	3182	688	867	3978	1303		808	201	725	389
27	153	572	4384	394	818	1408	1248		372	188	784	251
28	181	788	812	252	2318	1210	1889		820	188	174	248
29	295	158	848	358	3122	1327	1281		378	818	189	159
30	533		854	1840	3883	1848	3024		801	802	178	289
31	381		888		888		3712			288		237
Total Monthly Days	31	28	31	30	31	30	31	31	30	31	30	31
Monthly Subtotal	7,824	16,743	28,661	30,780	40,505	40,806	82,268	0	28,481	18,812	10,801	8,489
WEEKEND DAY												
1	418	785	828	3104	1774	2778	3087		2381	1398	883	453
2	317	1402	1011	2537	651	2802	3850		3424	1740	1238	768
3	317	1825	1458	2597	1501	1591	2821		1751	1844	780	491
4	807	2108	1701	3682	3184	2588	3828		2148	1818	778	557
5	395	852	2141	804	3931	2244	2958		1883	1131	402	174
6	22	1891	8741	818	3448	2427	4154		1383	1588	671	167
7	540	572	3182	728	3692	2823	3440		1047	1117	725	137
8	898	788	4384	1838	2318	3978	4059		1873	1030	784	33
9	533			1840	3122		3024			818		
10	381				3712					862		237
Total Weekend Days	10	8	8	8	8	8	10	8	8	10	8	8
Weekend Average	442	1,241	2,318	1,818	2,637	2,804	3,493	8	1,857	1,305	787	328
Total Weekdays	21	21	23	21	22	22	21	23	22	21	22	22
Weekday Average	182	224	450	622	745	813	1,302	0	818	312	205	181

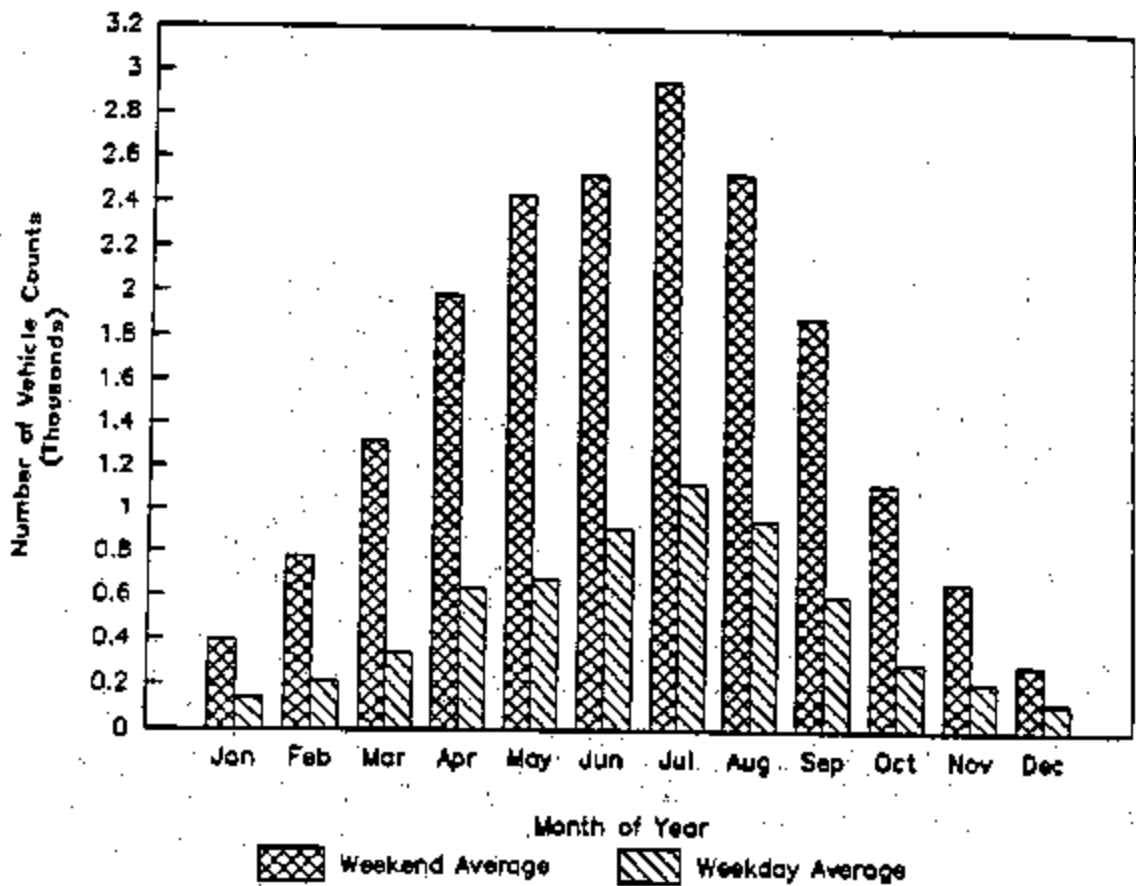


**LAKE PERRIS
MONTHLY AVERAGE TOTAL
VEHICLE COUNTS
(1986 - 1993)**

SOURCE: State of California,
Department of Parks and Recreation,
Lake Perris, 1993



Figure A-8



**LAKE PERRIS
WEEKEND & WEEKDAY
AVERAGE VEHICLE COUNTS
(1988 - 1993)**

SOURCE: State of California,
Department of Parks and Recreation,
Lake Perris, 1993



Figure A-8

APPENDIX B

Dock Construction Design Criteria

19. DOCK CONSTRUCTION DESIGN CRITERIA

A. GENERAL

Structural elements of dock floats, piers, dock covers, gangways, ramps, anchor cable systems, piling, and similar features must be adequate to safeguard not only human life but also the integrity of the boats and other material objects kept by boaters. Floats must be designed to assure permanent and level buoyancy. Good utilities will be required to provide for the convenience and safety of boaters, and all construction must conform to the pleasing appearance of the overall lake.

B. DOCK FLOATS

1. Dimensions

Main floats serving finger floats on one side only shall have a minimum width of 6 feet. Main floats serving finger floats on both sides shall have a minimum width of 8 feet.

Finger floats up to 30 feet in length shall have a minimum width of 3 feet. Finger floats over 30 feet in length shall have a minimum width of 4 feet. However, "U" shaped and "W" shaped docks shall have minimum finger float widths of 4 feet and a minimum main float width of 6 feet.

Docks of "L" shape, "T" shape or straight platform shape shall have minimum float widths of 6 feet.

Slips shall not be occupied by boats more than 3 feet longer than the slip. All slips shall be single occupancy unless otherwise approved by the City.

Where finger floats are connected to a main float, a fillet shall be incorporated in the design and shall extend a minimum of 4 feet along both the finger float and the main float.

2. Lateral Loading

Dock floats shall be designed to withstand a wind load imposed by the berthed craft determined by the following formulas:

- | | | |
|-----|--------------------|--------------------------|
| (1) | $P = 15 (0.10L^2)$ | L = 70 feet or less |
| (2) | $P = 15 (0.15L^2)$ | L = greater than 70 feet |

Where P = total load in pounds
L = length of dock in feet

3. Materials

Flotation units shall be one of the following: (1) concrete cast around a solid core of expanded cellular plastic; (2) pressure-molded fiberglass reinforced plastic; or (3) an expanded cellular plastic material coated with an approved material to prevent physical damage. Hollow concrete floats will not be permitted.

Deck surfaces may be concrete, plastic or wood. Lumber for decks shall be a minimum of 1.5-inches net thickness, unless otherwise specifically approved by the City. All lumber except decking shall be select structural grade Douglas Fir. Wood decking shall be vertical grain Hemlock. Use of other woods for decking shall be subject to the approval of the City. All deck surfaces shall have a non-slip finish.

All lumber shall be dried to an average moisture content when used of 10 to 18 percent with 90 percent of load less than 12 percent. All lumber shall be treated with fluorochrome arsenate phenol meeting the requirements of the American Wood Preservers' Association. Methods of application and results of treatment shall be as specified by the American Wood Preservers' Association. All lumber cuts and bolt holes shall be given a brush coat of concentrated chrome arsenate phenol solution.

All lumber, except decking, shall be given a primer coat as recommended by the manufacturer, and two finish coats of approved epoxy paint. Hemlock decking shall not be painted, but instead shall be given a finish treatment of pentachlorophenol meeting the requirements of the American Wood Preservers' Association standards for oil-borne preservatives.

4. Flotation

Sufficient flotation shall be provided to support a live load of 20 pounds per square foot of deck area, with a freeboard of not less than 9 inches. With no live load, the freeboard shall be between 15 inches and 18 inches. Flotation units shall be the product of a manufacturer regularly engaged in the production of such units for marine construction. Dock float decks shall not overhang the flotation units except where guide piles are located in the end of the float unit.

C. GANGWAYS/RAMPS

Gangways and/or ramps shall have a minimum clear width of 3 feet and a minimum length so that the gangway/ramp is no steeper than 3:1 (horizontal:vertical) during the dock's position at lowest lake level. Where the gangway/ramp rests on the main float, adequate flotation shall be provided. Gangways/ramps shall be designed for a live load of 40 pounds per square foot.

Protective handrails shall be provided along both sides of each gangway. Handrails shall be designed to withstand a lateral load of 30 pounds per lineal foot, applied to the top rail.

D. GUIDE PILES/ANCHOR SYSTEMS

If guide piles are used, all piles shall be prestressed concrete or concrete-filled steel pipe and the tops of all piles shall be to at least elevation 1,256 feet MSL. An effective cone-shaped bird deflecting device shall be provided at the top of each pile. If anchor systems are used, all anchors, cables, chain, winches and fasteners incorporated in the designed system shall be adequately sized and of non-corroding materials/coatings to hold the dock in-place during design load conditions, and be able to easily accommodate adjustments for repositioning of the dock during changing lake levels.

Sufficient investigation and design shall be carried out to insure that each pile or anchor system with cable or chain is adequate to resist the lateral load imposed. The number of piles or anchors and cables provided shall be sufficient to withstand wind loading on berthed craft with all dock slips occupied. Wind loading normal to the axis of berthed craft shall be determined by the formulas listed in Paragraph 19 B.2. Wind loading parallel to the axis of berthed craft shall be determined by the following formulas:

$$(1) \quad P = 15 (0.10 \text{ WL}) \quad L = 70 \text{ feet or less}$$

$$(2) \quad P = 15 (0.15 \text{ WL}) \quad L = \text{greater than 70 feet}$$

Where W = Width of slip

Guide piles and anchor systems shall be designed by a licensed engineer and all calculations and other pertinent data shall be submitted for approval. Steel pipe for piling shall have a minimum diameter of 8 inches, a minimum wall thickness of 3/8-inch and shall be hot dipped galvanized.

E. DOCK COVERS

1. General

Dock cover framing to be of steel gage metal construction with corrugated steel roofing and siding panels. Aluminum dock covers may be approved, if their design and submittal is equal to the below specifications for steel construction.

The Applicant shall provide the following submittals:

- (1) Calculations for approval demonstrating ability of dock covers to resist design loadings, and showing all column loads applied to float. All calculations to bear the stamp and signature of a Civil or Structural Engineer registered in the State of California.

- (2) Complete design drawings and shop fabrication drawings for approval by the City. All drawings to bear the stamp and signature of a Civil or Structural Engineer registered in the State of California.

All fabrication, field connections, and erection to conform to AISI specifications, latest edition.

2. Materials

Roof sheeting to be Curoco or approved equal, 26 gage minimum, conforming to ASTM A 446, Grade A. Provide ASTM A 525, G 90 galvanizing and baked-on factory enamel. Submit color for approval. Slope to drain. Use longest available sheets to minimize lapping.

Wall sheeting to be Curoco or approved equal, 26 gage minimum, conforming to ASTM A 446, Grade A. Provide ASTM A 525, G 90 galvanizing and baked on factory enamel. Submit color samples for approval.

Sheeting shall be attached to framing with "Fabco" (or approved equal) Number 14 by 3/4-inch cadmium-plated screws in valleys of sheet. Space at 4 inches on center at roof edges and 8 inches on center at interior supports. Screws to have colored heads to match sheeting.

Sheeting side laps and flashings shall be attached with "Fabco" (or approved equal) Number 14 by 3/4-inch cadmium-plated screws at 24 inches on center. Screws to have colored heads to match sheeting.

Flashings and gutters to be minimum 24 gage with A 525 (G 90) galvanizing with baked-on factory enamel to match sheeting.

Structural members to be minimum 12 gage ASTM A 446, Grade D with minimum yield of 50,000 psi and G 90 galvanized coating or equal. Columns to be a minimum of 10 gage. No shop or field paint is required on framing members. Clips securing the columns to the pontoons shall be ASTM A 36 hot dip galvanized secured with ASTM A 307 hot dip galvanized bolts.

All framing field connections shall be bolted with 5/8-inch diameter A 325 bolts with 2 hardened washers, except as noted.

3. Loading

Design all framing, sheeting, and connectors for the loads defined below:

- | | | |
|-----|-------------------|-------------------------|
| (1) | Roof Live Load | 15 psf |
| (2) | Lateral Wind Load | 15 psf |
| (3) | Uplift Wind Load | 19 psf (less Dead Load) |

Purlins shall be so framed as to be fully continuous over the purlin supports. Bolts in purlin connectors shall be in horizontally slotted holes to accommodate minor variations in deck finger spacing.

All framing members shall be so arranged that they lap at connections to avoid the use of collateral connection clips where possible.

Unless shown, or noted otherwise, columns shall be braced from 10 feet above the deck to the top of column to form portals resisting lateral forces and deflections.

Provide a drainage gutter along the diagonal cut of a low roof extending under a high roof where the lap occurs.

APPENDIX C

**Unlimited Racing Commission
(Race Site Manual)**

UNLIMITED

RACING

COMMISSION

Race Site Manual

Unlimited Racing Commission
414 Pontius Ave. N.
Suite C
Seattle, Wash. 98109
(206) 467-1368

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INTRODUCTION

Persons or organizations interested in conducting an Unlimited Hydroplane Racing event must meet requirements set forth by the Unlimited Racing Commission (URC).

It is recommended that planning for an Unlimited event begin no less than one year prior to the planned event date. Site requests may be submitted to the URC. Upon a positive review, arrangements may be made for a URC official to inspect the proposed site, with expenses being paid by the promoter of the proposed site.

Once the site passes inspection, the site promoter is required to carefully prepare the details and logistics of the proposed event in the form of a final presentation to the URC. At this time, the promoter must also post at least \$50,000 of the \$150,000 prize package, which is non-refundable in the event of a cancellation on the promoter's behalf. Upon successfully meeting these requirements, the URC will approve the event and set the date.

The URC reviews final presentations of proposed race event sites for the next race season at the annual APBA meeting, held in November. Arrangements for making a presentation to host an Unlimited event can be made through the URC office.

This manual details the requirements that must be fulfilled to conduct a sanctioned Unlimited event.

While this manual covers many aspects of conducting an Unlimited event, it is not inclusive since each site's conditions will vary. It is highly recommended that persons planning an Unlimited event attend at least one event as a fact-finding mission and to establish contacts with current site promoters.

Donald C. Jones
URC Commissioner
APBA Unlimited Vice President

URC
414 Pontius Ave. North
Suite C
Seattle, WA 98109
(206) 467-1368
FAX: (206) 467-0235

THE UNLIMITED RACING COMMISSION

The Unlimited Class is a division of the American Power Boat Association (APBA), the official sanctioning authority for power boat racing in the United States.

The governing body of the Unlimited Class is the Unlimited Racing Commission (URC) under the direction of a Commissioner and a board of directors, consisting of drivers, owners, crew chiefs, race site promoters, directors at-large and URC officials.

The URC organizes the Unlimited Hydroplane Series, which is annually a series of races held at different race sites across the United States.

Generally 10-15 Unlimited Hydroplanes, also known as Unlimteds, make up the fleet of the Unlimited Class. The Unlimteds are the world's fastest racing boats, capable of speeds of over 200 miles per hour.

In addition to the teams and their boats, the URC provisions include the following:

- URC Mobile Headquarters
- URC Timing Clock, Trailer and Official Timers
- URC Official Referees
- URC Medical-Rescue Boat and Paramedics
- Official Television Production Crew
- Unlimited Radio Network

UNLIMITED HISTORY

The sport of Unlimited Class Hydroplane Racing traces its heritage to early European power boat racing.

The first successful power boat race of the 20th century was held at the Paris Universal Exhibition of 1900. In 1903, the British International ("Harmsworth") Trophy was established. Then, in 1904, the initial contest for the American Power Boat Association (APBA) Gold Cup was held on the Hudson River in New York. The Gold Cup is power boat racing's most prestigious award. It continues today as the oldest championship trophy in American motor sports.

The pioneer race boats resembled the current-day Offshore Class racing boats in appearance, and plowed through the water rather than skim over it. In 1936, the current-day, sleek "three-point" hulls that ride on the railing edges of two pontoon-like running surfaces called sponsons, established themselves as the competitive norm.

With the close of the World War II, the modern era of Unlimited Class Hydroplane Racing began, as the boats became powered by converted military aircraft engines, including the Allison, Rolls Royce Merlin and Rolls Royce Griffin. The automobile engine has also been used by some Unlimiteds.

In 1984, a new powerplant made its competitive presence known - the jet turbine engine. Originally designed to power a military Chinook helicopter, the turbine represents the most competitive and reliable source of power for the Unlimiteds. Turbine-powered Unlimiteds are continually setting new high-speed records.

In 1985, the enclosed cockpit or "safety capsule" was introduced. Now it is required equipment on all Unlimiteds and has been directly attributed to saving the lives of many drivers.

As the speed and technology continue to increase, so does the popularity of America's most unique form of motor racing, the Unlimited Class of Hydroplanes - "The World's Fastest Racing Boats."

UNLIMITEDS - THE BASICS

The Unlimited Hydroplane Race circuit typically consists of events coast to coast, taking place from May through October. Each race event has two days of qualifying and testing and one day of racing. To qualify, a piston-powered boat must run a competitive lap average speed of 120 miles per hour, while a turbine-powered boat must go 130 mph.

The standard course is a two-mile oval, however there are exceptions. Some courses are a mile and two-thirds, others are two and a half miles. The two-mile course allows the boats to be in easy viewing distance of spectators and provides a safe, more controllable course for the drivers than the longer courses. The two-mile course also accelerates the thrill, speed and strategy in the turns, which makes for an even more action-packed event.

Race day begins with three preliminary heats. Each heat has two sections - A and B. To determine the lineup for each heat, the qualifying speeds are used for the first heat and then a drawing will take place for the second and third heats. Boats accumulating the highest point totals during the first three heats are eligible to compete in the final heat. The winner of the final heat is the winner of the overall race event.

Of all the race events, the Gold Cup is the most coveted. It is awarded after a bidding process by the race sites. The Gold Cup is the creme de la creme of Unlimited Hydroplane Racing and parallels auto racing's Indy 500 and Daytona 500 and the NFL's Super Bowl. The prestige surrounding the Gold Cup stems from its distinguished heritage, longer overall race distance and heightened competition.

In addition to competing to win each race, drivers and boats compete for National High Points Championships. Points for all heats are: First = 400 points; Second = 300 points; Third = 225 points; Fourth = 169 points; Fifth = 127 points; Sixth = 95 points.

The Series prize package exceeds \$1 million.

Each winter following completion of the race season, the URC holds its annual awards banquet, where owners, drivers, crews, sponsors, media and other important individuals are recognized for their achievements and contributions.

RACE FORMATS

There are two race formats used by the Unlimited Racing Commission, the regular format and the Gold Cup format. The regular format has three preliminary heats, a last chance and a final. The Gold Cup has four regular heats, no last chance and a final. The Gold Cup is racing spread out over two days, the regular format calls for racing only on Sunday.

REGULAR FORMAT

The regular format was started in 1986 in Madison and is now the rule on the circuit. The format is considered by some to be more exciting because there are added heats and the three-lap heats make for close, exciting racing. The regular format calls for a flag start, forcing all boats to be lined up at the start of a race.

1-A and 1-B -- Three laps
2-A and 2-B -- Three laps
3-A and 3-B -- Three laps
Last chance -- Three laps
Final -- Five laps

GOLD CUP FORMAT

This format, used only for the Gold Cup which is held once per season, is considered an endurance test. Two heats are held on Saturday, two more on Sunday along with the final.

1-A and 1-B -- Three laps
2-A and 2-B -- Three laps
3-A and 3-B -- Five laps
4-A and 4-B -- Five laps
Final -- Five laps

FINANCIAL REQUIREMENTS

The following example of estimated APBA and URC financial requirements must be met to conduct an Unlimited event:

Prize Fee Money	\$149,375
Sanction Fee	\$ 8,000
APBA Sanction	\$ 3,000
Race Site Liability Insurance	\$14,000
APBA Team Medical Insurance	\$ 3,000
TOTAL FEES	\$177,375

As mentioned earlier, first-time race sites must post at least \$50,000 of the total prize package (non-refundable if race event is cancelled on promoter's behalf) upon acceptance of the site by the URC.

Other costs incurred in hosting an Unlimited event vary greatly from site to site, therefore making it difficult to provide an accurate estimate on approximate costs. Current site promoters speculate it would cost \$350,000 to \$500,000, including the above mentioned prize money, sanction fee and insurance, depending upon what donated products and services are acquired. It is recommended your organization be set up to receive tax-deductible contributions.

EXPENSE CHECKLIST

ITEM	AMOUNT	ITEM	AMOUNT
Accounting		Novelties	
Advertising		Office Expenses	
Air Show		Office Trailer	
Ambulances		Oil Pick Up	
APBA Region Fee		Oil Sorb	
Attorney		Public Address	
Beach Clean-Up		Parking	
Beer permits		Permits	
Bleachers		Phones	
Bus Rental		Photographer	
Captain's Club		Port-A-Potties	
Cones		Printing	
Contingency		(Credentials, Parking Passes	
Copy Machines		Pit Tour Passes, General	
Corporate Areas		Admission Tickets, Arm Bands,	
Course Materials		Instructions, Flyers, Brochures	
Course Survey		Programs, Pit Passes,	
Cranes		Art Work, Stationary, Tent	
Docks		Holder Cards, Tickets)	
Drinking Water		Purse (Prize Money)	
Dumpsters		Radios	
Electrical		Sales Commissions	
Fencing		Sanction Fees	
Fire Fighting		Scaffolding	
Equipment		Scoreboard	
Flares		Security	
Generator		(Police, Night and Gates)	
Golf Carts		Site Fee	
Ice		(To Owner of Site)	
Insurance		Shirts and Hats	
License and Fees		Signs and Banners	
Medical Equipment		Tent Rental	
Miscellaneous		Trash Bags	
Motor Homes		Trophies	
		Worker's Shirts	

GEOGRAPHICAL REQUIREMENTS

The ideal site for an Unlimited Hydroplane Racing event is a calm, sheltered body of water which has ample viewing areas for spectators and adequate pit facilities for the race teams and their boats.

The largest percent of this viewing ideally is on land, however, with proper safety precautions taken, parts of the course may be viewed from a spectator fleet of boats on the water. The minimum water facility requirements to accommodate a 1 2/3-mile oval course is 2,600 feet in width and 6,000 feet in length with a minimum water depth of five feet.

The two-mile course, which is preferred, requires a body of water 2,600 feet in width, 6,500 feet in length and a minimum water depth of sixth feet.

LAND FACILITY REQUIREMENTS

START-FINISH LINE

The start-finish line tower, also known as the Official Tower, is to be at least 14 feet tall with railing, canopy and must be able to accommodate at least 16 people, including three scorers, three timers, two flag people, a URC computer with two operators, URC chief referee, URC safety inspector, national radio broadcast team, public address announcers and related equipment. The tower may be two or three stories with a minimum width of eight feet.

Also at the start-finish area is to be:

- * Area for the press
- * Area for course surveyor, high enough to view course
- * Telephones
- * Electrical power for equipment (110V or 120V for timing)
- * Restroom facilities
- * Tables and chairs to accommodate 16 people

It is recommended that the area be fenced from the general public. Security must be maintained at all times. Also, flags and flares for the starting boat and turn boats are controlled from this area.

PIT AREA

Working pits: The recommended size for the working pit area is 450 feet long and 125 feet wide. This area will accommodate 16 boats, four cranes, fuel, medical area and pit tower. Paved areas are preferred. This area must be enclosed with six-foot high fencing, with a minimum of three pedestrian gates, four feet wide and a truck-sized gate on each end. Within the pit area, a temporary fence separates the cold pits from the hot pits. The hot pit area is to be secured, allowing entry only to people with proper credentials.

FLOATING DOCKS

A 200 foot by 8 foot dock parallel to the hot pits or a minimum of four finger piers (8 feet wide, extending at least 16 feet and reaching out to a minimum of five feet in water depth) are to be positioned in the water behind each crane. A minimum of three Halon fire extinguishers should be placed on the docks.

ELECTRICAL POWER

A power line should run along the water side of the pits with a minimum of one 120VAC, 20 Amp circuit with three-wire duplex receptacles per entry; a minimum of one 240VAC, 100 Amp circuit in the pit area.

PIT TOWER

The pit tower should be located in the center of the pits with a view of all the boats. The working platform must be 14 feet high with a canopy. The qualifying scoreboard should fasten on the back side of the pit tower for full viewing. The qualifying scoreboard should be large (10 by 15 feet) and list all boats, heats, points, etc. Also, a separate public address system capable of being heard over the entire pit area is controlled by the pit announcer from the pit tower (power outlet required).

WASTE OIL DISPOSAL

Each boat is to have two 55-gallon drums with the tops cut out and screened (to keep debris out) placed in the pits for the disposal of waste oil. These drums are to be emptied throughout the day, as they fill quickly. Also, oil sorbs need to be available for oil spills.

WATER

A 1-inch water line is to run along with the water side of the pits in back of each boat (one hose spigot per entry). If water is not potable, clean drinking water must be provided for the entire pit area.

PIT SANITARY FACILITIES

If permanent restroom facilities are not available, a minimum of 10 port-a-potties must be placed along the land-side fence in the pit area. They must be serviced daily.

GARBAGE RECEPTACLES

Each boat must have two large garbage receptacles and the remainder of the pit should have 50, all of which need to be emptied daily.

CRANES

There is to be a 2 1/2-ton capacity mobile crane available from noon on the day before qualifying until 24 hours after the conclusion of the event for the purpose of engine hoisting.

On the days of the event, a minimum of one crane of 40-ton capacity or greater with a 40-foot boom is to be provided for every three boats. Cranes are to have a minimum four-part line. It is recommended that cranes have power down equipment. In the case of hydraulic cranes with a capacity of 50 tons or more, such cranes may handle four boats each. All cranes shall be available with operators for a minimum of one hour before and one hour after the official testing and qualifying periods, and also for a minimum of one hour after the finish of the final heat. Boat crews shall have direct communication with the cranes operators - no middle man.

FIRE PROTECTION

A fire lane 16 feet wide must run the length of the pit area and must be kept clear at all times. Two CO/2 or Halon fire extinguishers must be stationed at each Unlimited Hydroplane. Fire protection, approved by the local fire department, must be provided during the entire event.

PIT SECURITY

There must be a minimum of two persons on each gate during testing, qualifying and heat racing. Security on the temporary fence separating the cold pits from the hot pits is also required during racing events. Uniformed security personnel are most effective and recommended. Overnight security for boats and pit area must be provided. Pits must be well lit during the night hours.

FUEL

Race sites are responsible for making fuel available for sale. Each boat typically will use 300 to 400 gallons. The most often used fuels are Av-Gas, Jet-A and methanol. Each boat camp is responsible for providing race sites with its fuel requirement well in advance of the event. Boat camps are to arrange for credit or be prepared to pay cash.

FUEL STORAGE AREA

Fuel storage area is to be 20 feet by 300 feet, with one 10-foot gate and is to be surrounded by dirt mounds, three feet high on three sides. Fuel is stored according to class. Proper fire protection is required as prescribed by the local fire marshal.

MEDICAL

A medical trailer or area (with a telephone) capable of providing emergency care and driver examinations is needed. One physician and a registered nurse should be on duty at all times. At least two ambulances are to be available and a private auto with driver to transport family to the hospital, if necessary. One ambulance must be in the pits during the times the pits are open. It is recommended that a minimum of three EMT's be on duty. The following information is to be provided to the URC mobile headquarters: Names of the doctors and their work schedules, name and location of the designated hospital along with its distance and route from the pits.

All medical personnel and ambulance are to remain on site until at least one hour after the final heat. Consult with URC medical coordinator for further information.

OUTER PIT AREA

NEWS MEDIA

A trailer or enclosed area should be designated for the news media. It should have power, basic refreshments, a copy machine, a fax machine and a minimum of two telephones.

PARKING

The outer pit areas (reserved for URC officials, teams and other official vehicles) should be large enough to park 100 cars, 20 mobile homes or trailers and 10 service vehicles. This area should have potable water, sanitary facilities and power for official trailers and RV's (110VAC, 30 Amp outlets at each).

ICE TRUCK

One thousand pounds of ice (per day) in 25-pound bags or less are to be purchased by boat camps, concessionaires, etc.

PIT TOUR AND PIT PASS SALES

Pit tour and pit pass sales should be designated outside one of the pedestrian gates.

CREDENTIALS

A trailer or covered area is to be set up to conduct validation of credentials, which allow people into the pit area. Each credential holder is to sign a waiver and receive a validation decal with the name of the host city. The decals (provided by the URC) are to be placed on the credential pin or pass.

HELIPORT

A heliport, if space is available, is to be located near the pits for emergency medical airlift purposes.

TURN JUDGE HELICOPTERS

Each race site is to arrange for two helicopters to carry two turn judges for race day.

TELEVISION PROVISIONS, REQUIREMENTS

Diamond P Sports makes available to each race site the opportunity to have a one minute to one-and-a-half minute feature on their city and/or surrounding area incorporated into the hour-long television broadcast on cable sports channel ESPN.

This feature will help race sites in obtaining city and state cooperation support and funding via the local Tourist Development Council (TDC). Diamond P Sports is willing to help in any way to make this national television feature beneficial to you and your race site. Scripting and video will need to be supplied 45 days in advance of the airing.

The following is a list of site requirements needed to be supplied by each race site for the nationally televised event:

PRODUCTION TRUCK

Parking location in the pit compound or adjacent to the pit compound with full access to the area. Parking area would have to accommodate a 55-foot tractor trailer with an equal amount of crew work area (55 by 20).

SITE POWER

The production truck requires either single-phase/220 volts/300 amps or three phase 220 volts/300 amps. Power source should be supplied by a disconnect box located within 150 feet of the production truck location.

SECURITY

Security must be supplied overnight at all camera locations and at the production trailer. Sites with crowd problems will also need security during the day of the race at trouble spots.

SCAFFOLDING

Four camera platforms with locations to be specified at a later date. Construction should be two units side-by-side to make a platform approximately 7 feet deep by 10 feet wide. These units need to be elevated three units high to make the working deck 15 feet from the base. The platform deck needs to be fully planked and reinforced with plywood for minimum bounce, or sway.

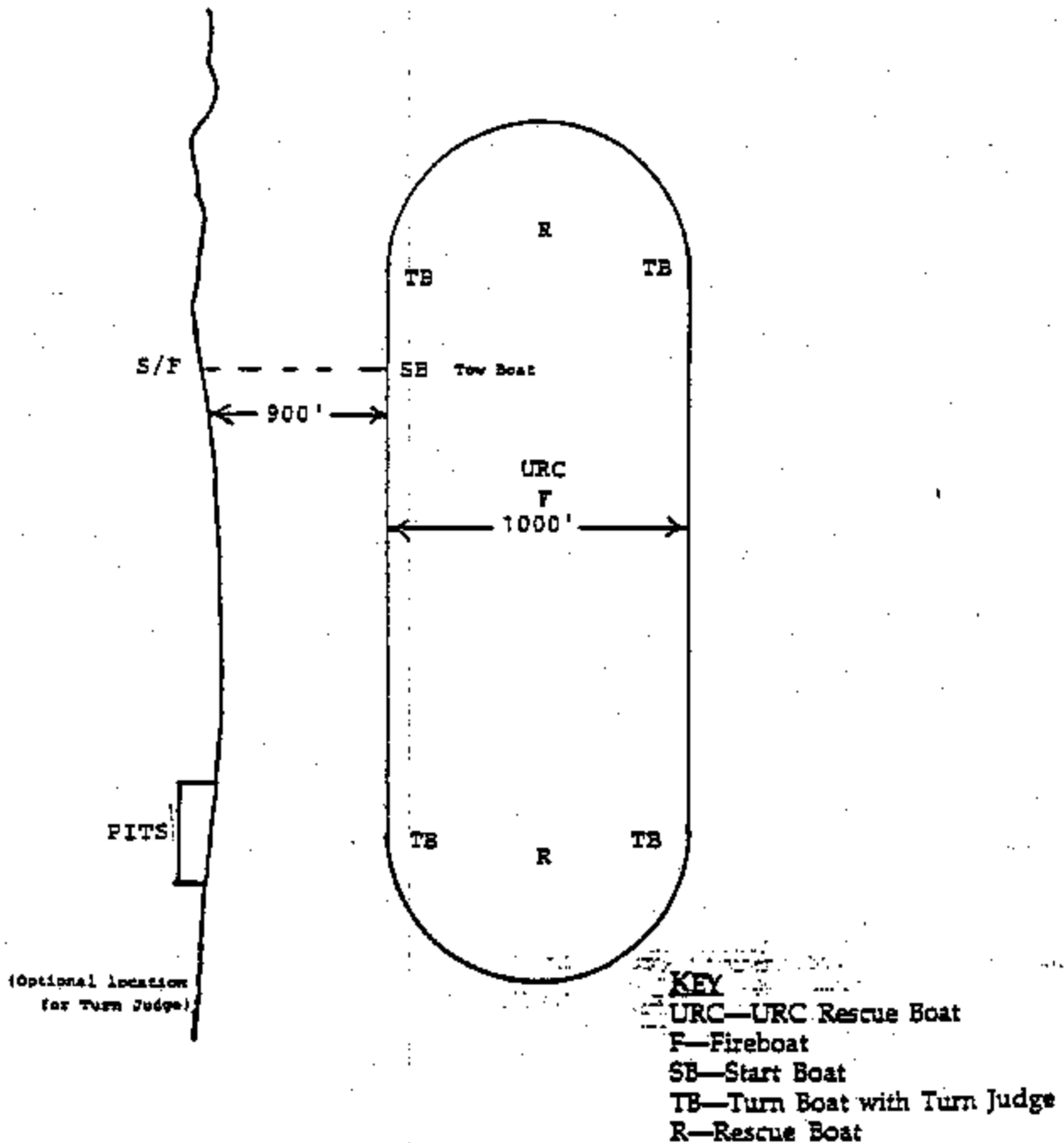
RACE COURSE AND SUPPORT BOAT REQUIREMENTS

Race Course

The race course must be designed and surveyed by a licensed surveyor using current survey maps, taking into consideration land features, water depths, viewing areas, and insurance regulations.

Enclosed is an APBA Unlimited Racing Rules book. Please refer to Rule Three for course specifications.

RACE COURSE LAYOUT EXAMPLE



SUPPORT BOATS

It takes a small flotilla of boats to run an Unlimited event. The specific boats and their requirements are as follows:

OUTSIDE PERIMETER BOATS

These boats keep pleasure boats at least 1,500 feet from the outside buoy line. All boats must have radio communication with one another. These boats should be 16-20 foot pleasure crafts.

TURN BOATS (2)

One at each turn, anchored turn judges to be provided by the site promoter will be on these boats. (Preferably a 35-40 foot pleasure craft with a covered bridge).

START BOAT (1)

This will be anchored at the starting line and will have start flags that will be supplied by the URC. This boat should be a 35-40 foot pleasure craft.

FIREBOATS (2)

Insurance regulations require long pants. Boats never move except by the direction of the Safety Inspector or Chief Referee. All boats must have fire-fighting equipment and fire-fighting knowledge with the fuels in boats so as to use the proper equipment for each boat. First aid equipment on each boat. Stokes litter with rope sling on each boat. Each boat must have one of the URC radios. Driver and two firefighters on board boat. Must have proper tow lines to tow 9,000-pound boat. Must have rags on board to use for holes in race boats. These fireboats should be 18-20 foot pleasure craft.

RESCUE BOATS (3)

Boats will never move except under the direction of the Safety Inspector or Chief Referee. Must have a pump to pump water out of sinking boats, proper tow lines to tow a 9,000-pound boat, rags for holes in boats and fire extinguishers. The following medical equipment: c-collars, bagmask, airway gear, oxygen, suction unit, floating basket litter with a backboard secured in the bottom fitted with enough straps to immobilize an injured driver and a Kendrick Extrication Device (KED). Other rescue equipment includes a small pry bar, pliers and screw drivers. Crew should consist of two divers and one paramedic. One diver shall have suba equipment on anytime an Unlimited is running on the water. A 10-20 cubic foot tank is preferred for mobility. The other diver should be in snorkeling gear (scuba gear optional).

The URC provides the No. 1 rescue boat for the race. Rescue boats should be 18-20 foot pleasure crafts.

ESCORT BOATS (2)

One for each end of the pits. Three people per boat, all persons must have knowledge of towing boats. Two large fire extinguishers in each boat. Proper tow lines to tow 9,000-pound boats. Rags for holes in race boats. Need to wear long pants. Must have race course radios. Never move except under the direction of the Safety Inspector. These boats should be 18-20 foot pleasure craft.

SALVAGE BOAT (1)

This boat must be equipped to recover any sunken boat from the race site.

All boats must be numbered: Perimeter 1, Turn 2, Rescue 3, etc. This information is vital to the Safety Director and Race Director.

**ABSOLUTELY NO FAMILY MEMBERS OR CHILDREN PERMITTED
INSIDE THE RACE COURSE**

URC SITE PRESENTATION LIST

In preparing a site presentation for the URC, the following checklist should be used:

BACKGROUND

- * Persons or organizations promoting the race site
- * Objectives of the event, i.e., product promotion, client entertainment, charity, community festival, etc.

SITE FACILITIES

- * History of the site, including any past association with Unlimited Racing events.
- * Results of URC inspection
- * Course map by licensed surveyor
- * Demonstrate adequate pit facilities (visual aids recommended)

ORGANIZATION

- * Structure, including paid staff, volunteers, committees, etc.
- * Association with clubs, charities and other organizations
- * Contracted professional advisers/coordinators
- * Recommended date of event

DEMOGRAPHICS

- * Population of market impact area
- * Television and radio market information: ADI ratings

LOCAL APPROVAL, SUPPORT AND CONCERNS

- * Documented approval and support from governmental agencies, including, if applicable, City, County, State, Chamber of Commerce, Army Corps of Engineers, U.S. Coast Guard, Police and Fire Departments.
- * Present local concerns and respective solutions taken/planned to resolve these local concerns.

FUNDING

- * Proposed budget
- * Sponsors
- * Check for \$50,000 of the \$149,375 prize package, non-refundable in the event of a cancellation on the promoter's behalf.

AN INVITATION

For further information on hosting an Unlimited Hydroplane event, contact the:

**Unlimited Racing Commission
414 Pontius Ave. North
Suite C
Seattle, WA 98109
(206) 467-1368
FAX: (206) 467-0235**

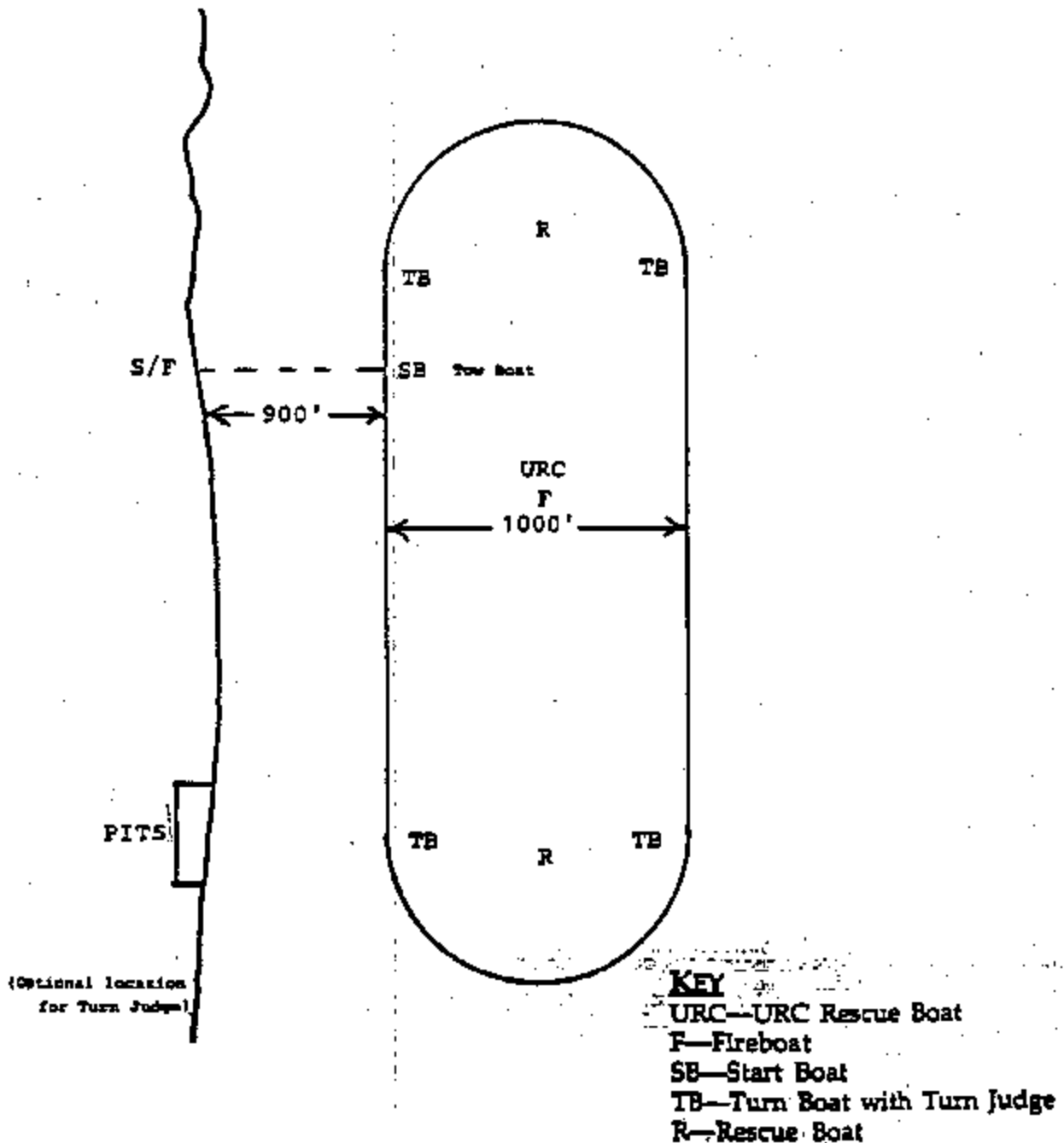
RACE COURSE AND SUPPORT BOAT REQUIREMENTS

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Enclosed is an APBA Unlimited Racing Rules book. Please refer to Rule Three for course specifications.

RACE COURSE LAYOUT EXAMPLE



APPENDIX D

**Unlimited Racing Commission
(Hydroplane Series Schedules,
Attendance Figures and
Demographic Analysis)
1991 - 1994**



World's Fastest Racing Boats!

1994 RC COLA HYDROPLANE SERIES SCHEDULE
Tentative

Donald C. Jones
Commissioner

DATE	RACE SITE
June 2-3-4-5	Detroit, Mich.
June 10-11-12	Lewisville, Texas
June 24-25-26	Evansville, Ind.
July 1-2-3	Madison, Ind.
July 8-9-10	Syracuse, N.Y.
July 29-30-31	Tri Cities, Wash.
Aug. 5-6-7	Seattle, Wash.
Aug. 19-20-21	Boston, Mass.
Sept. 16-17-18	San Diego, Calif.
Oct. 14-15-16	Honolulu, Hawaii



World's Fastest Racing Boats!

1993 RC COLA HYDROPLANE SERIES
Attendance Figures

Donald C. Jones
Commissioner

<u>Date</u>	<u>Site</u>	<u>Attendance</u>
May 30, 1993	Lewisville, Texas	45,000
June 6, 1993	Detroit, Mich.	450,000
June 13, 1993	Miami, Fla.	25,000
June 27, 1993	Evansville, Ind.	95,000
July 4, 1993	Madison, Ind.	105,000
July 11, 1993	Kansas City, Mo.	55,000
July 25, 1993	Tri Cities, Wash.	75,000
Aug. 1, 1993	Seattle, Wash.	300,000
Sept. 19, 1993	San Diego, Ca.	115,000
Oct. 24, 1993	Honolulu, Hawaii	110,000 (projected)



World's Fastest Racing Boats!

1992 RC COLA HYDROPLANE SERIES
Attendance Figures

Donald C. Jones
Commissioner

<u>Date</u>	<u>Site</u>	<u>Attendance</u>
June 7, 1992	Miami, Fla.	22,000
June 13-14, 1992	Detroit, Mich.	350,000
June 28, 1992	Evansville, Ind.	75,000
July 5, 1992	Madison, Ind.	95,000
July 26, 1992	Tri Cities, Wash.	60,000
Aug. 4, 1992	Seattle, Wash.	225,000
Aug. 23, 1992	Kansas City, Mo.	40,000
Sept. 20, 1992	San Diego, Ca.	105,000
Oct. 24, 1992	Honolulu, Hawaii	85,000



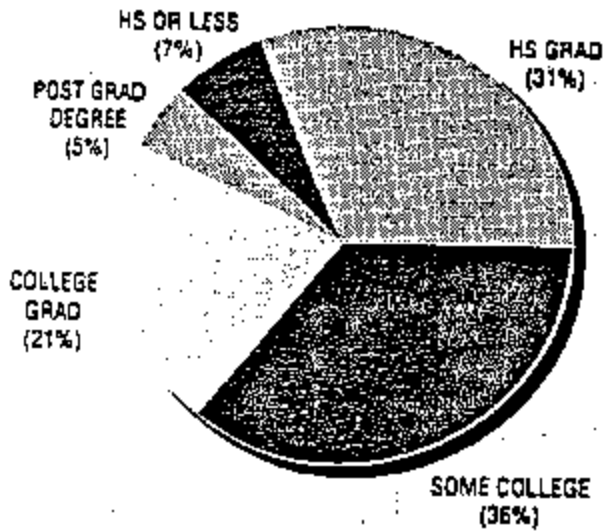
World's Fastest Racing Boats!

Donald C. Jones
Commissioner

1991 EAGLE SNACKS HYDROPLANE SERIES
Attendance Figures

<u>Date</u>	<u>Site</u>	<u>Attendance</u>
June 9, 1991	Detroit, Mich.	375,000
June 30, 1991	Evansville, Ind.	75,000
July 7, 1991	Madison, Ind.	110,000
July 28, 1991	Tri Cities, Wash.	70,000
Aug. 4, 1991	Seattle, Wash.	250,000
Sept. 15, 1991	San Diego, Ca.	110,000
Oct. 27, 1991	Honolulu, Hawaii	100,000

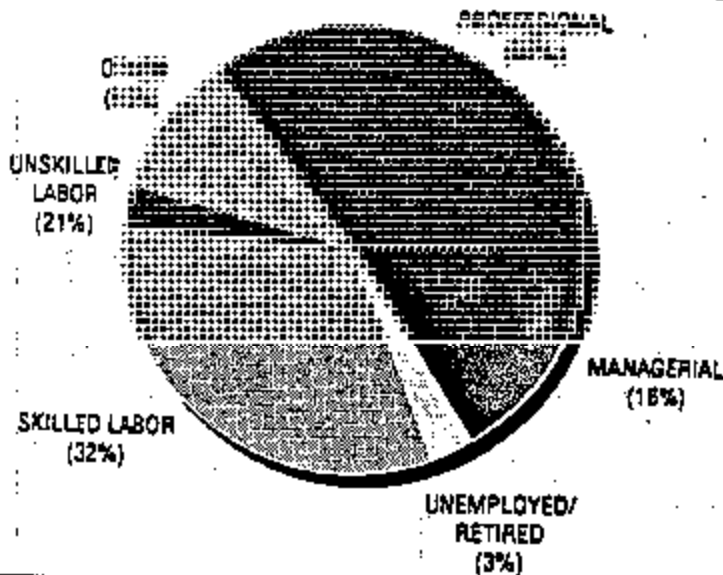
EDUCATION



The average fan is well educated with an above average income. This fact is supported by income, occupation automobile ownership and other related charts.

UNLIMITED RACING COMMISSION
Demographic Analysis

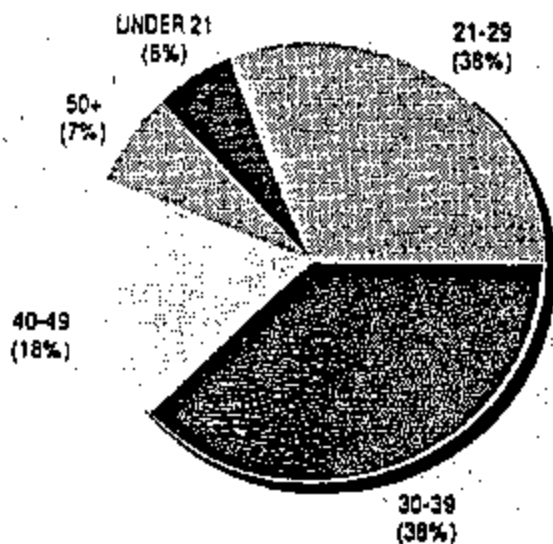
OCCUPATION



This chart supports education and income charts. The high above average income and educational level of the fan reflects the high percentage of fans who are in professional, managerial, or skilled labor sectors of the economy.

UNLIMITED RACING COMMISSION
Demographic Analysis

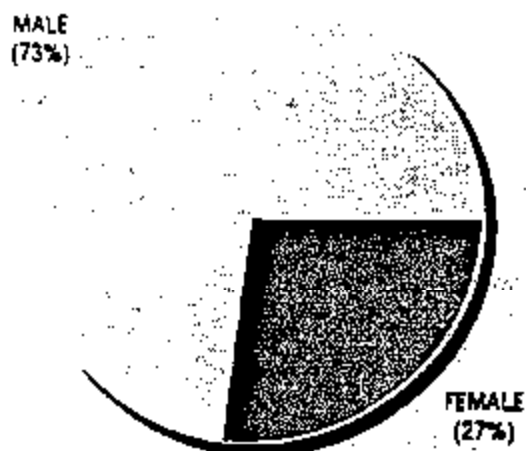
AGE



Only adults 18 years and older were surveyed and thus this chart represents the adult population at the races. A significant percentage of the fans are under 18 years of age. This grouping represents the number of children present with their adult families.

UNLIMITED RACING COMMISSION
Demographic Analysis

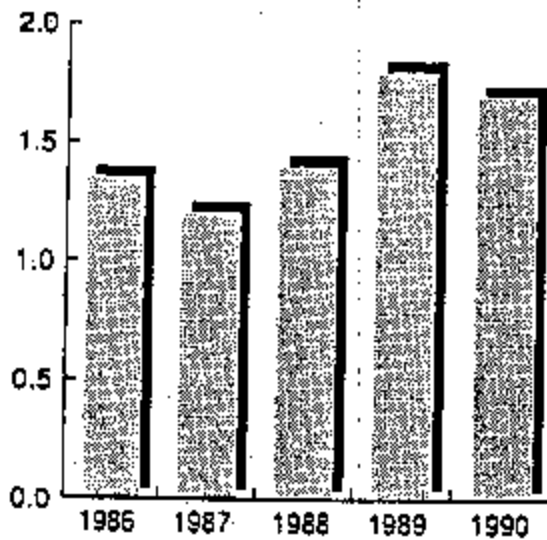
GENDER



The original survey discovered that randomly selected female respondents gave the forms to their husbands to complete, thusly skewing the accuracy of the survey. In reality, a randomly count revealed 65% male and 35% female.

UNLIMITED RACING COMMISSION
Demographic Analysis

SPECTATORS

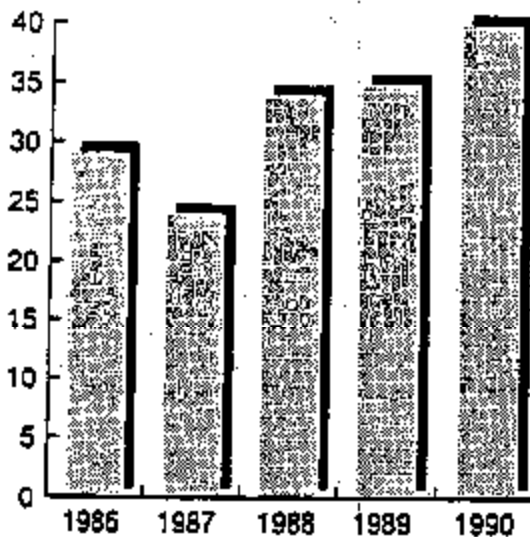


During the years 1986-1990, the URC averaged one million four hundred thirty thousand spectators.

*Over 7 million spectators
in 7 years*

UNLIMITED RACING COMMISSION
Demographic Analysis

TELEVISION VIEWERS



For the past five seasons, 1986-1990, the URC has averaged over 30 million television viewers.

*160 million viewers
five years*

UNLIMITED RACING COMMISSION
Demographic Analysis

APPENDIX E

Engineering Design For a Floating Tire Breakwater

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ENGINEERING DESIGN FOR A FLOATING TIRE BREAKWATER

1. INTRODUCTION

The master plan for water recreation activities within Lake Elsinore and the San Jacinto Channel includes a wide variety of water sports such as waterskiing, personal watercraft, power and non-power boating, fishing, sailing and swimming. Among the diversified water recreation sports designated within the San Jacinto Channel, the waterskiing is one of the primary recreation activities. Currently, a waterskiing school concession operates within the Channel water area. The master plan will provide three individual waterskiing designated areas for the waterskiing enthusiasts. The Channel will be divided into three separate water areas with each extending about 2,000 feet long, as illustrated in Figure 1.

In order to minimize the water disturbance primarily caused by the boating activities within each designated waterskiing area, an attenuation device needs to be installed between each water area to reduce the propagating waves generated by the motion of the boats. Due to the physical characteristics of boat waves (e.g., short wave period and large wave steepness), a floating structure is better suited to serve as a wave dissipation device because of the following advantages:

- Effective for short period wave attenuation
- Low capital cost
- Stable for various water levels
- Adaptable for various locations (i.e., relatively easy to be relocated)
- Less disruption of water circulation
- Short construction time

In the following sections, a brief description of various types of floating breakwaters is introduced. Subsequently, the selected floating breakwater and its design wave criteria, and the structure design aspects including a cost estimate are presented.

2. FLOATING BREAKWATER

A floating breakwater is a type of structure that floats at the surface, partially submerged, and is anchored to the bottom. Floating breakwaters varying in size, shape and constituent material have been in use for several decades. They are used as combination breakwaters and docks for marinas, for shoreline erosion control, and for temporary protection of waterfront construction and other coastal activities, particularly at sites exposed to short period waves.

Different types of floating breakwaters can be represented by four group classifications, which depend on their configuration of the fundamental features. These types and group classifications are illustrated in Figure 2 and discussed below.

2.1 Box Type

A solid vertical or sloping-face floating breakwater causes waves which strike it to be partially reflected. Such a breakwater requires high structure strength, and large forces are imposed on the mooring system.

2.2 Pontoon Type

This group of prismatic structures offers the best possibilities for multiple use such as walkways, storage, boat moorings and fishing piers. This type of structures partially reflects the incoming waves to reduce the transmitted waves.

2.3 Mat Type

This type of floating structure consists of a number of logs or scrap tires bound together with chain or cable. These structures achieve the wave energy dissipation by partially transforming the incoming wave energy into turbulence within or around the tires or logs. Consequently, the transmitted wave heights are reduced.

24 Tethered Type

This type of floating structure consists of a large number of buoyant floats which are independently tethered at or below the water surface. The floats move due to the pressure gradient induced by the incoming waves and the resultant drag generated from the buoyant motion is the dominant mechanism to dissipate the wave energy.

In view of the physical characteristics of the above-described floating breakwaters, a mat type of floating device made from scrap tires is selected to attenuate the generated boat waves. The adaptability of the mat type of floating structure is essential to serve the purpose that the floating device is required to temporarily relocate in a short time-span in order to accommodate the annual special event activities scheduled within the San Jacinto Channel.

3. DESIGN CRITERIA

3.1 Design Waves

There are two types of waves which can be observed within the San Jacinto Channel. The first, boat waves, is due to the motion of the boats operated within the Channel area. The second, wind waves, is generated due to the wind blowing over the water surface of the Lake. Although the floating breakwater is proposed to primarily attenuate the boat waves, the vulnerability and effectiveness of the structure under a severe wind wave condition needs to also be considered, especially since the westward end of the Channel is exposed to wind waves generated on the Lake. Therefore, both wave characteristics are examined to determine the wave design criteria.

Boat Waves

In their simplest description, boat waves are generated when a continuous concentrated impulse of water surface disturbance, caused by a boat motion, spreads outward spatially from the point of disturbance. The physical characteristics of boat waves depend primarily on the speed of the moving boat, its mass and the water depth. In this design, it is assumed that the average speed of a moving boat is 20 miles per hour and the angle of approach to the floating tire breakwater is about 45 to 60 degrees. The bottom elevation of the Channel is at 1,230 feet and the resultant average water depth is 15 feet (i.e., average operating water level is 1,245 feet). The estimated wave height of the generated boat waves ranges between one and two feet with a wave period of three to four seconds.

Wind Waves

The important parameters for the wind generated waves are wind speed, wind duration and fetch, and water depth, respectively. The most significant wind waves occur when the westerly wind blows over the entire lake with a fetch length of approximately 13,600 feet. The average water depth is 15 feet, as described in the above paragraph. The resultant physical characteristics of wind waves for various wind speeds are presented in Table 1.

TABLE 1
PHYSICAL CHARACTERISTICS OF WIND WAVES

WIND SPEED (mph)	WAVE HEIGHT (feet)	WAVE PERIOD (sec)
30	1.4	2.5
40	1.8	2.5
50	2.2	2.7

Based on the above described characteristics for the wind and boat waves, a design wave with a height of two feet and a period of three seconds is chosen. For economic reasons, a floating tire breakwater will not be designed to attenuate all waves to an acceptable height; a low duration when wave heights exceed the design wave, and there is risk of failure under an extreme severe wave condition, must be accepted.

3.2 Design of Floating Tire Breakwater

There are three main types of floating breakwaters, namely Wave-Maze, Goodyear and Wave-Guard. Each type differs in structural design, effectiveness and cost.

Wave-Maze Floating Tire Breakwater

This is the pioneer floating tire breakwater which was designed by Stitt in 1963 (Stitt, 1963). This design consists of a vertically-oriented layer of tires sandwiched between two layers of horizontally-oriented tires, as illustrated in Figure 3.

Goodyear Floating Tire Breakwater

The Goodyear type design originated in 1974 (Candle and Piper, 1974). It consists of modules, each containing 18 tires, interconnected to form a flexible mat, as shown in Figure 3. One of this design's most attractive features is that a Goodyear floating tire breakwater can be assembled by unskilled laborers with virtually no heavy equipment.

Wave-Guard Floating Tire Breakwater

This design originated in 1978 (Harms and Bender, 1978). It consists of tire-encased pipes or poles and tire strings, as shown in Figure 3. This structure is much more rigid and requires the use of heavier equipment than the other two breakwaters during assembly.

There have been a number of model tests and field installations of these three types of floating tire breakwaters. The comparison of wave transmission in relation to the wave length to breakwater width (L/W), indicates that a Wave-Guard floating tire structure is the most effective to attenuate the incoming waves, as illustrated in Figure 4. Also, since equivalent protection using a Wave-Maze costs considerably more than either a Goodyear or a Wave-Guard floating tire breakwater, and since the Wave-Guard breakwater provides higher wave attenuation than the Goodyear and Wave-Maze breakwaters (see Figure 4), it is recommended that the Wave-Guard floating tire breakwater be used as an attenuation device placed within the San Jacinto Channel to reduce the water agitation caused by either boat motions or wind waves.

3.2.1 Dimensions of Wave-Guard Floating Tire Breakwater

Length and Orientation

The main purpose of deploying the floating tire breakwater is to minimize the water surface disturbance within the three designated waterskiing areas. Therefore, the orientation of the structure is perpendicular to the axial direction of the San Jacinto Channel. Also, for economic reasons, the length of the structure is selected to be 100 feet, for which the to-be-sheltered waterskiing area should be adequately protected for the recreation activities. A longer breakwater could be required at the western end in order to provide adequate protection from wind waves generated on the Lake. Additionally, the other two breakwaters could be lengthened, if required.

Width

The width of the breakwater is determined based on an empirical curve derived from a series of model tests, as illustrated in Figure 4. It is estimated that a 30-foot wide structure is required to assure a 50 percent reduction of wave height. The typical layout of the floating tire breakwater is presented in Figure 5.

3.2.2 Mooring and Anchor

The design of the anchor and the mooring chain can be determined, based on the estimated peak mooring force under the design wave condition. A set of empirical curves of the mooring forces for the Wave-Guard floating tire breakwater was developed from the laboratory model tests (Harms and Bender, 1978). Figure 6 presents the correlation between the non-dimensional mooring force ($F/\gamma W^2 \times 10^5$) and wave length to breakwater width (L/W) for various wave steepness (H/L) and draft-to-depth ratio (D/d).

For the selected incoming design waves (two-foot height and three-second period), the wave length is about 45 feet at a water depth of 15-feet. Assuming the average diameter of the available tire supply is about 25 inches, the draft of the structure has generally been found to be approximately 85 percent of the average tire diameter. The ratio between the draft and water depth is 0.118 ($D/d = 0.85 \times 25/(12 \times 15)$). The corresponding peak mooring forces can be obtained from Figure 6. An interpolation is applied to obtain the peak mooring force under the design wave condition. It is estimated that the peak mooring force is about 40 pounds per foot. Furthermore, a three-foot concrete cube is required to anchor the floating tire breakwater. The spacing of the anchor is determined to be approximately 20 feet and the working strength of the anchor chain is about 1,200 pounds. Using a factor of safety of 1.5, a 5/16-inch proof coil chain with a working load of 1,900 pounds is selected. The minimum required scope for a galvanized steel anchor chain is 4:1 (horizontal:vertical). A ratio of 5:1 is selected to count for the fluctuation of the lake water level. A section view is also presented in Figure 5. In summary, the specifications of the Wave-Guard floating tire breakwater is presented in Table 2.

TABLE 2
SPECIFICATIONS OF WAVE-GUARD
FLOATING TIRE BREAKWATER

ITEM	SPECIFICATIONS
Length	100 feet
Width	30 feet
Average Tire Diameter	25 inches*
Peak Mooring Force	40 pounds per foot
Concrete Cube	3 feet x 3 feet x 3 feet
Anchor Spacing	20 feet
Size of Mooring Chain	5/16-inch
Chain Scope	5:1 (horizontal:vertical)

* Depends on availability.

3.2.3 Cost Estimate

The cost for the proposed floating tire breakwater is estimated based on the required specifications. Table 3 presents the itemized and total construction costs. If labor was provided by City forces at no cost, and tires are obtained at a reduced price, than the total cost per breakwater shown in Table 3 could be reduced to about \$5,000 to \$8,000 before construction contingencies.

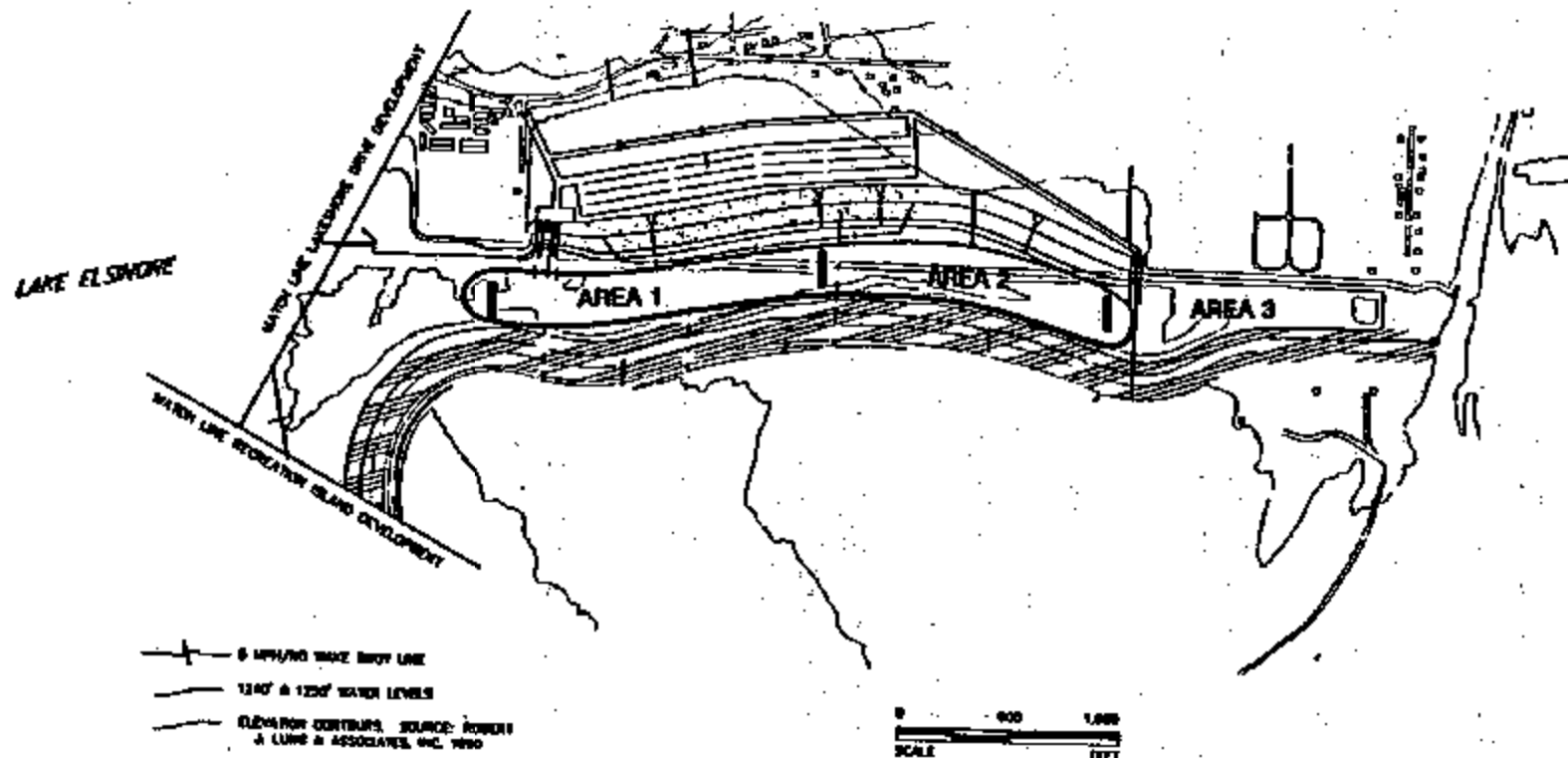
**TABLE 3
COST ESTIMATE FOR
WAVE-GUARD FLOATING TIRE BREAKWATER**

Item	Quantity	Unit	Unit Cost	Subtotal
1. Floating Tire Assembly				
Material:				
Tire (100'x30')	3,000	SF	\$1.00	\$3,000
Tire String	1,500	LF	\$0.50	\$750
Pole (every 10')	11	EA	\$150.00	\$1,650
Labor:	3,000	SF	\$10.00	\$30,000
2. Mooring System (every 20')				
Material				
Concrete Anchor (12@ 27 cf)	12	EA	\$60.00	\$720
Steel Chain (12 @ 70')	12	EA	\$150.00	\$1,800
Labor:	12	EA	\$150.00	\$1,800
Total				\$39,700
Contingency (15%)				\$6,000
Grand Total				\$45,700

4. REFERENCES

- Candle, R.D. and Piper, D.R., 1974. "The Proposed Goodyear Modular Mat Type Scrap Tire Floating Breakwater". Goodyear Tire and Rubber Company, Akron, Ohio.
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NOBLE



SAN JACINTO CHANNEL WATER AREA

TYPE	VIEW	REMARKS
BOX TYPE		
SOLID RECTANGLE		REINFORCED CONCRETE UNITS ARE THE MOST COMMON TYPE.
BARGE		STANDARD BARGE SIZES ON INLAND WATERWAYS ARE 105' X 35' X 12' AND 135' X 35' X 11'. INCLINED BARGES (ONE END SUBMERGED) HAVE BEEN TESTED.
PONTOON TYPE		
TWIN PONTOON		CATAMARAN SHAPE
OPEN COMPARTMENT		ALSO CALLED ALBANA TYPE
A FRAME		
TRIN LOG		DECK IS OPEN WOOD FRAME.
MAT TYPE		
TIRE MAT		SCRAP TIRES STUNG ON POLE FRAMEWORK OR BOUND TOGETHER WITH CHAIN OR BELTING. SOME FLOTATION IS USUALLY NEEDED.
LOG MAT		LOG MATS CHAINED OR CABLED TOGETHER.
TETHERED FLOAT TYPE		
SPHERE		FLOATS PLACED IN ROWS.
TIRE		ARRANGEMENT SIMILAR TO SPHERES. STEEL CHAINS WITH BALLS CAN BE USED IN LIEU OF TIRES.

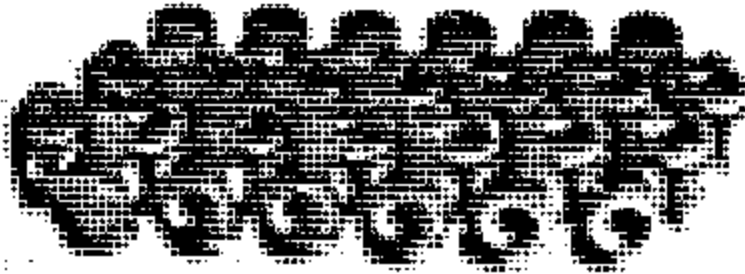
TYPES OF FLOATING BREAKWATER

Source: Corps of Engineers, 1982

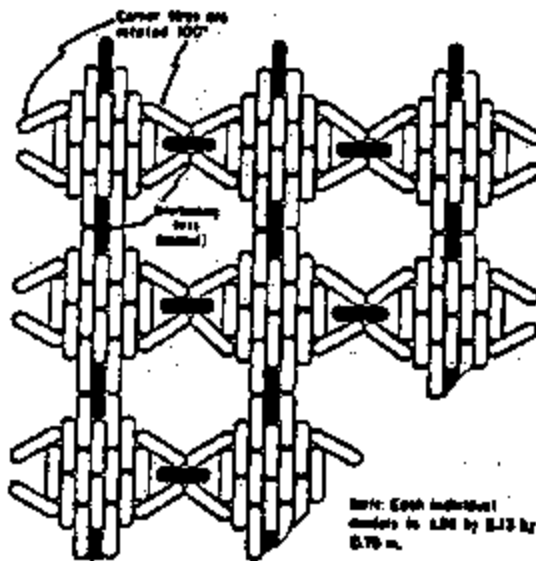


Figure 2

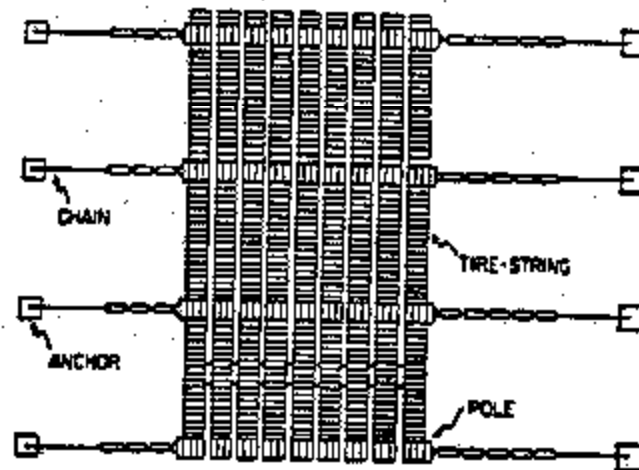
WAVE-MAZE TYPE



GOODYEAR TYPE



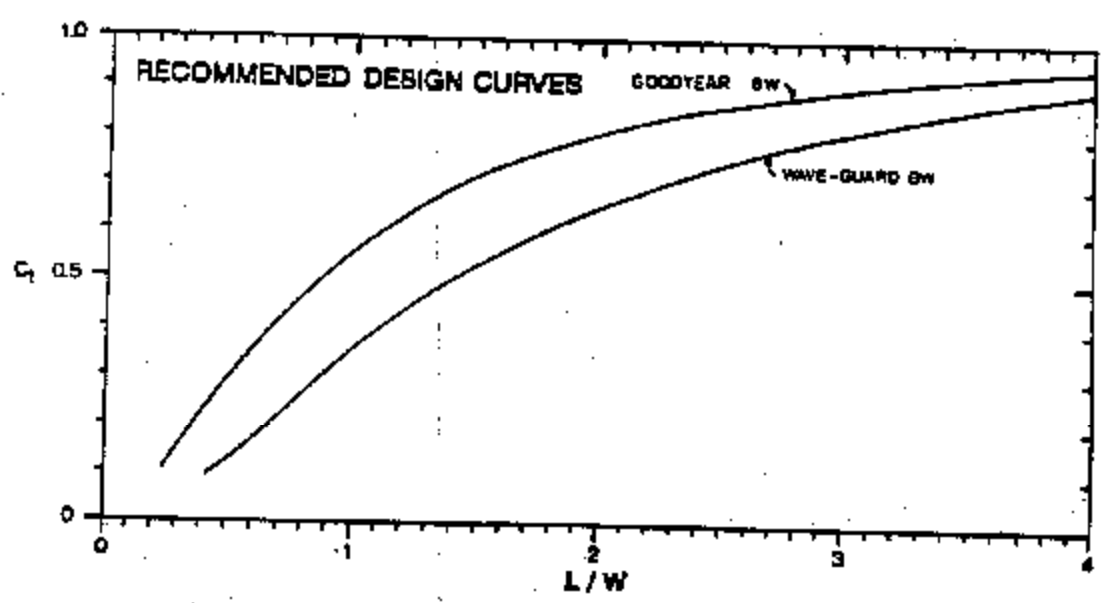
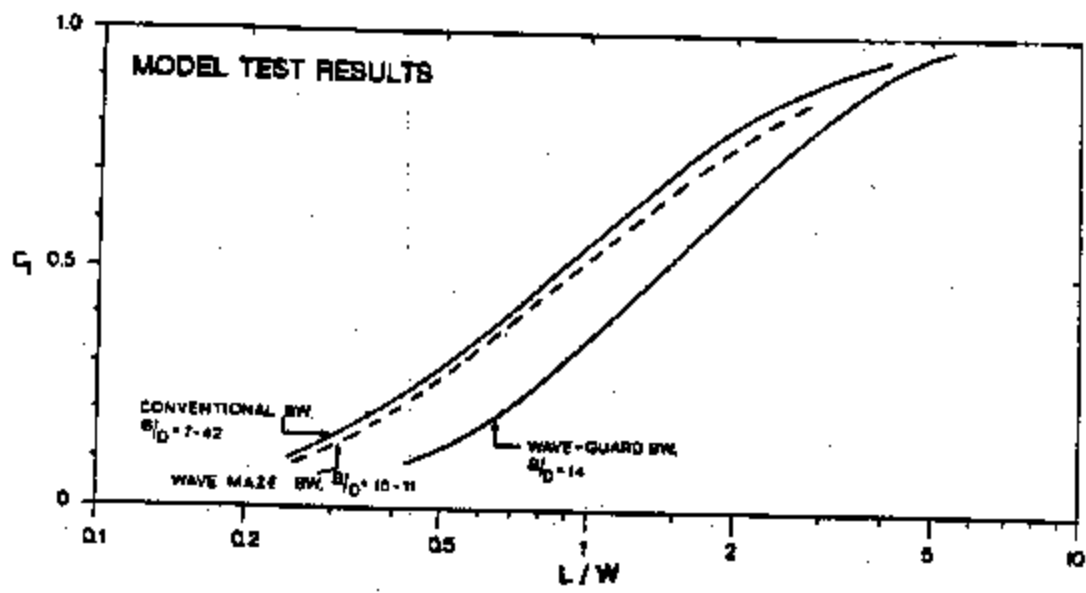
WAVE-GUARD TYPE



TYPES OF FLOATING TIRE BREAKWATER

Sources: Kamel & Davidson, 1968
Giles & Borntson, 1978
Harms & Bender, 1978



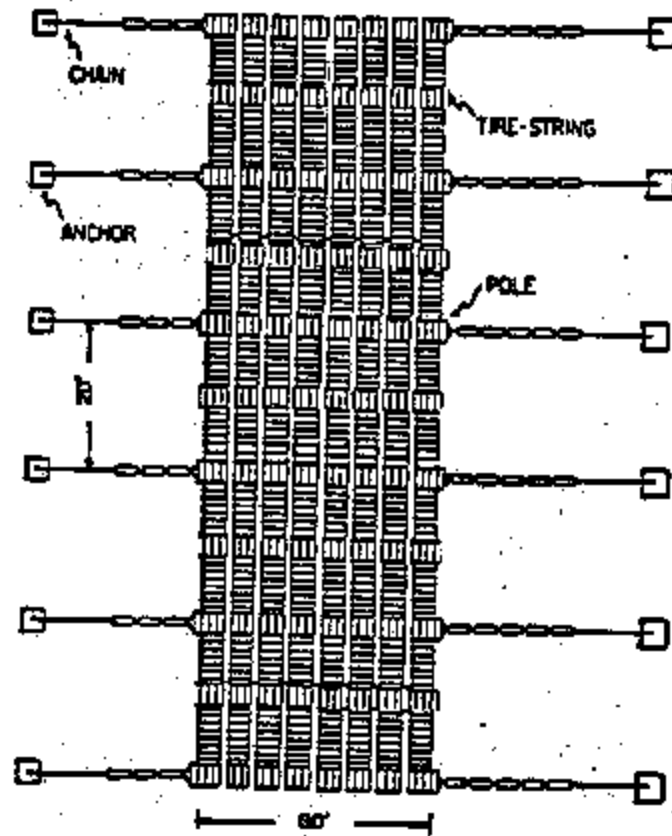


WAVE TRANSMISSION COEFFICIENTS

Source: Harms & Bender, 1978

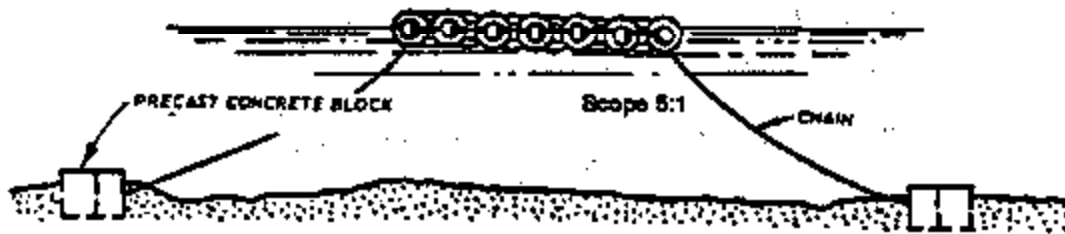


Figure 4



PLAN VIEW

N.T.S.

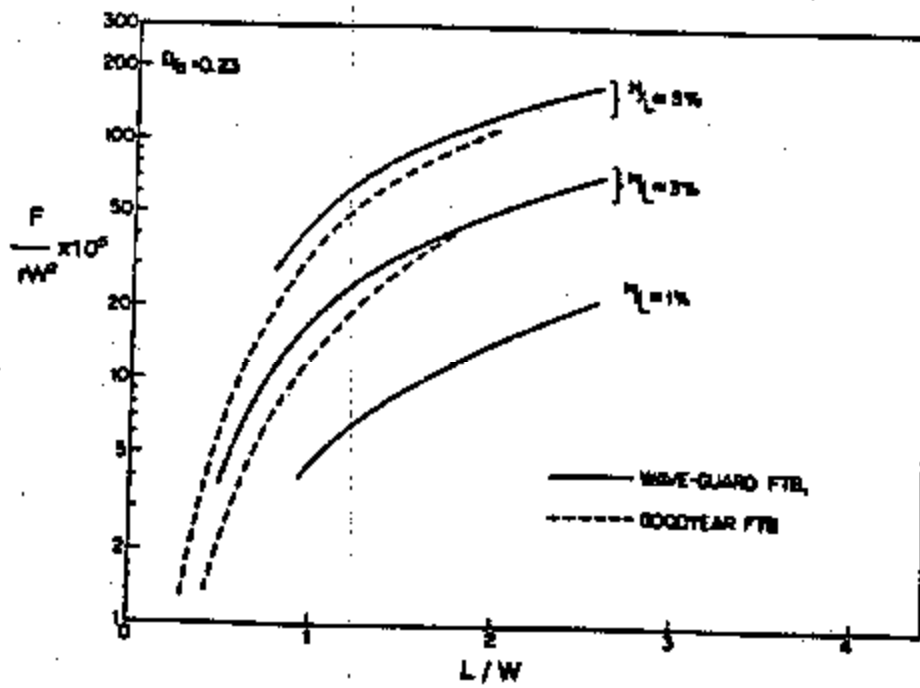
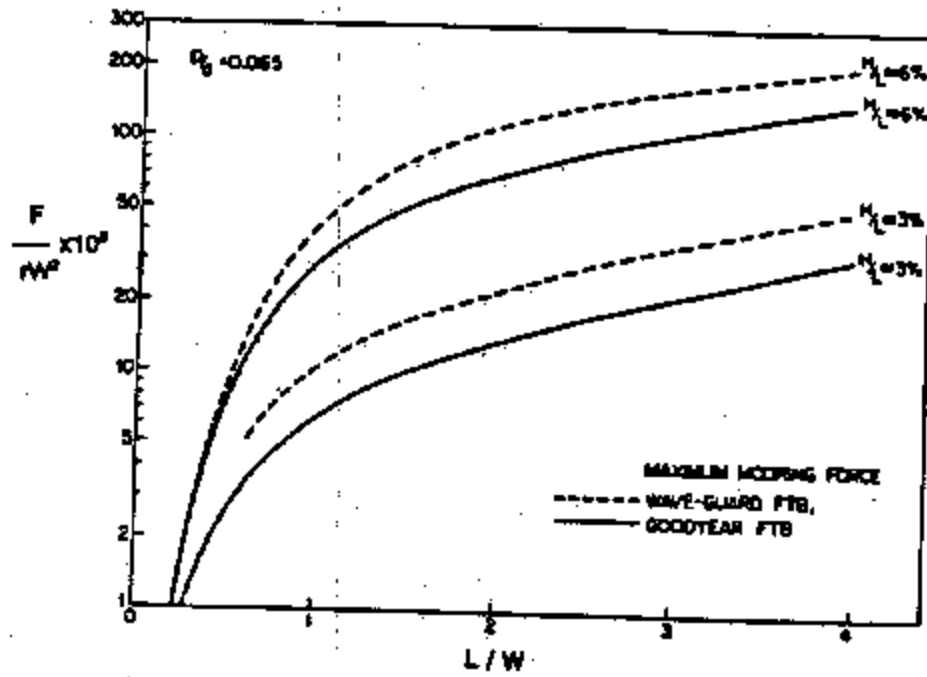


SECTION VIEW

N.T.S.

**DESIGN LAYOUT FOR
WAVE-GUARD FLOATING TIRE BREAKWATER**





PEAK MOORING FORCE



Source: Harris & Bender, 1978

Figure 6

Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

2014 Business Plan Update

Prepared by

Mark R. Norton PE, LEED AP

Santa Ana Watershed Project Authority

LESJWA Authority Administrator

Executive Summary

The Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) is a joint powers authority formed as an umbrella agency consisting of five member agencies. The authority was originally formed in 2000 because lakes in these local watersheds overlie or are surrounded by multiple agencies. It is more efficient, cost effective and practical to address water quality improvements at the lake and within the watershed collectively through the joint powers authority than as individual governing bodies.

Over the past decade, significant improvements to water quality have been accomplished by LESJWA at both Lake Elsinore and Canyon Lake. However, more work is needed to meet challenging water quality requirements established by the Regional Board for 2015 (interim) and 2020 (final). At the same time funding to build future capital improvements to meet lake standards and to pay for the improvements' operation and maintenance costs are diminishing. To meet these challenges requires developing a revenue stream that will empower the Joint Power Authority to continue operations on behalf of its member agencies.

The Joint Powers Authority has explored various options that will address the anticipated funding shortfall, improve operational effectiveness and address capital improvements. Many of these activities were proposed in 2010 and have been accomplished. Some additional options to generate revenue are now reflected for this 2014 update are now recommended:

Year 2010 Business Plan

	<u>Status</u>
1. Pursue State and Federal Grant Funding	Accomplished
2. Decrease annual costs	Accomplished
3. Establish Lake Quality Improvement Contribution	Not feasible
4. Establish TMDL Task Force Contribution for LESJWA	Accomplished
5. Increase Cost Share Among LESJWA Agencies	Partially complete

Year 2014 Business Plan

6. Add additional LESJWA JPA agencies with participation fee	Under investigation
--	---------------------

With the implementation of increased voluntary funding shares from some of the LESJWA member agencies, decreased annual costs and some sharing of costs by the LE/CL TMDL Task Force as suggested under the original 2010 LESJWA Business Plan, the financial picture has improved with revenue projections indicating that the LESJWA can continue to fulfill its mission through FY 2014-15. Further, if additional funding as offered by the County of Riverside of an additional \$10K/yr over the next three years and by the RCFCWD of a new contribution of \$20/yr over the next three years occur, the financial stability of LESJWA would remain balanced through FY 2017-2018. However, financial stability concerns remain thereafter particularly if any of these voluntary increased funding contributions do not materialize.

This updated business plan now includes analysis of an additional option of generating new revenue by the involvement or participation of the Western Riverside Council of Governments or its member agencies as possible new JPA members who could help fund the LESJWA administrative costs in exchange for a seat and representation on the JPA Board.

This updated business plan describes the funding and expense reduction opportunities in detail to assist the LESJWA Board in providing the necessary information to ensure the long term sustainability of the organization. The primary beneficiaries of LESJWA existence continue to be the TMDL parties identified by the Regional Board as defined in the Lake Elsinore/Canyon Lake TMDL Task Force, which includes all the LESJWA member agencies except SAWPA.

This updated business plan was developed to help the LESJWA Board of Directors analyze and determine the most effective actions necessary to achieve long-term success.

Background and Overview

The Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) is a joint powers authority (JPA) formed in 2000 as result of State water bond language encouraging the formation of a joint powers agency consisting of the City of Lake Elsinore, the Santa Ana Watershed Project Authority (SAWPA), the Elsinore Valley Municipal Water District, and other agencies. The specific bond language citing the organization formation is defined in Proposition 13 Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Act of 2000 wherein the organization formation was called out under Article 6 Lake Elsinore and San Jacinto Watershed Program, Section 79104.110. The joint powers authority was established initially to administer \$15 million dollars in bond funding for the implementation of programs to improve the water quality and habitat of Lake Elsinore and its back basin, consistent with the Lake Elsinore Management Plan. The members of the JPA are the following agencies, along with the current representatives:

City of Lake Elsinore	Bob Magee, Chair
Santa Ana Watershed Project Authority	Tom Evans, Vice Chair
Elsinore Valley Municipal Water District	Phil Williams, Secretary-Treasurer
City of Canyon Lake	Nancy Horton, Vice-Chair
County of Riverside	Kevin Jeffries

The LESJWA Board has authorized SAWPA to serve as the administrator for the organization. Mark Norton, SAWPA's Water Resources and Planning Manager, serves as the Authority Administrator.

Between its formation and 2014, LESJWA fully used and expended the \$15 million made available through the Proposition 13 Water Bond, as well as other grant funding applied for by LESJWA to benefit Lake Elsinore, Canyon Lake, and the San Jacinto River Watershed. The core of LESJWA's annual budget now comes from the contributions and expenses associated with Lake Elsinore and Canyon Lake Nutrient TMDL Task Force. Other than project grants, the only source of regular funding is an annual contribution from each member agency.

The primary activity of LESJWA is providing support to the Lake Elsinore and Canyon Lake (LE/CL) Nutrient Total Maximum Daily Load (TMDL) Task Force which shares LESJWA goals of water quality improvement at both Lake Elsinore and Canyon Lake. This Task Force was formed in 2006 to address a Santa Ana Regional Board issued nutrient TMDL for Lake Elsinore and Canyon Lake. Because the focus of the TMDL is on water quality of Lake Elsinore and Canyon Lake, LESJWA is the appropriate organization to serve as the administrative entity for the Task Force. This role is a similar role that SAWPA staff plays in administering the task forces in the Middle SAR Pathogen TMDL Task Force, and the Big Bear Lake Nutrient TMDL Task Force.

The Task Force selected LESJWA as the administrative support because LESJWA has implemented numerous improvement projects at both lakes, as well as extensive modeling and monitoring at the

lakes and watershed in the past. Further, the governing board of the LESJWA JPA has a history of administering lake improvements based on the previous decade of improvement at the lakes. Still, the staff that operates LESJWA is the SAWPA staff, so all activities and resources to operate the LE/CL TMDL Task Force generally are seamless with SAWPA's operations other than the separate fund accounting and the recognition of the LESJWA Board of Directors for all LESJWA-related activities and improvements.

Mission and Goals

JPA Purpose

The purpose of the Authority is to implement projects and programs to rehabilitate and improve the San Jacinto and Lake Elsinore Watersheds and the water quality of Lake Elsinore and Canyon Lake, in order to preserve agricultural land, protect wildlife habitat, protect and enhance recreational resources, and improve surface and subsurface water quality, all for the benefit of the general public.

JPA Goals

- To support planning, design and implementation of projects to improve water quality at both Lake Elsinore, Canyon Lake and the San Jacinto River Watershed
- To work with stakeholders to secure reliable funding to operate and maintain water quality improvement projects at both Lake Elsinore, Canyon Lake and the San Jacinto River Watershed
- To serve as administrator of the Lake Elsinore and Canyon Lake TMDL Task Force
- To seek ongoing reliable revenue to operate LESJWA JPA in fulfillment of its mission

Risks and Challenges

Financial Stability

In evaluating the financial picture of LESJWA, the risks and challenges of securing long term and stable funding is an important consideration. Since its formation, these needs for ongoing funding have been on the forefront of the Board and staff of the organization's agenda. In the early years of LESJWA, multiple studies were conducted to explore various options to address the short term and long term needs.

Historical LESJWA Funding Option Analysis

In 2000, the LESJWA Board authorized staff to hire consultants to develop a long - term financial plan for the agency to cover the anticipated operation and maintenance costs of the projects planned for implementation. The Board hired Harris & Associates to conduct this work. In August 2003, Harris and Associates presented the results of their analysis of long term funding mechanisms to the LESJWA Board. Three options for funding presented to the LESJWA Board included:

- Cost Share Among LESJWA Agencies
- Drainage Basin Utility Fee
- Regulatory Fee

The second option, Drainage Basin Utility Fee, was discussed in a report called the Preliminary Rate Analysis prepared by Harris & Associates. Upon review of this report by LESJWA Board, the Board recommended that the consultant further investigate the alternate funding mechanism of a Regulatory Fee. The regulatory fee was an innovative funding option proposed by Colantuono, Levin and Rozell, APC that utilizes the police powers of cities and the County to create a separate financing authority. This authority then would enact a regulatory fee to address runoff pollution from land use. A potential feature of the regulatory fee, as part of the Proposition 218 compliance, was the bypassing of a 2/3 majority vote of the watershed voters even though a regulatory fee to address the control of non-point source pollution has not been successfully implemented in the State of California.

A draft joint powers agreement was prepared to establish a separate financing organization to collect a regulatory fee to support operation and maintenance costs of LESJWA projects and a draft ordinance was prepared regulating activities that pollute public stormwater systems for the new Lake Elsinore and San Jacinto Watersheds Financing Authority.

Upon review by the LESJWA Board, the Board directed staff to present the regulatory fee concept to the City Councils of Lake Elsinore and Canyon Lake, as well as two of the county supervisors. The County Supervisors indicated that if local cities were behind the regulatory fee, then the regulatory fee concept be brought back to the County of Riverside Board of Supervisors for further consideration. In both city council presentations, the City Councils generally were opposed to any type of fee implementation appearing to bypass a public vote despite the fact that their cities stood to benefit the most from such a fee implementation.

In June 2004, the LESJWA Education and Outreach Committee recommended a polling survey in the watershed prior to proceeding with implementation of any fee and any education and outreach programs associated with a fee. The survey sought to determine how effective the LESJWA education and outreach messages have been in informing the public about LESJWA, to assess what the public knows about the new TMDL regulations, and to gauge public opinion as to the appropriate way to pay for TMDL compliance. The survey results presented to the LESJWA Board in January 2005 indicated that significant public education and outreach, as well as private campaign funding support, would be necessary to implement any type of new fee. Further, the survey results showed strong interest and support for the end goals of watershed and lake cleanup, but a substantial lack of support for any type of new fee to achieve these goals.

Concurrent with these actions, the local agencies agreed to fund the operation and maintenance costs of all the Proposition 13 LESJWA funded projects themselves. Consequently, the original intent of the financial plans to cover the operation and maintenance costs of LESJWA funded projects is no longer a major issue. Although the LESJWA projects reflect substantial improvement measures that will benefit both lakes, additional future water quality projects likely will be needed at Canyon Lake, Lake Elsinore and in the contributing watersheds to meet new long term water quality regulations established by the Santa Ana Regional Water Quality Control Board. The compliance deadline for the new water quality targets for the two lakes is the Year 2015 for some interim targets, and Year 2020 for final targets.

Thereafter, the LESJWA Board directed staff to discontinue further consideration of the regulatory fee for the following reasons: 1) a lack of public acceptance for establishing a drainage utility fee or

regulatory fee to support LESJWA's goals, 2) a lack of private campaign funding necessary to obtain a majority vote of land owners or the public at large, and 3) the reduced need for an additional funding source for operation and maintenance costs. The funding necessary to cover operation and maintenance costs of the implementation projects to date was provided by the local agencies operating the projects, or by joint agreement among the City of Lake Elsinore, EVMWD, and the County of Riverside, as in the case of the Lake Elsinore aeration system.

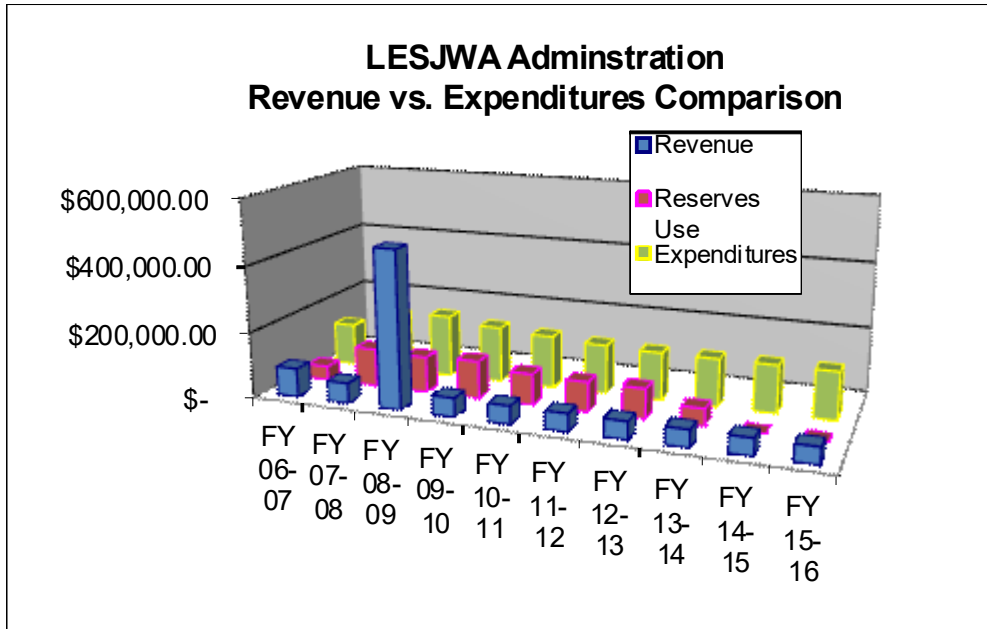
LESJWA Current Finances

LESJWA operated for its first eight years using Proposition 13 Water bond funding covering all project management, administrative, and JPA operation costs. To pay vendors until reimbursed by State grants, the LESJWA member agencies paid annual contributions of \$10,000 each to cover the SAWPA-LESJWA loan interest. Much of this funding was not necessary for interest payments and was carried over into the organization's reserves. The annual contribution for FY 14-15 of \$10,000 each by the City of Canyon Lake and SAWPA and \$20,000 each by EVMWD and the City of Lake Elsinore pays the majority of the JPA operations costs but are still insufficient to cover all costs in the long term. The annual costs to operate the JPA under its current mode of operations are approximately \$100,000 per year. LESJWA funds about \$17,000/year for annual education and outreach activities.

As there is only \$70,000 collected from member agencies annually, the organization is running short each year and no longer can rely on organization reserves to cover the annual funding shortfall. In FY 2009-10, the Canyon Lake POA donated to LESJWA the dredging equipment it owned because the funding to support the Canyon Lake desalting project came from LESJWA. This much-needed funding of \$394,000 was placed in reserves and helped in extending the life of LESJWA through FY 14-15.

Based on the FY 2014-15 Budget, the main source of funding coming into LESJWA will continue to be from the TMDL parties that are supporting the TMDL Task Force administration. The source of this funding is from the TMDL stakeholders; some of which are the LESJWA member agencies. Based on feedback from the TMDL task force, the Task Force understands that more of the costs to administer the task force should also pay for LESJWA JPA administration and agenda items that relate to the TMDL task force contracts and activities. In the past all LESJWA organization administration costs came from local contributions of the LESJWA member agencies.

One of the primary concerns with the long-term financial outlook for the organization is continued operation funding. With available reserves used to operate the agency and insufficient funding from member agency contributions, the agency will run out of sufficient funding to operate at its current operation level by 2017. Further LESJWA has no reserves to address emergency situations or needs for the future.



Note: Chart does not reflect LESJWA member agency contribution increases in FY 14-15, potential new increases from RCFCWD and County of Riverside or TMDL Task Force expenditures.

Short Term and Long Range Financial Plan Operations Funding Alternatives

Based on current projections, LESJWA will need to evaluate alternatives to find additional operational funding, reduce annual costs, or disband. Other options to support additional operational funding may include changes to the LESJWA governance or change in administration. These options are described as follows in priority order:

Pursue State and Federal Grant Opportunities

In order to continue building water quality improvement projects at Lake Elsinore and Canyon Lake, capital funding must be generated. Currently, there is no ongoing revenue defined for capital improvements. The most cost effective way to create capital funding would be to leverage local funding with State and Federal grant funding as it becomes available. At this time, the best opportunity for capital funding that could support improvements at both lakes is through the California Proposition 84 Water bond. The water bond has several chapters designating funding for specific purposes. This funding is now being released through various California departments depending on the chapter purposes.

One chapter of Proposition 84 of special interest is Chapter 2 Integrated Regional Water Management Program administered by the California Department of Water Resources. For Santa Ana funding area, of which the San Jacinto subwatershed and both Lake Elsinore and Canyon Lake fall within, the Chapter 2 funding is being released by DWR through multiple rounds of funding with the first round due on Jan. 7, 2011. The applications for funding under this chapter are first

administered through SAWPA as the designated regional water management group for the Santa Ana funding area. In June 2010, SAWPA administered a competitive call for projects based on defined criteria of Prop 84 Chapter 2 encouraging multi-beneficial multi-agency submittals. Under this first call for projects, LESJWA submitted a grant proposal to support the Canyon Lake oxygenation/aeration system. Unfortunately, the project was not short listed primarily because the project was not in a high state of readiness to implement nor was there any commitment in local funding match. Under the second round of funding from DWR, \$16 million was available for the entire Santa Ana region and 19 projects were short listed, one of which was the LESJWA Canyon Lake Alum Application. Round 2 will provide \$500,000 to reduce costs of the LE/CL TMDL Task Force for the alum application at Canyon Lake and assist with TMDL compliance. The chances of possible funding under future State grant funds are likely if a new \$7.5 billion water bond passed by the State Legislature and Governor on Aug. 13th is supported by the voters on November 4th 2014. .

LESJWA can also pursue federal grant funding which typically requires a 50-50 cost match between federal and local funding sources. At this time, federal funding to support capital projects for lake improvements appear to be somewhat limited. However staff can maintain lines of communication with federal offices of EPA, Reclamation and others to assure that federal grant funding opportunities are considered and applied for as they become available.

Reduce Annual Costs

Eliminate Education and Outreach

One of the most extensive costs for the agency on an annual basis is the education and outreach program. Annually, approximately \$17,000 is budgeted and spent for support of the education and outreach program with the consulting firm, O'Reilly Public Relations (OPR). OPR provides important support to LESJWA in providing bi-annual newsletters, op-ed articles, newspaper press releases, updates for website, talking points for emergency lake conditions events, coordination with the LESJWA Education and Outreach Committee, and support in arrangements for community presentations by LESJWA staff. While funding is still available from reserves, LESJWA continues to budget and fund the education and outreach program. However, as reserve funding diminishes, this program may need to be terminated. If \$17,000 in annual costs were eliminated, the annual LESJWA projected costs would be less than \$100,000. The downside to termination that would have the most impact is the elimination of readily available crisis management, messaging, and talking points with the media such as the occurrence of major fish kill incidents. The assistance of OPR was considered extremely helpful when these events have occurred.

Reduce Board meeting frequency

Another way to reduce costs is to reduce the meeting frequency (currently every other month). Fewer meetings will reduce administration costs associated with meeting agenda packets, minutes, legal support, and board participation. A transition from every other month to a quarterly meeting schedule will save an estimated \$15,000/year. The downside of meeting less frequently is the potential loss of cohesion among the member agency representatives, loss of institutional memory, delays in consultant contract approvals, and potential loss of value to the member agencies.

Alternative Administrative Support

Another way to reduce costs to consider, as an alternative to SAWPA's continued support as LESJWA's administrator, is to request outside administrative support services through a RFP

process for possible consultant support, or to have one of the LESJWA member agencies take over the administration. The administration costs to operate LESWA may decrease, but it is difficult to estimate by how much. The most significant downside would be the loss of institutional memory and the steep learning curve that any new administrator would need to address. Depending on the activity level, the administrator support must be adaptable to changing situations. Any administrator chosen should have sufficient support functions such as accounting, finance, administrative, legal and planning support. Oftentimes, the administrator will have to be proactive in grant writing and applications to support LESJWA goals. If State or Federal grants are successful, the full complement of support services to administer these grants is important. SAWPA has indicated that although it is willing to continue to support LESJWA indefinitely, issues of conflicting interest have arisen in competitive Statewide grant preparation, which may hinder LESJWA's efforts to pursue grant funding or exercise its autonomy as much as it may desire.

Generate New Sustainable Revenue

Lake Quality Improvement Funding

One possible funding option to support LESJWA is a funding source described as lake quality improvement funding, also known as a TMDL pollutant or water quality trading option. Under this scenario, upper watershed entities who must comply with nutrient reductions associated with the Lake Elsinore and Canyon Lake Nutrient TMDL may find it more economical to meet nutrient reductions through in-lake improvements and operations. The Regional Board defined a pollutant (water quality improvement) trading plan as a TMDL task deliverable and formerly supported this program as a legitimate approach for water quality improvement. If upstream parties that contribute nutrients to the lake were to pay for operation and maintenance costs for lake improvements that accomplish nutrient reductions at the lakes, a funding stream could be generated that could cover not just the operations of the lake improvement system, but also operation and management services of LESJWA. Currently, EVMWD, the City of Lake Elsinore, and the County of Riverside jointly operate the existing lake improvements originally funded by LESJWA/Proposition 13 Water Bond such as the Lake Elsinore aeration system. Other lake improvements at Lake Elsinore and Canyon Lake are expected due to water quality cleanup needs to meet the nutrient TMDLs at the lake.

The advancement of the lake quality improvement approach is dependent upon institutional agreements that must occur between lake operation entities and the upper watershed entities, 21 organizations in all. At this time, lake operation entities largely are obligated to continue operations to provide benefits to their local residents and to meet the State obligations to operate and maintain capital improvements funded by State grants. The Lake Elsinore aeration operators, the County of Riverside, City of Lake Elsinore, and EVMWD, had hoped that some lake projects would perform better than expected and show increased nutrient control beyond the original design parameters creating water quality credits that then could be sold to upstream parties. However, based on recent evaluation of Lake Elsinore aeration impacts and monitoring, no additional nutrient offset credits are evident by the Lake Elsinore aeration system at this time.

In consideration of a lake quality improvement program, each TMDL responsible party will want to know what specific amount of nutrient control they will be responsible for. This may include not just what comes off their properties, but also suppression of nutrient rerelease from the lake bottoms resulting from past nutrient flows from their properties. Further study of the lake quality improvement and nutrient trading option was evaluated in FY 11-12. Unfortunately the prospects of funding through nutrient trading options other than for the future Lake Elsinore aeration system appear to be less likely due to recent State court interpretations.

To cover just the operations shortfall of LESWA, any nutrient offset or credit at the lakes could include the funding necessary to sustain LESJWA for the long term. The primary beneficiaries for the continuance of LESJWA would be the Lake Elsinore/Canyon Lake TMDL Task Force agencies. If all TMDL task force agencies participated in the lake quality improvement program, the annual funding contribution to just sustain LESJWA is estimated to be approximately \$5000 per agency, assuming an equal share among all 20 agencies of \$100,000 to operate LESJWA beyond FY 2014-15. If one were to assume that the existing LESJWA member agencies were to continue funding LESJWA at their current annual funding of \$20,000 per member agencies for the City of LE and EVMWD and \$10,000 for SAWPA, City of Canyon Lake and County of Riverside, the funding contribution from the other TMDL agencies could drop down to approximately \$1875 per agency again assuming an equal share among the remaining 16 task force agencies (SAWPA is not a TMDL funding party) for the balance of the funding needed.

In regard to competition to water quality nutrient trading program implementation, the WRCAC has obtained a 319(h) State planning grant to implement a pollutant trading program among the dairy and agricultural operators. LESJWA understands that the WRCAC pollutant trading program is limited to trades among agricultural and dairy operators and not with other TMDL parties. The program may have an impact on future trading options with other TMDL agencies. Until such time that the LE/CL TMDL water quality improvement and nutrient trading program is developed, the projected competition, viability, and potential revenue for LESJWA operations are unknown.

TMDL Task Force Funding for LESJWA

Another revenue generation option proposed by the LESJWA Chair, Phil Williams, was to request annual funding directly from each of the LE/CL TMDL Task Force entities. As reflected in the 2010 LESJWA Business Plan, the Task Force formerly paid for monitoring, studies, administration, and consultant support to comply with TMDL requirements, but not the LESJWA operations. The challenge with this proposal is that many of the LE/CL TMDL parties already are realizing major financial difficulties with paying their existing allocation for the TMDL. Further, the future of the TMDL Task Force is somewhat jeopardized by an anticipated funding deficit from one of the major funding contributors to the TMDL efforts, the agricultural operators. The agricultural operators have indicated that they will not be seeking to collect funds on an annual basis, but triennially. Without sufficient funding to comply with TMDL requirements, the TMDL compliance work will cease and the collaborative approach under the task force agreement is jeopardized.

Similar to the funding contribution described in the lake quality improvement program, the primary beneficiaries for the continuance of LESJWA would be the Lake Elsinore/Canyon Lake TMDL Task Force agencies. If all TMDL task force agencies agreed to fund LESJWA, the annual funding contribution is estimated to be approximately \$5000 per agency, assuming an equal share among all 20 agencies of \$100,000 to operate LESJWA beyond FY 2014-15. If one were to assume that the existing LESJWA member agencies were to continue funding LESJWA at their current annual funding of \$10,000 per member agencies, the funding contribution from the other TMDL agencies could drop down to approximately \$1875 per agency again assuming an equal share among the 16 remaining task force agencies (SAWPA is not a TMDL funding party) for the balance of the funding needed.

For this 2014 LESJWA Business Plan, the revenue assumptions for LESJWA assumes that approximately half of all LESJWA Board activities relate to the LE/CL TMDL Task Force so these costs will be passed on to the LE/CL TMDL Task Force under the administration fee associated with their task force work. This should provide a revenue stream of approximately \$25,000/year from the Task Force to offset the revenue shortfall to address TMDL activities.

Increase Cost Share Among LESJWA Agencies

The simplest and most direct way to increase revenue long term would be to increase the funding contribution among the five LESJWA member agencies. This approach places an unfair burden upon the agencies surrounding the lakes and particularly on SAWPA since it is supporting the organization without a significant vested interest in the lake quality improvement. Under this scenario, if all five agencies share were increased equally to cover an annual operating cost of \$100,000, the equal share would be \$20,000. If SAWPA's share was maintained at \$10,000 and the other four agencies were to share in the costs equally, then the four LESJWA agencies would have their annual costs increase from \$10,000 per year to \$22,500.

For the 2014 LESJWA Business Plan, this option was exercised and included in the FY 14-15 Budget as applied to two of the five member agencies. Both the City of Lake Elsinore and EVMWD agreed to budget \$20,000 instead of \$10,000/year for LESJWA costs. The County of Riverside also indicated that they would look into increasing their annual share by \$10,000 but preferred not to include it in the LESJWA budget at this time. Further, the Riverside County Flood Control and Water Conservation District expressed interest in providing \$20,000 to supplement the member agencies contributions to support LESJWA. Again this costs was not included in the FY 14-15 budget.

Formation of an Assessment District

Another revenue option of forming an assessment district is also explored as described below but based on past survey work conducted to explore the Drainage Basin Utility Fee and the Regulatory Fee, it does not appear to be a viable option and is not included in the list of recommended actions to the LESJWA Board.

Similar to the Big Bear Municipal Water District, another funding option previously explored to some degree in the early history of LESJWA, is the establishment of an assessment district that could include properties around Lake Elsinore and Canyon Lake, or areas in the contributing watersheds. Special assessment districts are separate units of government that manage specific resources within defined boundaries. Districts vary in size, encompassing single cities or several counties. They can be established by local governments or by voter initiative, depending on State laws and regulations. As self-financing legal entities, they have the ability to raise a predictable stream of money, such as taxes, user fees or bonds, directly from the people who benefit from the services.

Proposition 218 establishes a common formation and ratification procedure for all special assessment districts as defined by Section 4, Article XIII D of the California Constitution. These requirements apply to all special assessments, to the exclusion of any conflicting laws. All assessments must be supported by a detailed engineer's report prepared by a registered professional engineer. The report must contain the total amount of money chargeable to the assessment district, the amount chargeable to each parcel in the district, the duration of the payments, the reason for the assessment, and the basis upon which the proposed assessment was calculated. Although not explicitly mandated by Proposition 218, the report also should include a description of the improvements or services to be financed through the special assessment, the proposed district boundaries, and a description of the special benefit which each parcel receives as a result of the assessment.

Prior to creating an assessment district, the city, county, or special district must hold a public hearing and receive approval from a majority of the affected property owners casting a ballot. All owners of property within the assessment district must be mailed a detailed notice of public hearing and a ballot with which to voice their approval or disapproval of the proposed district at

least 45 days prior to the hearing. The notice must contain the total amount of money chargeable to the assessment district, the amount chargeable to each parcel in the district, the duration of the payments, the reason for the assessment, the basis upon which the proposed assessment was calculated, and a summary of the ballot procedure, as well as the date, time, and location of the public hearing. The notice also must disclose that a majority protest will result in the assessment not being imposed.

At the hearing, the governing body of the agency must consider all protests to the formation of the district. Assessment district proceedings must be abandoned if a majority of the ballots received by the conclusion of the hearing protest creation of the district. Ballots are to be weighted according to the proportional financial obligation of the affected property; the larger the financial obligation, the greater the weight that must be assigned to that property. Unlike previous laws under many of the assessment district acts, the governing body cannot overrule the property owner vote. No other form of election is required. Once an assessment is created, it may be repealed or reduced by popular initiative.

Agencies must clearly identify the special benefit being conferred to the parcels being assessed, excluding any identified general benefit. They must apportion the assessment on an individual basis to parcels within the district. Where an assessment is challenged in court, Proposition 218 specifies that the agency carries the burden of proof to show that the property is receiving a special benefit and that the amount assessed is proportional to, and no greater than, the special benefits conferred. Most important, agencies will have to educate property owners about the advantages of the prospective assessment. The ballot process established by Proposition 218 favors those property owners who oppose the assessment (as they are generally the most motivated to return a ballot).

Based on previous studies, it is unlikely that an assessment district could be established similar to the Big Bear Municipal Water District unless the district was limited to properties adjoining or in the immediate area of the lakes. Seeking an assessment from properties in the upper watershed that contribute to the lakes quality is not likely to obtain the 2/3 majority vote of support necessary for passage. Further, the lack of guarantees to assure good lake quality due to the continued water supply challenges that Lake Elsinore is experiencing, likely would be insufficient to property owners considering an assessment fee. Based on these factors, creating an assessment district does not appear viable for the near future.

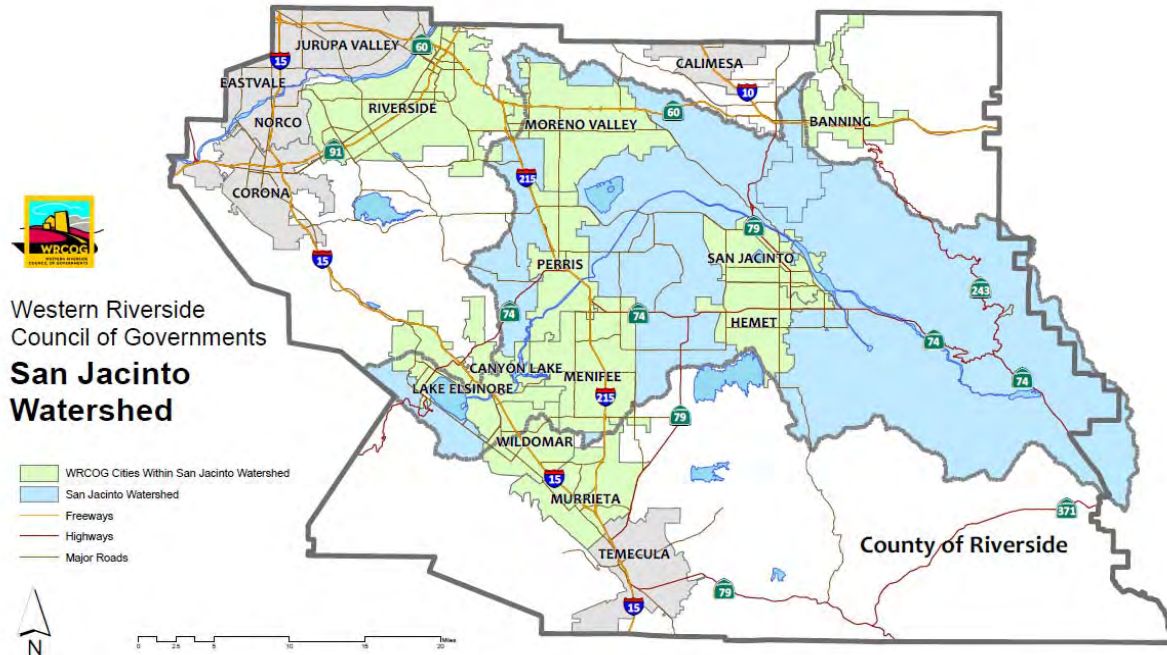
Participation of LE/CL TMDL TF agencies on LESJWA Board

As part of the 2014 LESJWA Business Plan update, another option as proposed by the LESJWA Board would be to increase revenue by adding more paying members to the LESJWA Board. Further since the Western Riverside Council of Governments (WRCOG) has many of the members on the Lake Elsinore/Canyon Lake TMDL Task Force, perhaps there is a role that WRCOG could play in representing the task force agencies in the San Jacinto River Watershed on the LESJWA Board, supporting or reducing administrative costs of LESJWA, or possibly restructuring LESJWA as a committee of WRCOG.

WRCOG's stated purpose is to unify Western Riverside County so that it can speak with a collective voice on important issues that affect its members. Representatives from 17 cities, the Riverside County Board of Supervisors, and the Eastern and Western Municipal Water Districts have seats on the WRCOG Executive Committee, the group that sets policy for the organization. As a joint powers agency, WRCOG takes up regional matters critical to our future, from air quality to solid waste and from transportation to the environment. One area in which they have a focus is on water supply and water conservation. In this regard, there is somewhat of a nexus to water issues

associated with LESJWA and its role in improving the water quality at the two lakes but not significantly.

In review of the membership of WRCOG, there are 11 cities of its 17 city member agencies involved in the LE/CL TMDL Task Force. Their jurisdiction in relation to the San Jacinto River Watershed is shown in the graphic below. Similar to SAWPA, if WRCOG were to take on any administration or representation support role for LESJWA, it would face the challenge of having some of its members who have no direct overlying involvement or proximity to the two lakes having some say in the affairs of the two lakes.



Under the current LESJWA JPA agreement, Section 3.2, “another entity can become a member of the Authority after its formation upon a 2/3 majority vote of the existing directors”. However, it also clear that the existing directors though wanting to remain inclusive of new members still wish to preserve the veto power that they hold as indicated under Section 4.4 Voting of the JPA Agreement, “Except as otherwise provided herein, all actions of the Board shall be passed upon the affirmative vote of a majority of the Board of Directors; provided, however, that no plan or program shall be implemented within any Member’s jurisdictional boundaries without that Member’s prior approval.”

If WRCOG as an organization were to be added as a new LESJWA JPA member or were to replace SAWPA as a regional entity, concerns could arise from other Task Force members who were not represented on WRCOG such as State and Federal entities, dairy entities and agricultural entities. Even if some of these Task Force members wanted to become new members to the LESJWA Board, they may not be legally eligible under CA State Law to sit on the JPA Board. For example, the Western Riverside County Agricultural Coalition that represents the dairies and agricultural interests, as non-profit 501c3, would be prohibited from serving on a JPA. Further, it is unlikely that

federal entities such as the U.S. March Air Reserve Base or State agencies could become LESJWA JPA Board members either.

In examining the question of representation or merging of LESJWA under WRCOG, the cities and water districts in WRCOG that are also serving in the LE/CL TMDL Task Force may feel that they are already represented in decision making about the lakes through the Task Force and may not see a need to provide additional funding to become a member of the LESJWA JPA. Further, if representation were to come from the cities or water districts in WRCOG, concerns may arise as to what agency or city staff is best suited to serve there. WRCOG currently has several technical advisory committees (TACs) and the Public Works TAC may be best suited to allow communication between City Managers and Public Works Directors who may be more aware of the lake activities. However, early feedback by those who attend WRCOG indicate that the representatives sent by each city to the LE/CL TMDL Task Force are often in water quality compliance departments with little interaction or communication with public works or city upper management and may be far less familiar with lake issues being addressed by LESJWA and the Task Force.

In consideration of whether it would make sense financially to replace LESJWA staff, SAWPA, with WRCOG staff, WRCOG upper management has indicated that they do not have the experience or ability to take on this role and would have to hire outside consultant support to replace SAWPA as the LESJWA administrator. As previously described in considering whether costs could be saved by replacing SAWPA with a consultant to serve as administrator to LESJWA, SAWPA costs remain very competitive and are below comparable consultants costs based on an internal study conducted by the Riverside County Flood Control and Water Conservation District in 2013. Further the institutional memory of SAWPA in lake management as well as the positive relationship it has gained over the years with the Santa Ana Regional Water Quality Control Board remains strong and would be difficult to replace at less cost.

The recommended strategy for this option would be to conduct presentations with WRCOG Public Works TAC as well as key large cities who also participate in the LE/CL TMDL Task Force to determine if there is interest or needs for better representation of their interests on the LESJWA Board. Individual meetings with upper management of the large cities who serve on both WRCOG and the Task Force should continue to determine future interest in serving as a funding member of the LESJWA JPA.

Institutional Stability

In addition to financial considerations, the long-term sustainability of LESJWA must include consideration of institutional factors. Often within for-profit business plans, a section is included discussing competition in the market place. Though as a non-profit, market competition is typically not a direct concern, a non-profit entity should still consider the competitive nature of outside funding and other organizations that often play dual or similar roles to LESJWA. Other institutions may affect how the LESJWA Board may wish to continue in the future under its current JPA organization with current JPA members or consider alternative organization structure.

San Jacinto River Watershed Council (SJRWC)

The SJRWC is a non-profit 501(c) 3 organization formed in 2002. A grant provided by the State of California Dept of Conservation to the Elsinore-Murrieta-Anza Resource Conservation District helped establish the organization with a watershed coordinator and provide a listing of available watershed resources. A nine-member board of directors with representatives from the following categories governs the Council. The current representative and organization affiliation also are as follows:

1. Water/Wastewater
2. County/City
3. Agriculture/Landowner
4. Environmental/Community
5. Federal/State/Regional
6. Indian/Tribal
7. Dairy
8. At Large Board member
9. At Large Board member

The purpose of the organization, as shown in the SJRWC bylaws, is as follows:

- To ensure that the current and potential uses of the San Jacinto River Watershed's resources are sustained, restored, and where possible, enhanced, while promoting the long-term social and economic vitality of the region.

The goals of the organization are to:

- Promote a stewardship approach to collaborative, holistic watershed management.
- Ensure that the interests represented in the development of policies, programs and activities of the San Jacinto River Watershed Program reflect the diversity of interests represented by all stakeholders of the watershed.
- Provide sound information to support decisions and actions of watershed stakeholders, which will promote the long-term social and economic vitality of the region.
- Provide and support an effective process that supports locally led and community-based environmental management that meet State and Federal regulatory requirements in locally appropriate ways.
- Assist in the development, implementation, and monitoring of effective and sustainable processes to improve watershed quality and protect beneficial uses of water to meet the interests of all stakeholders in the San Jacinto Watershed.
- Facilitate the exchange of watershed information to the stakeholders and community through various means.
- Influence water policy.

As evident by the organization goals in comparison to LESJWA goals, there is some duplication of mission and potential areas of conflict. Because the SJRWC functions primarily from minimal annual contributions from its member agencies and by grants, competitive grant applications prepared by LESJWA and SJRWC may be deemed competitive.

Santa Ana Watershed Project Authority (SAWPA)

The Santa Ana Watershed Project Authority is a joint powers authority formed in 1973 to address regional water resource planning and projects in the Santa Ana River Watershed. SAWPA includes five member agencies including Eastern Municipal Water District, Western Municipal Water District, Inland Empire Utilities Agency, San Bernardino Valley Municipal Water District, and Orange County Water District. SAWPA currently has three main areas of focus:

1. **Operation and maintain the Inland Empire Brine Line** delivering non-reclaimable high saline water out of the Santa Ana River Watershed to the ocean.
2. **Administer and support the SAWPA Roundtable or task forces.** These are multi-agency collaborative forums to address water quality regulations and water resource issues wherein multiple agencies sign a task force agreement to hire SAWPA to administer regular meetings, hire consultants, and conduct the contract terms on behalf of the multiple agencies to accomplish their goals. Many of the SAWPA “Roundtable” efforts are addressing TMDLs in the Santa Ana Watershed.
3. **Integrated regional water management planning through SAWPA’s One Water One Watershed “OWOW” Plan.** SAWPA has been designated by the Dept. of Water Resources as the established region for funding of Proposition 84 IRWM funding, and is likely to be the administrator for future IRWM funding.

As a watershed entity, SAWPA, like SJRWC, will be pursuing competitive grants made available from State and Federal sources for watershed planning, watershed coordination staffing and other watershed projects. Because SAWPA is pursuing funding that also potentially could be applied for by LESJWA, this presents areas that some may consider a conflict of interest, considering SAWPA serves as the administrator of LESJWA. Historically, SAWPA has served as a catalyst for getting regional projects implemented and then passing the baton of control over to local entities to continue operations and maintenance activities. Thereafter, SAWPA typically will withdraw from the newly formed JPA or operations organization unless strongly recommended to remain. To date, SAWPA has not withdrawn in its administrative role based on the encouragement of the LESJWA Board to remain as administrator.

Big Bear Municipal Water District (BBMWD)

The Big Bear Municipal Water District is an independent special district of the State of California, responsible for the overall management of Big Bear Lake located in the San Bernardino Mountains. The primary goal of the BBMWD is the stabilization of Big Bear Lake at a water level as constant as possible. Lake stabilization is conducted through the implementation of a comprehensive water management plan, which includes controlled lake releases combined with a water purchase contract to provide water to the water rights holder while minimizing demand on the reservoir. In many ways, the BBMWD could be a potential organizational template for how Lake Elsinore could be managed in the future.

The list of similarities between Big Bear Lake and Lake Elsinore are many as indicated below:

1. Both lakes are listed as impaired water bodies for nutrients.
2. Both lakes are actively seeking to address water level stabilization and water quality.
3. Both lakes are primarily recreational water bodies.

4. Both lakes have experienced challenges with low DO levels and algae.
5. Both lakes have a TMDL Task Force seeking to address their challenges.

Still, major differences exist between the lakes that affect lake management as follows:

1. BBMWD owns Big Bear Lake while the City of Lake Elsinore owns Lake Elsinore with agreements with EVMWD to fill and operate the lake.
2. BBMWD uses an assessment district and boating/docking fees to fund lake stabilization and water quality improvements at Big Bear Lake, and to operate the agency. The City of Lake Elsinore and EVMWD provide funding for Lake Elsinore lake level stabilization. LESJWA obtained grant funding for the majority of past improvements at Lake Elsinore and Canyon Lake, but no ongoing capital funding mechanism currently exists. LESJWA member agencies provide minimal funding for operations of LESJWA.
3. Big Bear Lake has much higher recreational use than Lake Elsinore and has a higher per capita income level surrounding the lake to pay assessment district fees.

In addition to SJRWC and SAWPA, BBMWD also may be applying for lake improvement funding from State and Federal sources that may be in competition to grant applications to support Lake Elsinore and Canyon Lake improvements.

Western Riverside Council of Governments (WRCOG)

As previously described, the Western Riverside Council of Governments (WRCOG) is a joint powers authority whose responsibilities are wide-ranging, but in all cases are determined by its member jurisdictions and agencies. Activities common to many COGs include regional review of environmentally significant projects per CEQA; air quality planning; area wide clearinghouse for review of Federal financial assistance; regional housing needs assessment; hazardous and solid waste management; demographic projections; growth management analysis and development of subregional strategies; review of local general plan amendments; area wide water quality planning; transportation planning, modeling and programming; and general planning support and technical assistance. For WRCOG, its focus is unifying the Western Riverside County so that it can speak with a collective voice on important issues that affect its members. Representatives from 17 cities, the Riverside County Board of Supervisors, and the Eastern and Western Municipal Water Districts have seats on the WRCOG Executive Committee, the group that sets policy for the organization. As a joint powers agency, WRCOG takes up regional matters critical to our future, from air quality to solid waste and from transportation to the environment. One area in which they have a focus is on water supply and water conservation. In this regard, there is somewhat of a nexus to water issues associated with LESJWA and its role in improving the water quality at the two lakes but not significantly.

The potential for future merging of roles was discussed previously in the evaluation of generating new revenue.

Future Trends and Forecasts

One of the primary drivers for continued support for lake quality improvement is the EPA-mandated TMDLs that specify certain water quality targets by certain dates. For Lake Elsinore and Canyon Lake, the TMDL water quality targets have been defined for 2015 (interim), and 2020 (final). Failure to achieve the water quality targets may result in regulatory fines to entities that

contribute nutrient that exceed maximum daily loads. Most of the LESJWA member agencies are among the entities listed as responsible for TMDL compliance. With the improvements conducted to date at Lake Elsinore and Canyon Lake, significant progress has occurred to help meet the TMDL targets. Whether or not the improvements made thus far are adequate to assure future lake quality still is under investigation. Based on water quality monitoring data collected to date, further lake capital improvements to improve lake quality at both Lake Elsinore and Canyon Lake appear likely.

With each capital improvement, operation and maintenance commitments to operate the lake improvements also are necessary. Over time, an adaptive management approach must be practiced in which monitoring confirms whether water quality targets are being met. If not, then changes to lake operations or further capital improvements with associated O & M commitments become necessary.

For the future of Lake Elsinore and Canyon Lake, an implementation agency to assist with project implementation is still necessary because more water quality improvements at both lakes and the watershed likely are in order to achieve the water quality targets necessary to comply with the Nutrient TMDL for Lake Elsinore and Canyon Lake. If funding from State or Federal grants becomes available for implementation of further lake improvements, LESJWA, as an established JPA, can apply for these implementation funds. The role of building projects to improve water quality at the lakes cannot be performed as well by other JPAs or nonprofit organizations like SJRWC as presently constituted. According to the SJRWC bylaws, it was not formed to be a project implementation agency, but rather a coordinating, planning body. LESJWA also has a successful record in receiving State implementation grant funds, and anticipates such for the future. Similarly, SAWPA is not designed as an operation entity for lake improvements and likely will steer clear of taking on an expanded role in this area.

Future funding also is somewhat dependent on the institutional support of outside regulatory agencies. LESJWA, SAWPA, BBMWD and SJRWC all have a good relationship with the Regional Board, key to obtaining State grant funding support. As part of the TMDL process for Lake Elsinore and Canyon Lake, LESJWA is in a good position to apply for and obtain future State grants for further lake improvements. Further, it has been the common mode of operation for LESJWA to contract with local agencies, often times with its member agencies, to serve as the lead project manager and implementer of large- scale implementation projects, as these entities usually are the same entities responsible for the continued operation and maintenance of the facilities. This contractual model is similar to the approach taken effectively by SAWPA in the administration of implementing Proposition 13 Water Bond projects. Overall, this arrangement has worked well in reducing the operation and maintenance obligations and costs of improvement projects to local agencies more directly interested in the project's success.

Another activity that will need to continue in the subwatershed is integrated water resource planning. The primary integrated water resources management plan (IRWM) for the Santa Ana region covering the San Jacinto subwatershed and the two lakes is the Santa Ana Watershed is the One Water One Watershed (OWOW) Santa Ana IWRP administered by SAWPA. The OWOW plan was recently updated and adopted by the SAWPA Commission in February 2014. A more focused subwatershed integrated watershed plan for the Santa Ana River Watershed was completed in Dec. 2007. SAWPA is supportive of the more focused and detailed planning conducted at the local level. This planning is important to the region and is valued under the OWOW collaborative planning process. It is envisioned that LESJWA will continue to support more focused subwatershed integrated watershed planning for the San Jacinto subwatershed as the need arises.

Projected Capital Improvements

Lake Elsinore

Based on studies conducted by LESJWA and the LE/CL TMDL Task Force for Lake Elsinore, the existing improvements of biomanipulation that includes in-lake aeration and destratification, carp removal and carnivorous fish stocking, are expected to achieve compliance with the chemical and biological targets specified in the Lake Elsinore TMDL. However, in the event that the proposed program proves inadequate, there may be additional options to further reduce nutrient loads released from in-lake sediments. These include the following capital improvements:

Enhanced Aeration System

The software code used to control the existing aeration system could be revised to operate the aerators more frequently (more months of the year, more days of the month, or more hours in a day). Also, additional pipelines and/or aerators may be installed to provide better coverage. The utility of this option depends on the demonstrated effectiveness of the current aeration system and the related oxygenation efficiency curve of additional aeration. Capital Cost Estimate: \$800,000
Operation & Maintenance Cost Estimate: \$100,000/yr.

Enhanced Treatment of Reclaimed Water

EVMWD's NPDES permit limits phosphorus concentrations in reclaimed water discharged to Lake Elsinore to less than 0.5 mg/L. Additional alum application at the wastewater treatment plant may reduce nutrient concentrations even further. This may provide any opportunity to offset non-point source loads by engaging in nutrient trading with point sources. Capital Cost Estimate: \$5,000,000. Operation & Maintenance Cost Estimate: \$500,000/yr.

Direct Application of Metal Salts

Alum and other metal salts are frequently used to reduce phosphorus concentrations in small lakes. In general, Lake Elsinore is poorly suited for the use of alum because the relatively high pH levels inhibit the intended formation of aluminum phosphate. However, under certain conditions, pH levels may be low enough to support the application of metal salts, such as alum, to Lake Elsinore. In very wet years, when the inflows to Lake Elsinore are greatest, pH levels tend to decrease. This is not surprising because the pH of rainwater is naturally low. If large-scale alum applications were timed to coincide with wet winters, much of the new dissolved phosphorus flowing into the lake might be neutralized. The application of alum to Canyon Lake during the 2013-2015 is underway and is anticipated to reduce the phosphorus concentrations before the water overflows into Lake Elsinore. Further, new clay-based alum products such as Phoslock are showing promise that could be used and may warrant further investigation for direct application to Lake Elsinore. Capital Cost Estimate: \$1.5 million per application.

Targeted Suction Dredging

Previous studies indicate a disproportionate amount of phosphorus released from in-lake sediments is coming from the organic silt layer in the middle of the lake. Furthermore, preliminary reports suggest that most of the phosphorus is coming from the top 15 cm of sediment. Therefore, limited suction dredging, targeting the top six inches of sediment in the middle of the lake may prove to be an effective mitigation strategy. Cost Estimate: \$20 million.

Constructed Wetlands

LESJWA has considered a pilot project to demonstrate the effectiveness of constructed wetlands for reducing nutrient concentrations in Lake Elsinore. Theoretically, stormwater runoff could be diverted through such wetlands for treatment prior to entering the lake. Alternatively, lake water could be pumped up and flow through the wetlands during drier years. When the levee was constructed, and the surface area of Lake Elsinore was cut in half, a large back-basin area was created that may serve as an ideal location to build treatment wetlands. Data from the pilot project will help determine whether such an approach would be practical on a larger scale. Capital Cost Estimate: \$600,000. Operation and Maintenance Cost Estimate: \$20,000/yr.

Active Aquatic Plant Management

Over time, stabilizing the lake level and reducing the algae infestation will provide an opportunity for native aquatic plants to recolonize the lake. It also may be possible to accelerate the process by initiating a program to actively revegetate the shoreline and the lake bottom. Aquatic plants will serve as a natural sink for nutrients, will provide better habitat for beneficial freshwater species, and reduce the level of sediment resuspension caused by wind and wave action. Capital Cost Estimate: \$200,000. Operation and Maintenance Cost Estimate: \$10,000/yr.

Enhanced Fishery Management Program

The City of Lake Elsinore has demonstrated the general effectiveness of actively managing the fish populations through netting and stocking programs. Such programs, particularly stocking efforts, could be expanded significantly if there were a way to calculate and credit the nutrient removal credit associated with such an effort. Data collected from the water quality monitoring program may provide the information needed to validate the beneficial use protection value, and thereby create an incentive to augment the City's fishery management program. Estimated Capital Cost: \$2,400,000. Operation and Maintenance Cost Estimate: \$45,000/yr.

Enhanced Lake Stabilization

Previous studies revealed that 13-15,000 acre-feet of water evaporates each year from Lake Elsinore. On average, only about 1,400 acre-feet flows into Lake Elsinore annually. The island wells provide an additional 3,000 acre-feet of groundwater and reclaimed water adds 5,000 acre-feet of supplemental flow each year. Therefore, more water (up to 5,000 acre feet/year) is needed to fully offset evaporative losses and stabilize the lake level in the ideal range. The most cost-effective and reliable source is high quality reclaimed water from local wastewater plants. However, additional treatment would be necessary to reduce nutrient concentrations to acceptable levels before more reclaimed water could be added to Lake Elsinore. The cost of such treatment also would have to be heavily subsidized by the responsible parties named in the TMDL. Further, the existing recycled water flow of 5000 AFY is subject to a joint agreement and funding by the City of Lake Elsinore and EVMWD. If this funding were to discontinue and recycled flows cease, this annual cost increase and become more urgent. Annual Cost for Supplemental Water: \$1,830,000/yr.

Lake Elsinore Improvements	Capital Costs	Annual O & M Costs
1) Enhanced Aeration System	\$800,000	\$100,000

2) Enhanced Treatment of Reclaimed Water	\$5,000,000	
3) Direct Application of Metal Salts	\$1,500,000	
4) Targeted Suction Dredging	\$20,000,000	
5) Constructed Wetlands	\$600,000	\$20,000
6) Active Aquatic Plant Management	\$200,000	\$10,000
7) Enhanced Fishery Management Program	\$2,400,000	\$45,000
8) Enhanced Lake Stabilization	\$1,830,000	
Total	\$32,730,000	\$175,000

Canyon Lake

For the short term capital improvements of LESJWA, the focus will be primarily on improvements at Canyon Lake.

Aeration/Oxygenation System

In August 2010, LESJWA initiated a preliminary engineering investigation for an aeration/oxygenation system for Canyon Lake to assist with compliance with many of the Canyon Lake TMDL targets. The report was completed in December 2010 and provides refined estimates for capital improvements, as well as operation and maintenance. Capital improvements cost estimate: \$1.5 million. Operation and Maintenance Costs Estimate: \$500,000/year.

Alum Application

As described under the Lake Elsinore improvement, alum application of Canyon Lake is underway and is hoped to be an effective strategy to control nutrient release from the bottom, particularly the legacy phosphorus on the lake bottom, but also help to collect nutrients in the water column under a storm event and seal them in the bottom sediment to benefit not just to Canyon Lake, but also to downstream Lake Elsinore. Capital Improvement cost estimate: \$120,000 per application.

Upstream Constructed Wetlands Treatment

Again similar to the previously described Lake Elsinore improvement, wetlands are an effective means of filtering nutrients before reaching major water bodies like Canyon Lake and Lake Elsinore. If a location could be found upstream of Canyon Lake, either where the San Jacinto River or the Salt Creek enter Canyon Lake, a wetlands could be established to assist. The challenges with this project is assuring adequate water supply, land purchase, and effectiveness in nitrogen removal, but less so with phosphorus. Consequently, similar to the Lake Elsinore project, a pilot project scale wetlands is envisioned before proceeding with major construction. As the land has not been acquired, the pilot project costs will be higher than for Lake Elsinore. Capital Improvement cost estimate: \$800,000. Operation and Maintenance Cost Estimate: \$20,000/yr.

East Bay Lake Dredging

In 2006, LESJWA supported the City of Canyon Lake and the Canyon Lake Property Owners Association (POA) in a dredging operation in the East Bay of Canyon Lake and removed 20,000 CY

of silt. However, at the request of the Canyon Lake POA the project was prematurely terminated due to increasing operation costs and legal concerns arising from third party lawsuits. The need for additional dredging in the East Bay still exists with an estimated 200,000 CY of silt to be removed in the East Bay of Canyon Lake. Though the water quality benefit of dredging has been deemed to be limited at Canyon Lake main body and the downstream lake, Lake Elsinore, the functionality of the lake and impairment of the recreational beneficial use will continue to occur if dredging is not reinitiated. Capital improvement estimate \$3 million. Operation and Maintenance Cost Estimate: \$50,000/year.

Canyon Lake Improvements	Capital Costs	Annual O & M Costs
1) Aeration/Oxygenation System	\$1,500,000	\$500,000
2) Alum Application	\$1,500,000	
3) Upstream Constructed Wetlands Treatment	\$800,000	\$20,000
4) East Bay Lake Dredging	\$3,000,000	\$50,000
Total	\$6,800,000	\$570,000

Clients and Needs

The need for a business plan for LESJWA is readily apparent as evidenced by the projections of funding shortfall to operate LESJWA within three years. For its member agencies, an increase in member agencies dues will be challenging in light of foreseeable economic conditions. In review of any financial plan, the needs of the member agencies of LESJWA and the other clients that LESJWA supports, such as the LE/CL TMDL Task Force agencies in support of the LESJWA mission, must be considered.

- **Santa Ana Watershed Project Authority**

Of the LESJWA member agencies, the one agency with the least need to be a party of LESJWA is SAWPA. As a watershed management agency, it is not dependent on an individual lake's quality, but plays a supportive role as a watershed coordinator and in its administrative role. Transfer of the administrative support function to another party such as a local agency or other LESJWA member agency may be encouraged to avoid conflict of interest issue in competitive grant seeking, and encouraging more autonomy by the organization. A representative from the Western Riverside Council of Governments, which includes two of the SAWPA member agencies (WMWD and EMWD) as well as many of the LE/CL TMDL parties, may be a good option.

- **County of Riverside**

Because half of Lake Elsinore adjoins County property and is used by many County residents, the County of Riverside can and does play a significant role in assuring a stabilized lake level, and funding lake aeration operations and maintenance for Lake Elsinore. The Riverside County Flood Control District, a district governed by the Riverside County Supervisors, plays a major role on the LE/CL TMDL Task Force as one of the primary funding parties due to the

apportionment of TMDLs to Canyon Lake and Lake Elsinore. Continued participation in LESJWA will provide benefits in assuring County resident interests are addressed and that as a responsible TMDL party, its policy guidance to mutually beneficial projects for both lakes will help meet their regulatory obligations.

- **City of Canyon Lake**

The City of Canyon Lake remains an important part of LESJWA particularly since the goals of the organization were developed to assist not just Lake Elsinore, but also Canyon Lake and the San Jacinto watershed. As a named responsible party under the Canyon Lake TMDLs, the City of Canyon Lake stands to benefit from continued involvement, participation, and support of LESJWA. As an upstream entity to Lake Elsinore on the Board, their involvement assures that any future funding is balanced between Lake Elsinore and Canyon Lake water quality improvement needs.

- **Elsinore Valley Municipal Water District**

EVMWD, as a water service agency, plays an important role on the LESJWA Board based on a series of legal agreements it has with the City of Lake Elsinore to maintain lake levels, operate lake aeration systems, and maintain a water supply for the back basin wetlands resulting from the Lake Stabilization Levee project. If these agreements were not in place, the incentive for EVMWD to continue to be involved in LESJWA would be somewhat less. Historically, LESJWA has served as an effective funnel for State grant funding to support compliance with water quality regulations and capital improvements. Similar to the County, EVMWD is a listed responsible TMDL party due to their recycled water additions to Lake Elsinore, and pays a significant portion of the TMDL compliance costs. The value of LESJWA for the future is the possible future grant funding for further lake improvements, avenues of funding operation and maintenance costs for the lake aeration systems, and assistance with TMDL compliance.

- **City of Lake Elsinore**

The City has the most to gain by the continuance of LESJWA. As the City's economy and status is tied to the lake, its name sake, anything that LESJWA has done and can continue to do to support, maintain, and improve water quality and stabilize lake levels is beneficial both financially and organizationally to them. The City serves as a tremendous resource to LESJWA with well-trained staff that is knowledgeable about the lake conditions and assists with funding and operations needs of the lake's aeration system. The City is listed as a responsible party to the Lake Elsinore TMDL and is a party to the LE/CL TMDL Task Force.

- **LE/CL TMDL Task Force**

The task force is composed of 20 agencies that were identified by the Regional Board as responsible for compliance with nutrient TMDLs to achieve water quality targets for both Lake Elsinore and Canyon Lake. SAWPA administers the task force through LESJWA. If LESJWA were to withdraw as administrator for the task force or change its role, other agencies could take on the administrative role such as SAWPA but an implementation agency like LESJWA will still be needed to continue lake capital improvements necessary to achieve TMDL targets.

Recommended Action Plan

Based on the available revenue and the options for funding, the viability of LESJWA as an effective and operating JPA that fulfills its mission is intact through FY 2013-14. Based on the 2010 LESJWA Business Plan, a shortfall in revenue of \$38,000 for FY 13-14 was projected. However, due to cost

cutting efforts, a shortfall did not occur. FY 2015-16, serves as a milestone year in several ways. The TMDL Task Force must meet the interim Lake Elsinore and Canyon Lake TMDL targets. If they are not met, additional capital improvement projects then may be required and funded by the LE/CL TMDL Task Force parties. LESJWA likely would administer the design and construction of new additional projects necessary to assure compliance. To help fund these projects, outside grant funding such as Proposition 84 IRWM funding may become available and remain a strong opportunity as new rounds of funding are anticipated. Since the time of the 2010 LESJWA Business Plan preparation, LESJWA was successful in securing \$500,000 in grant funding from Prop 84 IRWM Round 2.

LESJWA will remain a key organization to apply for the grant funding on behalf of the LE/CL TMDL Task Force. However, with insufficient funds to accomplish normal operations, revenue to operate the agency is required. Because the primary benefactors would be the Lake Elsinore/Canyon Lake TMDL Task Force agencies, staff requested additional funding from all TMDL parties to operate LESJWA in FY 2014-15. Based on the 2014 LESJWA Business Plan update, the LE/CL TMDL Task Force will be charged for the portion of the LESJWA administrative costs that directly relate to the LE/CL TMDL Task Force activities. This is anticipated to be approximately \$25,000 per year.

If the lake quality improvement program can be set up effectively, the funding from the Task Force needed for LESJWA JPA operations could be lumped into any purchases of nutrient mitigation credits at the lakes. Although the amount of funding and number of TMDL parties willing to participate in the lake quality improvement program is uncertain, it likely will be highest for the most significant nutrient contributors to the lake. A sense of which TMDL parties may benefit the most from the lake quality improvement program and LESJWA JPA operation will be determined as part of future nutrient contribution allocation updates, and the lake quality improvement and nutrient offset trading plan program preparation. Based on recent years activities as part of the 2014 LESJWA Business Plan update, the nutrient offset trading plan will probably only apply to legacy loads of nutrients at Lake Elsinore and will help offset the operation and maintenance costs borne by the three Lake Elsinore aeration operation and maintenance agencies, namely, the City of Lake Elsinore, EVMWD and County Riverside.

Since the completion of the 2010 LESJWA Business Plan, another option to generate revenue for the LESJWA JPA would be to evaluate whether members of the LE/CL TMDL Task Force may have an interest in serving as a funding member of LESJWA in order to have more voice and decision making authority in the affairs of the lakes. Further since many of the LE/CL TMDL Task Force are also WRCOG members, 11 cities and 1 water agency, these investigations may also involve WRCOG in some administrative or interaction role to save costs. LESJWA staff will conduct meetings with WRCOG technical advisory committees and individually with large cities who are members of both WRCOG and the LE/CL TMDL Task Force to evaluate the level of interest.

AGREEMENT FOR SERVICES BY INDEPENDENT CONSULTANT

This Agreement is made this ___ day of _____, 20__ by and between the Lake Elsinore & San Jacinto Watersheds Authority (LESJWA) whose address is 11615 Sterling Avenue, Riverside, CA. 92503, and _____ ("Consultant") whose address is _____.

RECITALS

This Agreement is entered into on the basis of the following facts, understandings, and intentions of the parties to this Agreement:

- LESJWA desires to engage the professional services of Consultant to perform such professional consulting services as may be assigned, from time to time, by LESJWA in writing.
- Consultant agrees to provide such services pursuant to, and in accordance with, the terms and conditions of this Agreement and has represented and warrants to LESJWA that Consultant possesses the necessary skills, qualifications, personnel, and equipment to provide such services.
- The services to be performed by Consultant shall be specifically described in one or more written Task Orders issued by LESJWA to Consultant pursuant to this Agreement.

AGREEMENT

Now, Therefore, in consideration of the foregoing Recitals and mutual covenants contained herein, LESJWA and Consultant agree as follows:

ARTICLE I **TERM OF AGREEMENT**

1.01 Term of Agreement. This agreement shall become effective on the date first above written and shall continue until _____, 202_, unless extended or sooner terminated as provided for herein.

ARTICLE II **SERVICES TO BE PERFORMED**

2.01 Consultant agrees to provide such professional consulting services as may be assigned, from time to time, in writing by the Board and the Authority Administrator of LESJWA. Each such assignment shall be made in the form of a written Task Order. Each such Task Order shall include, but shall not be limited to, a description of the nature and scope of the services to be performed by Consultant, the amount of compensation to be paid, and the expected time of completion.

2.02 Consultant may, at Consultant's sole cost and expense, employ such competent and qualified independent professional associates, subcontractors, and consultants as Consultant deems necessary to perform each such assignment; provided, however, that Consultant shall not subcontract any of the work to be performed without the prior written consent of LESJWA.

ARTICLE III **COMPENSATION**

3.01 In consideration for the services to be performed by Consultant, LESJWA agrees to pay Consultant as provided for in each Task Order.

3.02 Each Task Order shall specify a total not-to-exceed sum of money and shall be based upon the regular hourly rates customarily charged by Consultant to its clients, as set forth on an exhibit to be attached to each Task Order issued to Consultant.

3.03 Consultant shall not be compensated for any services rendered nor reimbursed for any expenses incurred in excess of those authorized in any Task Order unless approved in advance by the Board of Directors and Authority Administrator of LESJWA, in writing.

3.04 Unless otherwise provided for in any Task Order issued pursuant to this Agreement, payment of compensation earned shall be made in monthly installments after receipt from Consultant of a timely, detailed, corrected, written invoice by LESJWA's Project Manager, describing, without limitation, the services performed, the time spent performing such services, the hourly rate charged therefore, and the identity of individuals performing such services for the benefit of LESJWA. Such invoices shall also include a detailed itemization of expenses incurred. Upon approval by an authorized SAWPA employee, SAWPA will pay within 30 days after receipt of a valid invoice from Consultant.

ARTICLE IV
OBLIGATIONS OF CONSULTANT

4.01 Consultant agrees to perform all assigned services in accordance with the terms and conditions of this Agreement and those specified in each Task Order.

4.02 Except as otherwise provided for in each Task Order, Consultant will supply all personnel and equipment required to perform the assigned services.

4.03 Consultant shall be solely responsible for the health and safety of its employees and agents in performing the services assigned by LESJWA. Consultant hereby covenants and agrees to:

- a. Obtain a comprehensive general liability and automobile insurance policy, including contractual coverage, with combined single limits for bodily injury and property damage in an amount of not less than \$1,000,000.00. Such policy shall name LESJWA, and any other interested and related party designated by LESJWA, as an additional insured, with any right to subrogation waived as to LESJWA and such designated interested and related party;
- b. Obtain a policy of professional liability insurance in a minimum amount of \$1,000,000.00 per claim or occurrence to cover any negligent acts or omissions committed by Consultant, its employees and/or agents in the performance of any services for LESJWA;
- c. Comply with all local, state and federal laws, rules and regulations;
- d. Provide worker's compensation insurance or a California Department of Insurance-approved self-insurance program in an amount and form that meets all applicable Labor Code requirements, covering all persons or entities providing services on behalf of the Consultant's and all risks to such persons or entities.
- e. Consultant shall require any subcontractor that Consultant uses for work performed for LESJWA under this Agreement or related Task Order to obtain the insurance coverages specified above.
- f. Consultant hereby agrees to waive subrogation which any insurer of Consultant may seek to require from Consultant by virtue of the payment of any loss. Consultant shall obtain an endorsement that may be necessary to give effect to this waiver of subrogation. In addition, the Workers Compensation policy shall be endorsed with a waiver of subrogation in favor of LESJWA for all work performed by Consultant, and its employees, agents and subcontractors.

All such insurance policy or policies shall be issued by a responsible insurance company with a minimum A. M. Best Rating of "A-" Financial Category "X", and authorized and admitted to do business in, and regulated by, the State of California. If the insurance company is not admitted in the State of California, it must be on the List of Eligible Surplus Line Insurers (LESLI), shall have a minimum A.M. Best Rating of "A", Financial Category "X", and shall be domiciled in the United States, unless otherwise approved by LESJWA in writing. Each such policy of insurance shall expressly provide that it shall be primary and noncontributory with any policies carried by LESJWA and, to the extent obtainable, such coverage shall be payable notwithstanding any act of negligence of LESJWA that might otherwise result in forfeiture of coverage. Evidence of all insurance coverage shall be provided to LESJWA prior to issuance of the first Task Order. Such policies shall provide that they shall not be canceled or amended without 30 day prior written notice to LESJWA. Consultant acknowledges and agrees that such insurance is in addition to Consultant's

obligation to fully indemnify and hold LESJWA free and harmless from and against any and all claims arising out of an injury or damage to property or persons caused by the negligence, recklessness, or willful misconduct of Consultant in performing services assigned by LESJWA.

4.04 Consultant hereby covenants and agrees that LESJWA, its officers, employees, and agents shall not be liable for any claims, liabilities, penalties, fines or any damage to property, whether real or personal, nor for any personal injury or death caused by, or resulting from, or claimed to have been caused by or resulting from, any negligent act or omission of Consultant. Further, Consultant hereby covenants and agrees to fully indemnify and save LESJWA, its agents, officers and employees, free and harmless from and against any and all of the foregoing liabilities or claims of any kind, and shall reimburse LESJWA for all costs or expenses that LESJWA incurs (including attorneys' fees) on account of any of the foregoing liabilities, including liabilities or claims made by reason of defects in the performance of consulting services pursuant to this Agreement, unless the liability or claim is proximately caused by LESJWA's negligent act or omission.

4.05 In the event that LESJWA requests that specific employees or agents of Consultant supervise or otherwise perform the services specified in each Task Order, Consultant shall ensure that such individual (or individuals) shall be appointed and assigned the responsibility of performing the services.

4.06 In the event Consultant is required to prepare plans, drawings, specifications and/or estimates, the same shall be furnished with a registered professional engineer's number and shall conform to local, state and federal laws, rules and regulations. Consultant shall obtain all necessary permits and approvals in connection with this Agreement, any Task Order or Change Order. However, in the event LESJWA is required to obtain such an approval or permit from another governmental entity, Consultant shall provide all necessary supporting documents to be filed with such entity, and shall facilitate the acquisition of such approval or permit.

ARTICLE V **OBLIGATIONS OF LESJWA**

5.01 LESJWA shall

- a. Furnish all existing studies, reports and other available data pertinent to each Task Order that are in LESJWA's possession;
- b. Designate a person to act as liaison between Consultant and the Authority Administrator and Board of Directors of LESJWA.

ARTICLE VI **ADDITIONAL SERVICES, CHANGES AND DELETIONS**

6.01 During the term of this Agreement, the Board of Directors of LESJWA may, from time to time and without affecting the validity of this Agreement or any Task Order issued pursuant thereto, order changes, deletions, and additional services by the issuance of written Change Orders authorized and approved by the Board of Directors of LESJWA.

6.02 In the event Consultant performs additional or different services than those described in any Task Order or authorized Change Order without the prior written approval of the Board of LESJWA, Consultant shall not be compensated for such services.

6.03 Consultant shall promptly advise LESJWA as soon as reasonably practicable upon gaining knowledge of a condition, event, or accumulation of events, which may affect the scope and/or cost of services to be provided pursuant to this Agreement. All proposed changes, modifications, deletions, and/or requests for additional services shall be reduced to writing for review and approval or rejection by the Board of Directors of LESJWA.

6.04 In the event that LESJWA orders services deleted or reduced, compensation shall be deleted or reduced by a comparable amount as determined by LESJWA and Consultant shall only be compensated

for services actually performed. In the event additional services are properly authorized, payment for the same shall be made as provided in Article III above.

ARTICLE VII
CONSTRUCTION PROJECTS:
CHANGE ORDERS FOR CONSTRUCTION CONSULTANT

7.01 In the event LESJWA authorizes Consultant to perform construction management services for LESJWA, Consultant may determine, in the course of providing such services, that a Change Order should be issued to the construction contractor, or Consultant may receive a request for a Change Order from the construction contractor. Consultant shall, upon receipt of any requested Change Order or upon gaining knowledge of any condition, event, or accumulation of events, which may necessitate issuing a Change Order to the construction contractor, promptly consult with the liaison, Authority Administrator and Board of LESJWA. No Change Order shall be issued or executed without the prior approval of the Board of Directors of LESJWA.

ARTICLE VIII
TERMINATION OF AGREEMENT

8.01 In the event the time specified for completion of an assigned task in a Task Order exceeds the term of this Agreement, the term of this Agreement shall be automatically extended for such additional time as is necessary to complete such Task Order, and thereupon this Agreement shall automatically terminate without further notice.

8.02 Notwithstanding any other provision of this Agreement, LESJWA, at its sole option, may terminate this Agreement at any time by giving 10 day written notice to Consultant, whether or not a Task Order has been issued to Consultant.

8.03 In the event of termination, the payment of monies due Consultant for work performed prior to the effective date of such termination shall be paid after receipt of an invoice as provided in this Agreement.

ARTICLE IX
STATUS OF CONSULTANT

9.01 Consultant shall perform the services assigned by LESJWA in Consultant's own way as an independent contractor, and in pursuit of Consultant's independent calling, and not as an employee of LESJWA. Consultant shall be under the control of LESJWA only as to the result to be accomplished and the personnel assigned to perform services. However, Consultant shall regularly confer with LESJWA's liaison, Authority Administrator, and Board of Directors as provided for in this Agreement.

9.02 Consultant hereby specifically represents and warrants to LESJWA that the services to be rendered pursuant to this Agreement shall be performed in accordance with the standards customarily applicable to an experienced and competent professional consulting organization rendering the same or similar services. Further, Consultant represents and warrants that the individual signing this Agreement on behalf of Consultant has the full authority to bind Consultant to this Agreement.

ARTICLE X
AUDIT: OWNERSHIP OF DOCUMENTS

10.01 All draft and final reports, plans, drawings, specifications, data, notes, and all other documents of any kind or nature prepared or developed by Consultant in connection with the performance of services assigned to it by LESJWA are the sole property of LESJWA, and Consultant shall promptly deliver all such materials to LESJWA. Consultant may retain copies of the original documents, at its option and expense.

10.02 Consultant shall retain and maintain, for a period not less than four years following termination of this Agreement, all time records, accounting records, and vouchers and all other records with respect to all matters concerning services performed, compensation paid and expenses reimbursed. At any time during

normal business hours and as often as LESJWA may deem necessary, Consultant shall make available to LESJWA's agents for examination of all such records and will permit LESJWA's to audit, examine and reproduce such records.

ARTICLE XI **MISCELLANEOUS PROVISIONS**

11.01 This Agreement supersedes all previous agreements, either oral or written, between the parties hereto with respect to the rendering of services by Consultant for LESJWA and contains all of the covenants and agreements between the parties with respect to the rendering of such services in any manner whatsoever. Any modification of this Agreement will be effective only if it is in writing signed by both parties.

11.02 Consultant shall not assign or otherwise transfer any rights or interest in this Agreement without the prior written consent of LESJWA. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.

11.03 In the event Consultant is an individual person, and Consultant dies prior to completion of this Agreement or any Task Order issued hereunder, any monies earned that may be due Consultant from LESJWA as of the date of death will be paid to Consultant's estate.

11.04 Time is of the essence in the performance of services required hereunder. Extensions of time within which to perform services may be granted by LESJWA if requested by Consultant and agreed to in writing by LESJWA. All such requests must be documented and substantiated and will only be granted as the result of unforeseeable and unavoidable delays not caused by the lack of foresight on the part of Consultant.

11.05 Consultant shall comply with all local, state and federal laws, rules and regulations including those regarding nondiscrimination and the payment of prevailing wages.

11.06 LESJWA expects that Consultant will devote its full energies, interest, abilities and productive time to the performance of its duties and obligations under Agreement, and shall not engage in any other consulting activity that would interfere with the performance of Consultant's duties under this Agreement or create any conflicts of interest. If required by law, Consultant shall file Conflict of Interest Statements with LESJWA.

11.07 Any dispute which may arise by and between LESJWA and the Consultant, including the Consultant's associates, subcontractor or other consultants, shall be submitted to binding arbitration. Arbitration shall be conducted by the Judicial Arbitration and Mediation Service, Inc., or its successor, or any other neutral, impartial arbitration service that the parties mutually agree upon, in accordance with its rules in effect at the time of the commencement of the arbitration proceeding, and as set forth in this paragraph. The arbitrator must decide each and every dispute in accordance with the laws of the State of California, and all other applicable laws. The arbitrator's decision and award are subject to judicial review by a Superior Court of competent venue and jurisdiction only for material errors of fact or law in accordance with Section 1296 of the Code of Civil Procedure. Limited discovery may be permitted upon a showing of good cause and approved by the assigned arbitrator. Unless the parties stipulate to the contrary, prior to the appointment of the arbitrator, all disputes shall first be submitted to non-binding mediation, conducted by the Judicial Arbitration and Mediation Services, Inc., or its successor, or any other neutral, impartial mediation service that the parties mutually agree upon, in accordance with their rules and procedures for such mediation.

11.08 During the performance of the Agreement, Consultant, and its subcontractors, shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status, and denial of family care leave. Consultant, and its subcontractors, shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Consultant, and its

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY
TASK ORDER NO. _____

CONSULTANT: [Name] **VENDOR NO.:** xx
[Address]

COST: \$

PAYMENT: Upon Receipt of Proper Invoice

REQUESTED BY: XX Date:

FINANCE: _____
Karen Williams, CFO/Deputy GM Date

FINANCING SOURCE: Acct. Coding XX
Acct. Description XX

COMMISSION AUTHORIZATION REQUIRED: YES () NO ()
Authorization: [Date]; LES#2023.xx

This Task Order is issued upon approval and acceptance by the Lake Elsinore & San Jacinto Watersheds Authority (LESJWA) and _____ (Consultant) pursuant to the Agreement for Services between LESJWA and Consultant, entered into on [date], expiring [date].

I. PROJECT NAME OR DESCRIPTION

xxx

II. SCOPE OF WORK / TASKS TO BE PERFORMED

Consultant shall provide all labor, materials and equipment for the Project to perform the specific task of _____ and as further described in Attachment A.

Please refer to Appendix X for acceptable formats

III. PERFORMANCE TIME FRAME

Consultant shall begin work [date] and shall complete performance of such services by or before ____, 20__ .

IV. LESJWA LIAISON

_____ will serve as liaison between LESJWA and Consultant.

V. COMPENSATION

For all services rendered by Consultant pursuant to this Task Order, Consultant shall receive a total not-to-exceed sum of \$ _____. Payment for such services shall be made within 30 days upon receipt of proper and timely invoices from Consultant, as required by the above-mentioned Agreement. Each such invoice shall be provided to LESJWA by Consultant within 15 days after the end of the month in which the services were performed.

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LESJWA BOARD MEMORANDUM NO. 2023.10

DATE: August 17, 2023

TO: LESJWA Board of Directors

SUBJECT: Letter of Support for SAWPA's Application for the Regional Resilience Planning and Implementation Grant Program (ICARP)

PREPARED BY: Rachel Gray, LESJWA Authority Administrator

RECOMMENDATION

Authorize staff to send a support letter on behalf of LESJWA for SAWPA's application for the Regional Resilience Planning and Implementation Grant Program.

DISCUSSION

SAWPA staff is pursuing a grant opportunity made available through the Governor's Office of Planning and Research Integrated Climate Adaptation and Resiliency Program's (ICARP) Regional Resilience Planning and Implementation Grant Program (RRGP). Over multiple funding rounds, the RRGF will invest funding into regions advancing resilience and responding to their regions' greatest climate risks through three major activities: capacity building, planning (including identifying climate resilience priorities), and project implementation.

SAWPA's strategy is to align with state priorities and position the region to capitalize on future funding opportunities.

LESJWA staff has evaluated the potential benefit to Lake Elsinore and Canyon Lakes and based on SAWPA's strategy, future funding opportunities for the region could directly benefit both lakes and surrounding areas.

RESOURCE IMPACTS

None.

Attachments:

1. SAWPA ICARP PowerPoint Presentation
2. Letter of Support for SAWPA's Applicant for ICARP

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Integrated Climate Adaptation and Resiliency Program (ICARP)

Regional Resilience Grant Program (RRGP)

Watershed Resilience Strategy



SANTA ANA WATERSHED PROJECT AUTHORITY

Rachel Gray, Water Resources and Planning Department
Manager

LESJWA Board Meeting | August 17, 2023

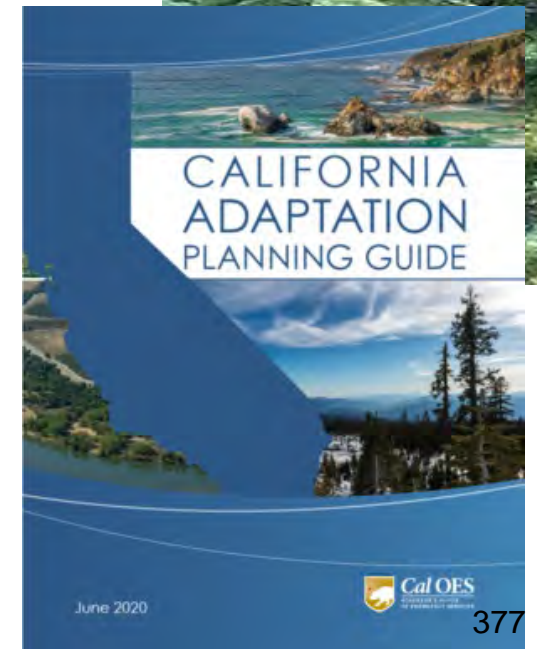
Item No. 6.B.

Overview of Informational Item

1. SAWPA Strategy for State Funding
2. ICARP Regional Resilience Grant Program (RRGP)
3. Regional Climate Adaptation and Resilience Plan (CARP)
 - Conceptual Roadmap
 - Conceptual Approaches
 - Stakeholder Engagement
 - Conception Development Process
4. Recommendation and Next Steps
5. Schedule

1. SAWPA Strategy for State Funding

- **Funding for Integrated Regional Water Management (IRWM) Program** may be diminished in future state funding efforts.
Approach:
 - Continue to track IRWM with DWR staff
 - Monitor “integrated regional water projects to address climate resiliency” in current “Climate/Natural Resources Bond” discussions
- **Align** with changing state priorities detailed in:
 - California Water Resilience Portfolio (2021)
 - California Water Plan Update 2023
 - California Adaptation Planning Guide (2020)
- **Track** state priorities:
 - Climate change risks
 - Climate adaptation
 - Watershed resilience
 - Equity in water resources



SAWPA Strategy for Future Funding

- **SAWPA efforts** are focused on:
 - Building on past efforts to perform **integrated watershed management**
 - Building on **SAWPA's OWOW efforts**
 - **Engage** with member agencies
 - **Positioning region** for future funding opportunities
 - Building on state priorities related to **climate change risks, watershed resilience, and equity in water resources**
- **Approach** aligns with:
 - DWR's IRWM Program
 - Office of Planning and Research (OPR) Integrated Climate Adaptation & Resiliency Program (ICARP)



ICARP

INTEGRATED CLIMATE ADAPTATION & RESILIENCY PROGRAM

SAWPA Strategy for Regional CARP

Vision:

Advance the implementation of **watershed resilience** in the Santa Ana River watershed through the development of a **Regional Climate Adaptation and Resilience Plan**



Define watershed-scale climate risks and vulnerabilities impacting water supply and water resources



Develop climate adaptation strategies



Articulate the regional benefits of resiliency projects



Connect equity outcomes for underrepresented communities with the resiliency projects



Strengthen broad-based partnerships that advance shared interests across the region

Watershed Resiliency Concept



Resilient Watersheds are better able to respond to and recover from the impacts of climate risks through implementation of adaptation strategies, which are designed to mitigate the impacts and take advantage of beneficial opportunities in response to future climate extremes

Climate Risks:



Drought



Extreme Heat



Flooding



Sea Level Rise



Wildfire

Key Concept:

Show how projects across all agencies and the watershed contribute to climate adaptation and resiliency for the watershed

2. ICARP Regional Resilience Grant Program (RRGP)

- Governor's Office of Planning and Research (OPR) **Integrated Climate Adaptation and Resiliency Program (ICARP)**
- **Regional Resilience Grant Program (RRGP)**
- **RRGP** funds effort to:
 - ✓ Review climate risks
 - ✓ Identify climate resilience priorities
 - ✓ Build capacity
 - ✓ Implement projects that respond to a region's greatest climate risks



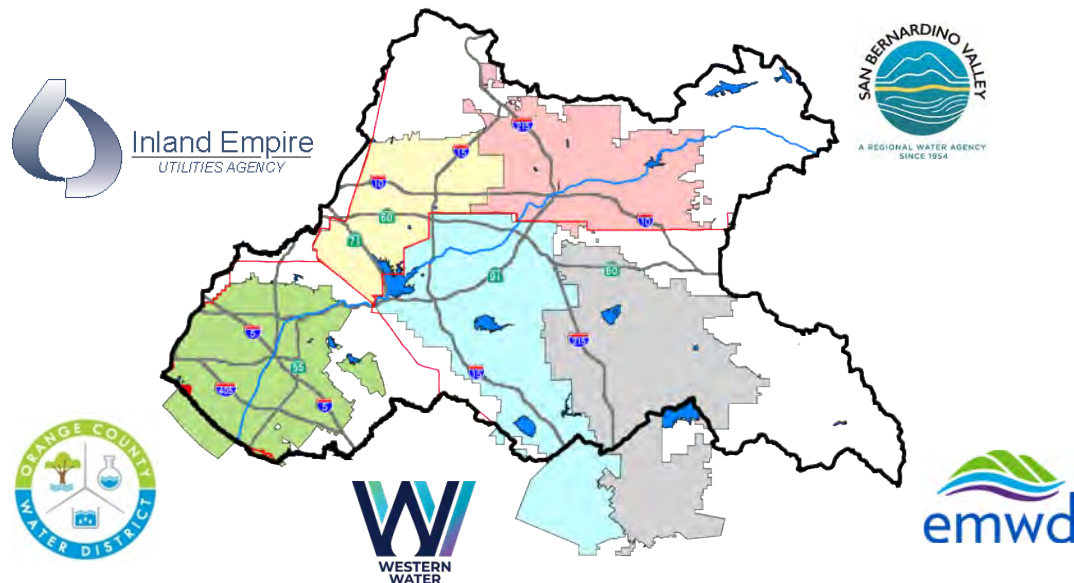
ICARP Regional Resilience Grant Program (RRGP)

Administers RRGP	Governor's Office of Planning and Research
Total Funding Available*	Round 1: \$21.9M <ul style="list-style-type: none"> • Planning grants \$150,000 – \$650,000 • Implementation grants \$650,000 –\$3M
Project Length	12 – 30 months
Grant Availability Type	Competitive
Match Funding Required	No
Disadvantaged Communities	Allocate 51% of grant funds overall to DAC
California Native American Tribes	Allocate 10% funds
Goal: Address local, regional, and tribal climate resilience needs and build a pipeline of climate resilient planning and implementation projects at the regional scale	

3. Regional Climate Adaptation and Resilience Plan (CARP)

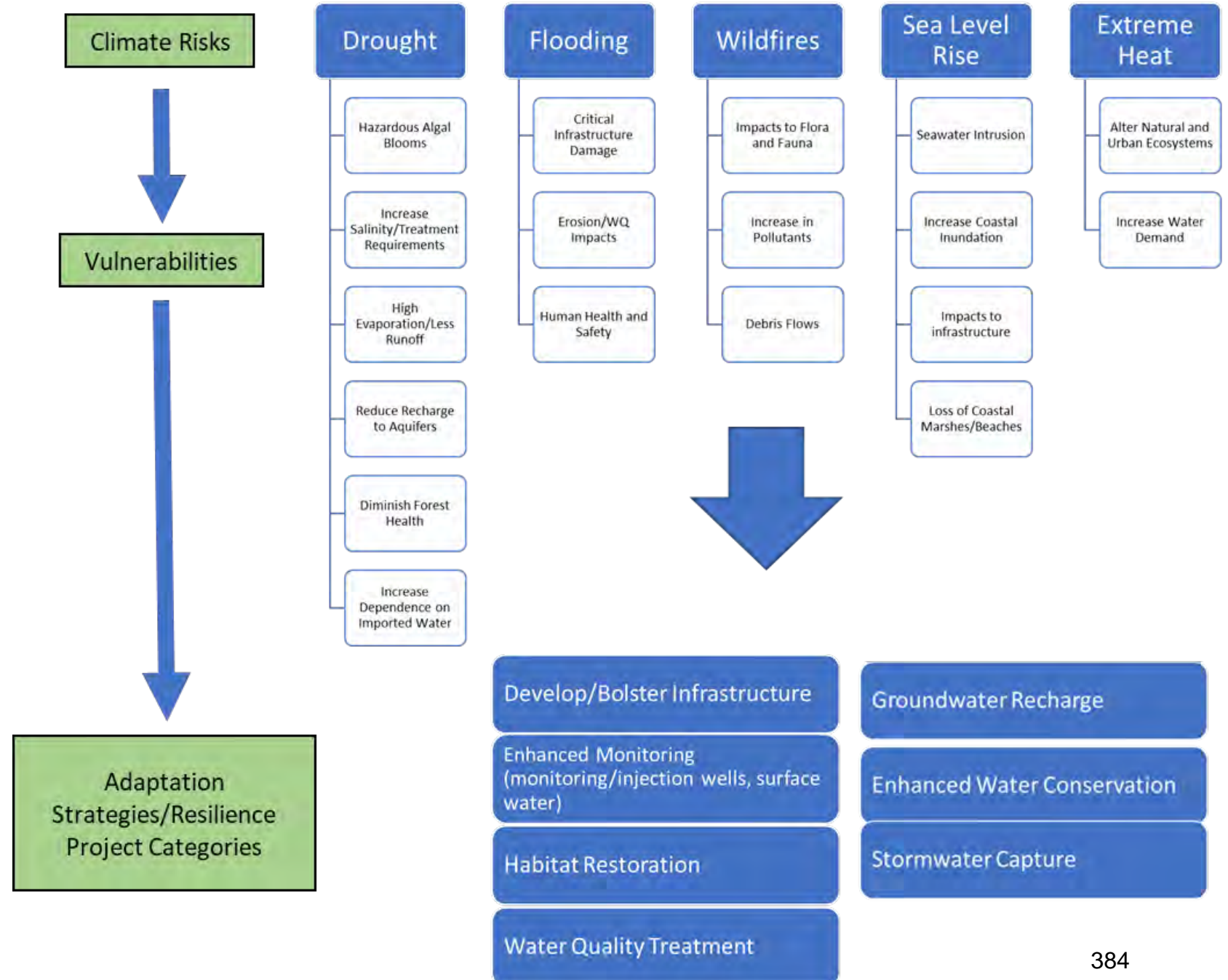
Regional CARP benefits:

- Advance watershed resiliency
- Provide a mechanism for future funding
- Implement member agency projects
- Implement potential regional projects

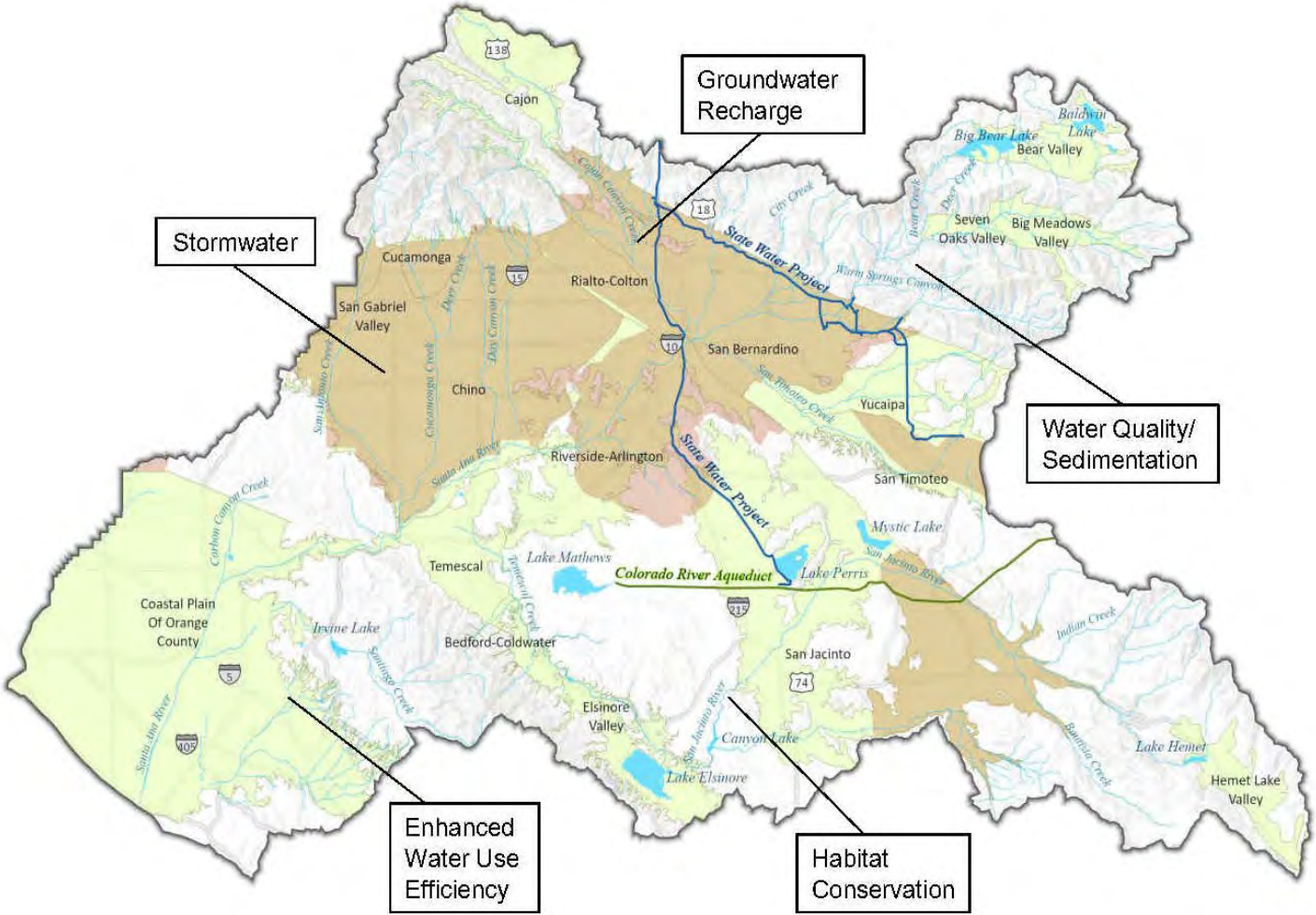


- ✓ **Describe** and **establish** the need for adaptation strategies to enhance watershed resilience
- ✓ **Demonstrate** the funding gap for resilience projects
- ✓ **Improve** funding competitiveness through regional collaboration
- ✓ **Leverage** benefits from investments made through expanded partnerships
- ✓ **Exhibit** watershed-scale nexus of the benefits from resilience investments to underrepresented communities and equity outcomes
- ✓ **Daylight** regulatory impediments and conflicts associated with resilience investments and develop solutions that fast-track permitting processes.
- ✓ **Compile** consistent information on the potential impacts of climate change for future planning and funding purposes.

Conceptual Roadmap

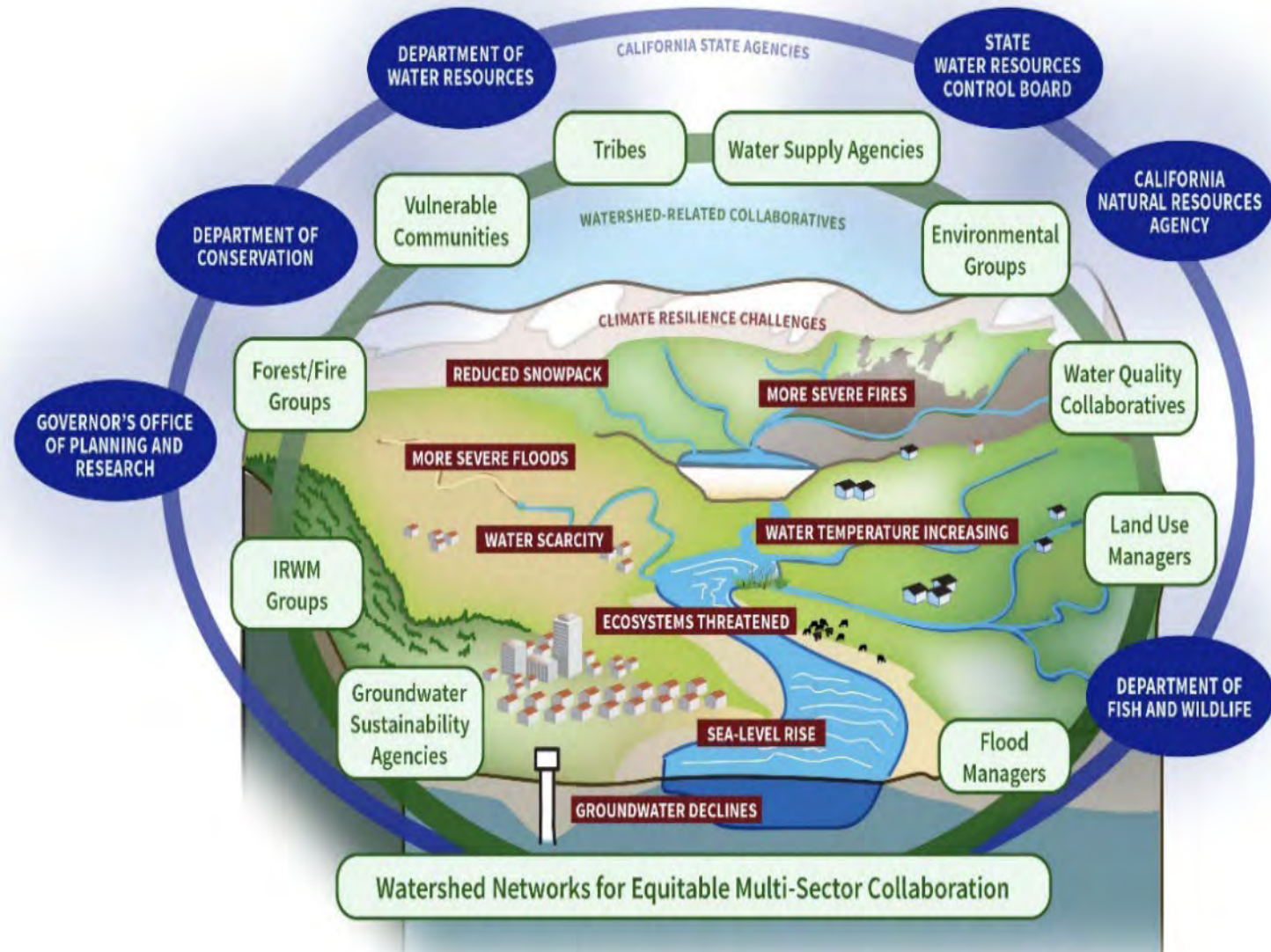


Conceptual Approach 1: Supershed Approach



A “supershed” approach for regional planning would demonstrate the upstream/ downstream resilience benefits of individual and regional projects across the watershed

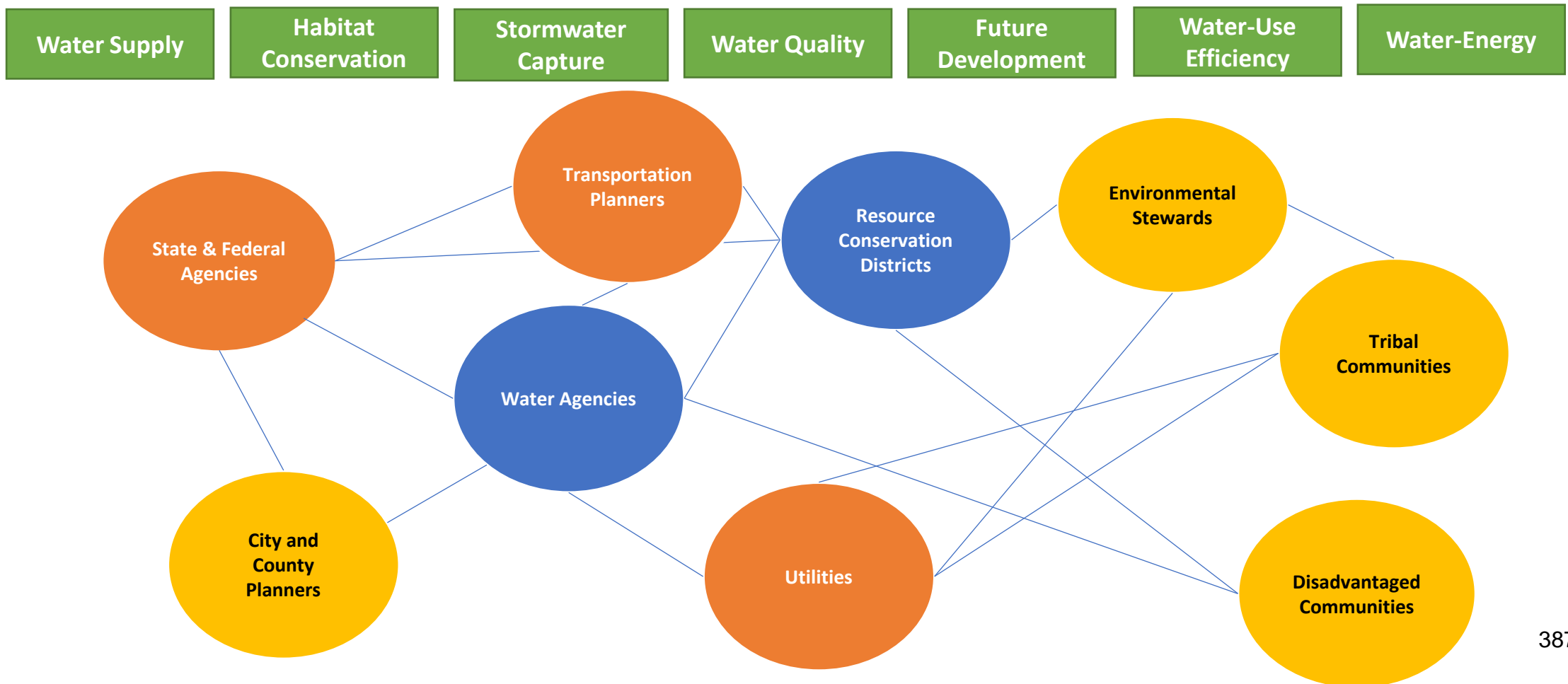
Conceptual Approach 2: DWR Approach



A “watershed resilience” approach would entail the development of cross-sector, cross-jurisdictional watershed networks for climate resilience planning and project implementation

Stakeholder Engagement

Develop relationships through a planning process around key regional resilience topics



4. Recommendation and Next Steps

SAWPA Staff Recommendation:

- LESJWA Board of Directors to provide a support letter to SAWPA for SAWPA's grant application.

Next Steps:

- SAWPA submit a grant application requesting ~\$650,000 to develop a regional CARP (no match required).
- Regional CARP outcome:
 - Catalog of projects across all agencies and the watershed contribute to climate adaptation and resiliency for the watershed.



ICARP

INTEGRATED CLIMATE ADAPTATION & RESILIENCY PROGRAM



5. Schedule

FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
Review RRGP Guidelines & Submit Comments									
Collaborate with Member Agencies on development of a Regional CARP									
	Confer with Member Agency General Managers								
				Informational Item to Commission (June 6)					
				RRGP Final Guidelines Released (June 13)					
					Action Item to Commission: Request Submittal of Grant Application (July 18)				
					Develop grant application with Member Agencies and Stakeholder input				
						Grant Application due to OPR (Aug 29)			
									389 Grant Award (Nov 9)

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Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

August 17, 2023

RE: Letter of Support for SAWPA's Application for the Regional Resilience Planning and Implementation Grant Program

To Whom This May Concern:

On behalf of Lake Elsinore and San Jacinto Watersheds Authority (LESJWA), I am pleased to offer our support as a collaborative partner. We look forward to working with the SAWPA partner agencies on the development of a state-of-the-art Regional Climate Adaptation and Resiliency Plan that:

- Defines watershed-scale climate risks and vulnerabilities impacting water supply and water resources,
- Develops watershed-wide climate adaptation strategies,
- Articulates the potential regional benefits of planned and potential resiliency projects,
- Consistent with state priorities, connects equity outcomes for underrepresented communities with the resiliency projects, and
- Strengthens broad-based partnerships that advance shared interests across the region.

These goals have never been more important to LESJWA, and the infusion of Grant funds has never been more important to addressing these pressing community needs.

SAWPA has been strongly involved in the local discussion about community health and environmental stewardship and we are a committed Grant partner.

Our organization is confident that the collaborative team SAWPA has developed has the technical expertise and commitment to successfully complete the project and we urge you to fully fund this proposal. We believe that this grant can have a true and lasting impact on the communities and is deserving of your fullest consideration.

If you have any questions, please do not hesitate to contact Rachel Gray, SAWPA's Water Resources and Planning Manager via email at rgray@sawpa.org. Thank you for your time.

Sincerely,

Dale Welty
LESJWA Chair

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LESJWA BOARD MEMORANDUM NO. 2023.11

DATE: August 17, 2023

TO: LESJWA Board of Directors

SUBJECT: License Agreement for Offset Credits Generated by the Lake Elsinore Aeration & Mixing System (LEAMS) – Amendment #1

PREPARED BY: Rick Whetsel, SAWPA, Senior Watershed Manager

RECOMMENDATION

Approve Amendment 1 to extend the Exclusive License Agreement for Offset Credits Generated by the Lake Elsinore Aeration & Mixing System (LEAMS) for five (5) years.

BACKGROUND

In April 2011, Risk Sciences, regulatory consultant for LESJWA and the LE/CL TMDL Task Force, was authorized by the LESJWA Board to develop supplemental provisions to the Lake Elsinore Aeration System Operation and Maintenance Agreement to incorporate a system by which an offset credit agreement could be developed that specifies how the offset credit for excess LEAMS nutrient uptake will be used to demonstrate compliance with the TMDL targets, load allocations, and wasteload allocations at Lake Elsinore, and apportion those credits among the agencies co-sponsoring and operating the project (Elsinore Valley Municipal Water District, City of Lake Elsinore, and Riverside County), upon approval by the Regional Board.

In August 2016, a Draft Lake Elsinore Aeration System Operation and Maintenance Agreement (O&M Agreement) was submitted to the agencies operating the LEAMS project. This new agreement builds on past operation and maintenance agreements and clarifies the provisions regarding (a) the reservation and assignment of offsets to support the three original project partners' nutrient reduction needs first, (b) the availability and ownership of any excess offset credits, and (c) the Terms & Conditions for licensing excess offset credits to others. Through this agreement, it is proposed that the agencies co-sponsoring the project agree to license excess unused nutrient offset credits to other stakeholders named in the TMDL using LESJWA as their exclusive agent.

On October 12, 2016, a Draft License Agreement for Offset Credits Generated by the Lake Elsinore Aeration & Mixing System was shared with the LESJWA Board with discussion on the details, the terms, and conditions through which LESJWA will support the licensing excess offset credits to other stakeholders named in the TMDL. The LESJWA Board's questions and concerns about the draft agreement focused on the possible availability of the funds collected to be used for LESJWA needs, whether the Regional Board was supportive of the agreement, and whether the fee of \$300/credit was in perpetuity. The agreement has been modified based on the comments received by the LESJWA Board and the legal counsels of the LEAMS operators, and have been clarified. In addition, the draft Agreement for the Operation and Maintenance of the Lake Elsinore Aeration and Mixing Systems as well as FAQs about the agreement and feedback from the Regional Board indicating acceptance of this agreement are attached as background information.

On April 19, 2017, the Board of Directors approved the License Agreement for Offset Credits Generated by the Lake Elsinore Aeration & Mixing System (LEAMS). This agreement provides a

mechanism for Operators of LEAMS (County of Riverside, City of Lake Elsinore and Elsinore Valley Municipal Water District) to market any excess offset credits generated by LEAMS to other stakeholders with TMDL compliance obligations, as defined in the Operation and Maintenance Agreement for LEAMS (Operators Agreement). Through this Agreement, Operators may sell excess offset credits generated by LEAMS to offset annual O&M costs. The annual O&M budget for LEAMS, including a contingency fund for future repair & replacement costs is estimated at approximately \$ 500,000 per year. LEAMS O&M costs are shared equally among the three cost-sharing partners.

To provide for the continued licensing of available excess nutrient offset credits generated by the operation of LEAMS to other stakeholders with TMDL compliance obligations the LEAMS Operators recommend the LESJWA Board approve Amendment 1 to extend the Exclusive License Agreement for Offset Credits Generated by the Lake Elsinore Aeration & Mixing System for an additional five-year term.

RESOURCES IMPACT

All staff time to support the efforts of the TMDL Task Force is funded exclusively by the TMDL Task Force parties. All staff time to support the Operators of LEAMS in the preparation of the annual report to the Regional Board detailing and summarizing the disposition of all LEAMS offset credits is funded entirely by the marketing of excess offset credits generated by LEAMS to other stakeholders with TMDL compliance obligations.

Attachments:

1. PowerPoint Presentation
2. Agreement for the Operation and Maintenance of the Lake Elsinore Aeration and Mixing Systems (LEAMS) (Operators Agreement)
3. Exclusive License Agreement for Excess Offset Credits Generated by the Lake Elsinore Aeration & Mixing System (LEAMS Program)
4. Amendment #1 to extend the Exclusive License Agreement for Excess Offset Credits Generated by the Lake Elsinore Aeration & Mixing System (Amendment #1 to LEAMS Program)

Lake Elsinore Aeration and Mixing System (LEAMS)

Exclusive License Agreement for Excess Offset Credits Generated by LEAMS

Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

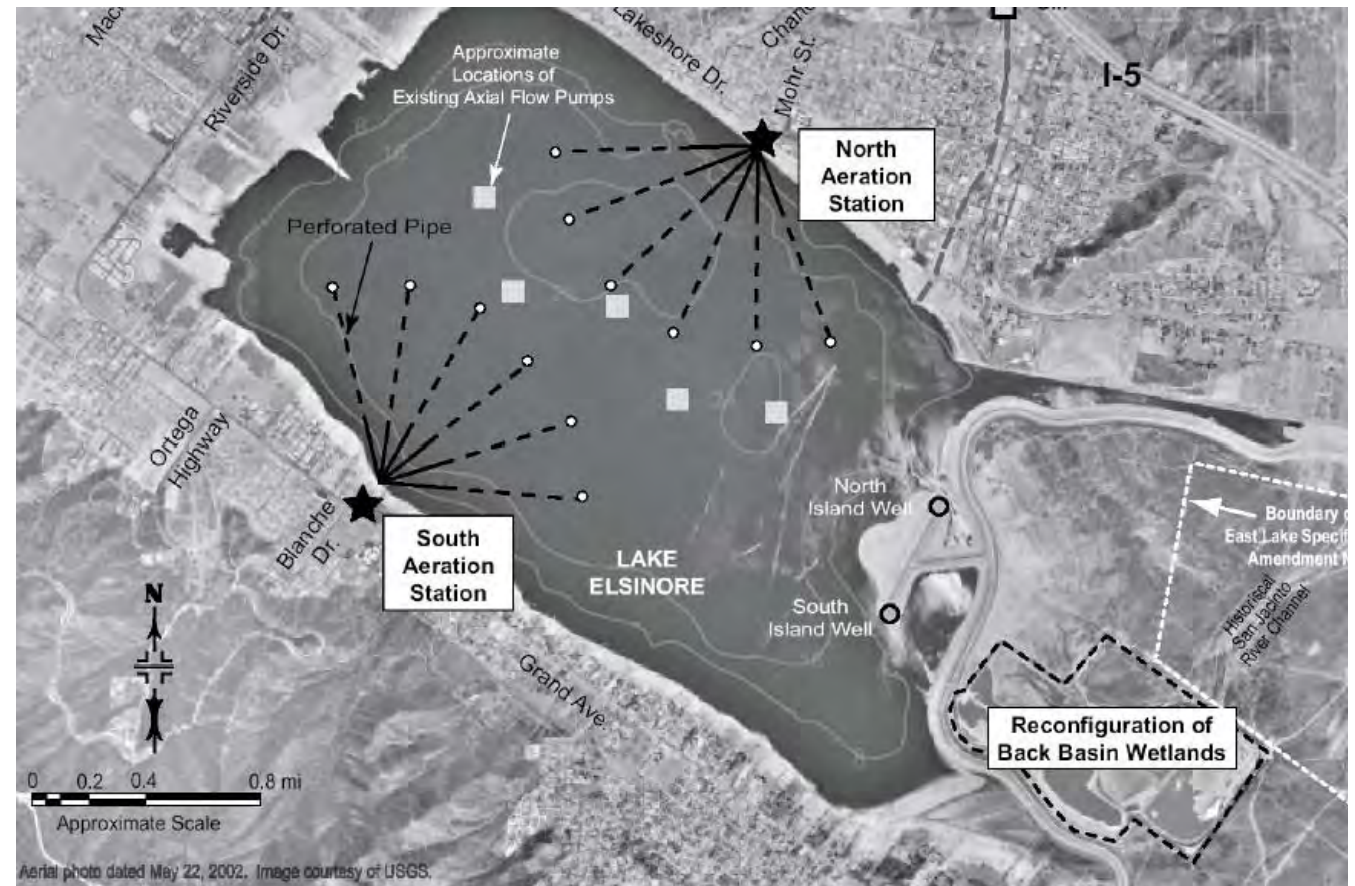
Rick Whetsel, SAWPA Senior Watershed Manager
LESJWA Board Meeting | August 17, 2023
Item No. 6.C.

Recommendation

Staff recommends that the Board of Directors approve Amendment 1 to extend the Exclusive License Agreement for Excess Offset Credits Generated by the Lake Elsinore Aeration & Mixing System (LEAMS) for a period of 5 years.

Background

- Designed and constructed by LESJWA using funding available through Proposition 13 (2000 Water Bond).
- Completed in 2006
- Ownership turned over to Elsinore Valley Municipal Water District (EVMWD), City of Lake Elsinore and Riverside County identified collectively as the “Operators”



Purpose: LEAMS Agreement to License Excess Offset Credits

Provides Mechanism for Operators of LEAMS to market any excess offset credits generated by LEAMS to other stakeholders with TMDL compliance obligations.

Through this Agreement, Operators may sell excess offset credits generated by LEAMS to offset annual O&M costs.

Recommendation

Staff recommends that the Board of Directors approve Amendment 1 to extend the Exclusive License Agreement for Excess Offset Credits Generated by the Lake Elsinore Aeration & Mixing System (LEAMS) for a period of 5 years.

Questions?

Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

**AGREEMENT FOR THE OPERATION AND MAINTENANCE
OF THE LAKE ELSINORE AERATION AND MIXING SYSTEMS (AGREEMENT)**

THIS AGREEMENT is made by and among the COUNTY OF RIVERSIDE (COUNTY), the CITY OF LAKE ELSINORE (CITY) and the ELSINORE VALLEY MUNICIPAL WATER DISTRICT (DISTRICT). The COUNTY, CITY and DISTRICT are sometimes collectively referred to individually as "PARTY" and collectively as the "PARTIES."

RECITALS

- A. The COUNTY, CITY and DISTRICT are Member Agencies of the Lake Elsinore and San Jacinto Watersheds Authority (LESJWA). LESJWA is a joint powers public agency formed for the purpose of implementing programs and projects to rehabilitate and improve water quality in Lake Elsinore and Canyon Lake and the rivers and streams that are tributary to these lakes.
- B. The STATE OF CALIFORNIA and U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) have determined that water quality in Lake Elsinore is impaired by elevated concentrations of nitrogen and phosphorus (aka nutrients) that contribute to excess algae growth in the lake. Excess algae tends to deplete dissolved oxygen levels in the lake which, in turn, increases the risk of fish kills. In addition, too much algae interferes with and detracts from beneficial uses in and near Lake Elsinore. These adverse effects severely impact tourism in the area and hurt the regional economy.
- C. In 2004, the SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD (REGIONAL BOARD) adopted a Total Maximum Daily Load (TMDL) to restore and protect the beneficial uses of Lake Elsinore by controlling and restricting the discharge of nutrients to the lake. The REGIONAL BOARD named the COUNTY, CITY and DISTRICT as three of several agencies responsible for implementing the TMDL.
- D. To improve water quality in Lake Elsinore, the PARTIES designed, constructed and operate two large in-lake remediation projects: the Axial Flow Water Pump Destratification System and the Lake Elsinore Phase II Aeration System constructed in 2004 and 2007, respectively. Both systems are intended to improve water quality by increasing dissolved oxygen concentrations in the lake and are collectively referred to as the Lake Elsinore Aeration and Mixing System (LEAMS).

- E. When it adopted the TMDL, the REGIONAL BOARD determined that long-term operation of LEAMS would improve dissolved oxygen concentrations in Lake Elsinore. This, in turn, would also reduce internal phosphorus loads released from the lake bottom sediments by 35% or approximately 11,606 kilograms per year. The Regional Board recognizes this reduction in phosphorus loads as an offset credit that can be used to demonstrate compliance with the load reduction requirements specified in the TMDL.
- F. The CITY holds title to the Axial Flow Water Pump Destratification System. The DISTRICT holds title to the Lake Elsinore Phase II Aeration System. All three PARTIES share equally the annual cost of operating and maintaining both systems. Therefore, all offset credits generated by LEAMS are owned collectively and exclusively by the PARTIES as tenants-in-common.
- G. Operation of LEAMS generates more offset credits than the PARTIES need in order to demonstrate their own individual compliance with the pollutant load reductions specified in TMDL. Therefore, the PARTIES desire to share some of these excess offset credits with other responsible agencies named in the TMDL, that have similar obligations to reduce nutrient loads to Lake Elsinore, through a limited licensing arrangement.
- H. The PARTIES previously formed a Technical Oversight Committee (TOC) to oversee operation and maintenance of LEAMS. The PARTIES intend to continue relying on the TOC to implement this AGREEMENT.
- I. The PARTIES have previously entered into several previous short-term agreements to govern the operation and maintenance (O&M) of LEAMS and to share the associated implementation costs. This AGREEMENT is intended to supersede and replace all previous agreements with one integrated, long-term O&M contract between and among the PARTIES.
- J. The purpose of this AGREEMENT is to describe the roles and responsibilities of the CITY, COUNTY and DISTRICT; the distribution of offset credits to each of the PARTIES; and the terms and conditions for licensing excess offset credits to other responsible agencies named in the TMDL.
- K. The PARTIES believe that long-term operation of LEAMS will improve water quality and protect beneficial uses in Lake Elsinore. Doing so will enhance recreational opportunities and the overall economy of the region. In addition, the PARTIES rely on LEAMS to demonstrate compliance with certain TMDL requirements. Consequently, entering into a long-term agreement to operate and maintain LEAMS is in the best interests of the PARTIES and their respective constituencies.

NOW, THEREFORE, in consideration of the facts recited above, and the covenants, conditions and promise contained herein, the PARTIES set forth their mutual agreements.

AGREEMENT

1. **General Obligations.** Subject to all of the provisions of this AGREEMENT, the PARTIES hereby agree to the following:
 - a. **Implement the AGREEMENT through the Technical Oversight Committee:** As a means of ensuring the most optimal operation of LEAMS in order to maximize its benefits, the PARTIES agree to implement the Agreement through the previously established TOC. The TOC shall consist of one knowledgeable representative appointed by each PARTY. Each designated representative shall serve as a member of the TOC at the pleasure and expense of the PARTY making the appointment. The TOC shall meet at such times and places as its members may agree upon; but, shall convene at least once each year (in March or April) to review and approve a budget for the coming fiscal year (July 1st – June 30th). The primary duties of the TOC are to: (i) oversee the operations and maintenance of activities related to LEAMS; (ii) develop and refine parameters, processes and procedures needed to maximize the efficiency and effectiveness of LEAMS; (iii) develop and approve an annual operating budget; (iv) review actual expenses compared to the approved budget; (v) establish a method for calculating the number of offset credits available, the number of offset credits needed by the PARTIES to assure their own TMDL compliance, and the number of offset credits that may be available for licensing to other stakeholders named in the TMDL; (vi) as well as the annual fee to license any available credits.
 - b. **Financial Contribution:** The PARTIES agree to share equally the reasonable cost of managing, operating, monitoring, maintaining, repairing and replacing LEAMS in accordance with an annual budget approved by the PARTIES. Such costs include all reasonable expenses associated with collecting, analyzing and reporting data related to the operation and effectiveness of LEAMS that is required by federal or state authorities.
 - c. **Cooperation:** The PARTIES shall cooperate with one another to implement this AGREEMENT and shall not unreasonably withhold such cooperation in a manner that interferes with effective operation and maintenance of LEAMS.
 - d. **Notification:** The PARTIES shall notify one another as soon as practicable, in writing or by phone, whenever they become aware of any fact or circumstance that could adversely affect normal operation of LEAMS and which may jeopardize the availability of sufficient offset credits to assure the PARTIES ability to comply with any related TMDL requirements.

2. **DISTRICT's Obligations.** Subject to all of the provisions of this AGREEMENT, the DISTRICT hereby agrees to:

- a. **Hold Title to the Lake Elsinore Phase II Aeration System (Aeration System):** To continue holding title to the Aeration System for the term of this AGREEMENT.
- b. **Provision of Services:** To provide, or cause to be provided, all labor, tools, equipment, vehicles, materials, supplies and qualified personnel necessary to manage, operate, monitor, maintain and repair the Aeration System in accordance with the annual budget approved by the PARTIES and the Standard Operating Procedures (SOP) established by the TOC.
- c. **Regulatory Compliance:** To comply with the federal and state statutes, rules, regulations and other requirements governing the Aeration System, and all direction given by the TOC.
- d. **Monitoring and Remote Access to Data:** To continue operating and maintaining the sampling and monitoring program that, among other things, measures dissolved oxygen concentrations and water temperature in Lake Elsinore in the manner specified by the TOC and approved by the REGIONAL BOARD. To supply a remote access internet site for displaying and summarizing the aforementioned monitoring data that is accessible by the PARTIES. This internet site shall include real-time data for the most recent 24 hours and shall be restricted to viewing purposes only (i.e. data cannot be revised or altered by a remote viewer). The real-time file will be updated approximately every 15 minutes unless the monitoring system is undergoing maintenance or repairs. In addition, all data collected by the monitoring system will be stored in a database maintained by the DISTRICT and accessible to the PARTIES on an FTP website.
- e. **Reports:** To prepare and submit annual reports summarizing the operation, maintenance and monitoring activities and other matters of interest as agreed by the PARTIES or otherwise required by federal or state authorities. At a minimum, the DISTRICT shall provide a report summarizing the daily hours of operation for the Aeration System. The DISTRICT shall also provide such other written or oral reports regarding the operation and maintenance of the Aeration System as may be reasonably requested by any of the other two PARTIES.

- f. **Budget:** To prepare, in cooperation with the TOC, and submit an annual proposed budget for continued operation and maintenance of the Aeration System in the forthcoming fiscal year (July 1st to June 30th). Said budget must be submitted to the CITY and COUNTY for review and approval no later than 90 days (March 1st) prior to the commencement of the new fiscal year. The budget shall estimate the expenditures necessary to operate and maintain the Aeration System in good working order. The budget should include a contingency fund, as agreed to by the TOC, to cover extraordinary and unforeseen expenses or to be used to replace, expand or otherwise enhance the Aeration System when mutually agreed. A template form for the budget proposal is attached as Exhibit 3 to this AGREEMENT. In the event that a budget acceptable to all PARTIES is not obtained prior to the start of the fiscal year, the DISTRICT shall continue to operate and maintain the Aeration system to the fullest extent possible, subject to the reasonable discretion and available resources of the DISTRICT and at the level of expenditure authorized by the most recently approved budget, and the PARTIES shall fund such budget until a new budget is approved. The DISTRICT may draw upon any available contingency funds that have been set aside in prior years, to support on-going operation of the Aeration System while a new budget is being reviewed and approved.
- g. **Cost Accounting:** To provide a financial statement itemizing and summarizing all expenses and charges incurred to operate and maintain the Aeration System for each calendar year. The DISTRICT will provide the financial statement at the same time the budget proposal is submitted on March 1st of each year. A template form for the financial statement is attached as Exhibit 4 to this AGREEMENT. The DISTRICT shall maintain copies of receipts as necessary to substantiate all cost accounting for a period of not less than 3 years after the expense is incurred and shall provide copies to PARTIES upon request.
- h. **Books and Records:** Maintain, and retain for a period of not less than three (3) years following the termination of this AGREEMENT, full and accurate books and accounts in accordance with the practices established by or consistent with those utilized by the Controller of the State of California for public agencies. Such books and accounts shall be maintained on a fiscal year basis (July 1st to June 30th). Such books and accounts shall be maintained by the DISTRICT as public records. All books and records developed in association with prior agreements between the PARTIES to share O&M costs for the Aeration System shall also continue to be preserved in accordance with the same terms and conditions specified for similar books and records generated in support of this AGREEMENT.

- i. **Inspection:** To permit inspection of the Aeration System by representatives of the COUNTY, CITY, LESJWA or other federal or state regulatory authorities upon request.
- j. **Safety:** The DISTRICT shall be responsible for the safety of all persons and property relative to the Aeration System. This responsibility shall be continuous and not be limited to normal working hours. The DISTRICT's duty to ensure safety shall include, without limitation, the placement of warning signs and markers (e.g. buoys and lights) to protect the Aeration System and all persons working or recreating in Lake Elsinore and along its shoreline (safety activities). Because the CITY has rights and responsibilities related to recreation on Lake Elsinore that are separate from those of the DISTRICT, including but not limited to enforcement of CITY ordinances and the Lake Elsinore Lake Use Guidelines, the DISTRICT shall coordinate all safety activities undertaken pursuant to this AGREEMENT, to the maximum extent practicable prior to commencing such activities. The PARTIES acknowledge that it may be necessary, from time to time, to modify existing CITY ordinances and the Lake Use Guidelines in order for the DISTRICT to implement necessary safety activities. The cost of such modifications, when needed, shall be shared equally among the PARTIES.

3. **CITY's Obligations.** Subject to all of the provisions of this AGREEMENT, the CITY hereby agrees to:

- a. **Hold Title to the Axial Flow Water Pump Destratification System (Mixing System):** To continue holding title to the Mixing System for the term of this AGREEMENT.
- b. **Provision of Services:** To provide, or cause to be provided, all labor, tools, equipment, vehicles, materials, supplies and qualified personnel necessary to manage, operate, monitor, maintain and repair the Mixing System in accordance with the annual budget approved by the PARTIES and the SOP established by the TOC.
- c. **Regulatory Compliance:** To comply with the federal and state statutes, rules, regulations and other requirements governing the Mixing System, and all direction given by the TOC.

- d. **Reports:** To prepare and submit annual reports summarizing the operation, maintenance and monitoring activities and other matters of interest as agreed by the PARTIES or otherwise required by federal or state authorities. At a minimum, the CITY shall provide a report summarizing the daily hours of operation for the Mixing System. The CITY shall also provide such other written or oral reports regarding the operation and maintenance of the Mixing System as may be reasonably requested by any of the other two PARTIES.

- e. **Budget:** To prepare, in cooperation with the TOC, and submit an annual proposed budget for continued operation and maintenance of the Mixing System in the forthcoming fiscal year (July 1st to June 30th). Said budget must be submitted to the DISTRICT and COUNTY for review and approval no later than 90 days (March 1st) prior to the commencement of the new fiscal year. The budget shall estimate the expenditures necessary to operate and maintain the Mixing System in good working order. The budget should include a contingency fund, as agreed to by the TOC, to cover extraordinary and unforeseen expenses or to be used to replace, expand or otherwise enhance the Mixing System when mutually agreed. A template form for the budget proposal is attached as Exhibit 3 to this AGREEMENT. In the event that a budget acceptable to all PARTIES is not obtained prior to the start of the fiscal year, the CITY shall continue to operate and maintain the Mixing System to the fullest extent possible, subject to the reasonable discretion and available resources of the CITY and at the level of expenditure authorized by the most recently approved budget, and the PARTIES shall fund such budget until a new budget is approved. The CITY may draw upon any available contingency funds that have been set aside in prior years to support on-going operation of the Mixing System while a new budget is being reviewed and approved.

- f. **Cost Accounting:** To provide a financial statement itemizing and summarizing all expenses and charges incurred to operate and maintain the Mixing System for each calendar year. The CITY will provide the financial statement at the same time the budget proposal is submitted on March 1st of each year. A template form for the financial statement is attached as Exhibit 4 to this AGREEMENT. The CITY shall maintain copies of receipts as necessary to substantiate all cost accounting for a period of not less than 3 years after the expense is incurred and shall provide copies to PARTIES upon request.

- g. **Books and Records:** Maintain, and retain for a period of not less than three (3) years following the termination of this AGREEMENT, full and accurate books and accounts in accordance with the practices established by or consistent with those utilized by the Controller of the State of California for public agencies. Such books and accounts shall be maintained on a fiscal year basis (July 1st to June 30th). Such books and accounts shall be maintained by the CITY as public records. All books and records developed in association with prior agreements between the PARTIES to share O&M costs for the Mixing System shall also continue to be preserved in accordance with the same terms and conditions specified for similar books and records generated in support of this AGREEMENT.
- h. **Inspection:** To permit inspection of the Mixing System by representatives of the COUNTY, DISTRICT, LESJWA or other federal or state regulatory authorities upon request.
- i. **Safety:** The CITY shall be responsible for the safety of all persons and property relative to the Mixing System. This responsibility shall be continuous and not be limited to normal working hours. The CITY's duty to ensure safety shall include, without limitation, the placement of warning signs and markers (e.g. buoys and lights) to protect the Mixing System and all persons working or recreating in Lake Elsinore and along its shoreline (safety activities). Because the CITY has rights and responsibilities related to recreation on Lake Elsinore that are separate from those of the DISTRICT, including but not limited to enforcement of CITY ordinances and the Lake Elsinore Lake Use Guidelines, the CITY shall coordinate all safety activities undertaken pursuant to this AGREEMENT, to the maximum extent practicable prior to commencing such activities. The PARTIES acknowledge that it may be necessary, from time to time, to modify existing CITY ordinances and the Lake Use Guidelines in order for the DISTRICT to implement necessary safety activities. The CITY shall not unreasonably withhold such modifications and will grant temporary authorization for the DISTRICT to implement necessary safety activities pending formal revision of related ordinances or Lake Use Guidelines for Lake Elsinore.

3. **COUNTY's Obligations.** Subject to all of the provisions of this AGREEMENT, the COUNTY hereby agrees to:

- a. **Reports:** Coordinate and supervise LESJWA's preparation of an annual report to (i) estimate the number of offset credits generated by LEAMS in the prior year; (ii) estimate the number of offset credits needed by each of the PARTIES to maintain compliance with the TMDL and their respective NPDES discharge permits; and (iii) estimate the number of excess, unused offset credits that may be available for licensing to other stakeholders named in the TMDL. Report shall be distributed to all PARTIES by March 1st each year.

- b. **Coordinate with LESJWA** to license any excess, unused offset credits that the TOC elects to make available to other stakeholders named in the TMDL. However, all such licenses must be approved by unanimous consent of the TOC. Such consent shall not be unreasonably withheld.
- c. **Coordinate with the REGIONAL BOARD** to ascertain what documentation is required to: (i) corroborate the number of offset credits generated by LEAMS; (ii) corroborate the number of offset credits required by each of the PARTIES to ensure on-going compliance with the TMDL and their respective NPDES discharger permits; (iii) the number of offset credits that may be made available for licensing to other stakeholders named in the TMDL; and (iv) determine the duration and period for which a given set of offset credits remains valid for the purpose of demonstrating compliance with the TMDL load allocations or wasteload allocations.
- d. **Licensing Fees:** Make periodic recommendations to the TOC regarding reasonable fees to license excess, unused offset credits. The final fee structure must be approved by the TOC prior to entering into any licensing agreement with LESJWA or any other stakeholders named in the TMDL.

4. **Miscellaneous Provisions**

- a. **Independent Contractors:** The PARTIES shall perform all duties under this AGREEMENT as independent contractors and NOT as employees of one another.
- b. **Subcontractors:** The PARTIES may employ competent and qualified professionals, consultants and subcontractors as they deem necessary to fulfill their duties and obligations under this AGREEMENT provided that all related costs remain within the approved budget. Costs which exceed the approved budget must be approved, in advance, by the TOC unless said costs are required to address a bona fide emergency condition.
- c. **Assignment:** Neither this AGREEMENT nor any part of LEAMS may be assigned or otherwise transferred without prior written consent from all PARTIES.
- d. **Amendment:** This AGREEMENT may only be amended by mutual written agreement of all PARTIES. This AGREEMENT may not be amended by verbal agreement or through separate written agreements not contemplated within the AGREEMENT.

- e. **10-year Term:** The duty to meet all obligations and responsibilities identified in this AGREEMENT commences on the effective date shown on page 1 (above) and, unless subsequently extended by mutual written agreement of all PARTIES, terminates on June 30, 2027. During this term, no PARTY may abandon, sell, lease, dispose or substantially discontinue the use of LEAMS without prior written consent of all PARTIES.
- f. **Distribution of Surplus Funds:** If, upon termination of this AGREEMENT without extension, there are any unexpended funds in the custody and control of the PARTIES, including but not limited to any contingency or replacement funds, these funds shall be distributed to the PARTIES in proportion to the respective original contributions to such funds.
- g. **Early termination.** Any PARTY may terminate their participation in this AGREEMENT by providing one year's written notice to the other PARTIES. However, if a PARTY elects to terminate their participation prior to June 30, 2027 that PARTY forfeits and waives any claim for reimbursement of unexpended contingency and replacement funds collected in all prior years. In the event one PARTY elects an early termination, the other two PARTIES shall continue to implement the terms of this AGREEMENT but shall be absolved of any on-going duty or obligation to the departing PARTY.
- h. **Third Party Beneficiary.** The PARTIES acknowledge that the Lake Elsinore San Jacinto Watershed Authority (LESJWA) shall be a third-party beneficiary to this AGREEMENT in so far as reliable operation and maintenance of LEAMS is necessary to fulfill the terms and conditions set forth in any Exclusive License Agreement for Excess Offset Credits executed between the PARTIES and LESJWA. There are no other third party beneficiaries to this AGREEMENT.
- i. **Interpretation.** All provisions of this AGREEMENT shall be construed in a manner which best assures the long-term viability of LEAMS. All PARTIES share equal responsibility for drafting the language of this AGREEMENT.
- j. **Severability.** If any term, clause, sentence, provision, or paragraph of this AGREEMENT shall be held invalid, such invalidity shall not affect the other provisions of the AGREEMENT which can be given effect without the invalid provision, and to this end, the remainder of the AGREEMENT shall remain in full force and effect.

- k. **Budget Authority.** All PARTIES acknowledge that final authority to accept and approve a final budget for LEAMS rests with their respective governing Boards, Commissions and Councils. Members of the TOC can make agreement to recommend specific budgets actions, but cannot bind, their respective governing authorities. Consequently, no budget shall be deemed final until it is approved by the governing authorities for each of the PARTIES.
- l. **Arbitration:** Any dispute which may arise by and between the PARTIES to this AGREEMENT shall be submitted to binding arbitration. Arbitration shall be conducted by the Judicial Arbitration and Mediation Services, Inc., or its successor, or any other neutral, impartial arbitration service that the PARTIES mutually agree upon in accordance with its rule in effect at the time of the commencement of the arbitration proceeding, and as set forth in this Paragraph. The arbitrator chosen must decide each and every dispute in accordance with the laws of the State of California, and all other applicable laws. The arbitrator's decision and award are subject to judicial review by a Superior Court of competent venue and jurisdiction, only for material errors of fact or law. Upon a showing of good cause, the arbitrator may permit limited discovery in the arbitration proceeding. Unless the PARTIES enter into a written stipulation to the contrary, prior to the appointment of the arbitrator, all disputes shall first be submitted to non-binding mediation, conducted by the Judicial Arbitration and Mediation Services, Inc., or its successor, or any other neutral, impartial mediation service that the PARTIES mutually agree upon in accordance with its rules for such mediation.
- m. **Enforced Delay; Extension of Times of Performance:** In addition to specific provisions of this AGREEMENT, performance by any party hereunder shall not be deemed to be in default, and all performance and other dates specified in this AGREEMENT shall be extended, where delays or defaults are due to war; terrorism, moratorium, insurrection, strikes; lockouts; riots; floods, earthquakes; fires; casualties; acts of God; acts of a public enemy; epidemics; quarantine restrictions; freight embargos; litigation; unusually severe weather; acts or failures to act of any other public or governmental agency or entity (other than the acts or failures to act of the PARTIES); or any other cause(s) beyond the control or without the fault of the PARTY claiming an extension of time to perform, provided such cause would prevent the claiming PARTY from performing the provisions of this AGREEMENT. Notwithstanding any to the contrary in this AGREEMENT, an extension of time for any such cause shall be for the period of the enforced delay and shall commence to run from the time of the commencement of the cause, or notice by the PARTY claiming such extension is sent to the other PARTIES with thirty (30) days of the commencement of the cause.

- n. **Attorney's Fees.** In the event any of the PARTIES hereto shall bring an action to enforce any term of this AGREEMENT to recover any damages for and on account of any breach of any term or condition of this AGREEMENT, it is mutually agreed that the prevailing party in such action shall recover all costs thereof including reasonable attorneys' fees.

- o. **COUNTERPART EXECUTION.** This AGREEMENT may be executed simultaneously, or in any number of counterparts, each of which shall be deemed an original, but all of which, together, shall constitute one and the same instrument. The AGREEMENT may be signed by fax or scanned by email signature.

- p. **Effective Date.** This AGREEMENT is deemed effective upon execution by all of the PARTIES and, for budgeting and funding purposes, is retroactive to July 1, 2016.

IN WITNESS WHEREOF, the PARTIES acknowledge their acceptance of this AGREEMENT by affixing their signature(s) below.

[SIGNATURE PAGE(S) TO FOLLOW]

For the CITY OF LAKE ELSINORE:

Date



Mayor

Approved As To Form

6-12-2017

Date



Counsel for the City of Lake Elsinore

Attestation

6/20/17

Date



City Clerk

For the ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Date

President, Board of Directors

Approved As To Form

Date

Counsel for EVMWD

For the COUNTY OF RIVERSIDE

Date

Chairman, Board of Supervisors

Approved As To Form

Date

Counsel for the County of Riverside

Attested

Date

Clerk for the Board of Supervisors

For the CITY OF LAKE ELSINORE:

Date

Mayor

Approved As To Form

Date

Counsel for the City of Lake Elsinore

For the ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Date

5/17/17

President, Board of Directors



Approved As To Form

Date

5/11/17

Counsel for EVMWD



For the COUNTY OF RIVERSIDE

Date

Chairman, Board of Supervisors

Approved As To Form

Date

Counsel for the County of Riverside

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Clerk for the Board of Supervisors

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Counsel for the City of Lake Elsinore

For the ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Date

President, Board of Directors

Approved As To Form

Date

Counsel for EVMWD


For the COUNTY OF RIVERSIDE

MAY 23 2017
Date


Chairman, Board of Supervisors
JOHN TAVAGLIONE

Approved As To Form

5-10-2017
Date


Counsel for the County of Riverside
Aaron C. Gettis

Attested

MAY 23 2017
Date


Clerk for the Board of Supervisors

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1 **EXCLUSIVE LICENSE AGREEMENT for EXCESS OFFSET CREDITS**
2 **GENERATED by the LAKE ELSINORE AERATION & MIXING SYSTEM (LEAMS)**
3

4 This EXCLUSIVE LICENSE AGREEMENT for EXCESS OFFSET CREDITS generated by the LAKE
5 ELSINORE AERATION & MIXING SYSTEM (LEAMS) (hereinafter the "License Agreement") is
6 made by and among the COUNTY OF RIVERSIDE ("COUNTY"), the CITY OF LAKE ELSINORE
7 ("CITY"), the ELSINORE VALLEY MUNICIPAL WATER DISTRICT ("DISTRICT") and the LAKE
8 ELSINORE AND SAN JACINTO WATERSHEDS AUTHORITY ("AUTHORITY"). The COUNTY, CITY,
9 DISTRICT and AUTHORITY are hereinafter collectively referred to as the "PARTIES." This License
10 Agreement, once executed by all PARTIES, becomes effective on January 1, 2017.
11

12 **RECITALS**
13

- 14 a. The CITY, DISTRICT and COUNTY are individual member agencies of the Lake
15 Elsinore and San Jacinto Watersheds Authority. The AUTHORITY is a joint
16 powers public agency formed for the purpose of implementing programs and
17 projects to rehabilitate and improve water quality in Lake Elsinore and Canyon
18 Lake and the watersheds that are tributary to these lakes.
19
- 20 b. The CITY holds title to and operates the Axial Flow Water Pump Destratification
21 System ("Mixing System") located in Lake Elsinore.
22
- 23 c. The DISTRICT holds title to and operates the Lake Elsinore Phase II Aeration
24 System ("Aeration System") located in Lake Elsinore.
25
- 26 d. Collectively, the Mixing System and the Aeration System are known as the Lake
27 Elsinore Aeration and Mixing System ("LEAMS"). In general, the two systems are
28 run in tandem and operate on the same schedule.
29
- 30 e. The annual costs to operate and maintain LEAMS is shared equally between the
31 CITY, DISTRICT and COUNTY pursuant to a separate Agreement for the Operation
32 and Maintenance of LEAMS (dated May 23, 2017). For the purpose of
33 implementing this License Agreement, these three cost-sharing partners are
34 identified collectively as the "OPERATORS."
35
- 36 f. The operation of LEAMS is intended to improve water quality in Lake Elsinore by
37 improving the average concentration of dissolved oxygen. This, in turn, helps
38 reduce the average concentration of nitrogen and phosphorus ("nutrients") in
39 the lake. Elevated nutrient concentrations contribute to excessive algae growth
40 and interferes with recreation in Lake Elsinore. In addition, too much algae
41 adversely affects the aquatic habitat and increases the risk of fish kills. LEAMS
42 was designed and implemented to help prevent and reduce these challenges.
43

- 44
- 45 g. The Santa Ana Regional Water Quality Control Board ("Regional Board") adopted
- 46 a Total Maximum Daily Load ("TMDL") to improve water quality in Lake Elsinore
- 47 by controlling the amount of nutrients in the lake. The CITY, DISTRICT, COUNTY,
- 48 and numerous other stakeholders identified in the TMDL are obligated to limit
- 49 their nutrient contributions (called "loads") to Lake Elsinore.
- 50
- 51 h. When the TMDL was adopted, the Regional Board acknowledged that operation
- 52 of LEAMS was expected to reduce internal phosphorus loads originating from
- 53 lake bottom sediments by 35% or approximately 11,606 kg/yr. Subsequent
- 54 studies, conducted at the direction of the Regional Board, also demonstrated
- 55 that the operation of LEAMS was reducing the total mass of nitrogen in Lake
- 56 Elsinore by an average of approximately 53,616 kg/yr.
- 57
- 58 i. The Regional Board requires the DISTRICT to conduct additional studies, once
- 59 every three years, to reevaluate and confirm the overall effectiveness of LEAMS
- 60 at reducing nutrient concentrations in Lake Elsinore. The results are submitted
- 61 in a formal written report to the Regional Board. After the Regional Board
- 62 accepts that report, the nutrient reductions generated by LEAMS are considered
- 63 approved "offset credits" provided LEAMS is operated in accordance with the
- 64 requirements of the DISTRICT's NPDES permit.
- 65
- 66 j. LEAMS is generally required to operate no less than 2,000 hours per year.
- 67 Therefore, on average, each hour of LEAMS operation generates approximately
- 68 3.5 kg of phosphorus reduction credits and 22 kg of nitrogen reduction credits.
- 69
- 70 k. All credits generated by the operation of LEAMS are the exclusive property of the
- 71 OPERATORS, and are owned in joint tenancy by the OPERATORS, and may not be
- 72 sold or transferred without the unanimous written consent of the OPERATORS.
- 73
- 74 l. The Regional Board allows LEAMS credits to be used to demonstrate compliance
- 75 with the Waste Load Allocations ("WLA") or Load Allocations ("LA") specified in
- 76 the TMDL. The Regional Board recognizes LEAMS as an approved offset program
- 77 provided that LEAMS is operated in accordance with the DISTRICT's NPDES
- 78 permit.
- 79
- 80 m. Based on experience to date, the operation of LEAMS typically generates more
- 81 offset credits than the OPERATORS need in order to assure their own compliance
- 82 with the TMDL's nutrient load restrictions. Therefore, the OPERATORS desire to
- 83 license some of the excess offset credits to other stakeholders named in the
- 84 TMDL so that these other stakeholders may rely on said credits to meet their
- 85 own TMDL compliance obligations subject to the review and approval of the
- 86 Regional Board.
- 87

- 88 n. Given the relatively large number of stakeholders that may be interested in
89 licensing excess offset credits to meet their own TMDL compliance obligations,
90 the OPERATORS determined it would be more efficient to administer all
91 licensing-related activity through the AUTHORITY.
92
- 93 p. This document describes the Terms and Conditions under which the OPERATORS
94 agree to license excess offset credits to other stakeholders named in the TMDL
95 using the AUTHORITY as their exclusive agent.
96

97 TERMS AND CONDITIONS

98 1) THE AUTHORITY AS EXCLUSIVE AGENT

- 99 1) THE AUTHORITY AS EXCLUSIVE AGENT
100
- 101 a. The OPERATORS hereby designate the AUTHORITY as their exclusive agent to
102 market and administer limited-used licenses for any excess offset credits
103 generated by LEAMS to other stakeholders with TMDL compliance obligations.
104 The AUTHORITY shall have full and complete responsibility for marketing the
105 licenses for LEAMS credits and for collecting and remitting required license fees
106 to the OPERATORS.
107
- 108 b. All expenses incurred by the AUTHORITY to market and administer the LEAMS
109 offset credit licensing program shall be reimbursed solely from the sale of offset
110 credit licenses. The AUTHORITY is entitled to retain a sum, not to exceed
111 \$20,000 in the first year of this License Agreement and not to exceed \$12,000 in
112 any subsequent year of this License Agreement, from the proceeds received
113 from gross sales before remitting the remainder to the OPERATORS.
114
- 115 c. In the event that the proceeds received from gross sales are insufficient to
116 reimburse the AUTHORITY's expenses, as described above, the OPERATORS have
117 no obligation to compensate the AUTHORITY for any difference or deficiency.
118
- 119 d. The AUTHORITY shall have primary responsibility for filing annual reports to the
120 Regional Board detailing and summarizing the disposition of all LEAMS offset
121 credits. The AUTHORITY shall provide a copy of all such reports to the
122 OPERATORS at the same time these reports are submitted to the Regional Board.
123 The DISTRICT shall continue to have primary responsibility for developing the
124 documentation required to confirm the validity of the offset credits generated
125 by LEAMS and for reporting this information to the Regional Board in accordance
126 with the DISTRICT's NPDES permit.
127
- 128 e. Any person, municipality, corporation, government agency or other legal entity
129 acquiring a valid license from the AUTHORITY shall hereinafter be referred to as
130 a LICENSEE.

131 **2) EXCLUSIVE LICENSES FOR EXCESS OFFSET CREDITS**

- 132
- 133 a. No later than April 15th of each year, the OPERATORS shall notify the AUTHORITY
- 134 of the total number of excess offset credits, generated in the prior calendar year,
- 135 that are being made available for license to other TMDL stakeholders. The
- 136 AUTHORITY shall not offer any licenses for sale to others until officially notified
- 137 by the OPERATORS that excess offset credits are available, the amount of
- 138 nitrogen and phosphorus offset credit offered with each hour of LEAMS
- 139 operation and the annual fee required for each license hour. All notices shall be
- 140 in writing and directed as described in Section 5 of this License Agreement.
- 141
- 142 b. Available excess offset credits shall be licensed in one hour blocks of LEAMS
- 143 operating time. Each available credit hour will be individually identified based on
- 144 the year the credit was generated and a unique sequential number (e.g. 2016-
- 145 0129, 2019-0257, etc.). Each one hour block of LEAMS operating time
- 146 represents a volume of phosphorus and nitrogen reduction credits for the year
- 147 indicated by the block ID number as defined by the notification described in
- 148 §2(a) above. For 2015 and 2016 each hour of LEAMS operation conveys 3.5 kg of
- 149 phosphorus reduction credit and 22 kg of nitrogen reduction credit. However,
- 150 the OPERATORS reserve the right to revise the credit/hour ratio in future years.
- 151
- 152 c. The AUTHORITY is authorized to offer other TMDL stakeholders an exclusive
- 153 license to purchase and use available LEAMS offset credits for any lawful
- 154 purpose subject to all of provisions of this License Agreement. Each individually-
- 155 numbered one hour block of LEAMS offset credits may be licensed for a one-
- 156 time license fee of \$300.00. OPERATORS may also authorize the AUTHORITY to
- 157 market licenses for unused excess credits generated in calendar years prior to
- 158 2016, and to offer pro-rated discounts for credits generated in calendar years
- 159 2009 through 2015, subject to the written approval by the OPERATORS.
- 160
- 161 d. The AUTHORITY shall provide an annual accounting report detailing all fees
- 162 collected for licenses sold in a given calendar year, and all marketing and
- 163 administration expenses for that same calendar year, to the OPERATORS by
- 164 January 31st of the following calendar year. Following receipt of this accounting
- 165 report, the OPERATORS shall provide the AUTHORITY with detailed instructions
- 166 on how to disperse the net proceeds from the sale of LEAMS offset credit
- 167 licenses in the prior calendar year.
- 168

169 **3) SALE OF LICENSES FOR EXCESS OFFSET CREDITS**

- 170
- 171 a. Ownership of all LEAMS facilities and of all offset credits generated by these
- 172 facilities shall remain with the OPERATORS. Only an exclusive license to use the
- 173 credits, as part of an approved offset program, is being offered by the
- 174 OPERATORS pursuant to this License Agreement.

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- b. The sale or purchase of LEAMS excess offset credits in any given year does not create an obligation to sell or buy licenses for LEAMS excess offset credits in any other year. OPERATORS may elect to increase or decrease the number of available LEAMS excess offset credits at their sole discretion. However, OPERATORS shall not retroactively reduce the number of LEAMS excess offset credit licenses available for sale in any given year below the number of licenses already sold for that same year.
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- c. LEAMS excess offset credit licenses may not be bought, sold, leased, loaned, borrowed or transferred except through the AUTHORITY acting as the Exclusive Agent for the OPERATORS. Any attempt to do so automatically and irrevocably invalidates each specific license involved without recourse to the LICENSEE.
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- d. Neither the OPERATORS or the AUTHORITY offer any warranty whatsoever regarding the use of LEAMS excess offset credits. It is the sole responsibility of each prospective LICENSEE to determine for itself and to its own satisfaction, through direct consultation with the Regional Board, how LEAMS excess offset credits may be lawfully used to demonstrate compliance with the TMDL or any related provisions of state and federal waste discharge requirements BEFORE purchasing any excess offset license. Prospective LICENSEES are expressly warned not to rely on any statements or representations made in this License Agreement without further confirmation by the Regional Board.
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- e. Although each excess offset credit block is governed by a license, only the Regional Board can determine the length of time any given block of excess offset credits may be used to compute compliance. The OPERATORS and the AUTHORITY make no representation or warranty concerning the length of time any given block of excess offset credits may be used for compliance.
- 204
205
- f. Fees paid to license LEAMS excess offset credits are non-refundable.
- 206
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- g. OPERATORS prepare and approve annual operating budgets and summaries of actual annual expenses in accordance with their separate Operations and Maintenance Agreement for LEAMS (dated May 23, 2017). Copies of these accounting documents shall be provided to the AUTHORITY no later than 30 days after they have been approved by the OPERATORS.

- 213 h. Fees paid to license LEAMS excess offset credits shall become the sole property
214 of the OPERATORS. Said fees may be used to offset past or future LEAMS
215 operating expenses, effect LEAMS repairs, replace or expand LEAMS, held for a
216 LEAMS contingency, or any other lawful purpose related to LEAMS at the sole
217 discretion of the OPERATORS. The OPERATORS shall not be required to account
218 for the expenditure of any fees received from the sale of licenses for excess
219 offset credits.
220
- 221 i. The OPERATORS warrant that LEAMS was operated in accordance with
222 requirements established by the Regional Board and in a manner that they
223 reasonably believe generated the nutrient reduction credits now made available
224 for licensing by others. The operating reports, water quality monitoring data and
225 special studies used to support the estimated credit calculations are regularly
226 submitted to the Regional Board under penalty of perjury. A copy of all such
227 documents shall be provided to the AUTHORITY no later than 30 days after these
228 documents are submitted to the Regional Board.
229
- 230 j. Because the licenses offered are for excess offset credits generated by LEAMS in
231 the prior calendar year, the purchase of such licenses imposes no further
232 obligation on the LICENSEE to operate, maintain, fund or support LEAMS in any
233 other way. The OPERATORS, and not the AUTHORITY, bear sole responsibility for
234 affirming the validity of all offset credits declared and reported to the Regional
235 Board.
236
- 237 k. Because licenses are purchased for excess offset credits generated in the prior
238 calendar year, and the LICENSEES had no role or responsibility whatsoever for
239 the day-to-day operations of LEAMS, the LICENSEES are not liable for injury or
240 damages which may occur as a result of the actions or omissions of the
241 OPERATORS as these credits were being generated. The OPERATORS, and not
242 the AUTHORITY, shall indemnify and defend the LICENSEES against any and all
243 claims for injuries or damages related to the operation of LEAMS.
244
- 245 l. OPERATORS are not responsible for any cost, expense, loss or other
246 consequential damages that may be incurred by LICENSEES in the event the
247 excess offset credit program is subsequently ruled invalid or illegal by any state
248 or federal regulatory agency or by a court of competent jurisdiction.
249
- 250 m. The AUTHORITY shall provide a full and complete copy of this License Agreement
251 to any prospective LICENSEE. Furthermore, each prospective LICENSEE must
252 provide written and dated confirmation that it has received, read and
253 understood the entirety of this License Agreement as a prerequisite condition for
254 purchasing a license for excess offset credits.
255

- 256 n. The PARTIES are required to notify one another as soon as is reasonably possible
257 if and when either becomes aware of any change in conditions that may
258 materially and adversely affect the validity of the LEAMS excess offset credits or
259 the ability of LICENSEES to rely on such credits to meet TMDL compliance
260 obligations. The AUTHORITY is solely responsible for notifying each individual
261 LICENSEE as described below.
262
- 263 o. The AUTHORITY and each LICENSEE are required to notify one another as soon
264 as is reasonably possible if and when either becomes aware of any change in
265 conditions that may materially and adversely affect the validity of the LEAMS
266 offset credits or the ability of LICENSEES to rely on such credits to meet TMDL
267 compliance obligations. Individual LICENSEES may, but are not required to,
268 provide similar notice to other individual LICENSEES.
269
- 270 p. The AUTHORITY and all LICENSEES are entitled to inspect the LEAMS facilities
271 and may do so, upon request, at a time that is mutually convenient with the
272 OPERATORS.
273
- 274 q. The OPERATORS are not entitled to reclaim any previously licensed excess offset
275 credits without written consent of the LICENSEE.
276
277

278 **4. GENERAL PROVISIONS**
279

- 280 a. **Jurisdiction.** This License Agreement shall be deemed to have been made in
281 Riverside County, California regardless of the order of the signatures of the
282 PARTIES affixed hereto. Any litigation or other legal proceedings which arise in
283 connection with this License Agreement shall be conducted in a federal or state
284 court located within or for Riverside County, California. All PARTIES hereby
285 waive any defenses or objections based on the Doctrine of Forum Non-
286 conveniens.
287
- 288 b. **Property Rights.** No property rights are created or changed by this License
289 Agreement.
290
- 291 c. **Third Parties.** There are no third-party beneficiaries created, intended or
292 recognized by this License Agreement.
293
- 294 d. **Entire Agreement.** This written License Agreement constitutes the full and
295 complete agreement between PARTIES. This License Agreement supersedes any
296 and all previous agreements, either oral or written, between the PARTIES hereto
297 and contains all of the terms, conditions and agreements between the PARTIES
298 with respect to the subject matter of this License Agreement.

- 299 e. **Amendments.** This License Agreement may only be amended by written
300 consent of all PARTIES. However, the terms and conditions of any previously
301 issued license may not be revised retroactively without the additional written
302 consent of the LICENSEE.
303
- 304 f. **Regional Board Review.** A full and complete copy of this License Agreement has
305 been provided to the Regional Board staff for review to ensure consistency with
306 the assumptions and requirements of the TMDL and the Comprehensive
307 Nutrient Reduction Plan (CNRP). Any changes proposed by the Regional Board
308 must be approved, in writing, as formal amendments to this License Agreement.
309 All amendments to this License Agreement shall also be submitted to the
310 Regional Board for review.
311
- 312 g. **Cooperation.** The PARTIES agree to cooperate with one another to fulfill all
313 regulatory and contractual obligations related to this License Agreement. The
314 PARTIES further agree not to engage in any activities that undermine or
315 jeopardize the validity of the LEAMS offset credits or the related licenses offered
316 for sale to others.
317
- 318 h. **Waivers.** Failure to exercise any right or remedy related to this License
319 Agreement shall not be construed as a waiver of that right or remedy.
320
- 321 i. **Severability.** Any provision of this License Agreement that is subsequently found
322 to be unconstitutional, illegal, or otherwise unenforceable shall be deemed void
323 without subsequent effect on any of the remaining provisions in the License
324 Agreement which shall continue to be implemented as originally intended.
325
- 326 j. **Term.** This License Agreement shall expire on June 30, 2022 unless the PARTIES
327 agree, in writing, to extend that date. However, all licenses purchased prior to
328 the expiration date of this License Agreement shall remain valid.
329
- 330 k. **Default.** Failure by a Party to comply with and observe any of the conditions,
331 terms, or covenants set forth in this License Agreement, if such failure remains
332 uncured within thirty (30) days after written notice of such failure from the other
333 Party in the manner provided herein or, with respect to a default that cannot be
334 cured within thirty (30) days, if the Party in default fails to commence such cure
335 within such thirty (30) day period or thereafter fails to diligently and
336 continuously proceed with such cure to completion. However, if a different cure
337 period is specified under any other section of this License Agreement, then the
338 specific cure period shall control.
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- i. **Independent Contractor.** In performing under this License Agreement, it is mutually understood that the AUTHORITY is acting as an independent contractor, and not as an agent of the OPERATORS. The OPERATORS shall have no responsibility for payment to any contractor, subcontractor or supplier of the AUTHORITY. Nothing herein contained shall be deemed to create an agency, joint venture, partnership or franchise relationship between the PARTIES hereto, or between the PARTIES and any contractor retained by the OPERATORS in connection with the services provided under this License Agreement, or between the PARTIES and any person or organization that purchases a license for excess offset credit pursuant to this License Agreement.
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- m. **Authority and Requisite Action.** The individuals executing this License Agreement (the "Signatories") covenant that they have the legal power, right and authority to enter into this License Agreement and to bind their respective principals/entities to the terms and conditions set forth herein. Furthermore, the Signatories covenant that all requisite action has been taken by their respective principals/entities in connection with the entering into this License Agreement and the instruments referenced herein, and the consummation of the transactions contemplated hereby.
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- n. **Maintenance and Inspection.** The AUTHORITY shall maintain complete and accurate records with respect to all licenses and fees under this License Agreement. All such records shall be clearly identifiable. The AUTHORITY shall allow a representative of OPERATORS to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this License Agreement during normal business hours. The AUTHORITY shall allow inspection of all work, data, documents, proceedings, and activities related to the License Agreement for a period of three (3) years from the date of final payment under this License Agreement.
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- o. **Prohibited Interests.** The AUTHORITY maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for the AUTHORITY, to solicit or secure this License Agreement. Further, the AUTHORITY warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for the AUTHORITY, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this License Agreement. For breach or violation of this warranty, OPERATORS shall have the right to rescind this License Agreement without liability. For the term of this License Agreement, no official, officer or employee of the OPERATORS, during the term of his or her service with the OPERATORS, shall have any direct interest in this License Agreement, or obtain any present or anticipated material benefit arising therefrom.

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- p. **Dispute Resolution.** Any dispute which may arise by and between the parties to this License Agreement shall be submitted to non-binding mediation. Such mediation shall be conducted by any neutral, impartial mediation service that the Parties mutually agree upon, in writing, and in accordance with its rules in effect at the time of the commencement of the mediation proceeding.
 - q. **Attorney's Fees.** The prevailing party in any action to enforce any provision of this License Agreement shall be entitled to its reasonable attorney's fees and costs.
 - r. **Counterpart Execution.** This License Agreement may be signed in separate counterparts, each of which is an original and all of which, taken together, form one single binding document.

400 **5. NOTIFICATIONS**

401
402
403 a. **All notifications made pursuant to this License Agreement shall be in writing.**

404
405
406 b. **Notifications to the City of Lake Elsinore shall be directed to:**

407
408 Name: Grant Yates

409 Title: City Manager

410 Address: 130 S. Main Street

411 Addl. Address: _____

412 City, State, Zip: Lake Elsinore, CA 92530

413 Main Office Phone: (951) 674-3124

414 Email Address: gyates@lake-elsinore.org

415 Alternate Name: Nicole Dailey

416 Alternate Phone: (951)833-5497

417 Alternate Email: ndailey@lake-elsinore.org

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c. Notifications to Elsinore Valley Municipal Water District shall be directed to:
Name: _____
Title: _____
Address: _____
Addl. Address: _____
City, State, Zip: _____
Main Office Phone: _____
Email Address: _____
Alternate Name: _____
Alternate Phone: _____

d. Notifications to the County of Riverside shall be directed to:
Name: Steve Horn
Title: Principal Management Analyst
Address: 4080 Lemon Street, 4th Floor
City, State, Zip: Riverside, CA 92501
Main Office Phone: 951-955-1110
Email Address: shorn@rivco.org
Alternate Name: Alex Gann
Alternate Phone: 951-955-1110
Alternate Email: agann@rivco.org

e. All notifications to Lake Elsinore San Jacinto Watersheds Authority (LESJWA) shall be directed to:
Name: _____
Title: _____
Address: _____
Addl. Address: _____
City, State, Zip: _____
Main Office Phone: _____

452 Email Address: _____

453 Alternate Name: _____

454 Alternate Phone: _____

455

456

457

- f. The AUTHORITY shall maintain a directory of all past and present LICENSEES with current contact information similar to that shown above and distribute an updated copy of that directory at least once a year to the OPERATORS and the Regional Board.

458

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462

463 IN WITNESS WHEREOF, the OPERATORS and the AUTHORITY have affixed their signatures and
464 caused this License Agreement to be effective as of the date shown on the first page of this
465 document:

466
467 For the CITY OF LAKE ELSINORE:

468
469 6-20-2017
470 Date



Mayor

471 Approved As To Form:
472 6-12-2017
473 Date



City Attorney

474
475 For the ELSINORE VALLEY MUNICIPAL WATER DISTRICT (EVMWD)

476
477 _____
478 Date

President, Board of Directors

479 Approved As To Form:
480 _____
481 Date

Counsel for EVMWD

482
483 For the COUNTY OF RIVERSIDE

484
485 _____
486 Date

Chairman, Board of Supervisors

487 Approved As To Form:
488 _____
489 Date

Counsel for the County of Riverside

490 Attested:
491 _____
492 _____
493 Date

Clerk for the Board of Supervisors

494
495 For the LAKE ELSINORE SAN JACINTO WATERSHEDS AUTHORITY

496
497 _____
498 Date

Chairman, Board of Directors

499 Approved As To Form
500 _____
501 Date

Counsel for LESJWA

468 **IN WITNESS WHEREOF, the OPERATORS and the AUTHORITY have affixed their signatures and**
469 **caused this License Agreement to be effective as of the date shown on the first page of this**
470 **document:**

471
472 **For the CITY OF LAKE ELSINORE:**

473 _____
474 _____
475 Date Mayor

476 *Approved As To Form:*

477 _____
478 Date City Attorney

479
480 **For the ELSINORE VALLEY MUNICIPAL WATER DISTRICT (EVMWD)**

481 _____
482 _____
483 Date President, Board of Directors

484 *Approved As To Form:*

485 _____
486 Date Counsel for EVMWD

487
488 **For the COUNTY OF RIVERSIDE**

489 _____
490 _____
491 Date Chairman, Board of Supervisors

492 *Approved As To Form:*

493 _____
494 Date Counsel for the County of Riverside

495
496 **Attested:**

497 _____
498 Date Clerk for the Board of Supervisors

499
500 **For the LAKE ELSINORE SAN JACINTO WATERSHEDS AUTHORITY**

501 _____
502 _____
503 Date Chairman, Board of Directors

504 *Approved As To Form*

505 _____
506 Date Counsel for LESJWA

463 IN WITNESS WHEREOF, the OPERATORS and the AUTHORITY have affixed their signatures and
464 caused this License Agreement to be effective as of the date shown on the first page of this
465 document:

466
467 **For the CITY OF LAKE ELSINORE:**

468 _____
469 _____
470 Date Mayor

471 *Approved As To Form:*

472 _____
473 Date City Attorney

474
475 **For the ELSINORE VALLEY MUNICIPAL WATER DISTRICT (EVMWD)**

476 _____
477 _____
478 Date President, Board of Directors

479 *Approved As To Form:*

480 _____
481 Date Counsel for EVMWD

482
483 **For the COUNTY OF RIVERSIDE**

484 _____
485 MAY 23 2017
486 Date Chairman, Board of Supervisors

JOHN TAVAGLIONE

487 *Approved As To Form:*

488 5-10-17
489 Date Counsel for the County of Riverside

Aaron C. Gettis

490 Attested:
491 MAY 23 2017
492 Date Clerk for the Board of Supervisors


493
494
495 **For the LAKE ELSINORE SAN JACINTO WATERSHEDS AUTHORITY**

496 _____
497 _____
498 Date Chairman, Board of Directors

499 *Approved As To Form*

500 _____
501 Date Counsel for LESJWA

468 **IN WITNESS WHEREOF, the OPERATORS and the AUTHORITY have affixed their signatures and**
469 **caused this License Agreement to be effective as of the date shown on the first page of this**
470 **document:**

471

472 **For the CITY OF LAKE ELSINORE:**

473

474

475 _____
Date Mayor

476 *Approved As To Form:*

477

478 _____
Date City Attorney

479

480 **For the ELSINORE VALLEY MUNICIPAL WATER DISTRICT (EVMWD)**

481

482

483 _____
Date President, Board of Directors

484 *Approved As To Form:*

485

486 _____
Date Counsel for EVMWD

487

488 **For the COUNTY OF RIVERSIDE**

489

490

491 _____
Date Chairman, Board of Supervisors

492 *Approved As To Form:*

493

494 _____
Date Counsel for the County of Riverside

495

496 **Attested:**


497

498 _____
Date Clerk for the Board of Supervisors

499

500 **For the LAKE ELSINORE SAN JACINTO WATERSHEDS AUTHORITY**

501

502 4/19/17 _____
Date 

503

504 *Approved As To Form*

505

506 _____
Date Counsel for LESJWA

**EXTENSION TO THE TERM TO THE EXCLUSIVE LICENSE AGREEMENT for EXCESS
OFFSET CREDITS GENERATED by the LAKE ELSINORE AERATION & MIXING SYSTEM
(LEAMS)**

This Extension of the Term to the EXCLUSIVE LICENCE AGREEMENT for EXCESS OFFSET CREDITS generated by the LAKE ELSINORE AEARATION & MIXING SYSTEM (LEAMS) (hereinafter the "License Agreement") is made by and among the COUNTY OF RIVERSIDE ("COUNTY"), the CITY OF LAKE ELSINORE ("CITY"), the ELSINORE VALLEY MUNICIPAL WATER DISTRICT ("DISTRICT") and the LAKE ELSINORE AND SAN JACINTO WATESHEDS AUTHORITY ("AUTHORITY"). The COUNTY, CITY, DISTRICT and AUTHORITY are hereinafter collectively referred to as the "PARTIES." This Extension of the Term to the License Agreement, once executed by all PARTIES, becomes effective on _____.

RECITALS

- a. The License Agreement became effective on _____, after it was executed by all PARTIES.
- b. The License Agreement relates to the operation of LEAMS, which is intended to improve water quality in Lake Elsinore by improving the average concentration of dissolved oxygen. This in turn helps to reduce the average concentration of nitrogen and phosphorus ("nutrients") in the lake. The nutrient reductions generated by LEAMS are considered approved "offset credits" provided LEAMS is operated in accordance with the requirements of the DISTRICT's NPDES permit.
- c. The annual costs to operate and maintain LEAMS is shared equally between the CITY, DISTRICT and COUNTY pursuant to a separate Agreement for the Operation and Maintenance of the Lake Elsinore Aeration and Mixing Systems. For the purpose of this Extension to the Term of the License Agreement, these cost-sharing partners are identified collectively as "OPERATORS."
- d. Starting before the effective date of the License Agreement, the operation of LEAMS typically generates more offset credits than the OPERATORS need, with some limited exceptions for total nitrogen in certain years, in order to assure their own compliance with the TMDL's nutrient load restrictions. Therefore, the OPERATORS desire to continue licensing some of the excess offset credits to other stakeholders, when available.
- e. The License Agreement authorizes the AUTHORITY, as the OPERATORS' exclusive agent, to offer other TMDL stakeholders an exclusive license to purchase and use available LEAMS offset credits for any lawful purpose subject to all provisions of the License Agreement.
- f. The License Agreement expired on June 30, 2022. Per the License Agreement, the date of expiration may be extended by agreement of the PARTIES in writing.
- g. The PARTIES desire to extend the term of the License Agreement for an additional term of five years.

AGREEMENT

Now, therefore, in consideration of the foregoing Recitals, the PARTIES agree as follows:

1. The term of the License Agreement shall be extended for an additional term of five years until June 30, 2027, unless the PARTIES agree, in writing, to extend that date.
2. All licenses purchased prior to the expiration date of June 30, 2027, shall remain valid.
3. All other terms of the License Agreement shall remain the same and in effect as applicable.
4. This Extension to the Term of the License Agreement may be signed in separate counterparts, each of which is an original and all of which, taken together, form one single binding document.

In witness whereof, the PARTIES hereby have made and executed this License Agreement as of the day and year first above written.

For the CITY OF LAKE ELSINORE:

Date
Approve As To Form:

Mayor

Date

City Attorney

For the ELSINORE VALLEY MUNICIPAL WATER DISTRICT (EVMWD):

Date
Approve As To Form:

President, Board of Directors

Date

Counsel for EVMWD

For the COUNTY OF RIVERSIDE:

Date
Approve As To Form:

Chairman, Board of Supervisors

Date

Counsel for the County of Riverside

Attested:

Date

Clerk for the Board of Supervisors

For the LAKE ELSINORE SAN JACINTO WATERSHEDS AUTHORITY:

Date

Chairman, Board of Directors

Approve As To Form:

Date

Counsel for LESJWA

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LESJWA BOARD MEMORANDUM NO. 2023.12

DATE: August 17, 2023

TO: LESJWA Board of Directors

SUBJECT: LESJWA Awarded \$1.5M DWR IRWM Prop 1 Grant Funding to Implement the Lake Elsinore Algae Harvesting and Nutrient Removal Pilot Project

PREPARED BY: Rick Whetsel, SAWPA Senior Watershed Manager

RECOMMENDATION

Receive and file.

BACKGROUND

On January 14, 2022, SAWPA issued an OWOW Call for Projects for funding available through Round 2 of DWR's Proposition 1 Integrated Regional Water Management Implementation Grant Program. Round 2 made available \$18.5 million in funding available for implementation projects in the upper Santa Ana River Watershed including the San Jacinto River Watershed and required a local 50% cost share match.

In April 2022, LESJWA staff working with the City of Lake Elsinore and AECOM staff submitted a application to SAWPA for the Lake Elsinore Algae Harvesting and Nutrient Removal Pilot Project seeking \$1.5 million in grant funding with the local funding of \$1.5 million to be provided by the City of Lake Elsinore.

The project is described as a three-year pilot project is envisioned to treat about 1 MGD of lake water using innovative AECOM Hydronucleation Flotation Technology (HFT) technology to harvest algal and test its ability to address the impacts of harmful algal blooms (HABs) in Lake Elsinore.

In support of the project, LESJWA staff agreed to serve as the contractual lead and project proponent for the project application. Additionally, LESJWA agreed to provide \$50,000 in in-kind staff support over the three-year term of the project for administration including quarterly reporting and invoicing to the State, based on reports and invoicing to be provided by the City of lake Elsinore and AECOM.

On December 13, 2022, City of Lake Elsinore, City Council, approved the AECOM grant proposal and up to \$1.5M in local matching funds including in-kind staff support over the three-year term of the project.

AECOM agreed to provide on-site management and operations for the project.

On May 17, 2023 DWR announced their final funding recommendations for Round 2, Cycle 2 of the Proposition 1 Implementation Grant Program. This included the full funding request of \$1.5M to LESJWA for the Lake Elsinore Algae Harvesting and Nutrient Removal Pilot Project.

RESOURCES IMPACT

LESJWA is committed to allocating appropriate staff resources in the current FY 23-24 budget and future FY budgets to support project grant administration such as quarterly reporting and invoicing to the State, based on reports and invoicing to be provided by the City and AECOM. LESJWA staff resources are not expected to exceed \$50,000 over the three-year term of the pilot project.

Attachments:

1. PowerPoint Presentation

Lake Elsinore Algae Harvesting Pilot Project Status Update

Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

Rick Whetsel, SAWPA Senior Watershed Manager
LESJWA Board Meeting | August 17, 2023
Item No. 7.A.

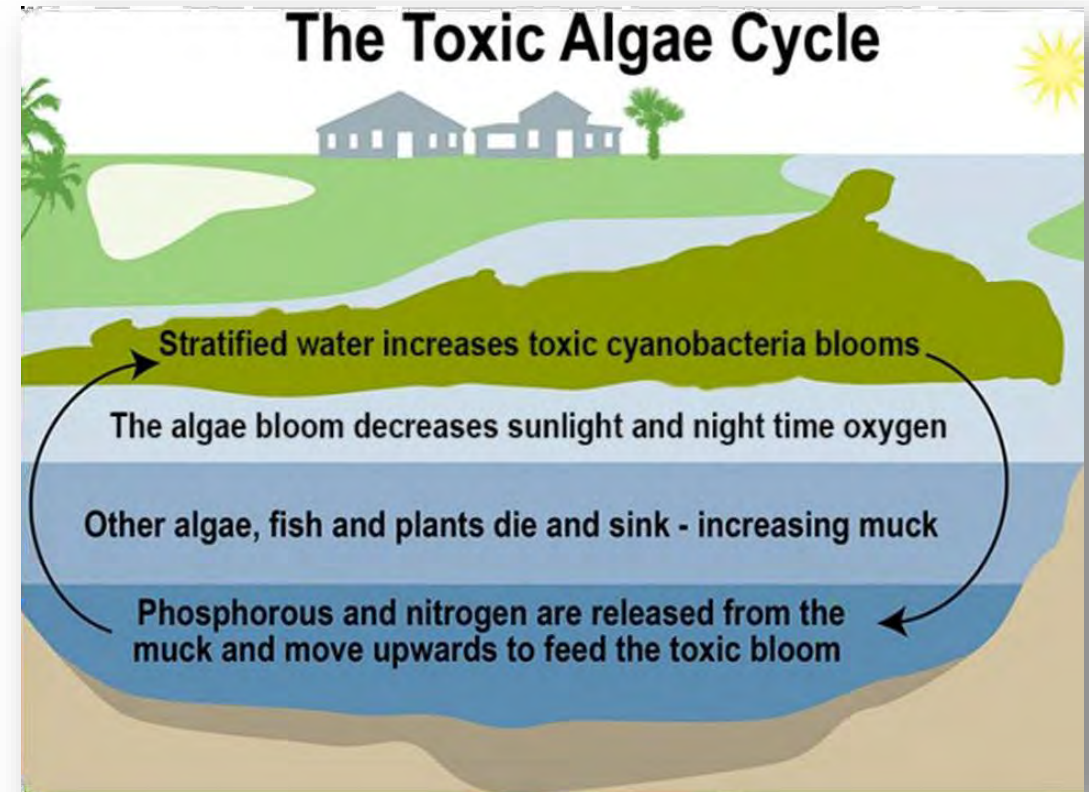
DWR Proposition 1 Implementation Grant Program

May 17, 2023, DWR announced their final funding recommendations for Round 2, Cycle 2 of the Proposition 1 Implementation Grant Program.

LESJWA Awarded \$1.5M for the Lake Elsinore Algae Harvesting and Nutrient Removal Pilot Project.

Problem Statement

Widespread harmful algal blooms occur in Lake Elsinore due to ongoing and legacy nutrient loads, and these are exacerbated by persistent drought and heatwaves.



Project Description

The Lake Elsinore Algae Harvesting and Nutrient Removal Pilot Project (project) will demonstrate the use of algae harvesting using Hydronucleation Flotation Technology (HFT) to treat water in Lake Elsinore for a 23-month period.

Monitoring of system performance metrics will provide key information to develop an effective, full-scale algae harvesting plan that can support efforts to address harmful algal blooms and related water quality issues in Lake Elsinore.





Proposed Pilot
Test Location



Project Partners

- LESJWA agreed to serve as the contractual lead and project proponent for the project application.
 - LESJWA agreed to provide \$50,000 in in-kind staff support over the three-year term of the project for administration including quarterly reporting and invoicing to the State, based on reports and invoicing to be provided by the City of Lake Elsinore and AECOM.
- The City of Lake Elsinore agreed to provide \$1.5M in local matching funds (City Council, December 13, 2022,) including in-kind staff support over the three-year term of the project.
- AECOM agreed to provide on-site management and operations for the project.

Project Budget (From Application)

Budget Category	Task (and sub-tasks if needed)	Grant Amount	Required Cost Share: Non-State Fund Source*	Other Cost Share**	Total Costs
A	Project Administration	\$0	\$100,000	\$0	\$100,000
	Task 1 Project Management	\$0	\$80,000	\$0	\$80,000
	Task 2 - Reporting	\$0	\$20,000	\$0	\$20,000
B	Land Purchase/Easement	\$0	\$0	\$0	\$0
	Task 3 - Land Purchase	\$0	\$0	\$0	\$0
C	Planning/Design/Engineering/Environmental Documentation	\$0	\$150,000	\$0	\$150,000
	Task 4 Feasibility Studies	\$0	\$0	\$0	\$0
	Task 5 CEQA Documentation		\$50,000	0	\$50,000
	Task 6 Permitting	\$0	\$35,000	\$0	\$35,000
	Task 7 Design	\$0	\$50,000	\$0	\$50,000
	Task 8 Project Monitoring Plan	\$0	\$15,000	\$0	\$15,000
D	Construction/Implementation	\$1,500,000	\$1,395,632	\$101,375	\$2,997,007
	Task 9 Contract Services	\$0	\$50,000	\$0	\$50,000
	Task 10 Construction Administration	\$0	\$50,000	\$101,375	\$151,375
	Task 11 Construction	\$1,500,000	\$1,295,632	\$0	\$2,795,632
Total		\$1,500,000	\$1,645,632	\$101,375	\$3,247,007
	Contingency Amount (10% of Cat A and Cat D)	\$150,000	\$149,563	\$10,138	\$309,701

*The non-State cost share funds will be provided by the City of Lake Elsinore and the Lake Elsinore and San Jacinto Watersheds Authority general fund.

**Other cost share will also be provided by the same sources.

Project Schedule (From Application)

Categories	Start Date	End Date	Duration
Project Administration	7/1/2023	6/30/2026	36 months
Task 1 Project Management			
Task 2 Reporting			
Planning	7/1/2023	12/31/2023	6 months
Task 4 Feasibility Studies			
Task 5 CEQA Documentation			
Task 6 Permitting			
Task 7 Design			
Task 8 Project Monitoring Plan			
Implementation	7/1/2023	6/30/2026	36 months
Task 9 Contract Services	7/1/2023	7/31/2023	1 month
Task 10 Construction Administration	12/1/2023	6/30/2026	30 months
Task 11 Construction	12/1/2023	6/30/2026	30 months

Next Steps

- DWR/SAWPA to Prepare Grant Agreement (no date set)
- SAWPA/LESJWA to prepare grant sub-agreement
- Project matching costs start date - January 1, 2015
- Project Costs eligible for grant reimbursement - May 6, 2023

Questions?

Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

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LESJWA BOARD MEMORANDUM NO. 2023.13

DATE: August 17, 2023
TO: LESJWA Board of Directors
SUBJECT: Lake Elsinore and Canyon Lake TMDL Task Force
PREPARED BY: Update Rachel M. Gray, LESJWA Authority Administrator

RECOMMENDATION

Receive and file.

DISCUSSION

The Santa Ana Regional Water Quality Control Board adopted a Total Maximum Daily Load (TMDL) for nutrient discharges to Canyon Lake and Lake Elsinore in 2004. The TMDL became effective when the United States Environmental Protection Agency (EPA) gave it final approval on September 30, 2005.

The TMDL specified numeric targets for DO, Chlorophyll a, Ammonia, Total Phosphorus (TP) and Total Nitrogen (TN) concentrations in both lakes. It also established Load Allocations (LA) and Waste Load Allocations (WLA) to govern the discharge of excess nutrients from non-point sources and point sources, respectively.

In 2005, stakeholders formed the Lake Elsinore & Canyon Lake TMDL Task Force (Task Force). This Task Force, administered by LESJWA provides stakeholders an opportunity to coordinate and share the cost of all implementation efforts. The Task Force is comprised of all the dischargers identified in the TDML, including: Municipal Separate Storm Sewer System (MS4) permittees, wastewater treatment plants, agricultural operators, concentrated animal feeding operations (dairies), and a number of other state, federal, or tribal agencies that own land or operate facilities that discharge in the watershed.

To date, LESJWA staff continues to administer the work of the Task Force and its consultants to implement work tasks as required by Regional Board to achieve compliance with the Lake Elsinore and Canyon Lake TMDLs. Regular work funded and implemented by the task force includes:

- LESJWA staff time to administer the Task Force
- Regulatory Advisor, Tess Dunham, Kahn, Soares & Conway
- Annual watershed and lake monitoring and compliance reporting
- Semi-annual alum applications to Canyon Lake with the last application occurring the week of May 18, 2023
- Periodic fishery management studies

Currently, the Task Force and its consultants are working to complete an update to the TMDL Staff Report/TMDL Revision Technical Report (TMDL Revision Technical Report) for Lake Elsinore, Canyon Lake, and the San Jacinto River Watershed. This report contains all the required elements for revision of the 2004 TMDLs, including revised Numeric Targets for both Lakes and reflects further updated land use and possible further reductions of nutrients discharged to the Lakes.

BUDGET IMPACT

None

Attachments:

1. PowerPoint Presentation

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Lake Elsinore & Canyon Lake TMDL Task Force

LESJWA Board Meeting
August 17, 2023
Item No. 7.B

Tess Dunham – Task Force
Regulatory Facilitator
Kahn, Soares & Conway





74

15

8/17/2023

© 2017 Google

Google earth
454

lat 33.681316° lon 117.305024° elev 1744 ft eye alt 10.01 mi

Table 3-1 BENEFICIAL USES - Continued

LAKES AND RESERVOIRS	BENEFICIAL USE																	Hydrologic Unit		
	MUN	AGR	IND	PROC	GWR	NAV	POW	REC1	REC2	COMM	WARM	LWRM	COLD	BIOL	WILD	RARE	SPWN	EST	Primary	Secondary
Peters Canyon, Rattlesnake, Sand Canyon, and Siphon Reservoirs	+	X						X ⁴	X		X				X	X			801.11	
SAN JACINTO RIVER BASIN																				
Canyon Lake (Railroad Canyon Reservoir)	X	X			X			X	X	X	X				X				802.11	802.12
Elsinore, Lake	+							X	X	X	X				X	X			802.31	
Fulmor, Lake	X	X						X	X		X		X		X				802.21	
Hemet, Lake	X	X			X		X	X	X	X	X		X		X	X	X		802.22	
Mystic Lake	I							I	I		I			X	X	X			802.11	
Perris, Lake	X	X	X	X	X			X	X	X	X		X		X	X			802.11	

X Existing or Potential Beneficial Use

I Intermittent Beneficial Use

+ Excepted from MUN (see text)

.⁴ Access prohibited per agency/company with jurisdiction

NUTRIENT RELATED WATER QUALITY OBJECTIVES IN THE SANTA ANA RIVER BASIN PLAN

- **Algae Water Quality Objective:** Waste discharges shall not contribute to excessive algal growth in inland surface receiving waters.
- **Dissolved Oxygen Water Quality Objective:** The dissolved oxygen content of surface waters shall not be depressed below 5 mg/L for waters designated **WARM**..., as a result of controllable water quality factors.



Lake Elsinore and Canyon Lake Impairments

Lake Elsinore

- Nutrients
- Low Dissolved Oxygen
- PCBs
- DDT
- Toxicity

Canyon Lake

- Nutrients



Lake Elsinore and Canyon Lake WQ Problems

- Algal blooms
- Fish kills

Cause of WQ Problems

- Excessive phosphorus and nitrogen = **nutrients**
- Depletion of oxygen

Sources of Nutrients

- Urban, agriculture, erosion, septic systems
- Nutrient loading occurs during very large storm events



Impairments Triggered Need for TMDLs

Purpose & Goal of TMDLs

- Attain and maintain applicable water quality standards
- Account for seasonal variations
- Pollutant by pollutant basis

Implementation of TMDLs

- Identification of actions/activities (i.e., tasks)
- Numeric targets
- Incorporated into discharge permits



The 2004 TMDLs

Total Loads, Targets & Load
Allocations

Table 1-2. Nutrient TMDLs and Compliance Dates for Lake Elsinore and Canyon Lake (adapted from Table 5-9p in the Basin Plan, p. 5-223, Santa Ana Water Board 2016)

TMDL	Final Total Phosphorus TMDL (kg/yr)^{a, b}	Final Total Nitrogen TMDL (kg/yr)^{a, b}
Canyon Lake	8,691	37,735
Lake Elsinore	28,584	230,025

^a Final compliance to be achieved as soon as possible, but no later than December 31, 2020

^b TMDL specified as 10-year running average

Table 1-1. Final Numeric Compliance Targets for 2004 TMDLs (adapted from Table 5-9n in the Basin Plan, Santa Ana Water Board 2016)

Indicator	Lake Elsinore	Canyon Lake
Total Phosphorus Concentration (Final)	Annual average no greater than 0.1 milligrams/liter (mg/L) to be attained no later than 2020	Annual average no greater than 0.1 mg/L to be attained no later than 2020
Total Nitrogen Concentration (Final)	Annual average no greater than 0.75 mg/L to be attained no later than 2020	Annual average no greater than 0.75 mg/L to be attained no later than 2020
Ammonia Nitrogen Concentration (Final)	<p>Calculated concentrations to be attained no later than 2020</p> <p><i>Acute:</i> 1-hour average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the Criterion Maximum Concentration (CMC) (acute criteria), where $CMC = 0.411/(1+10^{7.204-pH}) + 58.4/(1+10^{pH-7.204})$</p> <p><i>Chronic:</i> 30-day average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the Criterion Continuous Concentration (CCC) (chronic criteria), where $CCC = (0.0577/(1+10^{7.688-pH}) + 2.487/(1+10^{pH-7.688})) * \min(2.85, 1.45*10^{(pH-7.688)/10})$</p>	<p>Calculated concentrations to be attained no later than 2020</p> <p><i>Acute:</i> 1-hour average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the CMC (acute criteria), where $CMC = 0.411/(1+10^{7.204-pH}) + 58.4/(1+10^{pH-7.204})$</p> <p><i>Chronic:</i> 30-day average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the CCC (chronic criteria), where $CCC = (0.0577/(1+10^{7.688-pH}) + 2.487/(1+10^{pH-7.688})) * \min(2.85, 1.45*10^{(pH-7.688)/10})$</p>
Chlorophyll- <i>a</i> Concentration (Final)	Summer average no greater than 25 µg/L; to be attained no later than 2020	Annual average no greater than 25 µg/L; to be attained no later than 2020
Dissolved Oxygen Concentration (Final)	No less than 5 mg/L 1 meter (m) above lake bottom to be attained no later than 2020	Daily average in hypolimnion no less than 5 mg/L; to be attained no later than 2015

Table 1-3. Canyon Lake Nitrogen and Phosphorus Wasteload and Load Allocations^a (adapted from Table 5-9q in the Basin Plan, p. 5-223, Santa Ana Water Board 2016)

Canyon Lake Nutrient TMDL	Final Total Phosphorus Load Allocation (kg/yr)^{b, c}	Final Total Nitrogen Load Allocation (kg/yr)^{b, c}
TMDL	8,691	37,735
WLA	486	6,248
Supplemental Water	48	366
Urban	306	3,974
CAFO	132	1,908
LA	8,205	31,487
Internal Sediment	4,625	13,549
Atmospheric Deposition	221	1,918
Agriculture	1,183	7,583
Open/Forest	2,037	3,587
Septic Systems	139	4,850

^a TMDL allocations for Canyon Lake apply to those land uses located upstream of Canyon Lake

^b Final allocation compliance to be achieved as soon as possible, but no later than December 31, 2020

^c TMDL and allocations specified as 10-year running average

Table 1-4. Lake Elsinore Nitrogen and Phosphorus Wasteload and Load Allocations^a (adapted from Table 5-9r in the Basin Plan, p. 5-224, Santa Ana Water Board 2016)

Lake Elsinore Nutrient TMDL	Final Total Phosphorus Load Allocation (kg/yr)^{b, c}	Final Total Nitrogen Load Allocation (kg/yr)^{b, c}
TMDL	28,584	239,025
WLA	3,845	7,791
Supplemental Water ^d	3,721	7,442
Urban	124	349
CAFO	0	0
LA	21,969	210,461
Internal Sediment	21,554	197,370
Atmospheric Deposition	108	11,702
Agriculture	60	213
Open/Forest	178	567
Septic Systems	69	608
Canyon Lake Watershed ^e	2,770	20,774

^a The Lake Elsinore TMDL allocations for urban, agriculture, open/forest, septic systems and CAFOs only apply to those land uses located downstream of Canyon Lake.

^b Final allocation compliance to be achieved as soon as possible, but no later than December 31, 2020.

^c TMDL and allocations specified as 10-year running average.

^d WLA for supplemental water should be met as soon as possible as a 5 year running average.

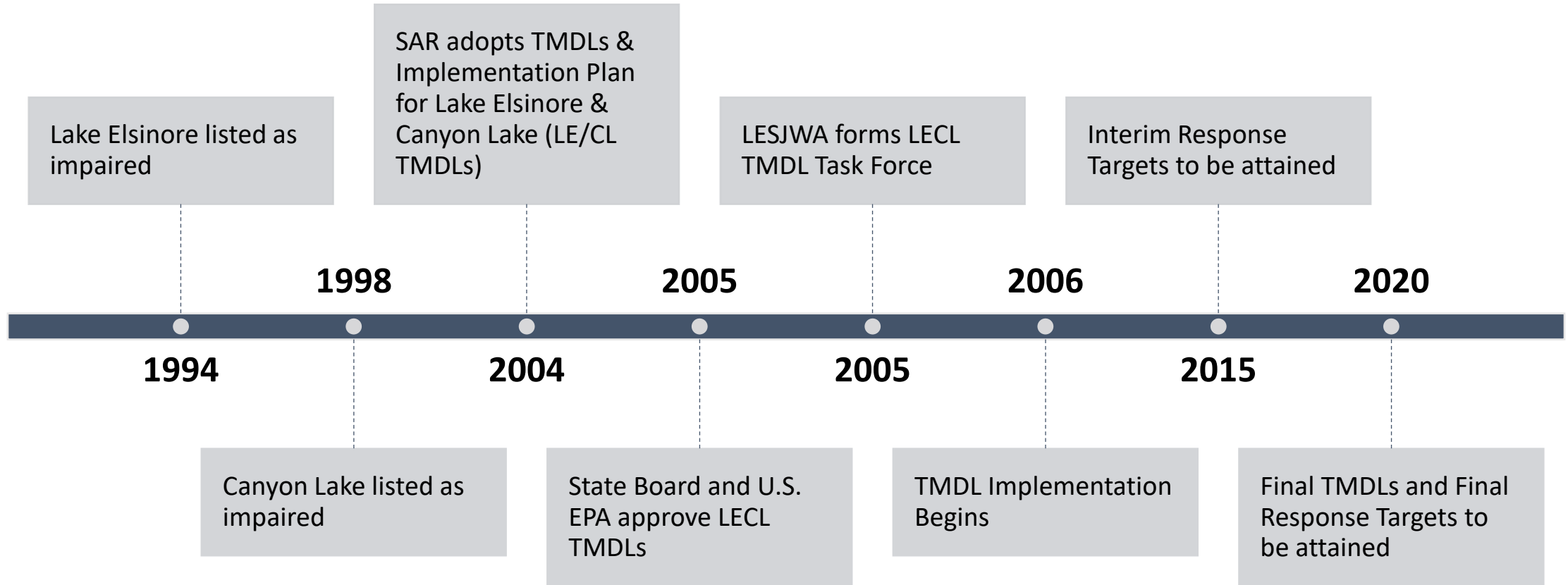
^e Allocation for Canyon Lake overflows.



2004 TMDL Key Events

Timelines for TMDL
compliance, implementation
and related activities

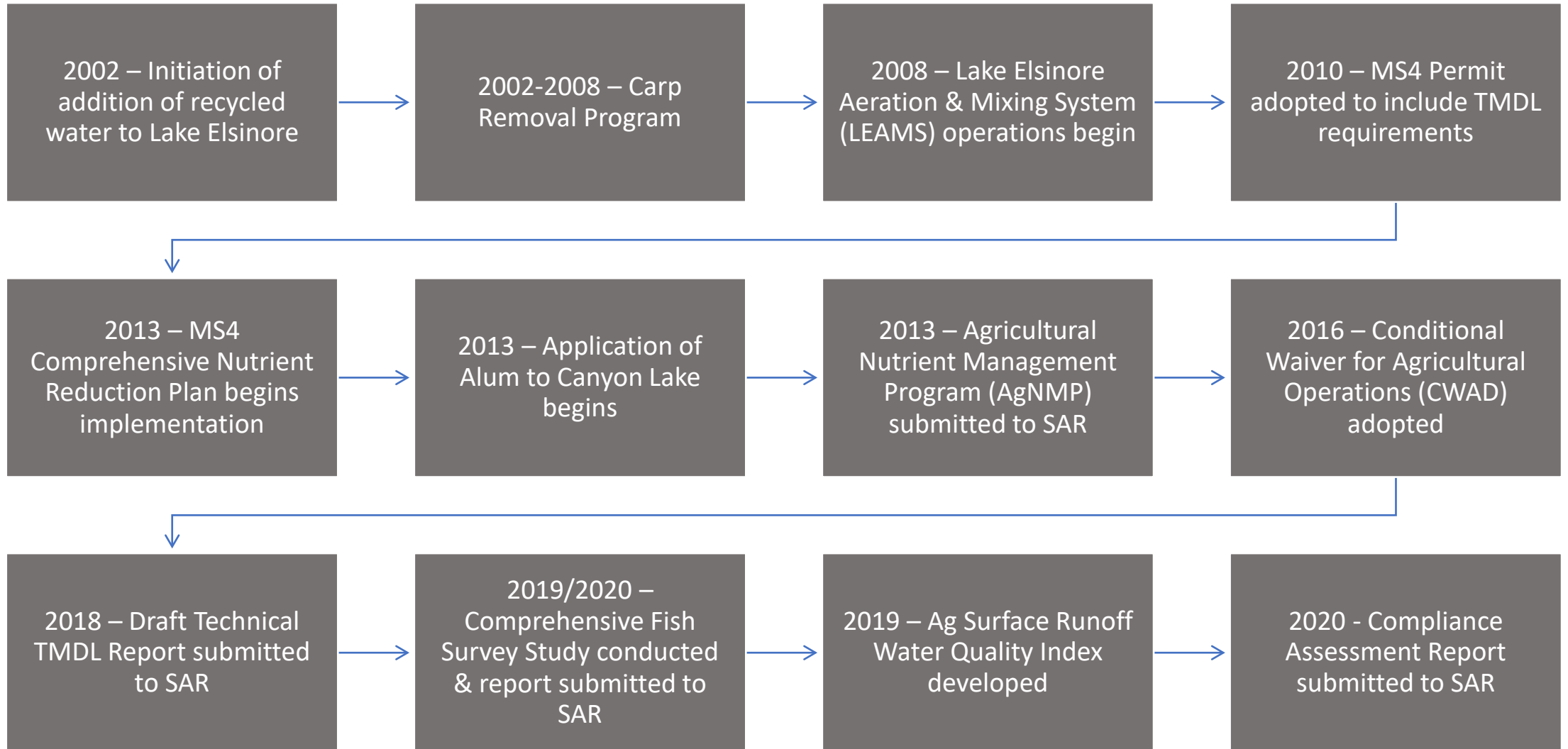
TIMELINE OF TMDL KEY EVENTS



Permittee Task Force Members for LECL TMDL Task Force

- Riverside County
- Riverside County Flood Control and Water Conservation District
- City of Beaumont
- City of Canyon Lake
- City of Hemet
- City of Lake Elsinore
- City of Moreno Valley
- City of Murrieta
- City of Menifee
- City of San Jacinto
- City of Riverside
- City of Perris
- City of Wildomar
- Caltrans
- CA Dept. of Fish and Wildlife
- Elsinore Valley Municipal Water District
- March Air Force Reserve JPA
- March Air Force Base
- Eastern Municipal Water District
- San Jacinto Ag Operators
- San Jacinto Dairy Operators

Timing of Key Implementation Actions

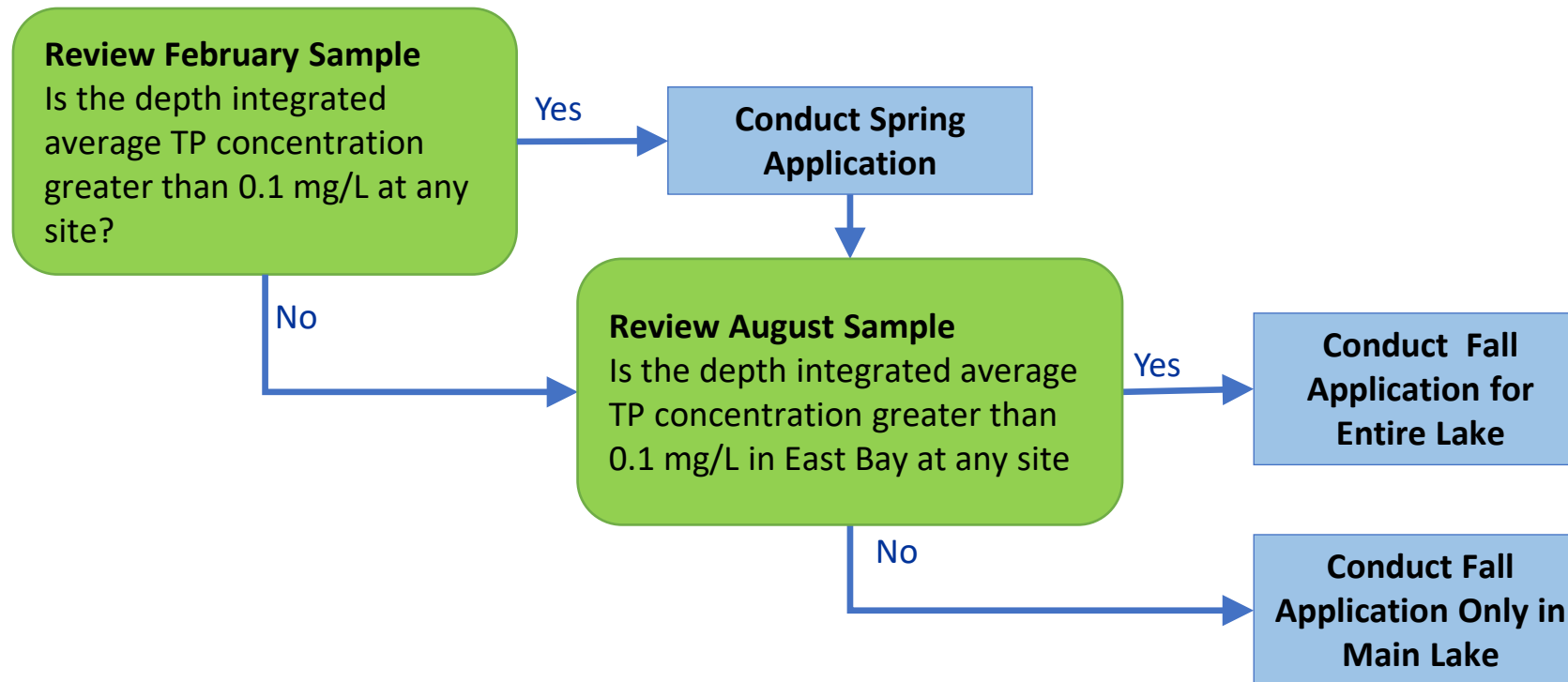


Recent Task Force Investments

Activity	Estimated Annual Cost	Estimated One Time Cost
Administration/Regulatory Facilitation	\$145,000	N/A
Monitoring & Reporting	\$235,000	N/A
Canyon Lake Alum Applications	\$240,000	\$120,000 per event
LEAMS Operations & Offsets	\$125,000	N/A
2018 Draft TMDL Technical Report	N/A	\$875,000 - \$1,000,000
2019-2020 Fisheries Study	N/A	\$200,000

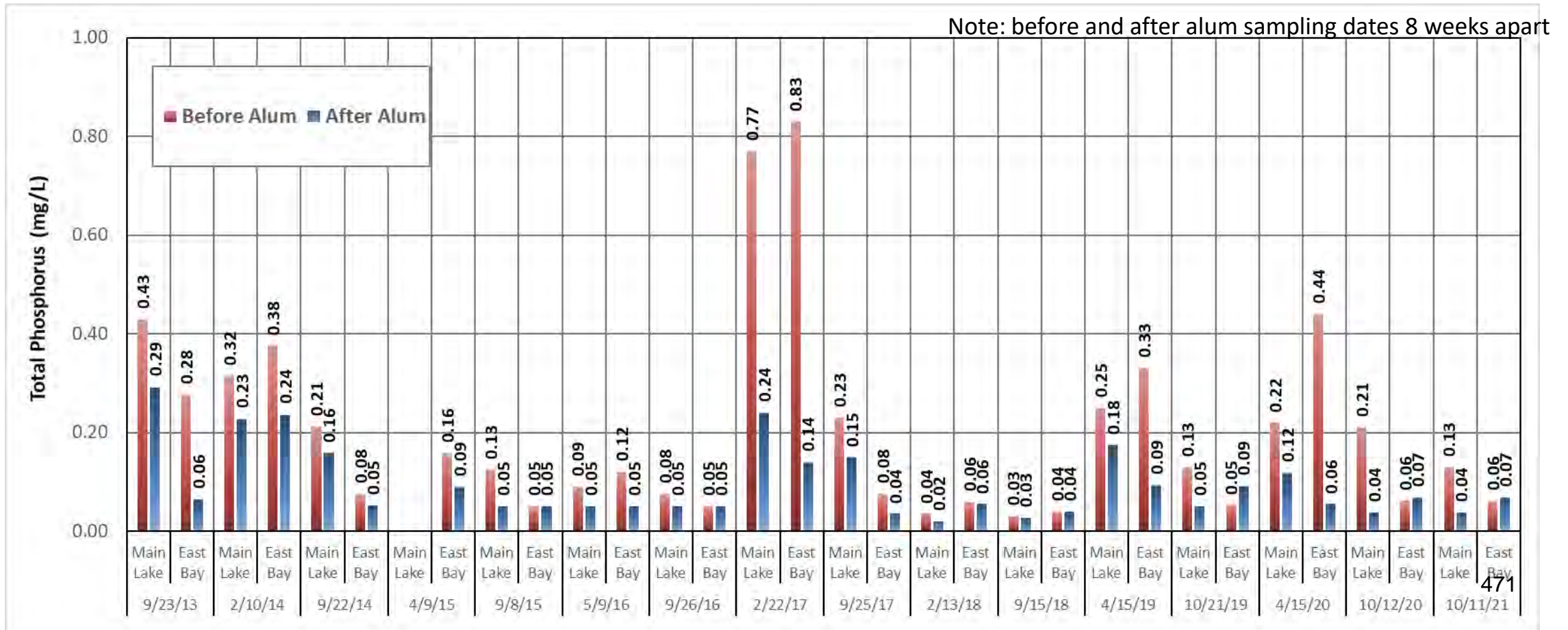
Routine Alum Application in Canyon Lake

- Process to make decisions whether to apply alum lake-wide in spring season and within East Bay during fall season



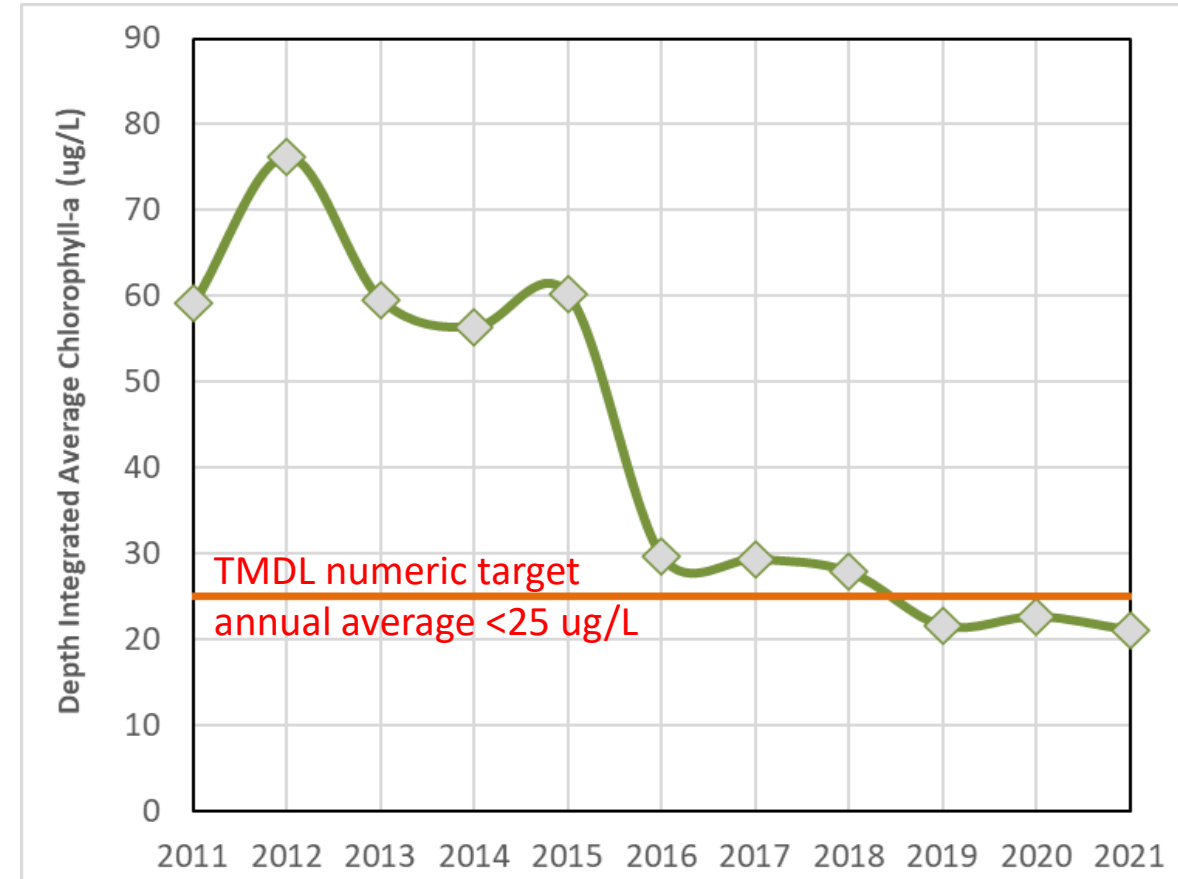
Effectiveness of Alum Applications

- Monitoring data in Canyon Lake since 2013 show consistent reductions in TP



Effectiveness of Alum Applications

- Routine, low-dose, alum additions in Canyon Lake
- Improved water quality that is meeting 2004 TMDL numeric targets for algae



Overflows to Lake Elsinore

- Alum in Canyon Lake causes notable reduction in TP load to Lake Elsinore

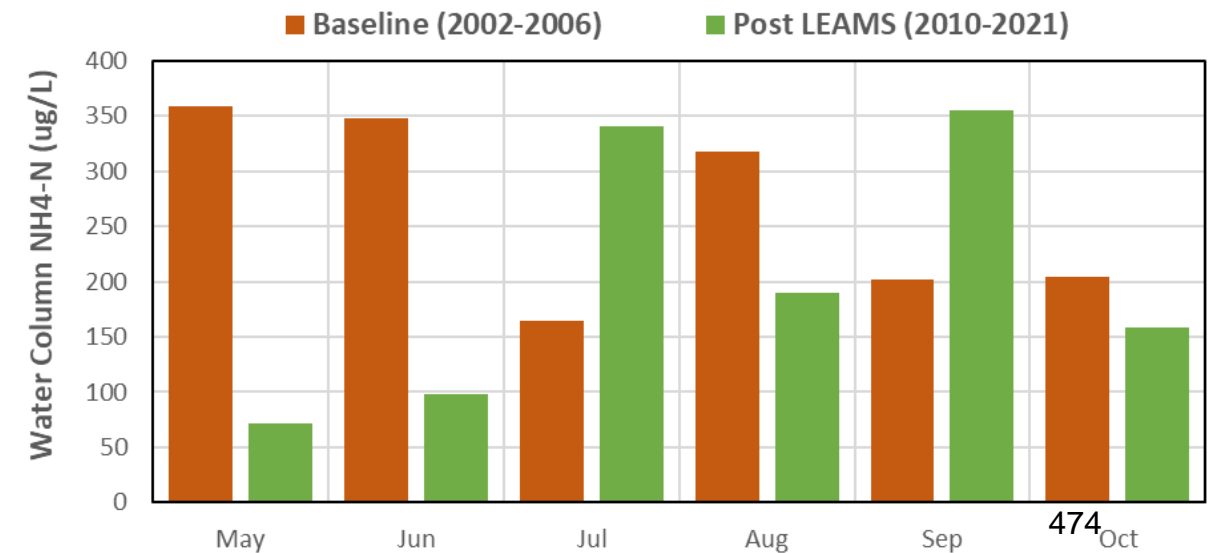
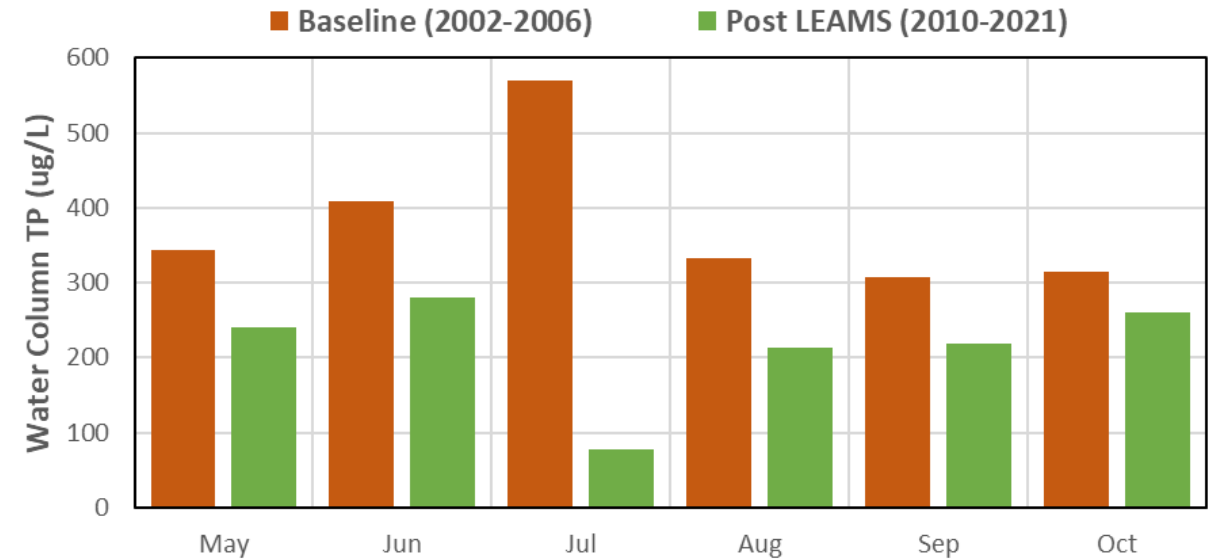


Photo from Wood, 2021 Annual Monitoring Program Report, March 10-15, 2021

Average Wet Weather Nutrients in Overflows to Lake Elsinore	TP (mg/L)	TN (mg/L)
Before Canyon Lake Alum	0.58	1.92
After Canyon Lake Alum	0.27	1.93

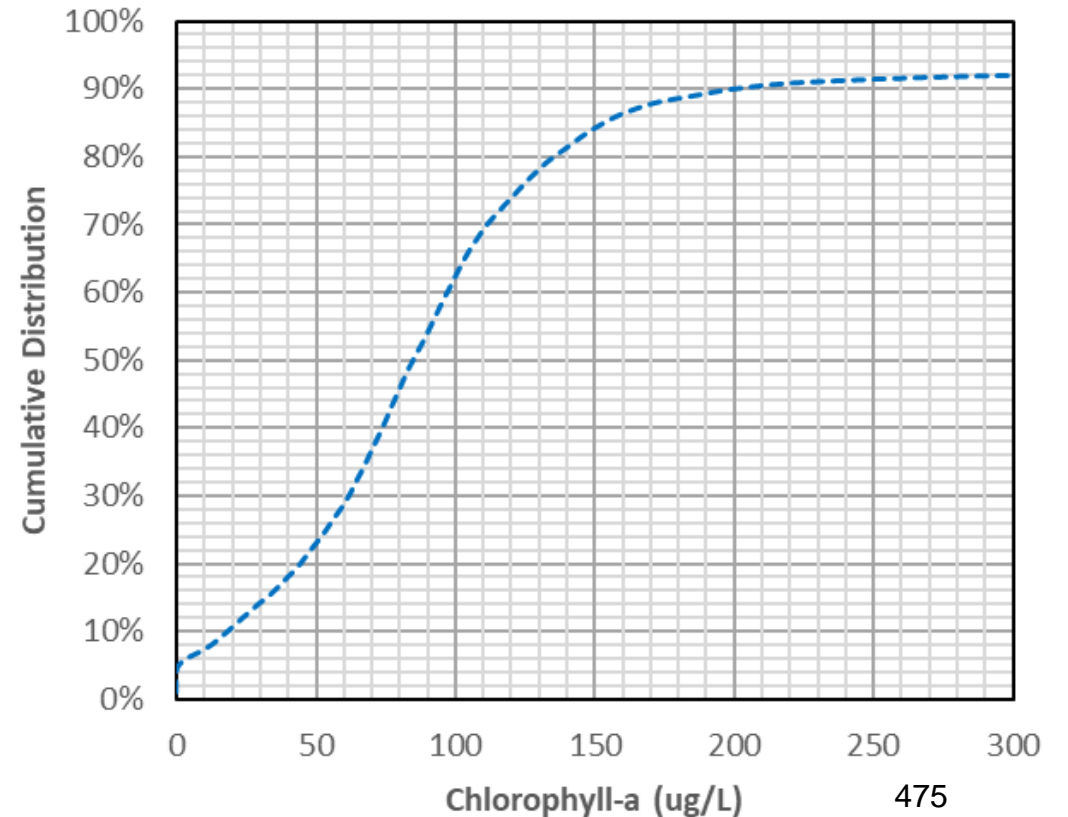
Lake Elsinore Project Implementation

- Ongoing project implementation including LEAMS, fishery management, and reclaimed water addition
- Monthly effectiveness monitoring comparing nutrients in-lake during baseline (2002-2006) to post project period (2010-2021)
- Results during May-Oct period of LEAMS operation



Lake Elsinore Project Implementation

- TMDL revision to bring external inflows from stormwater and reclaimed water to reference nutrient levels, simulation of lake response creates numeric target
- Protection of beneficial uses requires additional efforts to create better than natural conditions



TMDL Compliance Achieved in 2020

Table ES-1. Compliance with Final Canyon Lake WLA/LAs for all Watershed Sources (values are in kilograms/year, [kg/yr])

Nutrient	Measured External Load	Internal Load Offset with Alum	Total Net Load	Allocation to Watershed in TMDL ^a	Additional Load Reduction Required ^b
Total Phosphorus	5,871	2,079	3,792	3,845	-53
Total Nitrogen	15,743	0	15,743	22,268	-6,525

^a TMDL minus allocations for internal sediment and atmospheric deposition

^b If \leq zero, compliance with final allocations in TMDL for all watershed sources is effectively demonstrated

Source: *Lake Elsinore and Canyon Lake Nutrient TMDL 2020 Final Compliance Assessment Report*, Lake Elsinore & San Jacinto Watersheds Authority, April 2021

TMDL Compliance Achieved in 2020

Table ES-2. Compliance with Final Lake Elsinore WLA/LAs for all Watershed Sources (values are in kg/yr)

Nutrient	2011-2020 Average External Load			LEAMS Offset ^c	Total External Load Allocation in TMDL ^d	Additional Load Reduction Required ^e
	Canyon Lake Overflow	Modeled Local Runoff ^a	Supplemental Water ^b			
Total Phosphorus	1,775	923	2,552	7,030	6,922	-8,702
Total Nitrogen	9,083	4,458	19,519	44,000	29,953	-40,893

^a Local Lake Elsinore watershed average annual runoff nutrient load estimate from PLOAD model for the proposed TMDL revision (see Table 4-9 in LESJWA [2018])

^b Estimated from EVMWD inflows in Table 2-2 above and average concentrations in effluent of 0.37 mg/L TP and 2.83 mg/L TN

^c TP reduction credit from LEAMS operation was assumed to be 11,606 kg/yr TP in the TMDL. A portion of this credit (4,576 kg/yr TP) is not available to offset other sources as it was needed to create any assimilative capacity under the TMDL. Thus, operation of LEAMS has created 7,030 kg/yr of net TP offset credit (Risk Sciences 2019).

^d TMDL minus allocations for internal sediment, atmospheric deposition

^e If \leq zero, compliance with final allocations in TMDL for all watershed sources is effectively demonstrated

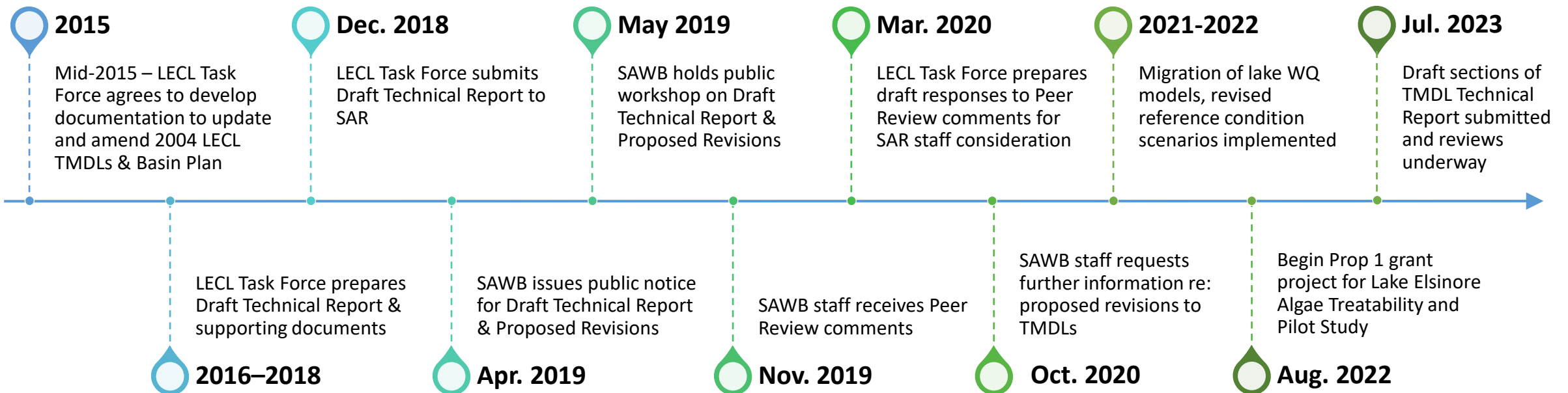
Source: *Lake Elsinore and Canyon Lake Nutrient TMDL 2020 Final Compliance Assessment Report*, Lake Elsinore & San Jacinto Watersheds Authority, April 2021



But, Compliance with 2004 TMDL Is Not Enough

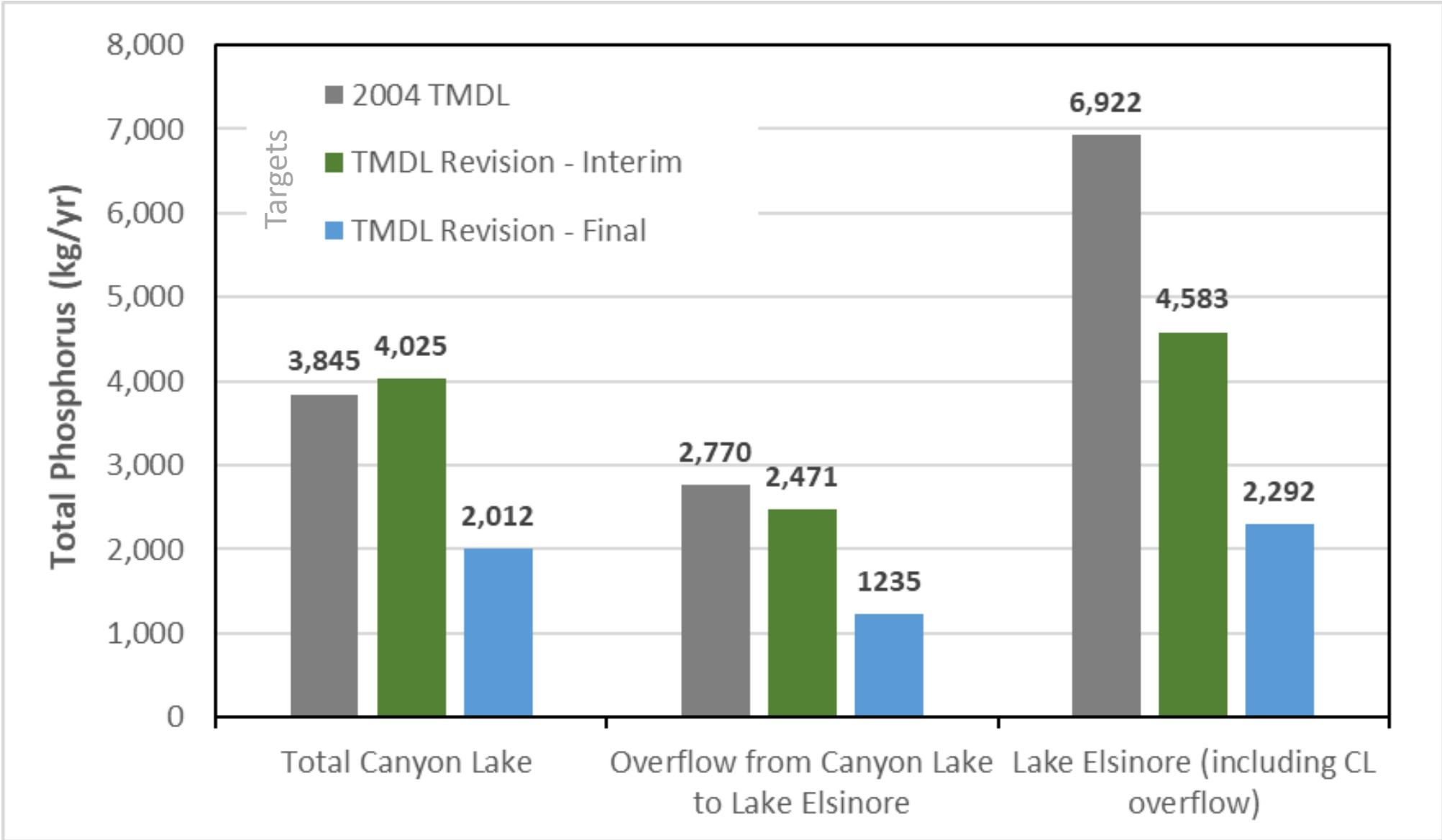
TMDL needs to be revised
based on 20-years of data &
knowledge gained

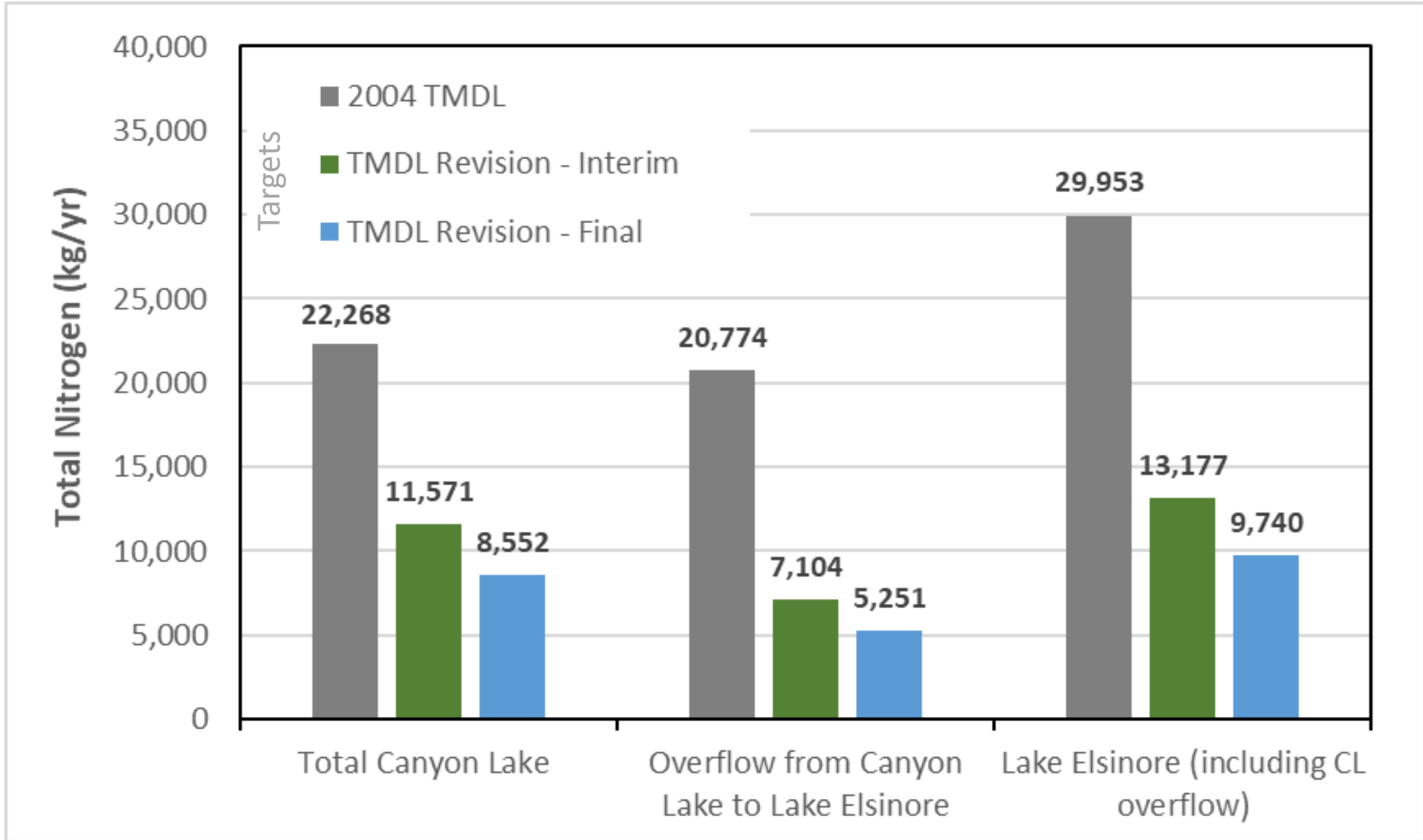
Task Force Efforts to Revise TMDL



General Approach in the Draft Revised TMDL

- Numeric targets (chlorophyll a, dissolved oxygen, ammonia) expressed as cumulative distribution frequencies (CDFs)
- Waste load and load allocations for Total N and Total P based on reaching the reference condition (i.e., natural occurring levels of Total N and P that would enter the lakes from the upper watershed)
- Reference condition defined as being the median & 25th percentiles of TP and TN data at Cranston Guard Station





Draft Implementation Plan for Achieving Interim and Final TMDLs

Phase 2 -Meeting the Interim TMDLs (Years 1 through 20) (selected tasks)

- Evaluate existing In-Lake Water Quality Controls for Canyon Lake & Lake Elsinore
- Implement Preferred Options
- Special studies
 - Lake bottom sediment sampling
 - Cyanobacteria in Lake Elsinore
 - Fisheries Management
- Evaluate Final TMDLs/Revise if appropriate
- Update & continue monitoring plan

Phase 3 – Meeting the Final TMDLs (Years 21 through 30)(selected tasks)

- Evaluate In-Lake Water Quality Controls for Canyon Lake & Lake Elsinore
- Implement new or revised controls, if necessary
- Identify additional load reductions necessary to meet Final TMDLs, and implement
- Special Studies
 - Lake bottom sediment sampling
 - Fisheries Management

Ultimate Goals of Revised TMDL

Goal 1 – Identify and manage controllable watershed sources of nutrients that flow into Canyon Lake and Lake Elsinore

Goal 2 – Identify long-lasting in-lake controls that address sediment fluxes and dissolved oxygen levels for protection of aquatic life & recreational beneficial uses

Goal 3 – Identify appropriate water quality criteria for protecting beneficial uses in two dynamic lake systems

Goal 4 – Provide controllable sources with a reasonable, feasible and practical pathway for meeting appropriate water quality criteria

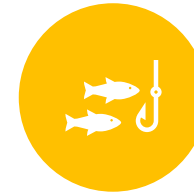
Task Force Efforts Provide Significant Benefits LESJWA & Its Goals



Conducts comprehensive watershed and in-lake monitoring



Conducts special studies to better understand lake dynamics



Conducts special studies to evaluate fisheries resources



Provides resources for implementation of in-lake controls through use of offset credits



Evaluates impacts of watershed and in-lake controls

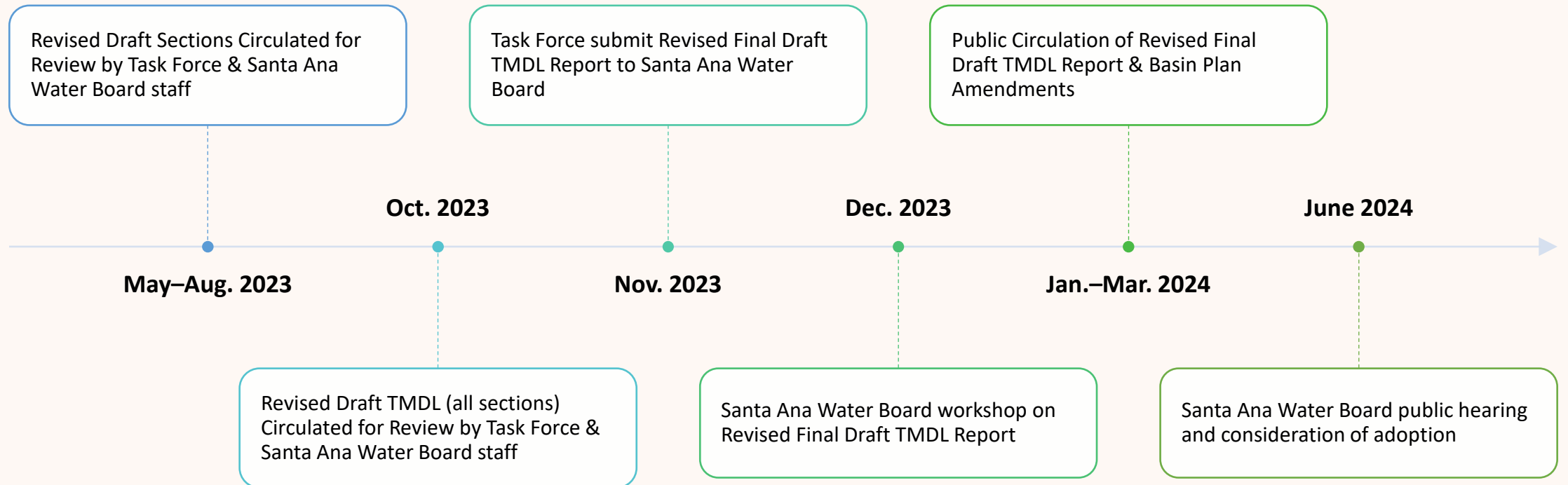


Uses best available science to identify appropriate water quality criteria for controlling nutrient impacts in the lakes



Works closely with Santa Ana Water Board to address nutrient impairments by updating TMDLs

Current Timeline for Revised TMDL



QUESTIONS & DISCUSSION



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LESJWA BOARD MEMORANDUM NO. 2023.14

DATE: August 17, 2023
TO: LESJWA Board of Directors
SUBJECT: Floating Island to Restore Water Cycle
PREPARED BY: Rachel M. Gray, LESJWA Authority Administrator

RECOMMENDATION

Receive and file.

DISCUSSION

Ray Stinnett, a Lake Elsinore community member since 1999 with a great interest in lake Elsinore has requested an opportunity to present to the LESJWA Board of Directors on BioHaven Floating Islands.

In 2008, Mr. Stinnett began a relationship with Bruce Kania creator of Floating Islands International and in 2009 introduced the concept of the Biohaven Islands to Pat Kilroy, the then Lake Manager for the City of Lake Elsinore and Mark Norton the LESJWA Administrator, who expressed interest in the concept.

In 2010, Mr. Stinnett, working with Laddie Flock of Floating Islands West, a Northern California provider of the Floating Island platforms, was able to put together a small pilot project to test the Floating Wetlands Islands concept on Lake Elsinore. More information can be found here: <http://www.lake-elsinore.org/Home/Components/News/News/290/26?npage=21&arch=1>.

Now, over a decade later, with the continued concerns surrounding Lake Elsinore, Mr. Stinnett wanted to bring back the concept of the Floating Wetlands Islands for Lake Elsinore for further discussion.

Today's presentation by Mr. Nathan White the CEO of AGESS Inc will discuss the potential project details and some of the most relevant concerns and interest, as follows:

1. Community participation in deciding which Island concept is best suited for consideration and location of the Island on the lake.
2. Community participation in assembling and launching.
3. Whether a science Island, an Island to address HAB's, an Island for fish/waterfowl habitat or to address pollutant removal, the Islands site placement is important for many reasons.
4. Islands will be structured and anchored to withstand the high winds that occur on the lake. Placement is important to safely accommodate boat speeds and the addition of barriers around Islands to restrict access.
5. A Natural Solution. No chemicals/wetlands option.

RESOURCE IMPACTS

None.

Attachments:

1. PowerPoint Presentation

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News

Floating Islands Improve Water Quality Nature's Way

Removing nutrients with plants to be tested on Lake Elsinore

Post Date: 03/25/2010 8:30 AM



Aquatic plants are proven to remove nutrients from water, which improves water quality in streams, lakes and rivers where these plants thrive.

Lake Elsinore is testing a manmade system of small floating islands and selected aquatic plants to improve water quality *nature's way*.

Three floating "islands" were delivered to Lake Elsinore this week to be planted and anchored offshore as a test using aquatic plants to improve water quality.

The project is made possible through a \$25,000 donation to the [Lake Elsinore & San Jacinto Watersheds Authority](#) from the [Inland Empire Waterkeeper](#), a not-for-profit organization that is dedicated to protecting local watershed resources and the environment. **LESJWA** has been the agency behind the science of improving water quality in Lake Elsinore since 2001.

These islands are too small and fragile for human recreational activity, so keeping the curious boater and other lake users away will be a security concern while the experimental islands are out in the Lake. Fencing and signage will be installed as a warning to keep off.

Specially constructed sponges designed by a company named **Bio-Haven** are the floating beds on which select aquatic plants will root and grow. The three sponges were acquired at a cost of \$16,290.

Each floating mat is a laminated sandwich of pads and marine foam that resembles a dish- scouring pad in appearance and texture and made of plastic from recycled milk bottles.

Stinnett Enterprise is the City's contractor for plant selection and installation of the floating islands, for a contract price of \$5,850. According to company owner Ray Stinnett, the planting design for each of the islands requires a "degree of artistry" and the ability to imagine each plant at maturity so the fully developed material will be able to float on the Lake, taking up nutrients that feed algae from the water column, as a result, improving water quality.



The plant palette and material selection is based on pioneering research on local riparian habitat by the [Riverside-Corona Resource Conservation District](#).

Unlike some lakes, Lake Elsinore has no floating aquatic plants because there aren't any still-water areas. Floating or suspended aquatic plants would be ideal for areas around Lake Elsinore that are too deep for a marsh, yet have the potential to provide shelter.

When afternoon winds kick up, any floating plants would be pushed back to shore. The remedy is anchoring floating islands that serve as a life raft for dozens of aquatic plants.

In addition to drawing nutrients from the water to reduce the food supply to unwanted algae, plants provide habitat for beneficial zooplankton, which feed on algae.



Once the islands are anchored in an area called Big Cove, a sheltered area between the operations island and the southshore of the levee, LESJWA and the City of Lake Elsinore will evaluate the performance of the floating islands. Monitoring plant development and root coverage, security factors, resistance to wind conditions on the lake and water quality will be among the criteria scientists will use to determine their effectiveness.

If this experiment is successful, additional islands that emulate nature's ability to reuse nutrients from water by uptake through plants, may be installed around the Lake in the future.



Ray Stinnett inspects the first (and smallest) of three floating islands to be anchored in Lake Elsinore's Big Cove this week.

For additional information, please contact the [Lake and Aquatic Resources Department](#) at (951) 674-7730, Monday through Thursday between the hours of 8:00 a.m. and 4:30 p.m.

[Return to full list >>](#)

Lake Elsinore - Natural Water Restoration Master Plan

Enhanced Vegetation and Floating Islands to Restore Water Cycle

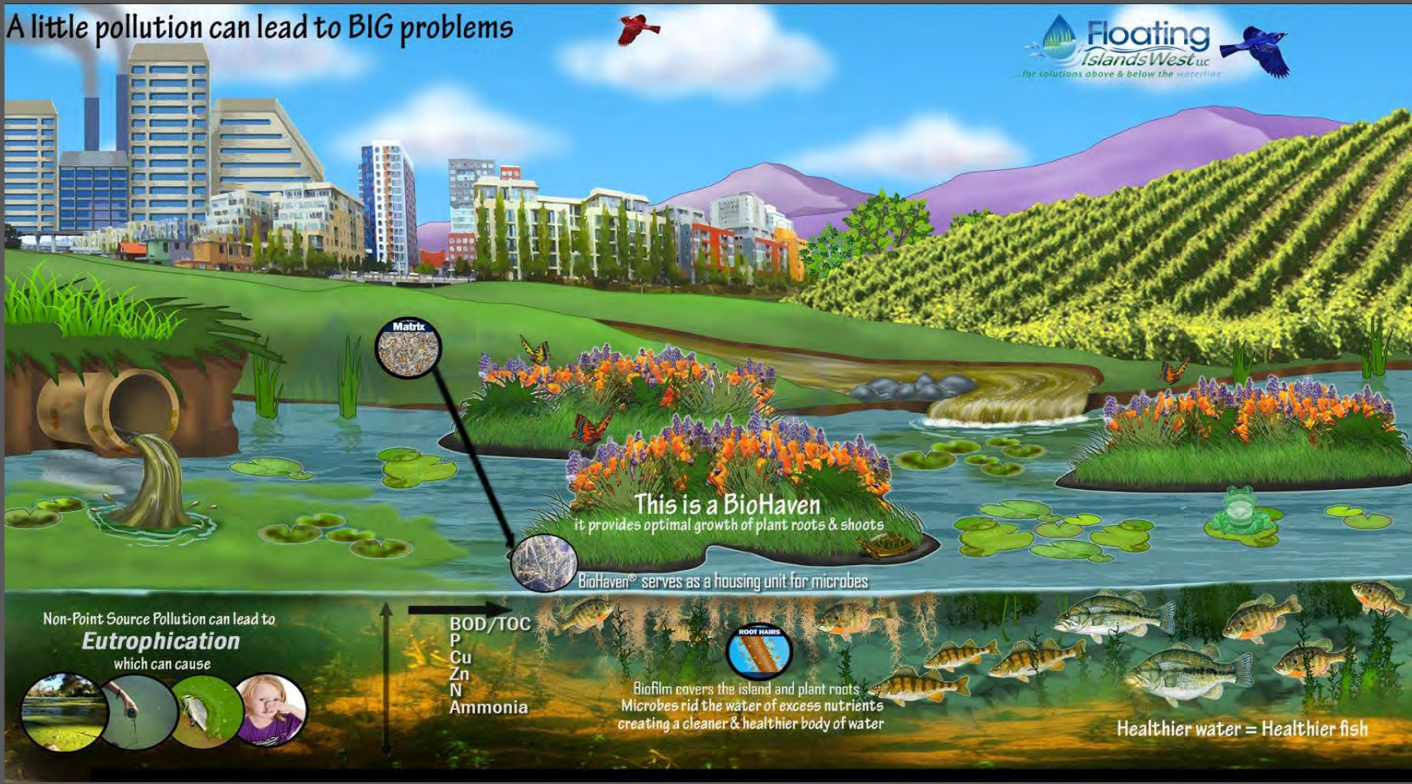



LESJWA Board Meeting | August 17, 2023
Agenda Item 7.C.

Lake Elsinore - Natural Water Restoration Master Plan

Stormwater Pollution has an effective Solution - Enhancing Natures Network

A little pollution can lead to BIG problems




Matrix

This is a BioHaven
it provides optimal growth of plant roots & shoots

BioHaven® serves as a housing unit for microbes

Non-Point Source Pollution can lead to **Eutrophication** which can cause



BOD/TOC
P
Cu
Zn
N
Ammonia

ROOT HAIRS

Biofilm covers the island and plant roots
Microbes rid the water of excess nutrients
creating a cleaner & healthier body of water

Healthier water = Healthier fish

Lake Elsinore - Natural Water Restoration Master Plan

Pins Identify Areas of Water Quality Improvements and Future Additions



Lake Elsinore - Natural Water Restoration Master Plan

Project Summary Page

Project Highlights

Islands Zone 1 - 39 acres

Islands Zone 2 - 3.5 acres

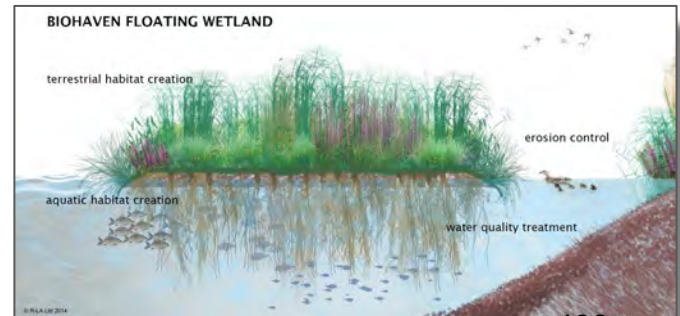
Islands Zone 3 - 32 acres

Islands Zone 4 - 6.5 acres

Total Coverage Area - 81

*Total Area Lake Elsinore - 2963 acres / 4.63 sq.
miles*

Total Percentage Area of Coverage - 2.7%



Lake Elsinore - Natural Water Restoration Master Plan

Zone 1 - Eastern Inflow Treatment with Floating Island BioHaven Units - 40 acres



Lake Elsinore - Natural Water Restoration Master Plan

Zone 2 - Eastern Inflow "Leviathan" Enhanced Biohaven System - 3.5 acres



Lake Elsinore - Natural Water Restoration Master Plan

Zone 3 - Southern Treatment Area - 32 acres



Lake Elsinore - Natural Water Restoration Master Plan

Zone 4 - Central Recreation Island Cluster - 6.5 acres



Lake Elsinore - Natural Water Restoration Master Plan

Optional Living Dock and Waterside Lounge - Located In front of Jack's BBQ



Lake Elsinore - Natural Water Restoration Master Plan

Optional Eastern Waterfront Park and Recreation & Education Barge



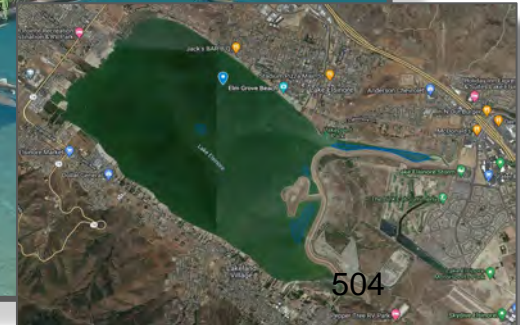
Lake Elsinore - Natural Water Restoration Master Plan

Optional Western Recreation & Education Complex



Lake Elsinore - Natural Water Restoration Master Plan

Optional Educational Tour Barge



Lake Elsinore - Natural Water Restoration Master Plan

Optional Recreation Center in Southern Peninsula



Thank you!

Gary Luiz

Managing Partner

www.floatingislandswest.com

Nathan White

CEO & Co-Founder

www.agessinc.com

[Interactive Map](#)