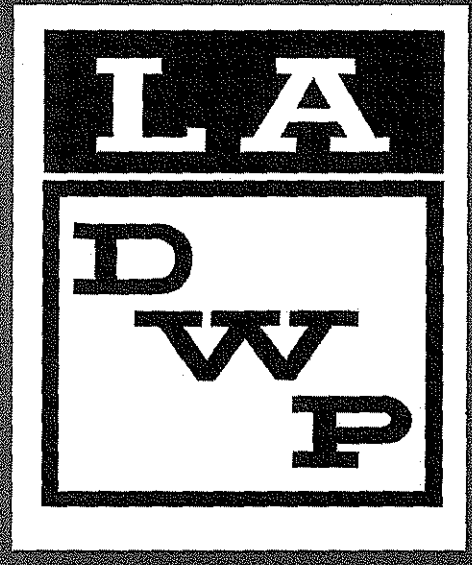
Elysian Reservoir Water Quality Improvement Project



December 11, 2012

Water Quality Standard

- Long Term 2 Enhanced Surface Water Treatment Rule
  - Open treated water reservoirs need to be covered or re-treated before water re-enters the distribution system
- Stage 2 Disinfectants and Disinfection By-Products Rule
  - LADWP will cover open reservoirs to reduce creation of disinfection by-products to help attain compliance
  - Reservoirs must be covered for compatibility with chloramine disinfection

Open Reservoir Compliance

- 10 Open Reservoirs
- 5 Reservoirs In Compliance
  - Upper and Lower Hollywood Reservoirs
  - Encino Reservoir
  - Lower Stone Canyon Reservoir
  - Santa Ynez Reservoir
- 5 Reservoirs Remaining
  - Silver Lake Reservoir
  - Ivanhoe Reservoir
  - Upper Stone Canyon Reservoir
  - Los Angeles Reservoir
  - **Elysian Reservoir**

Elysian Reservoir Site

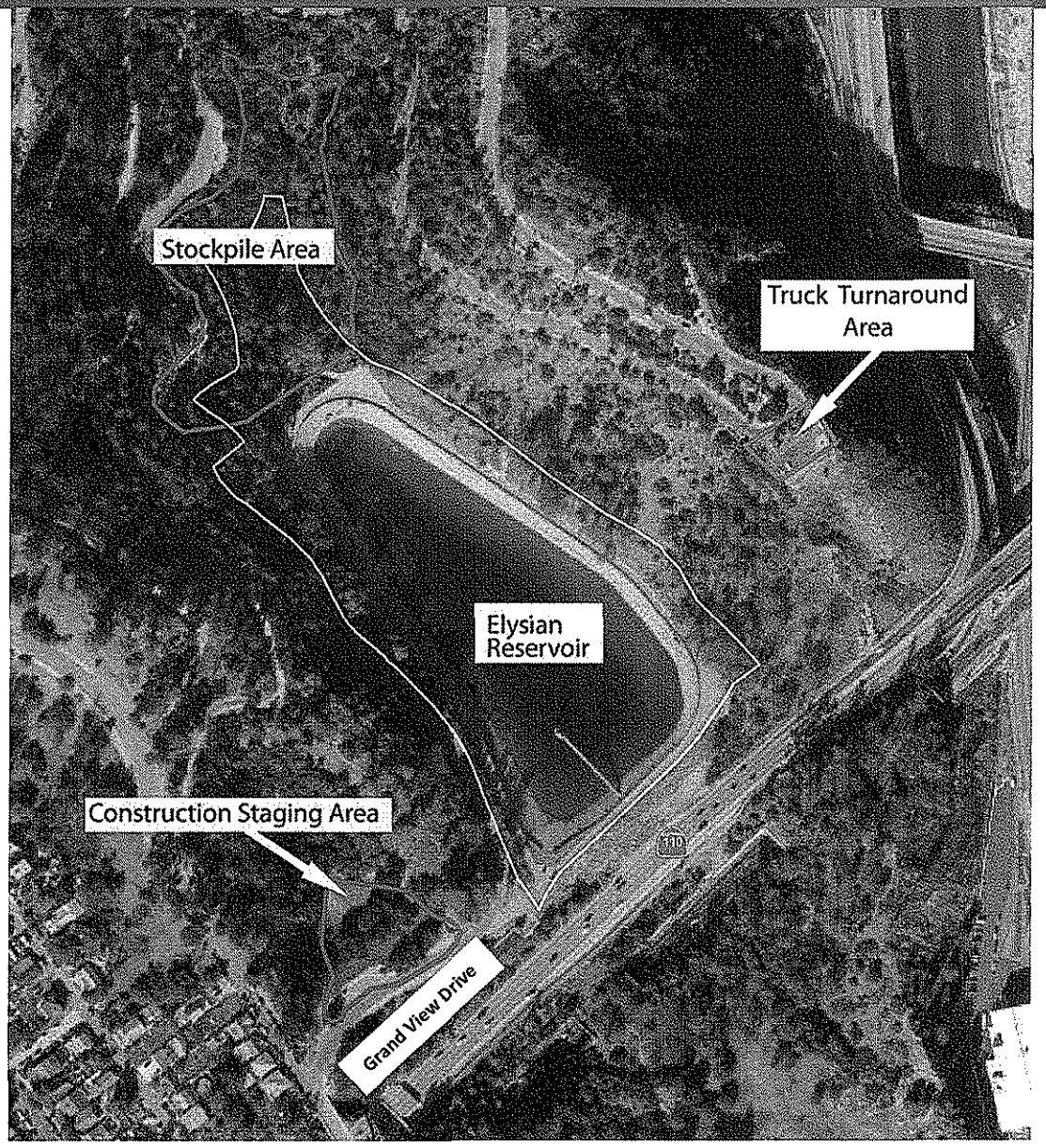
Project Purpose

- Ensure Quality, Reliability, and Stability of Water Supply
- Primary Objectives:
  - Comply with updated EPA water quality standards
  - Maintain local storage to meet drinking water demand
- Secondary Objective:
  - Provide publicly accessible recreation area at the reservoir property

Buried Reservoir (Proposed Project)

- Demolish existing Elysian Reservoir
- Construct new buried concrete-covered reservoir within footprint of existing reservoir
- Maintain existing water storage capacity
- Cover buried reservoir with 3-feet of topsoil
- Create publicly accessible recreation area at the reservoir site
- 5-1/2 years construction duration

Buried Reservoir Affected Areas



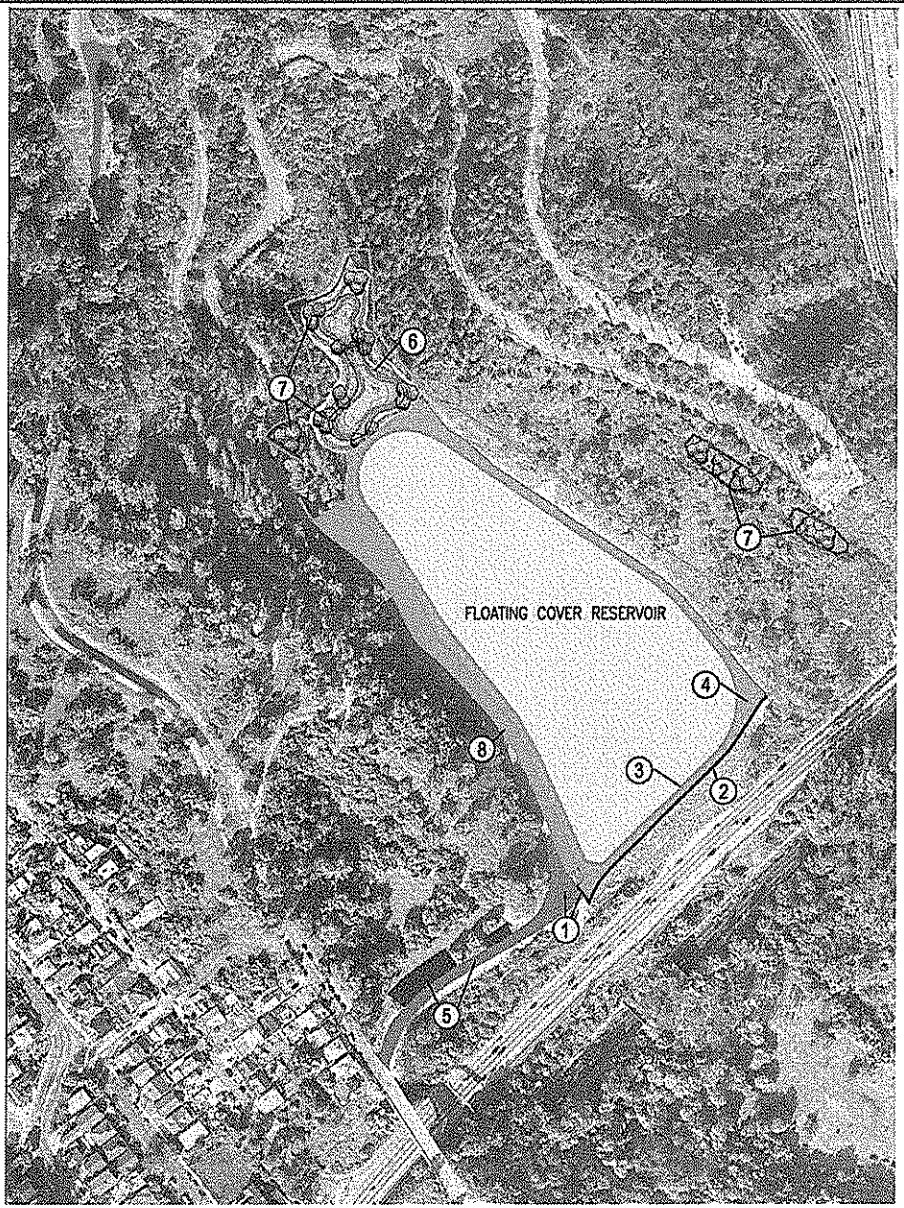
Floating Cover Alternative

- Demolish existing reservoir liner and appurtenant facilities
- Construct new reservoir liner
- Install flexible membrane floating cover over water surface
- Maintain existing water storage capacity
- Access around the reservoir and to the wildlife pond is being proposed
- 2-1/2 years construction duration

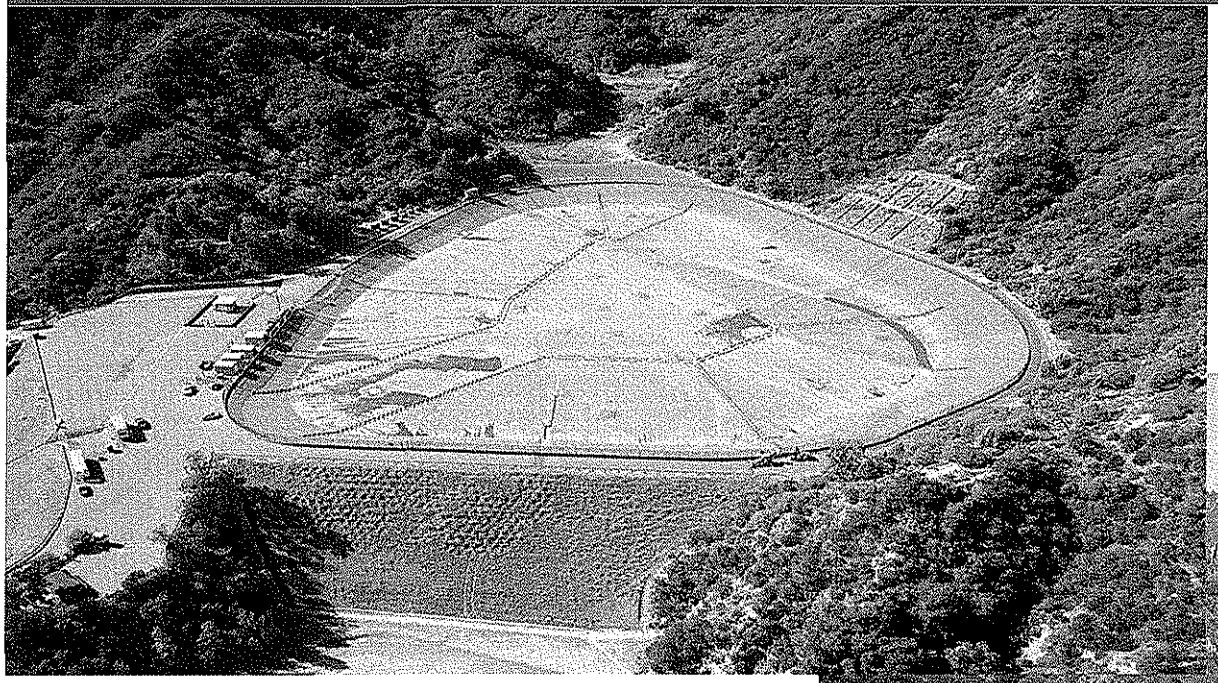
Floating Cover Alternative

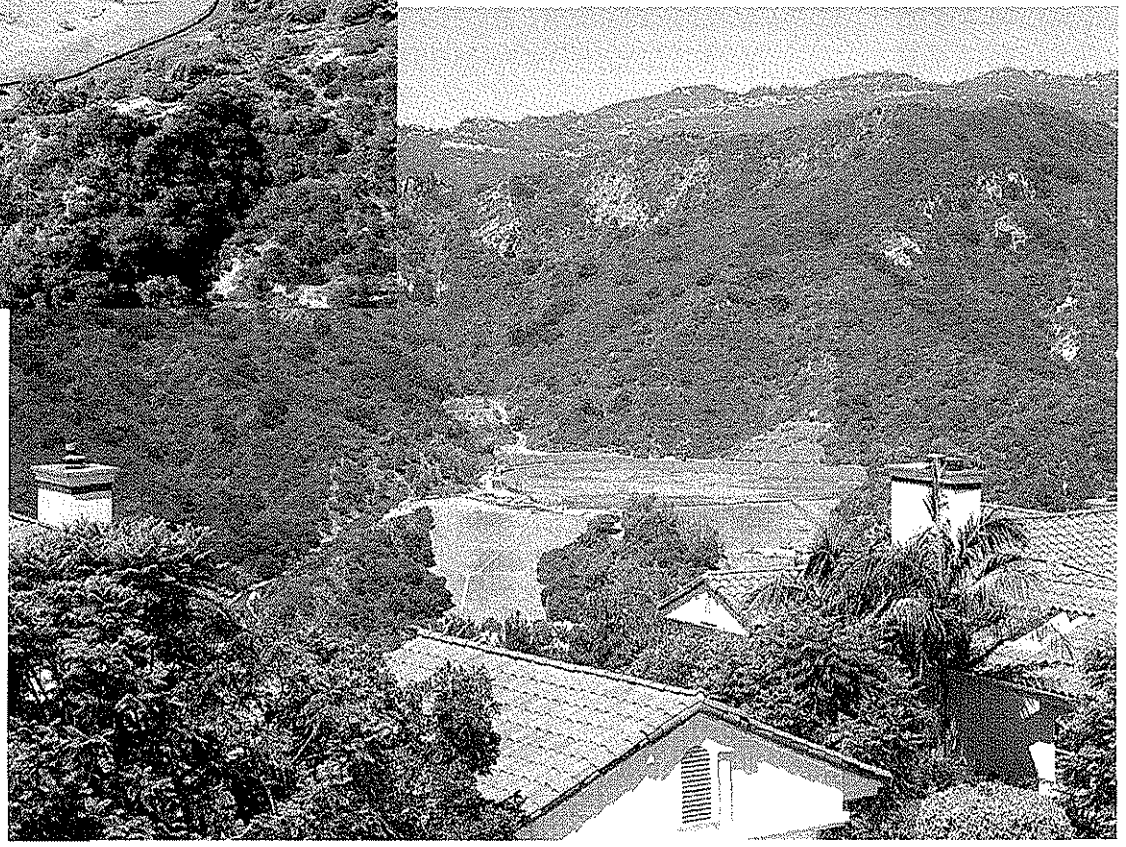
Proposed Enhancements

1. Entry Gate & Landscaping
2. Dam Crest Fencing
3. Reservoir Security Fencing
4. Asphalt Concrete Coloring
5. Asphalt Paving
6. Wildlife Pond (included)
7. Trees & Landscaping
8. Rock Fall Barrier System
9. Park Trail Loops (not shown)
10. Park Pipe Replacement (not shown)
11. Park Restroom Improvements (not shown)



Santa Ynez Floating Cover

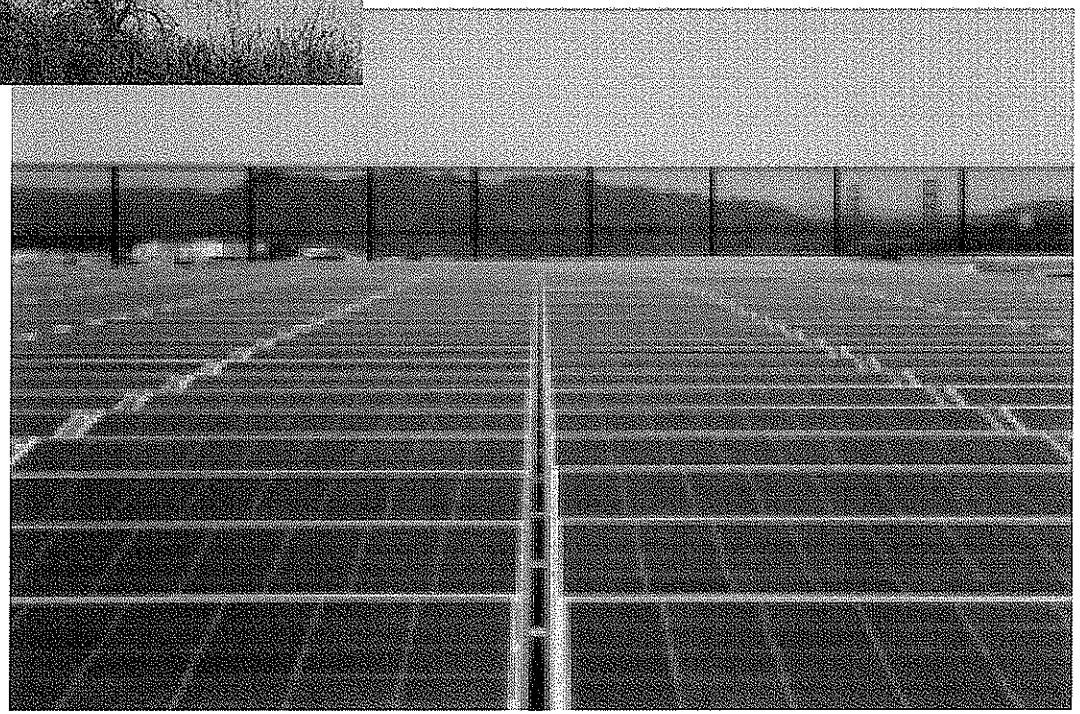




Aluminum Cover Alternative

- Demolish existing reservoir liner and appurtenant facilities
- Construct new reservoir liner
- Install lightweight aluminum cover over water surface with or without solar panels
- Maintain existing water storage capacity
- Access around the reservoir and to the wildlife pond is being proposed
- 4 years construction duration

Aluminum Cover Examples



Environmental Impacts

Issue Area	Buried Reservoir	Floating Cover	Aluminum Cover
Aesthetics	Less than Significant	Less than Significant (Similar)	Less than Significant (Similar)
Air Quality/GHG	Significant and Unavoidable	Significant and Unavoidable (Less)	Significant and Unavoidable (Less)
Biological Resources	Less than Significant with Mitigation	Less than Significant with Mitigation (Less)	Less than Significant with Mitigation (Less)

Less: Impact is lower in magnitude than the impact of the proposed project
Similar: Impact is similar in magnitude to impact of the proposed project
Greater: Impact is greater in magnitude than the impact of the proposed project

Environmental Impacts

Issue Area	Buried Reservoir	Floating Cover	Aluminum Cover
Cultural Resources	Less than Significant with Mitigation	Less than Significant with Mitigation (Less)	Less than Significant with Mitigation (Less)
Noise	Significant and Unavoidable	Less than Significant with Mitigation (Less)	Significant and Unavoidable (Less)
Traffic	Less than Significant with Mitigation	Less than Significant with Mitigation (Less)	Less than Significant with Mitigation (Less)

Less: Impact is lower in magnitude than the impact of the proposed project
Similar: Impact is similar in magnitude to impact of the proposed project
Greater: Impact is greater in magnitude than the impact of the proposed project

Highlights of Alternatives

Topic	Buried Reservoir	Floating Cover	Aluminum Cover
Total Off-site Truck Trips	48,000	11,800	15,200
Peak Equipment	38	25	25
Peak Personnel	98	72	72
Total Volume of Earthwork	425,000 Cubic Yards	Minimal	Less than 1,000 Cubic Yards
Recreation Area Created	Yes	Access to the wildlife pond is proposed	Access to the wildlife pond is proposed

Project Cost and Schedule

Topic	Buried Reservoir	Floating Cover	Aluminum Cover
Cost *(60-year equivalent)*	$110 million	$25 million	$55 million
Length of Construction	5-1/2 years	2-1/2 years	4 years (+7 months for Solar Panels)
Construction Duration	2015-2021	2014-2016	2014-2018

Summary

- **Buried Reservoir**: greatest environmental impacts but meets all objectives including publicly accessible recreation area
- **Aluminum Cover Alternative**: reduced environmental impacts; meets water quality & water storage objectives but no recreation on the reservoir
- **Floating Cover Alternative**: least environmental impacts; meets water quality & water storage objectives but no recreation on the reservoir

Staff Recommendation

Staff recommends the floating cover alternative for the following reasons:

- Meets Primary Water Quality and Storage Objectives
- Environmentally Superior Alternative
- Lowest Capital and 60-year cost
- Shortest Construction Duration

Board Action

On April 17, 2012, the Board of Water and Power Commissioners:

- Certified the EIR was prepared in compliance with CEQA
- Adopted the *Mitigation Monitoring and Reporting Plan*, *Findings of Fact*, and *Statement of Overriding Considerations*
- Approved the floating cover alternative with additional enhancements of $3.16 million to the reservoir area and park
- Approved the establishment of a $12.5 million Community Parks Fund

Note: CEQA Notice of Determination filed on April 18, 2012