

SENATE FINANCE COMMITTEE
MINUTES OF MEETINGS
MARCH 19, 1973

The meeting was called to order at 8:30 a.m. Senator Lamb was in the chair.

PRESENT: Floyd R. Lamb, Chairman
Warren L. Monroe
B. Mahlon Brown
James I. Gibson
William J. Raggio
Clifton Young
Archie Pozzi

Earl Oliver, LCB Fiscal Analyst
Bob Tripp, LCB Deputy Legislative Auditor
Howard Barrett, Budget Director
Cy Ryan, UPI

George Zappettini, Forestry Division
Jack Dieringer, Fish and Game Division
L. E. Jacobsen, Assemblyman Douglas County/Carson City
John Meder, Carson City Supervisor
Fred Wright, Fish and Game
Eric Cronkhite, State Park Division
Vic Hill, State Engineer's Office
Roland D. Westergard, State Engineer
M. E. Hayes, Carson City Supervisor
Jerry Purdy, Carson City Professional Engineers
J. N. Littlefield, "
Leona Wood, Chamber of Commerce, Carson City
Roy L. Faverty, "
Paul Lumos, Carson City
Henry Etchemendy, Carson City Manager
George L. Gottschalk, "
Larry Worson, Clark County
Darrel R. Daives, Clark County

MARLETTE LAKE: S.B. 389

Senator Lamb said that the committee felt that they didn't want to sell the system, but they didn't want to make a profit off it either. They had decided to develop the system and have the state keep it.

Mr. Etchemendy said he felt it would be very detrimental to Carson City to enact the bill (S.B. 389). Senator Lamb said, "Don't you think you've had a free ride long enough?" Mr. Etchemendy replied, "We haven't, Senator. We feel that the water up on the hill and the resources up there haven't been developed or utilized totally for the benefit of the

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citizens of Carson City and the State of Nevada. We feel that the law should stay on the books allowing Carson City and the state to negotiate for the sale of the system. We feel we should have another couple of years to try to negotiate and that improvements can be made and can be paid by the city. I truly feel this can be done if we are given that perogative."

Senator Lamb said, "We don't want to sell it and we don't want to lose it. Its a great asset to the State of Nevada and the state has a lot of state-owned buildings here and a lot of land up there and it has become valuable. If we sell to you then we are subject to any conditions you set upon us. We have lost money on the system, you know we have, ever since we have been giving you water, and I say we should stop giving you water (at the reduced rate of 19¢). We wanted to negotiate with you where we can break even. Any improvements up there I think we can do as well as you. I don't want to sell it and we don't want to lose it."

Mr. Etchemendy said, "As far as Carson City dictating terms I don't think that would ever happen at all. We have tried to negotiate where the state would have every bit of water they now have. We don't want to take water from the state, we want to develop the water. If the legislature develops the system we would then be dependent upon the legislature to put in improvements every two years." Mr. Barrett pointed out that the state would be allowed no charge on any water that is at the current level of usage, but they would be charged for any water above that level when that time came. And the water above the present usabe level would be negotiated at that time.

Senator Raggio said, "We heard testimony that Carson City didn't really rely upon the Marlette Lake water system, that you had wells, and in a short time wouldn't even have to look to Marlette Lake water. Is that a fact or is this a necessary part of the Carson City water system?" Mr. Etchemendy said that statement was not a correct statement.

Mr. Lumas, the Carson City Engineer was introduced. Mr. Lamb said, "We know you need that water. If I were you I would be concerned, too, because this is the first time the legislature has taken a hard nosed attitude at this. Look at Hobie Leonard. He won't even pay for his water." Senator Pozzi said, "Don't say its all the committee who feels this way."

Mr. Lumas showed a chart which indicated that they expected

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a population of about 31,000 by 1980 and about 44,000 by 1990. He said, "We presently have completed a review of our water system and projections based upon population they are going to require about 8700 acre feet of water by 1980, about 12,500 feet by 1990, about 15,500 acre feet by 2,000. With these projected yields, Carson City is presently pumping about 6,000 acre feet from the Eagle Valley area. The ultimate yield of the Eagle Valley area is 8,000 acre feet, so we expect to reach this maximum yield by about 1978-79. With this then any additional water for the Eagle Valley area would necessarily have to be imported from some other basin. The logical one would be the Marlette Water system.

"The projected demands, assuming we are able to use the Marlette system, there would necessarily be an investment in the Marlette-Hobart system of \$667,000 for Hobart Reservoir enlargement, an additional \$2,100,000 to construct a water treatment plant by the year 1978. Carson City up to that date would have expended an estimated \$1,120,000 to fully develop the ground water resources within Eagle Valley. The water treatment would be in Eagle Valley.

"This enlargement of Hobart itself would then sustain the needs of Eagle Valley until approximately 1986-87. And by this date it would definitely be necessary to improve Marlette. Those improvements to Marlette would be a gravity pipeline from Marlette Reservoir to the tunnel, improvement of the tunnel, enlargement of the water lines from the tunnel to Red House, and enlargement of the water lines from Red House to Carson City. The estimated cost of these improvements would be approximately \$756,000. Again, necessarily completed by 1986-87. With all these improvements in its then felt this would sustain the growth of the Eagle Valley area until approximately 1995. At that point of course, we would be utilizing maximum yield from Eagle Valley as well as the maximum from Marlette Lake, and any growth beyond that point would require additional water. These two systems could sustain a population of about 48,000, and this is estimated at the ultimate population of Eagle Valley.

"Our concern is number one that the water be available out of Marlette/Hobart, and number two that we feel that to meet our needs as they develop coordination between two different agencies from an engineering standpoint, different funding and different administrations, that the coordination

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would be very difficult at best.

Senator Pozzi said, "The way the chairman is talking here, its as if the City of Carson negotiated the 14¢ water rate. That's not true. The City of Carson didn't force you to establish that rate, the state negotiated that rate." Mr. Barrett said, "Carson City's rate was pegged to Virginia City's. Its uniform, the state pays the same rate and the city pays the same rate." Senator Lamb said, "I'm not arguing who's fault it is, I am just saying we have been more or less just giving water to the whole area. One thing I want to mention is one of the big reasons we are adverse to selling it is that we own a lot of land up there. We have no control of what happens to the water once its sold. Then we're sitting there with all this beautiful land with no water, so we don't want to dispose of the water."

Mr. Barrett said, "The first proposal coming back to the city in effect was at 45¢ and the next was around 31¢ for us to buy water from the city at that rate. The residential water is at 41¢ after you exceed the minimum, commercial is 90¢."

Senator Lamb said, "We want to maintain the system and I think we are just as capable of doing this as you are. We don't want to make a penny on this. I think if you are worried about problems coming up the interim finance committee can be called in within 5 days. All we want is a break even rate, that's all. We realize that we have a moral obligation to Carson City and the rest of the state. We have a lot of property in Carson City. There would be no Carson City as it is now if it weren't for state government. I think we have contributed a lot."

Senator Monroe said, "I would like to have you present to these people the plans the state has with regard to improvements." Mr. Barrett said, "The proposal was that we discussed with the city for the state to in effect loan the Marlette Lake water system enough money to enlarge the reservoir from the present 15 million gallons to about 755 million gallons, and then have the city guarantee to use a certain amount of water each year which would bring in about \$40,000 each year to the state in the first five years of a fifty year contract. In the last five years of that fifty year contract it would bring in about \$48,000 guaranteed each year. This would be enough to pay back to the general fund for a fifty year period the cost of enlarging

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the reservoir plus interest at the rate of 6%. That would deliver 3 million gallons per day to the state and Carson City. And then when Carson City needed the next increase in water a pipeline from the tanks to the reservoirs below the hill would have to be increased at around \$150,000 (I forget the figures). At that time we would anticipate again asking for a loan from the general fund to be paid back by a guaranteed amount of water per year again over a 50 year period from Carson City. When the next step was needed we would do the same thing until the entire system was at its ultimate capacity."

Senator Young arrived in the meeting at 8:55 a.m.

A member of Carson City government read the attached remarks--see exhibit A.

Senator Young said, "I have some reservations about disposing of the water and putting the state at the mercy of political entity at some point in the future." Senator Lamb said, "I think you people have got a great deal. If we're willing to go up there and improve the system & then we deliver it to you at cost and you do whatever you want, and we'll supply whatever water you need, I think that would be beneficial to you. We have 5,379 acres of land up there. I think we would be remiss and negligent in our job here to turn this water loose, and have Carson City say we will give you X amount of water free for twenty or thirty years--that's just bait. I think we are too good of business people to buy that. What I want to do, I want to keep it, I want to improve it."

The member of Carson City government who spoke before said, "There are lots of people in this valley who would like to see this population remain as is but we are growing so much we'll be stepping on each other." Senator Lamb said, "People are great, but they're going to come, and when they do they bring problems." Senator Young said, "If we had more water we would have more people right now. We just can't stand them with our narrow valleys. We have a pollution problem in Carson City, you can see it coming over Lakeview Hill now." Senator Lamb said, "I think the remarks Fred Settelmeyer made a few days ago was true. He said you don't know what you're getting yourselves into. Their little valley was out of debt and had the lowest taxes in the State of Nevada, and just had to have a \$21 million bond issue, and that's progress."

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Senator Monroe said, "You people are talking now like a minister standing in front of a house of ill fame waving his arms while an aircraft carrier is docking on the porch."

Mr. Etchemendy said, "Carson City never said we wanted take any of that state land, and we intend to keep water and fish in those pools."

Mr. Purdy, a member of the Carson City chapter of professional engineers, said, "We are of the opinion that passage of this bill might lead to problems for Carson City. Improvements to the Marlette system is necessary within the next five years or Carson will have a critical water shortage. It will be necessary to enlarge Hobart Reservoir storage from the present 25 million gallons to approximately 820 million gallons. The construction of the dam may cost in the neighborhood of two to three million dollars. We understand that the city is the potential purchaser of this water and is prepared to fund the project." (These remarks were from a letter from Stan G. Hansen, president of the professional engineers.) He continued, "Since 1968 we have recommended that some one entity have ownership. There is so much water coming down from that watershed now that is being lost to the valley that regardless of how we go something should be done to get that flow off the watershed so Carson can grow. At present we have the state which has the ownership and the city has the distribution and the state has dam and water rights, and Virginia City has water. Some one ownership to control all these various interests is essential for proper growth of our system. There is an unusual situation where there is water available to Carson which can be developed without taking water away from someone else. Usually in situations like this all available sources of water have been appropriated. But here we have 400 million gallons of water from that 600 million gallon water shed is flowing right down into Washoe Valley and is lost. We think it is essential to develop this to prevent that loss of water."

Senator Lamb said, "We plan on going up there and developing it. We plan on expending all the money that's needed. Mr. Etchemendy said, "We have a question if the state will want to go to an expenditure of this size for this system. I would feel that if we were absolutely certain that the resource would be developed by the state and this was at cost to the city none of us would be concerned, but does the state really want to get into the water business?"

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Senator Lamb said, "Appreciate the fact that we own 5,000 acres of land up there and own all these buildings in the capitol complex in Carson City. If we didn't, I would say no, the state doesn't want to be in the water business. But as far as this committee is concerned we want to improve this water where it will take care of the need."

A councilman said, "The state has owned this water for ten years and has never done anything with it. I hope you appreciate the fact that the investment here is going to be far in excess of the investment you already have in the system including the cost of land and everything."

Senator Lamb said, "We've sat here ten years waiting for you guys to do something and you've been very arbitrary about the whole thing. You sent word back, 'we don't even want to talk about it.' You (Mr. Barrett) reported back to finance one time that 'I can't make any deal with them.'" Mr. Barrett pointed out that these negotiations were with Southwest Gas (who owned the system in Carson at that time).

Senator Young said, "This is the first firm approach we've had that you people were very concerned. You were more or less standoffish before."

A councilman said, "I think the city has been trying to negotiate with Howard Barrett for a long time. I can see problems about Howard's approach. How can the city guarantee to take a certain amount of water from that system each year when they may get the water cheaper from their own system. This is a large part of the problem. They're being forced now to develop wells. Well unfortunately, the requirements in the summer are double the requirement over the year, and it is triple the requirements of the other nine months a year. The Carson system lacks storage."

Senator Young said, "If you are going to get a constant source of supply you are going to have to guarantee the supplier that you will take a certain amount."

Mr. Barrett said they would start development as soon as they have a guaranteed source of income, a guaranteed contract for a amount of water and a guaranteed rate for the next fifty years.

Senator Lamb said, "You're shaking your head. What's the difference of the city going up there and saying alright we'll buy it and we'll give you water at this present rate for the next 20 years or that guarantee

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to us that they will use X amount of water. What do those projections do for you."

Mr. Lumas, the city engineer said, "Once we have wells developed the only cost to us is the power cost. This is 5¢ per thousand gallons. If the state is asking us to guarantee purchase of that water at something like 40¢ per thousand gallons, they wouldn't be serving their constituents."

Senator Gibson said, "You are going to have the same fixed costs of development whoever develops it. If the city invests 3 million dollars you're going to have to recoup that. For a certain amount of water you are going to have to underwrite the costs. You have a basic demand charge whether they use the water or not to repay the debt. You'll have to have the same money here whether you repay it back to the state or to retire bonds which you issue yourself. I don't know whether you can recover the cost based upon gallonage, but somewhere you will have to repay the cost of the project. I think the state money might be cheaper than the bond money."

A councilman said, "I don't think we would have any reservations if we were sure the state would go ahead and develop this. I don't know when we can reach this agreement, and I don't know that Mr. Barrett's agreement will be a fair one."

Senator Lamb said, "We will do our part if the city will do theirs. I feel the legislature as a whole feels like we do."

The councilman said, "We don't really see the purpose for this bill. We're not sure that you should eliminate that option of possibly disposing of it to the city. The present legislation doesn't require you to dispose of it."

Senator Pozzi said, "The city has only had the system for two years or less, and the other times we've tried to negotiate its been with Southwest Gas. The city really just got in the act one year and two months ago. The previous ten years we were just negotiating with a different outfit. Another thing is, the previous legislatures indicated that they wanted to get out of the water business. The city because we've had a real lack of water had to go out and drill our own wells and have been forced to water ration. The growth of this city has gone from 15,000 to 23,000 since 1970. A lot of people don't want any more growth here, but

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I don't see them in Las Vegas saying don't come in. I don't feel that the city is unreasonable in trying to effect a negotiation. If you pass this bill you remove all that. I just feel that two years isn't going to kill us."

Senator Lamb said, "In just the same way we could come in and repeal the bill. I agree with some of your statements that we made statements a few years ago that we should get out of the water business. Now I've changed my mind."

Senator Young said, "I have some concern when you say we will supply all of their needs. It seems to me we must reserve some of this for some future option, possibly, as far as the state is concerned. If we are going to develop the supply to provide all the water needs. I also see that whenever the state sells something and then is forced to buy it back the price always goes up. I've seen the state sell land at \$1.25 an acre and buy it back at \$1,500 an acre. We've got 5,000 acres up there, growing demands of the state, and I am concerned that the state dispose of an asset and at some time in the future find they have to pay exorbitant costs."

Senator Lamb said, "I agree with Senator Young that a time may come when we will want to use that water to take care of that land (part of the water), and that the state must come first." Senator Young said, "Land without water is not of too much value. Water is a key resource, and is a limiting factor on your growth here. You might be thankful some time that you don't have water. You start putting thousands of people in this valley and unless they develop an internal combustion engine, you're going to need an oxygen mask to get around. It will be like Tokyo. My attitude is not anti-growth its an anti-stimulated growth."

Mr. Meder, a Carson City supervisor said, "We have only been able to really seriously negotiate on the water system this last year. We are at that point now. I am quite concerned that you people actually realizing the detail and engineering studies needed. Your construction costs are liable to double or triple according to the type of dam you build. You are asking Carson City to enter into an agreement of \$40,000 a year say, but at this point there is a limited resource there, and maybe there isn't as much or maybe more water there. We are talking in the neighborhood of some 1,500 or 2,000 acre feet. Of that amount we are now using 6,000 acre feet with the state and Virginia City, so with increased state and local demands maybe the resource isn't there. Before taking action let's get some detailed engineering

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and cost analysis. What we are concerned about is the cost of water. The consumer is paying a high rate of water.

Senator Lamb said, "I don't know why you can't estimate your needs. I am wide open on the costs to be charged to Carson City. We just want a break even figure."

Mr. Meder said, "A break even figure at this point is a guesstimate until we get some engineering. You have said maybe the state can come up with cheaper money. I would tend to disagree because we have federal money involved with this."

Senator Raggio left at 9:20 a.m.

Senator Lamb said, "You guys are trying to stall this bill and are using every tactic to do it. This bill has nothing to do with your negotiation of the price of water. If you want water then we have to develop Marlette. If you don't want water we don't need to develop it. If you want the water you'll have to pay for it."

Senator Lamb went on later, "This reminds me of when we were going to buy Marlette for \$2-1/2 million. It was on the boards downstairs with a recommendaton for do pass and you'd thought the world was coming to an end. Everybody wanted it off the boards. (They wanted to kill it.) Now we've got something and its our asset. Its our obligation to other taxpayers in the State of Nevada, not just the City of Carson."

Mr. Jack Dieringer of Fish and Game said, "I believe the value of this property has definite statewide interests. We have the only state owned and operated stock of cut throat trout at Marlette Lake. There are only two other sources, one is Catnip Reservoir and the State of California. We introduced rainbow trout to Hobart Reservoir last year, and we are hoping that if they are successful we will have the only state owned spring spawn of rainbow trout, and the opportunity of crossing these two and creating hybreds. The way we plant or get these hybreds at the present time is through commercial dealers, and purchasing them. The two are so far apart on the spawning season that we need more numbers to get the quantity needed. The cut throat trout at the present time are utilized in planting at Walker Lake and on a limited basis we will develop our Lake Mead hatchery through this.

"There is a certain reservation we have on the maximum use of water. If 3,000 acre feet of water are moved out of Marlette Lake we will lower the elevation of the lake

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approximately ten feet. There is a strong possibility that this will have a bad effect on the brood stock we have there. We feel that if we have state ownership we can negotiate with other state agencies on a more reasonable basis than we would if we dealt with the city."

The public left the meeting at this point.

Mr. Barrett said it would cost \$667,000 for enlargement of Hobart Reservoir.* The next step would be in two to four years to have another pipeline from the trunks down to the Carson City reservoir. The \$667,000 figure is based upon the Planning Board's figure based upon Walter Reed's figure in 1964, and they have doubled it and then added some contingency on top of that. He said it would be no problem to provide the water Carson City would need, but there would be a definite problem this summer because nothing could be done before summer. He said there is no loss of water except Hobart Reservoir doesn't impound the spring runoff of about 835 million gallons. "If you gave us an appropriation to enlarge Hobart, and they gave us a contract to pay back that appropriation over a period of time, I doubt if the contract could be let and the dam could be built before the summer of 1974. Its going to be a problem to enlarge that reservoir when we are using water out of that reservoir during the summer. It would be impossible for us to build a dam up there after November," he said.

Senator Monroe said, "You're talking about a 600,000 dirt filled dam. Where are you going to get that dirt. You have an area up there that the ecology could be seriously damaged. I agree that we don't want to sell the water system, but we could consider this on a realistic basis, and I don't think we have realistic data now."

Senator Gibson said, "I agree that there is not enough engineering data right now." Senator Lamb said, "I want to hire the best engineer available to see what needs to be done. This piecemeal thing I don't like." Senator Monroe said, "I think if you think that's what we need we should put up some money right now. We shouldn't sit back and not do anything." Senator Lamb said, "No, we've sat back long enough."

Senator Pozzi said, "In this city if everyone was connected to the city system the water demand would be tremendous. In all the outlying areas they have their own wells. We need

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to make the system more efficient as to storage. The spring runoff goes down and evaporates in the fields."

Senator Young moved that they pass S.B. 389.

Senator Gibson said, "The way this is set up now you can't sell the system without the approval of the interim finance committee.

"It looks to me like we should make this decision now. The first step would be to appropriate \$50,000 for specific engineering studies made as to a dam on Hobart and the phasing of improvements and then go ahead and take care of this, not contingent on whether they enter into a contract. Ultimately they are going to have to (enter into a contract). We should go ahead and do what needs to be done."

Mr. Barrett mentioned that the state has water rights to everything they can empound above Hobart Reservoir.

Senator Monroe asked if they thought they should appropriate an amount to this bill to provide for feasibility studies. The committee discussed the amount that should be added and decided to hold this bill until Mr. Barrett can contact the Planning Board and arrive at a figure which would provide for engineering studies.

DEVELOPMENTAL DISABILITIES - Page 326:

Senator Brown asked why at the present time there were only 11,000 on ADC and yet there were 29,000 eligible for early screening. Mr. Barrett said that this high figure was mostly because of turnover in children. He also said that because old age assistance will be federalized under social security they now realize that they have underestimated this part of the budget. "Much of this we have never had experience with and have been able to get zero information from the federal government. These are very wild estimates," Mr. Barrett said.

Senator Pozzi moved they approve this budget. Senator Young seconded the motion, and everyone voted in favor of it except Senator Raggio who was absent.

PROBATION SUBSIDY - Page 354:

Senator Gibson said, "This program worries me as far as control." Senator Pozzi said, "I'm worried about the

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small communities in the state. If you maintain these youngsters here we don't have facilities to keep them, no where for them to report or lock them up or childrens homes such as Wittenberg Hall, etc." Senator Gibson said, "I guess the thing that bothers me is we are asked to appropriate money but we don't really know where its going or who's spending it."

Senator Monroe said, "Its bad to build up an amount and create a large agency. I am in favor of the program, I am just concerned about guidelines, personnel, and administrative costs." Mr. Barrett said, "It would have no agency, it has been done mostly by the judicial districts. There is a position coming in under youth services in the budget who would be the staff to look at this program. In the past Mr. Trounday was responsible for it."

Senator Lamb said, "It doesn't take many kids to eat up \$400,000 at Elko or Caliente. The good its doing surpasses the money we are spending on it."

Senator Gibson moved they approve the governor's recommendation. Senator Monroe seconded the motion, and it passed.
for - 6
against - 0
absent - Raggio

DEPARTMENT OF PUBLIC SAFETY - Page 363:

Senator Gibson moved to eliminate this from the budget. Senator Pozzi seconded the motion, and it passed.
for - 6
against - 0
absent - Senator Raggio

PRISON ADMINISTRATION - Page 365:

Senator Brown moved they approve the governor's recommendation. Senator Young seconded the motion, and it passed.
for - 6
absent - Raggio

CRIME COMMISSION IDENTIFICATION & COMMUNICATIONS DIVISION -
Page 378:

Senator Lamb said, "Wasn't this started with federal money?" Mr. Barrett replied yes. Senator Lamb said, "This is another program we got suckered into." Mr. Barrett mentioned that the chemist was for the operation of the lab for narcotics analysis work.

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Senator Gibson said, "There is a political thing here. The cities and counties say they don't have the clout to do this. They feel the state guy is in a better position." Mr. Barrett said, "All the deputies are now in Carson City. That wasn't done by the legislature. They promoted the man from Las Vegas so he moved to Carson City. We told them to put one deputy back in Las Vegas."

Senator Lamb said, "I think with mobile home inspections, I think the fire marshall has to, so revise this budget to fit around our thinking." Mr. Barrett said, "I don't think there's going to be much of a reduction." Senator Lamb said, "I bet you can cut this by \$50,000."

Senator Pozzi said, "Raise the mobile home fees to take care of the inspections, don't raise my tax dollars."

Senator Brown said, "Didn't you just have a secretary and one man in 1969 when it started?" Mr. Barrett replied yes. Senator Lamb said, "You have too many positions up in Carson. Send one back to Las Vegas. We have indicated we don't think its necessary to keep them all in Carson." Mr. Barrett noted that this division was needed by small counties and they need a man in Clark County for mobile home inspection.

COMMERCE DEPARTMENT - DIRECTOR'S OFFICE - Page 398:

Senator Gibson moved they approve the governor's recommendation. Senator Brown seconded the motion, and it passed.
yes - 6
absent - Raggio

INSURANCE DIVISION - Page 401:

Senator Brown mentioned that they had discussed with him the possibility of having an employee responsible for burial insurance to see that companies live up to the terms of their contracts. Mr. Barrett said they hadn't recommended a burial officer because they thought it was being transferred to banks and that the banks would audit the companies. Senator Brown moved that they put a man to be the burial officer back in the budget. Senator Gibson seconded the motion and it lost with only Senators Monroe and Brown voting for the motion.

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Senator Young moved that they approve the governor's recommendation. Senator Pozzi seconded the motion, and it passed.

yes - 5
no - 1 - Lamb
absent - 1 - Raggio

CRIME COMMISSION - INVESTIGATION AND NARCOTICS DIVISION -
Page 380:

Senator Lamb said, "That's why I voted no." (They have a large budget in this division.) Senator Monroe moved they approve the governors recommendation. Senator Young seconded the motion, and it passed.

yes - 6
absent - Raggio

CRIME COMMISSION - Federal Grants - Page 383:

Mr. Barrett said, "This is federal money which flows through the state to local governments, and the state must use money to buy in to give this flow to local governments. We have to use state money to buy federal funds, and they don't revert."

Senator Pozzi moved they approve the governor's recommendation. Senator Monroe seconded the motion, and it passed.

FIRE MARSHALL - Page 393:

Senator Brown moved that they cut this budget back to the 1971 appropriation. Senator Pozzi moved they cut this appropriation to \$100,000. Senator Brown said, "I think we have to face up to the fact that the fire marshall goes around the state. That wasn't my original intention. I have nothing against the guy, but I felt he should work in the rural counties." Senator Pozzi said, "It wasn't my intention either." (that he began working in Clark and Washoe County)

Senator Lamb said, "The counties and cities would let us take over, but that's not what we want." Mr. Barrett asked if the committee did not want him to inspect factory housing and mobile homes. Senator Lamb said, "Yes, but no hospitals, etc." Senator Pozzi noted that every single one of the inspectors was in Carson City. Senator Brown said, "With the staff then in Carson City I think they can handle it themselves."

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Senator Pozzi mentioned that they have two separate travel funds and both authorized by law. One is shown in the budget and the other is kept by them to audit companies out of state. Senator Pozzi said that the travel budget was \$6-8,000 rather than the \$300 shown in the budget. Senator Pozzi suggested that, "I think Howard Barrett should show it in the budget next year perhaps in the explanation." One budget shown in the budget book is for out of state travel to conferences and training, and the other is out of state for auditing. The travel and contracts for the auditing also involves review of programs and insurance fees, and involves a substantial amount. Senator Pozzi moved they cut \$2,500 out of the \$9,500 in-state travel, and that would leave \$7,000. Mr. Barrett mentioned that they spent only \$6,000 in travel last year. This motion failed with only Senator Pozzi voting for it. (Senator Raggio was absent.) Senator Gibson moved they approve the governor's recommendation. Senator Young seconded the motion, and it passed.

yes - 6
no - 0
absent - Raggio

The meeting adjourned at 10:45 a.m.

Respectfully submitted,


Ellen Hocker, Secretary

APPROVED:


Floyd R. Lamb, Chairman

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BRIEN B. WALTERS
PROFESSIONAL ENGINEER

WALTERS ENGINEERING
CIVIL ENGINEERING CONSULTANTS

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(702) 786-5066

*Ms. Lamb -
I have reading on
Marlette System. We have
all of these in our library
I'm available to
discuss.
Brien Walters*

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September 29, 1972

Nevada State Planning Board
306 Legislative Building
401 South Carson Street
Carson City, Nevada 89701

Attention: Mr. Bill Hancock

Subject: MARLETTE WATER SYSTEM

Dear Mr. Hancock:

As consultants to the Carson Water Company, we completed several comprehensive and detailed assessments of water supply alternatives for Eagle Valley. The results of our investigations indicate to me that to improve the Marlette source for municipal water supply would be a "can of worms". We realize there are problems with Virginia City, water rights, and politics connected with going elsewhere, but believe there are solutions. I strongly feel there would be a misuse of taxpayers money to fix up, operate and maintain the Marlette-Hobart system.

For many reasons, Eagle Valley and Carson Valley groundwater diversions make the most sense and I would be most happy to discuss this in substantial detail at a mutually convenient time.

I realize that others feel that the Marlette system should be developed first instead of the Carson groundwater alternative even though there's not enough water there for the ultimate solution and that very costly water treatment must be constructed to utilize Marlette-Hobart source. However, should the decision be made to go to the Marlette-Hobart source first, (with which we would not be in agreement), I feel that the State would still be laying a gigantic egg in having anything to do with the

September 29, 1972

actual construction or operation and maintenance of this supply and treatment works. Carson City, which has a water works engineering and operating force in being, should have the responsibility of designing, constructing, and operating and maintaining such a new supply and treatment works. Carson City is also eligible for all favorable financing for such works.

The State should get out and stay out of all phases of the municipal water business.

Sincerely,

WALTERS ENGINEERING

Brien B. Walters, P.E.

BBW:km

cc: Dr. Homer

March 17, 1971

The Honorable Harry Reid
Lieutenant Governor of Nevada
State Capitol Building
Carson City, Nevada 89701

Dear Mr. Reid:

Hopefully our recent discussions at the Gardnerville Country Club clarified some aspects of the State-owned Marlette-Hobart water system.

The following is a rather cryptic summary of my thoughts:

1. Water demand in Eagle Valley is projected to exceed the local supplies (Eagle Valley groundwater, Ash Canyon, Kings Canyon, and the State-owned Marlette-Hobart surface sources) within a couple of decades.
2. The Marlette Lake-Hobart (east slope of the Sierras) sources are reported to yield from 5,000-7,000 acre feet annually.
3. All this water, except for a small portion for Virginia City, is available to Carson City.
4. All of this Marlette-Hobart water, except for a few hundred gallons per minute from the Marlette tunnel, will require treatment consisting of flocculation, sedimentation, and filtration which is rather expensive both from a first cost and annual operation and maintenance standpoint.
5. It may be advisable to go to the Carson watershed, either surface diversion from the Carson River (after levelizing the flow via Watasheamu) which would require full treatment or from groundwater sources in Carson Valley. The groundwater sources would require only chlorination which is much less expensive than treating surface sources, both from a first cost and annual operation and maintenance standpoint.

The Honorable Harry Reid
Lieutenant Governor of Nevada

- 2 -

March 17, 1971

6. One or two such good wells could equal the yield of the Marlette-Hobart system.
7. Water costs may be least, thus water bills least, if the amount of Marlette-Hobart yield were included in Carson watershed development. This small extra increment in treatment or one or two more wells (in Carson Valley), plus a small, if any, increase in transmission main size may perhaps be better than spending one, two, or more million dollars on a satellite Marlette-Hobart system.
8. Whether or not Marlette-Hobart is developed may ultimately be a political rather than an engineering decision.
9. There is a California program called the Davis-Grunsky program which enables an entity to favorably finance multi-purpose watershed projects. It might be wise for the State of Nevada to investigate this program and determine if similar legislation would be applicable in our State.

Sincerely,

WALTERS, BALL, HIBDON & SHAW

Brien B. Walters, P. E.

BBW:bjs

cc: Mr. Bob Stewart, Governor's Press Secretary
Senator John Fransway
Marion Miller, Division Mgr.
Southwest Gas Corp.

70,000
50,000
62

CARSON CITY WATER CUSTOMERS PRESENTLY ARE USING APPROX ONE BILLION GALLONS OF WATER ANNUALLY. THESE ARE CUSTOMERS PRIMARILY IN THE URBAN AREA, ALTHO SOME SUB* DIVISIONS AND MOBILE HOME PARKS IN THE RURAL AREA ARE ALSO SUPPLIED WITH WATER SER* VICE. THE PRESENT ESTIMATED POPULATION OF THE VALLEY IS NOW AT 23,000 PEOPLE. *Persons* ABOUT 15,000 ARE ~~USERS~~ *water and sewer* CONNECTED TO THE DISTRIBUTION SYSTEM, THE OTHERS ON PRIVATE WELLS. OUR SUPPLY OF WATER COMES FROM 7 WELLS AND MOUNTAIN STREAMS WEST OF CARSON CITY. THIS WATER SUPPLY IS GENERALLY ADEQUATE EXCEPT FOR THE HEAVY DEMAND DURING THE SUMMER MONTHS WHEN WATERING LAWNS, GARDENS, ETC. FORTUNATELY FOR CARSON CITY WATER HAS BEEN AVAILABLE FROM THE STATE OWNED MARLETTE SYSTEM DURING PEAK DEMANDS AND WATER SHORT YEARS.

IT IS OBVIOUS TO US THAT WE MUST DEVELOP AN ADDITIONAL WATER SUPPLY TO MEET THE CONTINUING GROWTH OF THE CITY. WITHIN THE NEXT FEW YEARS WE WILL NEED AT LEAST AN ADDITIONAL BILLION GALLONS OF WATER ANNUALLY. TO SUPPLEMENT THIS DEMAND WE WILL INSTALL ADDITIONAL WELLS IN THE VALLEY BUT THIS WILL HAVE LIMITATIONS.

THE MARLETTE SYSTEM APPEARS TO BE A NATURAL WATER SOURCE TO HELP CARSON CITY MEET THIS ADDITIONAL NEED. HOBART RESERVOIR AND A SUPPLY FROM THE CLOSED TUNNEL PRESENTLY SUPPLY ^{water} TO THE STATE BUILDINGS, LAKEVIEW SUBDIVISION AND VIRGINIA CITY. AN ENGINEER RECOMMENDATION THAT THE PRESENT ~~35~~ 35 MILLION GALLON CAPACITY OF HOBART RESERVOIR COULD BE INCREASED TO 850,000,000 MILLION GALLONS BY INCREASING THE HEIGHT OF THE RESERVOIR DAM. OTHER IMPROVEMENTS WOULD BE NECESSARY TO IMPROVE WATER QUALITY.

THEN THERE IS MARLETTE LAKE ITSELF THAT IS AVAILABLE FOR ADDITIONAL WATER SUPPLY AND BASED ON THE LAKE TAHOE INTERSTATE COMPACT AN AMOUNT OF 3,000 ACRE FEET OF WATER WAS ALLOCATED FOR USE. 3,000 ACRE FEET OF WATER IS APPROXIMATELY ONE BILLION GALLONS OF WATER. ON THE BASIS ON CARSON CITY'S PRESENT USE THIS WOULD SUPPORT 15,000 PEOPLE FOR WATER SERVICE.

UPON REVIEWING S.B. 379, ²⁸⁸ IT APPEARS THE RECOMMENDATION IS FOR THE STATE TO RETAIN AND IMPROVE THE MARLETTE SYSTEM. IT WAS HOPED THAT THE STATE OF NEVADA WOULD SELL THE SYSTEM TO CARSON CITY FOR SUCH PURPOSE. REGARDLESS OF WHO IS TO IMPROVE THE SYSTEM, TO CONTINUE OPERATION IN ITS PRESENT CONDITION AND FURTHER DETRIORATION

By Herbert A

IS TRULY A WASTE. WE WOULD HOPE THE STATE WOULD PROCEED TO IMPROVE THE SYSTEM MAKING WATER AVAILABLE FOR CARSON CITY AND OTHER USERS.

I WOULD PROPOSE A ^{suggestion} RECOMMENDATION THAT CARSON CITY ACQUIRE THE STATE DISTRIBUTION SYSTEM IN THE VALLEY BELOW A DESIGNATED POINT ON THE MOUNTAIN TO THE WEST. SINCE WE ARE OPERATING A DISTRIBUTION SYSTEM, WE HAVE PERSONNEL AND EQUIPMENT TO DO THE JOB. EVENTUALLY THE TWO WATER DISTRIBUTION SYSTEMS COULD BE INTEGRATED. THIS WOULD RELIEVE THE STATE BUILDING AND GROUNDS DEPARTMENT OF THE RESPONSIBILITY OF THE STATE DISTRIBUTION SYSTEM. A WATER SUPPLY AGREEMENT BETWEEN CARSON CITY AND THE STATE WOULD BE NEGOTIATED.

IN CONCLUSION, I TRUST THAT SOMETHING WILL BE DONE SOON TO PRESERVE AND IMPROVE THIS VALUABLE ASSET.

714-1002

ELMO J. DRICCO
Director

STATE OF NEVADA

ROLAND D. WESTERGARD
State Engineer

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WATER RESOURCES

201 South Fall Street, Carson City, Nevada 89701

In reply refer to
No.

March 15, 1973

Address All Communications to
the State Engineer, Division
of Water Resources

MEMORANDUM

TO: Earl T. Oliver, Fiscal Analyst
Legislative Counsel Bureau

FROM: Roland D. Westergard, State Engineer
Division of Water Resources *Roland*

SUBJECT: Marlette System

Attached is a copy of a memorandum to me from Vic Hill and Adrian Hutchens of our staff. This supplements the material previously furnished regarding the Marlette System.

RDW:gs

Attachment

To: Roland
From: Vic and Adrian
Subject: Marlette System Preliminary Analysis
Requested by Legislative Counsel Bureau

STANDARDS FOR EVALUATION

For the purpose of setting standards for evaluation, it will be assumed that the cost of money is 7% for a 50 year period. The annual recoverable water yield of the Marlette System is estimated to be 7,000 acre-feet, distributed as follows:

3,000 acre-feet from Marlette Lake
600 acre-feet from the tunnel
1,000 acre-feet between the tunnel and Red House
2,400 acre-feet from Hobart Lake

7,000 acre-feet per year, estimated Marlette System recoverable yield - or - 2,300 million gallons per year.

It should be pointed out that construction costs are subject to considerable inflation. Further, the estimated outlays of capital are only intended for talking purposes. Estimates of the annual recoverable yield from the Marlette System vary from 5,200 acre-feet per year to 7,700 acre-feet per year. The 7,000 acre-feet per year was selected after checking various estimates, including the 1972 Robertson Engineering Report, which reviews the existing reports on the Carson City Water supply.

An acre-foot of water covers one acre to the depth of one foot. It is about 326,000 gallons, or .326 million gallons. So, an acre-foot is about 1/3 million gallons. Where necessary for understanding, figures are given in acre-feet and million gallons. Also, the letters OMR mean "operating, maintenance and repair".

THE PRESENT SITUATION

Preliminary evaluation has been conducted after first accepting several things:

1. Carson City and Virginia City will need the entire 7,000 acre-foot annual yield of the Marlette System before the year 2000. This situation is further described by the attached analysis on Carson City and Virginia City Water needs. Figure 1 shows these needs previously projected as part of the State Water Plan. About 1995, the combined yield of surface and ground water sources in Eagle Valley, plus the Marlette System, will no longer satisfy the needs of Carson City. Carson City will need to go elsewhere or make some provisions for a water supply.
2. The State has fishery, watershed and recreation values to protect. It wishes to retain the land and water rights which were purchased from Curtiss-Wright for \$1,650,000.
3. Carson City does not wish to pay a high price and realize that an extremely low price is unattainable.
4. The State is not presently set up to act as a large scale water utility. It probably does not wish to capitalize Marlette System improvements.
5. The State will need water for the Capitol Complex, part of which is presently served exclusively by the Marlette System.
6. Virginia City will want to continue purchases of water from the Marlette System, as will the Lakeview development.

Reasonable intermediate values and upper and lower bounds upon the necessary capital outlay and amortized cost to obtain water from the Marlette System (dollars per acre-foot and dollars per thousand gallons) can be found by recognizing three different alternatives:

1. Some entity will purchase the East and West slope water rights and facilities, except for watershed. The entity will develop all or part of the annual system water yield.
2. The State of Nevada will retain ownership of the East and West slope water rights, watershed and facilities. The State will lease all or part of the annual system water yield to some entity.

Under Alternatives 1 and 2, the entity purchasing or leasing would be responsible for capital expenditures and the operating, maintenance and repair (OMR) costs necessary to obtain all or part of the annual system water yield.

The third alternative is presented:

3. The State of Nevada will retain ownership of the East and West slope water rights, watershed and facilities. The State will expend capital to develop all or part of the annual system water yield, and will assume operation, maintenance and repair costs. Water will then be sold to some entity.

THE ALTERNATIVES IN GREATER DETAIL

Alternative 1 (OMR costs have not been included)

In 1969, the appraised value of the entire Marlette System was set at \$766,000 and the replacement cost at \$1,070,000. These values did not include the value of land. (See Bulletin No. 98, 1969 Legislative Commission Report). Any purchaser would first have to pay the appraised value before being allowed to go about replacement of parts of the system. By this reasoning, if the entire system were replaced, the cheapest cost would be about \$1,836,000. If

none of the system were replaced, the cost would be \$766,000. If this reasoning is accepted, the capital cost would be at some intermediate value, depending upon the scale of replacement necessary. With these conditions, the capital costs and amortized costs of water per acre-foot and per thousand gallons would be:

<u>Alt. 1</u>	<u>Capital Cost, \$</u>	<u>Amortized Cost, \$ / Year</u>	<u>\$ Per Acre-foot</u>	<u>\$ Per 1,000 gal.</u>
'69 low	766,000	55,500	7.93	.0243
'69 high	1,836,000	133,000	19.00	.0583
(*)	1,966,000	142,500	20.36	.0625
(**)	1,650,000	119,500	17.08	.0524

(*) Value from 1972 Robertson Report plus \$766,000

(**) Purchase price from Curtiss-Wright.

Alternative 2 (OMR costs have not been included)

Another way of determining costs is to reach a compromise between Alternatives 1 and 3. Alternative 2 capital costs, amortization and costs of water are for leasing the Marlette System and expending an estimated \$1,200,000 capital to develop water. (See Tables 1,2, and the previously mentioned Robertson Report).

<u>Alt. 2</u>	<u>Capital Cost \$</u>	<u>Amortized Cost, \$ / Year</u>	<u>\$ Per Acre-foot</u>	<u>\$ Per 1,000 gallons</u>
	1,200,000	87,000	12.42	.0381

Actual stepwise development would be almost twice as expensive as the above figures, because of inflation. A schedule for stepwise development will be presented following Alternative 3. The State may wish to recover some return on its investment, in addition to owning the system in its improved condition. However, because of retaining ownership, this return is expected to be minimal, such as free water for the Capitol Complex.

Alternative 3

If the State were to make improvements in 1973 to the Marlette System for the primary purposes of selling water to Carson City, the basis for annual cost in 1973 would be:

\$ 1,200,000 Construction, East and West slopes
1,650,000 Purchase price from Curtiss-Wright.
 \$ 2,850,000 Total capital basis, 1973 prices.

The amortized cost of the above \$2,850,000 is \$206,500 per year. If the State were to consider the \$1,650,000 purchase price as a " sunkcost ", then Alternative 3 would be more competitive with Alternatives 1 and 2. It would not be fair to decide whether Alternative 3 is desirable by first making it competitive with other alternatives in an arbitrary manner. However, if the decision is made to follow Alternative 3, then the \$1,650,000 purchase price may be written off the water account. There is justification for this when the watershed and fishery values are balanced against the purchase price.

If the \$1,650,000 were a sunk cost, then the system value would be the \$766,000 appraisal as outlined in the previously mentioned Bulletin No. 98, The total capital basis would then be:

\$ 1,200,000 Construction, East and West slopes
766,000 Appraised Value
 \$ 1,966,000 Total capital basis, 1973.

Capital cost, amortized cost and water cost would be:

	Capital	Amortized	\$ Per	\$ Per
<u>Alt 3</u>	<u>Cost, \$</u>	<u>Cost, \$/ Year</u>	<u>Acre-foot</u>	<u>1,000 gal.</u>
lower	1,966,000	142,500	20.36	.0625
higher	2,850,000	206,500	29.50	.0904

SUMMARY OF ALTERNATIVES AND DISCUSSION

From evaluation of Alternatives 1,2, and 3 the several values derived are: (7,000 acre-feet per year used).

<u>Alt 1,2,3</u>	(1) <u>Capital Cost, \$</u>	(2) <u>Amortized Cost, \$/Year</u>	(3) <u>\$ Per Acre-foot</u>	(4) <u>\$ Per 1,000 gal.</u>
Alternative 1 (Sale to others)				
	766,000	55,500	7.93	.0243
	1,650,000	119,500	17.08	.0524
	1,836,000	133,000	19.00	.0583
	1,966,000	142,500	20.36	.0625
Alternative 2 (Lease to others)				
	1,200,000	87,000	12.42	.0381
Alternative 3 (State Development)				
	1,966,000	142,500	20.36	.0625
	2,850,000	206,500	29.50	.0904

Note: If treatment is required, the figure from the 1972 Robertson Report would add cost to each entry in columns 1 and 2, making each entry in columns 3 and 4 more expensive. For treatment add:

2,100,000	152,000	21.74	.0667
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The above summarized numbers are in terms of 1973 prices for present comparison only. They do not convey a strong feeling for the future constraints upon Carson City and Virginia City and other water users.

Under any of the three alternatives, Carson City could not use the entire \$7,000 acre-feet per year in 1973. This situation would normally result in a stepwise development of the Marlette System, consistent with demand. Under a stepwise development, the cost of water per acre-foot or per 1,000 gallons, must vary with each new section of the system which is developed.

It is obvious that a stepwise development would cause considerable inflation in construction costs over the period from the present to ultimate development. The higher the rate of inflation, the more attractive it becomes to develop the Marlette System as soon as possible. It is useful to make stepwise comparisons based upon assumed inflation 7% annually after 1973. A single table will be presented showing the stepwise capital outlays and volume of water sold versus cost per acre-foot and per 1,000 gallons.

In 1976, Eagle Valley municipal and industrial (M&I) water use is projected to be greater than 7,000 acre-feet per year (AFY), which is the estimated perennial yield. Anything over 7,000 AFY will come from sources other than ground water. The following table shows costs inflated at 7% annually and the approximate dates when the various portions of the Marlette System must be in use, and delivering full yield, for use by Carson City and Virginia City primarily. Refer to Figure 1 for water use.

SCHEDULE OF IMPROVEMENTS AND COSTS

<u>Portion of Marlette System</u>	<u>Year Must Deliver Full Yield</u>	<u>Inflated Capital Cost, \$</u>	<u>Amortized Cost, \$/ Year</u>	<u>Yield, AFY</u>	<u>Cost \$ Per Acre,ft.</u>	<u>Cost \$ Per 1,000 gal</u>
Hobart Lake	1976	677,000	49,000	2,400	20.44	.0627
and below		(Average for system)		(2,400)	(20.44)	(.0627)
Tunnel and	1980	531,000	38,500	1,600	24.06	.0738
Line to Red House		(Average for system)		(4,000)	(21.88)	(.0671)
Line from	1984	630,000	45,500	3,000	15.21	.0467
Marlette Lake to Tunnel		(Average for system)		(7,000)	(19.00)	(.0583)

? 1995 Import and/or recycle required to meet demand.

OMR costs have not been included.

ADDITIONAL CONSIDERATIONS

Under any circumstance the State may wish to set aside a small portion of the annual system water yield as a contingency for future recreation development, or for some other purpose. Additionally, for operation and maintenance of the system, there should be a State approved set of procedures, policies and penalties. The environment should be protected. Annual water yield from Marlette Lake would have to be timed to avoid interference with egg taking from fishery brood stock. Lake level fluctuations would be controlled between a flexible high level and probably a FIXED low level. Reservoir sizing at Hobart Lake should be verified to be consistent with the operation of Marlette Lake reservoir.

It would not be advantageous for the State to be tied to a fixed price for supplying water. Rather, a pricing scheme keyed to the cost of each new block of water and OMR costs should be worked-out.

Additionally, there is no guarantee that an extensive treatment system would be required for water from the Marlette System. This would depend a lot upon management of the watershed. In turn, OMR costs would be highly dependent on the amount of treatment required.

Possibly, the State would wish to receive its water for the Capitol Complex free of charge, or for some nominal cost.

Carson City M+I Water Source - Use Reconnaissance (*)

1. Surface Water, acre-feet per year 8,000
- a. Marlette System 7,000
- Marlette Lake 3,000
 - Hobart Lake 2,400
 - East Slope 1,000
 - Tunnel 600

- b. Various Creeks 1,000
- Clear Creek
 - King's Canyon
 - Ash Canyon
 - Vicee Canyon
- } 700 acre feet irrigation water consumed. See p. 24, 34 of Recon No. 39.

2. Ground Water, acre-feet per year
- a. Perennial Yield 7,000 7,000
-
- Total, acre-feet per year 15,000

3. M+I Water Use (Table IV-1 of Legis. Comm. Report is too LOW!!)

	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>	<u>2020</u>
a. Virginia City (*)	250	285	305	325	340	360
b. Carson City Total	3,600	9,100	13,100	16,300	18,500	20,000
• CCWC System	2,500	6,900	10,500	13,600	15,800	17,300
• Domestic Wells	800	1,800	2,000	2,000	1,900	1,900
• Capitol Complex	250	395	555	675	755	800

Carson City and Virginia City, TOTAL	3,900	9,400	13,400	16,600	18,800	20,400
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Carson City

Figure 1: SUPPLY-DEMAND GRAPH
 Carson City and Virginia City
 Municipal-Industrial Water Use

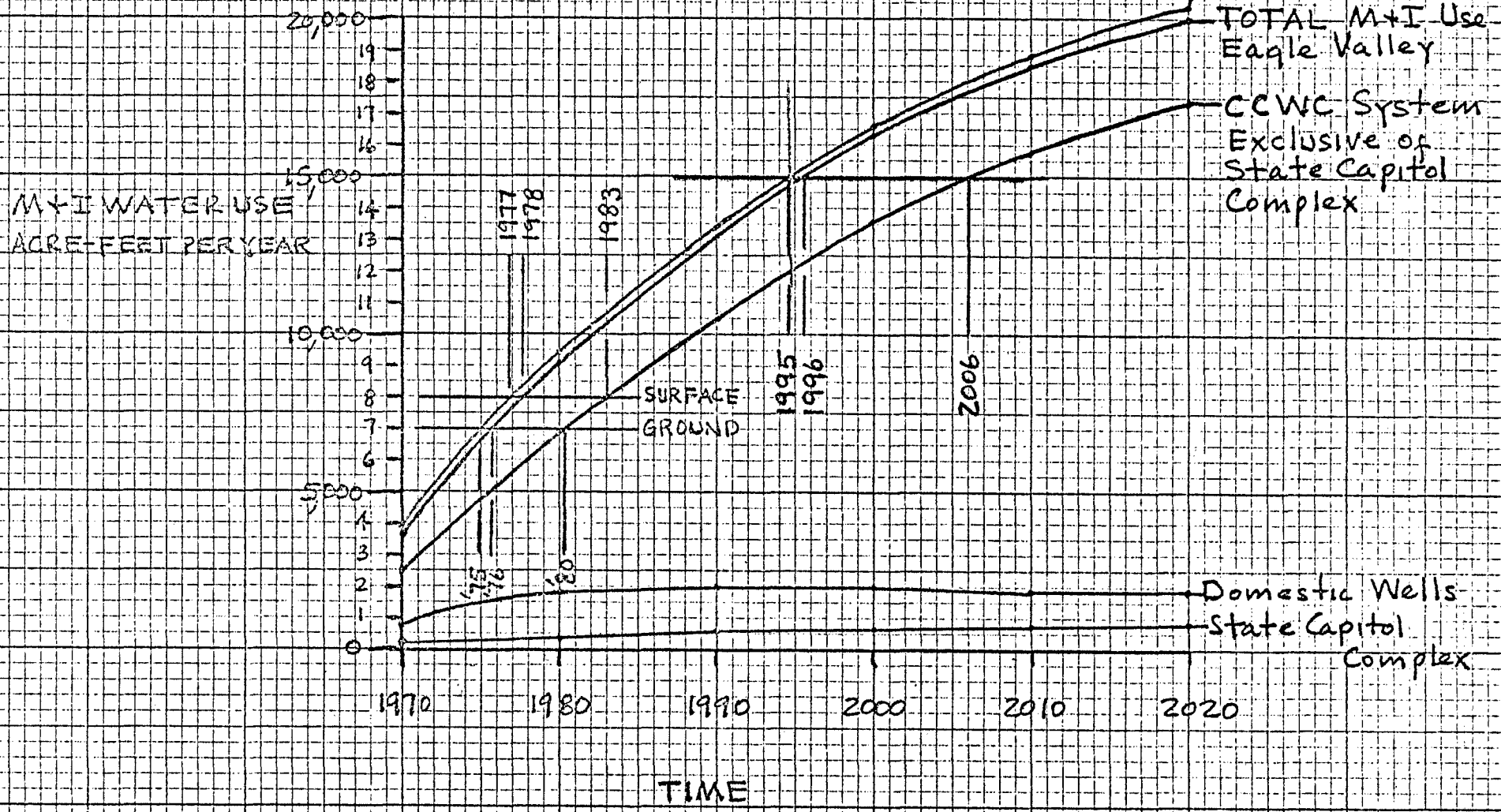
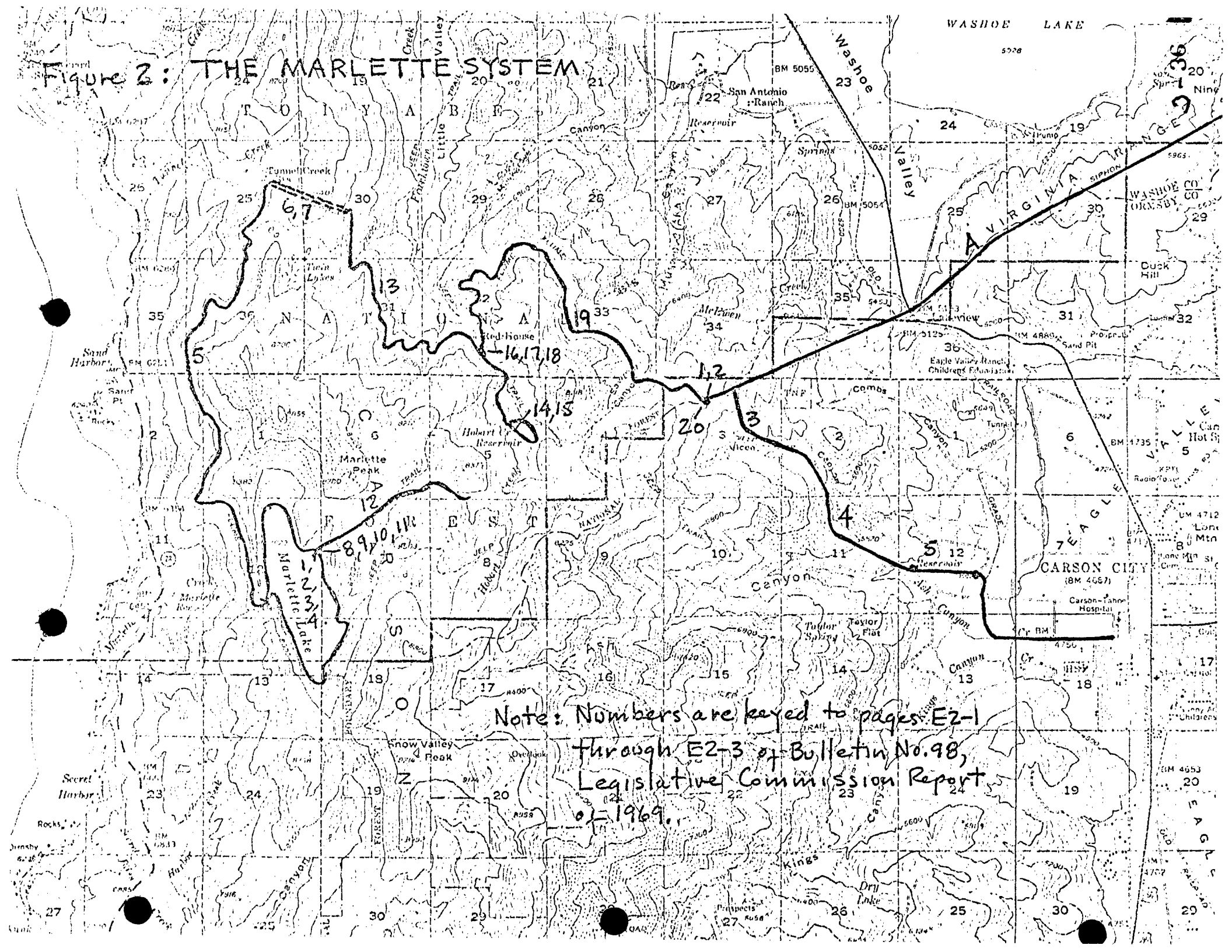


Figure 2: THE MARLETTE SYSTEM



Note: Numbers are keyed to pages E2-1 through E2-3 of Bulletin No. 98, Legislative Commission Report of 1969.



MARLETTE LAKE

Numbers keyed to
Legis. Comm. Report,
Sull. No. 98

Part I { 6,7
13
16,17,18
14,15
19
20

Part II { 1,2,3,4,5

Part I { 1,2,3,4,5
5
8,9,10,11
12

MARLETTE SYSTEM:		DWR	DWR	DWR	DWR	DWR
TUNNEL	Table 1	EST. YIELD	EST. TOTAL	ANN. COST	ANN. COST	ANN. COST
EASTERN SLOPE		ACRE FEET	CAPITAL	\$/YEAR	\$/YR PER	\$/YR PER
WESTERN SLOPE		PER YEAR	COST, \$	(7%, 50 Yr)	ACRE FOOT	1,000 GAL.
TREATMENT						
RESTORATION OF TUNNEL:		620	150,000	10,869		
EASTERN SLOPE:		3,400	730,000	52,896	15.94	.0489
Pipeline:		4,000	880,000	63,765		
Tunnel to Red House (X)		1,000	180,000	13,043	13.04	.0400
Red House Facilities						
Work on Hobart Reservoir		2,400	400,000	28,984	12.08	.0371
(X) Pipeline retrieves tunnel yield		1,600	180,000	13,043	8.15	.0250
Pipeline:						
Red House to Tanks						
Siphon Inlet Tanks						
Pipeline:						
Tanks to City Reservoir			150,000	10,869		
WESTERN SLOPE:		3,000	300,000	21,738	7.25	.0222
Marlette Lake						
Pipeline:						
Marlette Dam to Tunnel						
Marlette Pump Station						
Pipeline:						
Marlette Lake to Hobart Lake						
TREATMENT:			2,100,000	152,166		
Diatomaceous Earth Filtr.						
— or —						
Dual Media Filtration						
TOTALS						

Marlette System capitalized water costs, from Marlette Lake to City Reservoir without significant treatment:

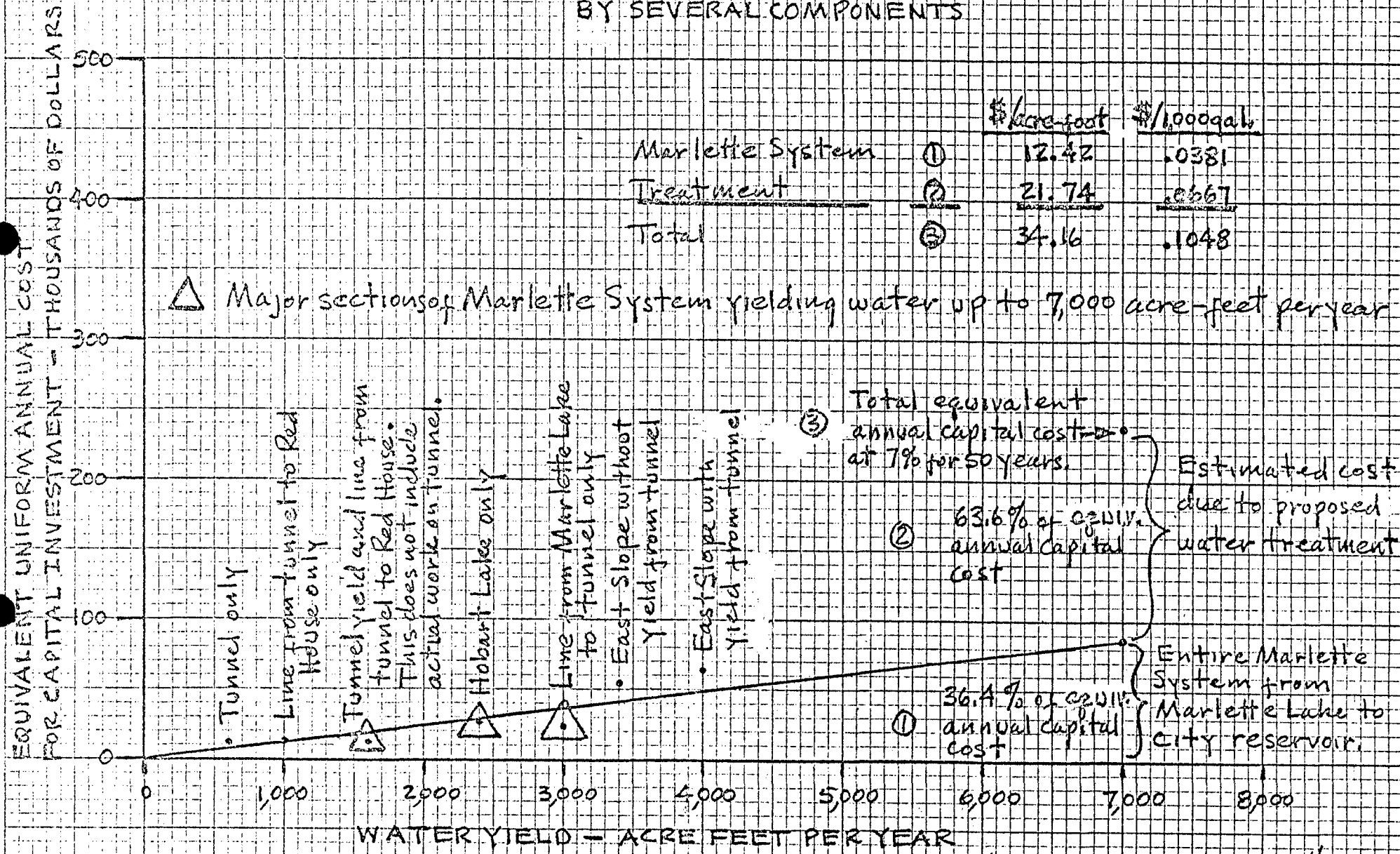
7000 1,200,000 86,952 12.42 .0381

Operation, maintenance and repair costs are considered separately.

Note: Most data from 1972 Robertson Report.

MARLETTE SYSTEM:	1969	1964	1972	1969	1973	DWR	DWR	DWR	DWR	DWR	
TUNNEL	Legis.	Walt	Keith	Legis.	State	EST. YIELD	EST. TOTAL	ANN. COST	ANN. COST	ANN. COST	
EASTERN SLOPE	Comm.	Reid	Robertson	Comm.	Planning	ACRE FEET	CAPITAL	\$/YEAR	\$/YR PER	\$/YR PER	
WESTERN SLOPE	Apprais.	Report	Report	To Replace	Board	PER YEAR	COST, \$	(7%, 50 Yr)	ACRE FOOT	1,000 G	
TREATMENT											
RESTORATION OF TUNNEL:	187,358	40,000	150,000	340,650	----	600	150,000	10,869	15.94	.048	
EASTERN SLOPE:	458,977	488,800	733,000	498,686	723,600		3,400	730,000			52,896
Pipeline:							4,000	880,000			63,765
Tunnel to Red House (*)	79,804	127,000	180,000	89,397	----	1,000	180,000	13,043	13.04	.041	
Red House Facilities	6,234	----	----	6,320	----						
Work on Hobart Reservoir	20,625	278,000	400,000	33,850	556,000	2,400	400,000	28,984	12.08	.035	
(*) Pipeline retrieves tunnel yield						1,600	180,000	13,043	8.15	.025	
Pipeline:											
Red House to Tanks	217,507	EXISTING	EXISTING	267,453	----						
Siphon Inlet Tanks	7,920	----	----	11,470	----						
Pipeline:											
Tanks to City Reservoir	76,887	83,800	153,000	90,196	167,600		150,000	10,869			
WESTERN SLOPE:	170,126	100,800	300,000	230,870	----	3,000	300,000	21,738	7.25	.022	
Marlette Lake	119,040		EXISTING	136,000	----	Marlette System capitalized water costs, for Marlette Lake to City Reservoir without significant treatment:					
Pipeline:						7,000	1,200,000	86,952	12.42	.038	
Marlette Dam to Tunnel	10,290	100,800	300,000	42,900	----	Operation, maintenance and repair costs are considered separately.					
Marlette Pump Station						Note: Most data from 1972 Robertson Report					
Pipeline:	17,833	page 18	----	23,932	----						
Marlette Lake to Hobart Lake	22,963	page 18	----	28,038	----						
TREATMENT:	----	----	2,100,000	----	1,331,000		2,100,000	152,166			
Diatomaceous Earth Filtr.					485,000						
— or —											
Dual Med. Filtration					1,331,000						

Figure 3: AMORTIZED COST OF WATER FROM THE MARLETTE SYSTEM BY SEVERAL COMPONENTS



		<u>\$/acre-foot</u>	<u>\$/1,000gal</u>
Marlette System	①	12.42	.0381
Treatment	②	21.74	.0667
Total	③	34.16	.1048

△ Major sections of Marlette System yielding water up to 7,000 acre-feet per year

③ Total equivalent annual capital cost at 7% for 50 years.

② 63.6% of eq. W. annual capital cost } Estimated cost due to proposed water treatment cost

① 36.4% of eq. W. annual capital cost } Entire Marlette System from Marlette Lake to city reservoir.

★

SCHEDULE OF IMPROVEMENTS NEEDED
TO THE MARLETTE LAKE WATER SYSTEM
PROPOSAL #I

	<u>Walter Reid's 1968 Costs</u>	<u>Multiplied by 2 for Increased Costs</u>	<u>Plus 20% Contingency</u>
Proposal #I			
Improve Hobart: To increase capacity in Hobart to 838 million gallons	\$ 330,000	\$ 660,000	\$ 792,000
Replace wooden diversion tanks with concrete, steel or other material	No Estimate Made		<u>25,000</u>
Total Proposal #I			<u>\$ 817,000</u>
Funded by General Fund Appropriation			<u>\$ 817,000</u>
Repaid through sale of water:			
	16¢ per 1000 gal.	25¢ per 1000 gal.	35¢ per 1000 gal.
(1) Daily Sales	\$400	\$625	\$875
(1) Yearly Sales	\$146,000	\$228,125	\$319,375
(2) Number of years to pay out improvements	9.5 yrs.	4.9 yrs.	3.15 yrs.
(1) Assumes optimum sales of 2.5 million gallons per day			
(2) Allows for \$60,000 per year for operating budget of Marlette Lake			

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SCHEDULE OF IMPROVEMENTS NEEDED
TO THE MARLETTE LAKE WATER SYSTEM
PROPOSAL #II

	<u>Walter Reid's 1968 Costs</u>	<u>Multiplied by 2 for Increased Costs</u>	<u>Plus 20% Contingency</u>
Proposal #II			
Extended 10" pipe from red house to east portal of tunnel (replaces open flume)	\$ 83,900	\$ 167,800	\$ 201,360
Reopen tunnel	40,000	80,000	96,000
Replace pipeline from Marlette Dam to west portal of tunnel	250,000	500,000	600,000
Improvements as outlined in Proposal #I			<u>817,000</u>
Total Proposal #II			<u>\$ 1,714,360</u>
Funded through General Fund Appropriation			<u>\$ 1,714,360</u>
Repaid through water sales:			
	16¢ per 1000 gal.	25¢ per 1000 gal.	35¢ per 1000 gal.
(1) Daily Sales	\$400	\$625	\$875
(1) Yearly Sales	\$146,000	\$228,125	\$319,375
(2) Number of years to pay out improvements	20 yrs.	10.2 yrs.	6.6 yrs.

- (1) Assumes optimum sales of 2.5 million gallons per day
(2) Allows \$60,000 per year as operating budget for Marlette Lake

SCHEDULE OF IMPROVEMENTS NEEDED
TO THE MARLETTE LAKE WATER SYSTEM
PROPOSAL #III

	<u>Walter Reid's 1968 Costs</u>	<u>Multiplied by 2 for Increased Costs</u>	<u>Plus 20% Contingency</u>
Proposal #III			
Replace flume from tunnel to red house with 14" pipe (capacity 6 million gals/day)	\$ 140,000	\$ 280,000	\$ 336,000
Additional line to Carson City	83,800	167,600	201,120
Reopen tunnel	40,000	80,000	96,000
Replace pipeline from Marlette Dam to west portal of tunnel	250,000	500,000	600,000
Improvements as outlined in Proposal #I			<u>817,000</u>
Total Proposal #III			<u>\$ 2,050,120</u>
Funded by General Fund Appropriation			<u>\$ 2,050,120</u>
Repaid through water sales:			
	16¢ per 1000 gal.	25¢ per 1000 gal.	35¢ per 1000 gal.
(1) Daily Sales	\$800	\$1,250	\$1,750
(1) Yearly Sales	\$292,000	\$456,250	\$638,750
(2) Number of years to pay out improvements	8.8 yrs.	5.2 yrs.	3.5 yrs.

(1) Assumes optimum sales of 5 million gallons per day

(2) Allows \$60,000 per year as operating budget for Marlette Lake

SCHEDULE OF IMPROVEMENTS NEEDED
TO THE MARLETTE LAKE WATER SYSTEM
NOTES

Both Proposals #I and #II assume needs will not exceed 3,000,000 gallons per day.

Proposal #III assumes need will exceed 3,000,000 gallons but not more than 6,000,000 gallons per day.

Walter Reid's figures show that if storage capacity permitted the Marlette area could support in excess of 7,000,000 gallons per day. That is to say: The available water supply from this source is 2,631,280,000 gallons per year.