

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Application 24804)
and License 8199 (Application 19877))
of Big Basin Water Company to Appro-)
priate from four Unnamed Streams and)
Hare Creek and of Application 24172)
of Big Basin Water Company, Nagilluc,)
Inc., Thomas J. Culligan, Jr., and)
Kathleen Culligan to appropriate from)
Hare Creek all in Santa Cruz County)

DECISION 1482

DECISION APPROVING APPLICATIONS
AND CHANGE PETITION

BY BOARD MEMBER ADAMS:

Big Basin Water Company and Boulder Creek Golf and Country Club, jointly, and Big Basin Water Company having filed Applications 24172 and 24804 respectively for permits to appropriate unappropriated water; Big Basin Water Company having filed a petition to add a purpose of use and to change the place of use under License 8199; protests having been received; a public hearing having been held before the Board on December 6 and 7, 1977; applicants and protestants having appeared and presented evidence; the evidence received at the hearing having been duly considered, the Board finds as follows:

Substance of Applications and Change Petitions

1. Application 24172 is for a permit to collect to storage 61.5 acre-feet per annum (afa) in an existing reservoir on Hare Creek in Santa Cruz County from October 1 of each year to May 1 of the succeeding year for domestic and irrigation purposes within the service area of the Big Basin Water Company (Company), being within Sections 2, 11, 12, 14, 15, 23, and 24, T9S, R3W, MDB&M. This reservoir is commonly known as Hare Reservoir No. 2. The point of diversion

is existing Hare Dam No. 2 located within the NE $\frac{1}{4}$ of NE $\frac{1}{4}$ of said Section 15.

Application 24172 was filed by the Company and Boulder Creek Golf and Country Club. Subsequently, the interests of Boulder Creek Golf and Country Club have been assigned to Nagilluc, Inc., Thomas J. Culligan, Jr., and Kathleen Culligan. Nagilluc, Inc., et. al. intend to transfer their ownership in Hare Reservoir No. 2 and Hare Dam No. 2 to the Company, if Application 24172 is approved.

2. Application 24804 is for a permit to appropriate 0.52 cubic feet per second (cfs) by direct diversion from one or a combination of four unnamed streams and to collect 1.0 afa to offstream storage in existing Jamison Reservoir. The total amount of water to be diverted is not to exceed 335.25 afa and the season of diversion for both the direct diversion and the diversion to storage is from January 1 to December 31 of each year. The water is to be used for fire protection and domestic purposes within the Company service area. The points of diversion are within:

NW $\frac{1}{4}$ of SW $\frac{1}{4}$, Section 14 (2 points)
SW $\frac{1}{4}$ of NE $\frac{1}{4}$, Section 23, and
NE $\frac{1}{4}$ of SE $\frac{1}{4}$, Section 23, all
within T9S, R3W, MDB&M.

3. License 8199 is a license authorizing the diversion to storage of 45 afa from Hare Creek behind Hare Dam No. 1 for the period from October 1 of each year to May 1 of the succeeding year. The point of diversion is within the SW $\frac{1}{4}$ of NW $\frac{1}{4}$, Section 14, T9S, R3W, MDB&M. The purpose of use is irrigation and the place of use is 65.5 acres of golf course within Section 14 of the same township. The petition requests two changes: the addition of domestic use as a purpose of use and an increase in the place of use to the Big Basin Water Company service area being within Sections 2, 11, 12, 14, 15, 23, and 24 of said township.

Project of Applicant and Petitioner

4. The Company is a private water purveyor supplying treated (chlorinated) domestic water to 323 residential connections and 26 special connections (as of early 1977). It also provides untreated irrigation water to the Boulder Creek Golf Course. On July 24, 1973 the County of Santa Cruz placed a moratorium on new construction within the Company's service area to be in effect until the Company secured an adequate supply of water for domestic and fire protection services. The Company's objectives are to appropriate additional water to provide service to new residential units within its service area and to secure a water right entitlement to waters that it has historically used.

5. Hare Dam No. 1 was constructed in 1961 and No. 2 in 1972. As explained above, License 8199 authorizes diversion of water at Hare Dam No. 1. The Company and Nagilluc, Inc., et. al. are not diverting water behind Hare Dam No. 2. In addition, the diversion facilities on the four unnamed streams and Jamison Reservoir have been in use for many years.

Protests

6. Protests against the approval of the two applications and the petition to change were filed as follows:

- a. Application 24172 (Hare Reservoir No. 2): County of Santa Cruz, Save San Lorenzo River Association, Valley Citizens for Clean Water, Home Front, Northern California Council of Fly Fishing Clubs, John B. Denault and the California Department of Fish and Game (Department).
- b. Application 24804 (direct diversion and Jamison Reservoir): County of Santa Cruz, Save San Lorenzo River Association, Northern California Council of Fly Fishing Clubs, John B. Denault and the Department.

c. Petition to change License 8199 (to add domestic use and enlargement of place of use): County of Santa Cruz, Save San Lorenzo River Association and John B. Denault.

7. All protestants protested on the ground of adverse environmental impact; the County of Santa Cruz and the Save San Lorenzo River Association protested also on the ground that the approval of the applications and petition were not in the public interest. John B. Denault also protested on the ground of injury to his riparian right.

8. On October 23, 1975, the Department's protests to Applications 24172 and 24804 were dismissed. The dismissal of the protest relative to Application 24172 was based on acceptance by the applicants of the following permit terms and conditions:

"1. Applicant agrees to pay for annual replacement planting of 1,000 steelhead trout yearlings in the San Lorenzo River drainage below the project area to mitigate for losses of steelhead and habitat. This planting would be done by the Department of Fish and Game and will be subject to the approval of the Fish and Game Commission under Section 5942 of the Fish and Game Code."

"2. Applicant agrees to release water from project reservoir for maintenance of downstream fishlife and riparian habitat according to the following schedule (to be measured at the confluence of Hare Creek and Boulder Creek):

(a) From November 16 through April 30 bypass a minimum of 0.5 cubic foot per second;

The total streamflow shall be bypassed whenever it is less than the designated amount for that period.

(b) From May 1 through November 15 bypass a minimum of 0.05 cubic foot per second."

"3. No water shall be diverted under this permit until permittee has installed a device satisfactory to the State Water Resources Control Board which is capable of measuring the flows required by clause 2(a) and 2(b) of this permit. Said measuring devices shall be installed in Hare Creek (1) above the Hare Reservoir, and (2) within 100 yards of the confluence of Boulder Creek."

"4. In accordance with Section 6100 and/or Section 1602 of the Fish and Game Code, no water shall be diverted under this permit until the Department of Fish and Game has determined that measures necessary to protect fishlife have been incorporated into the plans and construction of such diversion. The construction, operation, or maintenance costs of any facility required pursuant to this provision shall be borne by the permittee."

9. On February 14, 1978 the County of Santa Cruz withdrew its protest to Application 24804.

10. In their answers to the protests, the applicants and licensee state that the Department's bypass requirements will mitigate any adverse effects on fish and wildlife in Hare Creek or on downstream riparian habitat. It was pointed out that releases from storage from Hare Reservoir No. 2 during the summer to maintain the minimum flow will in fact be beneficial since water will be available when the creek is normally dry. The measuring devices required by said agreement to be installed in Hare Creek both upstream and downstream of the reservoirs have been installed and are in operation. The other concerns of the protestants and the position of the applicants' and licensee relative thereto are discussed infra.

Existence of Unappropriated Water
For Application 24172

San Lorenzo. ^{11.} Hare Creek, the source under Application 24172, originates on the eastern slope of Ben Lomond Mountain and flows in a generally easterly direction for approximately 7,700 feet to its confluence with Boulder Creek. Boulder Creek continues in a southeasterly direction for approximately three miles to its confluence with the San Lorenzo River.

^{12.} Mean annual precipitation is estimated to be 58 inches. Annual runoff, both average and median is estimated as follows:

<u>Location</u>	<u>Drainage Area (acres)</u>	<u>Average Runoff (af)</u>	<u>Median Runoff (af)</u> ^{1/}
Hare Reservoir No. 2	525	800-900	530
Hare Reservoir No. 1	590	900-1000	600
At Mouth	775	1200-1350	800

^{13.} Availability of unappropriated water may be analyzed with the available data in this case as follows: first, the median annual runoff of Hare Creek may be compared to the proposed annual demand^{2/}; second, the measured annual flow of the San Lorenzo River at the Big Trees gauge may be compared with to supply the appli-

estimated that 293

^{1/} Median runoff typically equals 65 to 75 percent of average runoff. The figures presented in this column are the product of the fraction (2/3) and the lower figure in the average runoff column. These figures are also rounded off to the nearest 10 af. Finally, in an area where rainfall varies greatly from year to year, the use of a median rather than an average (mean) figure approximates the conditions more likely to prevail most years in the watershed. The foregoing method was used because of the need to assure that availability of a domestic water supply is not overestimated.

^{2/} This approach is again conservative. It omits any inflows of the Hare Creek watershed downstream of Hare Dam No. 1. However, this approach also assumes no losses from evaporation or seepage of the releases necessary to satisfy the

^{3/} Department's bypass requirement for fish and wildlife. It is assumed that these two factors will offset each other.

5.3 miles north.

the known annual demand downstream ; then the measured monthly flow of the San Lorenzo River at the Big Trees gauge may be compared with the known monthly demand downstream. Boulder Creek is necessary. Ideally, this analysis would extend the effect of the approval. License 8199 authorizes the Company to divert 45 afa from October 1 of each year to May 1 of the succeeding year. The Department's agreement requires a cumulative flow of about 20 af from May 1 through November 15 of each year and a maximum cumulative flow of about 165 af from November 16 of each year through April 30 of the succeeding year. The only other known diverter on Hare Creek is protestant John B. DeNault. Statement of Water Diversion and Use (S8215) submitted for an apparent riparian right indicates a possible maximum summer irrigation use of 200,000 gallons (0.61 af) with a diversion capacity of four gpm (0.009 cfs). The total maximum yearly flow necessary to satisfy all of the above requirements is 231 af. Since Application 24172 requests an appropriation of 61.5 afa to be collected from October 1 of each year to May 1 of the succeeding year, Hare Creek would have to supply 293 afa. The median runoff at Hare Dam No. 1 is about 600 afa; therefore, unappropriated water is available to supply the applicants if only the Hare Creek drainage is considered. It is estimated that 293 afa of runoff would be exceeded in about eighty percent of the years. Because this appropriation is for a municipal supply and because there will be insufficient water for this appropriation in about 20 percent

November 1 to May 31 - 20 cfs

of the years, applicants will have to anticipate such periods and take appropriate measures to reduce the water demand during those periods. Felton should also apply downstream to the Ocean, and assuming extension of the minimum bypass of 20 cfs for fish protection through the remaining

3/ The Big Trees gauge is that stream gauge station operated by the United States Geologic Survey on the San Lorenzo River at Big Trees which is 5.3 miles north of the City of Santa Cruz. License not to divert from the river in September.

15. Since hydraulic continuity exists between Hare Creek, Boulder Creek and the San Lorenzo River during portions of the year, an analysis of the effect of this appropriation on rights downstream of the confluence of Hare Creek and Boulder Creek is necessary. Ideally, this analysis would examine the affect of the appropriation on vested rights in Boulder Creek and in the San Lorenzo River. However, data for such a comprehensive analysis is not available. As an alternative, the flow at the Big Trees gauge can be examined and compared with the demands downstream to determine if unappropriated water is available in the river.

1975 1976 a. The City of Santa Cruz holds Licenses 1553 (Application 4017) and 7200 (Application 5215), which authorize a direct diversion of 6.2 cfs and 6.0 cfs, respectively, from the San Lorenzo River, year-round for municipal and industrial use. These diversions are the only known diversions downstream of the Big Trees gauge. The licenses do not require any bypass for fish and wildlife purposes.

b. The City of Santa Cruz also holds Permits 16123 (Application 22318) and 16601 (Application 23710) for diversion of 3,000 afa from the San Lorenzo River near Felton, which is upstream of the Big Trees gauge. Permit 16601 requires the following minimum flows in the San Lorenzo River at Felton for the protection of fish:^{4/}

October - 25 cfs
November 1 to May 31 - 20 cfs

c. Assuming that the minimum flows in the San Lorenzo River at Felton should also apply downstream to the Ocean, and assuming extension of the minimum bypass of 20 cfs for fish protection through the remaining

^{4/} Permit 16123 requires a minimum bypass of 10 cfs in the San Lorenzo River for the month of September. However, during negotiations with protestants on Application 23710, the City of Santa Cruz agreed not to divert from the river in September.

months,^{5/} analysis of the data from the Big Trees gauge results in the following excess flows in acre-feet that would have been available for appropriation during a representative six-year period from 1970-1975, 1961 (a moderately dry year), and a forty-year period of record.

Year	U.S.G.S.*	City Diversion	Fish Bypass	Excess*	Excess per square mile of watershed *
1970	134,900	2466	13,458	118,976	1120
1971	42,440	4259	11,811	26,370	250
1972	33,790	4193	10,260	19,337	180
1973	173,200	1227	13,883	158,090	1500
1974	119,000	2297	14,604	102,099	960
1975	73,390	3216	13,619	56,555	530
Average	96,120	2943	12,940	80,200	755
40-year Average	98,080	8820 (max)	14,764 (max)	74,500	700
1961	17,990	8089 (max available)	7,067	2,834	25

* Does not account for the City of Santa Cruz diversions at Felton under Permits 16123 and 16601 (3,000 afa), which diversions did not begin until 1976.

d. The above table indicates a substantial excess amount of water available for appropriation from the river during most years and further indicates a substantial excess of water per square mile of watershed.^{6/} Accordingly, an analysis of the effect of the appropriation on

^{5/} Since the negotiated fish flows contained in Permit 16601 are more recent than those contained in Permit 16123, it was assumed that the minimum 20 cfs requirement should apply to the months of June through September. There is no current requirement for minimum flows during these months in any permit or license on the lower San Lorenzo River except the 10 cfs previously mentioned for September (see footnote 4).

^{6/} The watershed of Hare Creek differs from the watershed of the majority of the San Lorenzo River. For example, the watershed of Hare Creek is both steeper and possesses a heavier soil mantle than the rest of the watershed. Accordingly, minor storms produce less runoff than normal -- a result of the moisture holding properties of the soil mantle. As the soil mantle becomes saturated during moderate storms, Hare Creek approaches or exceeds the regional runoff average. For intense storms, the steeper slopes produce more runoff than normal.

the entire San Lorenzo River watershed indicates that sufficient water is available in an average year to satisfy the proposed appropriation. The analysis also indicates that there may be insufficient water for this appropriation in a dry year, especially if the full 3,000 afa diversion under Permits 16123 and 16601 of the City of Santa Cruz is taken into consideration.

16. The data from the Big Trees gauge for the six-year period from 1970-1975 and for the moderately dry year was also disaggregated to provide a theoretical analysis of monthly and daily flows in the San Lorenzo River. This analysis is summarized in the following table:

Month	1970 through 1975				1961		
	Av. Excess* (af)	Excess per sq. mi. (af)	Av. # days w/o excess	% of time	Exc* (af)	#days w/o exc.	% of time
Jan	20,000	188	0	0	13	24	75
Feb	17,300	163	0	0	735	8	29
Mar	19,300	182	2	6	1313	13	42
Apr	7,900	74	3	10	0	24	80
May	2,200	20	5	16	0	31	100
Jun	800**	7.5	7	23	0	30	100
Jul	240**	2.2	19	61	0	31	100
Aug	55**	0.5	26	84	0	31	100
Sep	12**	0.1	30	100	0	30	100
Oct	50	0.5	27	87	0	31	100
Nov	4,800	42	8	27	0	28	94
Dec	7,600	72	0	0	773	25	81

* Does not consider the City of Santa Cruz diversions from the San Lorenzo River at Felton under Permits 16123 and 16601 (3,000 afa October 1 through June 1) which did not begin until 1976.

** 1970-1975 average excess flow for June, July, August and September would be 1840, 1250, 840, and 215 acre-feet respectively if the assumed 20 cfs fish bypass was not considered (see footnote 5).

17. The above table indicates that substantial excess flow exists in the lower San Lorenzo River during the months of November through April, except in dry years. Flows drop off sharply in May. In June through September, little excess water is available if the minimum fish flow required the rest of the year is also considered during those months. If no provision is made for fish flows during the summer, significant amounts of water are available in the river. The above table further indicates very little excess water in the lower San Lorenzo River during October. The requested diversion season for Application 24172 on Hare Creek is from October 1 of each year to May 1 of the succeeding year. Since continuity of flow exists at times between Hare Creek and the San Lorenzo River during October^{7/} the diversion season under Application 24172 should be reduced to the period November 1 of each year to April 30 of the succeeding year.

18. In summary, findings 11 through 17 establish that unappropriated water is available to supply the applicants under Application 24172, but that the diversion season should be reduced as found above.

19. The intended use is beneficial.

Jurisdiction of the Board over the Sources of Water in Application 24804

20. Applicant has requested that the Board initially determine whether it has jurisdiction over the sources of water for Application 24804. Heretofore, the sources have been described as "four unnamed streams". The Company claims

25. The four unnamed streams originate on the eastern slope of San Lombard Mountain in drainages south of Hare Creek. The combined tributary area

^{7/} Permit progress reports for Application 19877 indicate that Hare Creek does flow in October sometimes.

that the sources are springs located on property owned by the Company, that they are not streams or other water sources with defined channels, that they are true percolating waters, and that therefore they are owned outright by the Company. In the alternative, the Company contends that, if the Board determines that it has jurisdiction with regard to these sources, the Company nonetheless possesses a riparian right to use some of the water from these springs. In any event, the Company agreed not to exercise its claimed existing rights to the four unnamed streams so long as a permit or license remains in effect.

21. Application 24804, as first submitted by the Company with a cover letter dated April 15, 1975, identified the points of diversion as three springs: Jamison Spring, Corvin Spring, and Forest Spring^{8/}. The map submitted with the application suggested that there may be two springs or points of diversion at the location identified as Jamison Spring. By a telephone contact with the Company on April 29, 1975, this ambiguity was clarified. It was determined that the points of diversion are not located at the springs but rather are located some distance downstream and that there were four points of diversion. Two of the four unnamed streams are tributary to Jamison Creek; the other two unnamed streams are tributary to Boulder Creek.

22. The evidence at the hearing established that water flows out of the springs into unnamed streams and at times maintains surface continuity with Jamison Creek or Boulder Creek and that this surface flow may be largely attributed to the installation of a lateral pipe system in the springs by the Company. The evidence further establishes that subsurface waters not diverted from the spring percolate through the debris deposits and the upper zones of the underlying rock to emerge in the perennial seepage faces in the Bracken

^{8/} Staff suggested the filing of Application 24804 by the Company during the initial investigation relating to Application 24172.

Brae reach of Boulder Creek. If the springs had not been improved, much of the water presently diverted would have continued as this subsurface seepage to Boulder Creek^{9/}.

23. The Board, under Water Code Sections 1200 and 1201, has jurisdiction over a diversion or use of water from a surface body of water, or from subterranean streams flowing through known and definite channels, which is initiated after December 19, 1914, and which is not used under exercise of a riparian right. Here there is a diversion and use of water from the following three separate classes of water: (1) surface runoff which is collected in the unnamed streams during heavy rains; (2) flow from the springs to the unnamed streams that would have occurred in a state of nature; (3) flow from the springs to the unnamed streams that occurs solely from the man-made improvements. Since there was no evidence submitted of a pre-1914 appropriative right to the use of water from the first two classes, the Board has jurisdiction, if the Company does not possess a riparian right to the use of such water. Three general requirements must be satisfied to establish a riparian right: (1) the right attaches to land which abuts a stream, lake, or pond; (2) the right attaches only to the smallest parcel held under one title in the chain of title; (3) the place of use of water under a riparian right is limited to riparian lands within the watershed of the particular stream. See Hudson v. West, 47 Cal 2d 823, 306 P. 2d 807 (1957); Hudson v. Dailey, 156 Cal. 617, 106 P. 748 (1909). The first requirement evidently is satisfied. The second requirement can only be determined by a comprehensive review of the chain of title, a review which neither the Board nor the Company has undertaken. The third requirement may be easily determined from a topographic map. Such a review indicates that the principal area of use of the water from these unnamed streams is outside their watershed.

^{9/} During heavy rains the majority of the water flowing in the unnamed streams would be surface runoff collected in those streams. Little of this storm runoff would be diverted for use.

Accordingly, the Board has jurisdiction over the diversion and use of water from the first two classes, to the extent that such water is not used within the watershed of those streams ^{10/}.

24. In Churchill v. Rose, 136 Cal. 576, 69 Pac. 416 (1902) the California Supreme Court concluded that an owner (the defendant) of land who increases the flow of a spring on his property possesses the right to use the increased flow of the spring even though said spring was in hydraulic continuity with a stream that flowed off the defendant's land. This is the situation here concerning the third class of water indicated above. Churchill was decided prior to December 19, 1914 -- the effective date of the Water Commission Act (Stats. 1913, Ch. 586, page 1012). No appellate court has decided the extent of the Board's jurisdiction over such waters. However, the Board in Decision 1423 concluded that water made available by artificial work was then available for appropriation by the salvagor. The construction of a statute by an administrative agency charged with its execution is entitled to great weight. Environmental Defense Fund v. California Air Resources Board, 30 Cal. App. 3d 832 (1973). Finally, the State has a substantial interest in assuring that the water resources of the state be put to beneficial use to the fullest extent of which they are capable. This goal can best be accomplished through the administration of water rights as required by Part 2, Division 2 of the Water Code.

Existence of Unappropriated Water for
Application 24804

25. The four unnamed streams originate on the eastern slope of Ben Lomond Mountain in drainages south of Hare Creek. The combined tributary area

^{10/} This statement assumes that the applicant could satisfy the second requirement, a matter of some doubt.

is about 240 acres. The only known diversion from the four unnamed streams are those of the Company and of another water purveyor who shares water from the unnamed stream which is fed by Forest Spring. As earlier indicated, water from these unnamed streams has been used for many years. Although the records of these diversions indicate a great variability in the flow of these four unnamed streams, the requested annual yield of 335 acre-feet (average flow of 0.46 cfs) appears reasonable and the instantaneous diversion of 0.52 cfs would be available during a portion of the year. Nonetheless, the records further indicate that in 25 - 30 percent of the years the requested appropriation will not be available. Accordingly, the applicant will have to anticipate such periods and take appropriate measures to reduce the water demand during those dry periods.

26. Two factors bear on the question of the appropriate diversion the place of use and purpose of use. If the Board finds that the change will not operate to the injury of the stream conditions and the second is the effect of the Company's enhancement of the yield of the source. Our previous analysis utilizing the record of the the place of use to the entire service area of the Company, under License 8199, Big Trees gauge showed that there is substantial excess flow in the lower San Lorenzo River during the winter and spring. Some surplus water is present and bypass conduits for Hare Reservoir No. 2, which is immediately upstream at Big Trees in June through September (the most critical month) even with of Hare Reservoir No. 1; instead, water released from the upstream reservoir allowance for the minimum flows of 20 cfs, which are not presently required. may be rediverted utilizing the existing conduits from Hare Reservoir No. 1. The Board has held in past decisions that an applicant who enhances the yield of a system is entitled to use of the water so produced (see Finding 24, above). 8199 for irrigation of the golf course; nevertheless, water from the two appropriate During critical dry months, it is likely that substantially all the water available for diversion from the unnamed streams is that which results from the applicant's improvement efforts at the upstream springs. If not diverted, such water would eventually flow by subsurface means to Boulder Creek thence down stream to the ocean. However, given the relatively long time frames required event, any return flow from irrigation of the golf course decreased for subsurface percolation, it is doubtful that water diverted by the applicant during the dry season would improve

downstream conditions prior to the winter rains, if it were allowed to continue in its natural course. Some of the water diverted from the unnamed streams by the applicant is consumptively used. Some runs off from lawns, etc. into Hare and Boulder Creeks; part enters the waste treatment system which carries it to subsurface leaching fields or to the golf course for irrigation. Any of the irrigation water which runs off would flow directly to Hare Creek. The foregoing considerations taken together with the fact that the applicant should be given a preference to unappropriated water, (if available) for what is essentially a municipal use, indicate that an all year diversion season is proper.

27. The intended use is beneficial.

Effect of the Proposed Changes on any
Legal User of the Water Involved

28. Water Code Sections 1701 and 1702 allow any licensee to change the place of use and purpose of use, if the licensee establishes and the Board finds that the change will not operate to the injury of any legal user of the water involved. The Company has petitioned to add domestic use and to enlarge the place of use to the entire service area of the Company, under License 8199. This petition was submitted primarily to eliminate the need for separate outlet and bypass conduits for Hare Reservoir No. 2, which is immediately upstream of Hare Reservoir No. 1; instead, water released from the upstream reservoir may be rediverted utilizing the existing conduits from Hare Reservoir No. 1. The Company represents that it intends to continue to use the water under License 8199 for irrigation of the golf course; nevertheless, water from the two appropriations will be comingled and licensee wishes to avoid any charge that water is being used for an unauthorized purpose.

29. If said petition is granted, the water stored in Hare Reservoir No. 1 could be used to supply existing or future residential connections. In that event, any return flow from irrigation of the golf course would be decreased.

and the flow in Hare Creek may be diminished.^{11/} However, since the water would serve a domestic purpose, two principal uses may be made of it: (1) lawns and outside shrubbery may be irrigated; (2) water may be used inside dwellings, which will result in an increased flow of sewage. The first such use would be essentially equivalent to irrigation of the golf course. The second such use would result in discharge to a leach field, which is in hydraulic continuity with Boulder Creek. The net result will probably be either no change in the return flow regimen or a slight increase in the flow of Boulder Creek. In any event, the fish and wildlife terms to be included in the permit on Application 24172 assure an adequate flow in Hare Creek. Furthermore, reuse of domestic wastewater for such purposes as irrigation is consistent with the Board's reclamation policy and any change in operation which enhances the possibility of such reclamation should be considered favorably. The Board, therefore, concludes that the proposed changes will not operate to the injury of any legal user of the water involved.

^{11/} The Final EIR concludes that the irrigation water presently is completely consumed. The above paragraph assumes that some return flow occurs. If there is no existing return flow, the proposed changes will not operate to the injury of any legal user of the water.

• PUBLIC INTEREST CONSIDERATIONS RELATED
TO APPLICATION 24172

30. The major objections to Application 24172 are as follows:

- a. Insufficient water is available in Hare Creek to provide for both the appropriation and the Department's minimum flow requirements;
- b. The approval of Application 24172 will induce new development in the area with its associated adverse impacts;
- c. Hare Dam No. 1 and No. 2 present a seismic safety hazard during an earthquake ^{12/} ;
- d. The appropriation will injure the vested right of John B. DeNault.
- e. The Board should delay action on Application 24172 until completion of the final waterway management plan for the San Lorenzo River as required by the State Protected Waterways Act (Calif. Stats. 1971, c. 761, p. 1508; amended by Calif. Stats. 1975, c. 858, p. 1925).

12/ The concerns expressed in subdivisions (b) and (c) also apply to the petition to change License 8199. Our responses to these concerns will not be separately stated in the discussion regarding the petition to change License 8199. In addition; these concerns also are interrelated with the Final EIR prepared by the Board in this matter. Matter discussed in one section of this decision will not be repeated elsewhere and other minor concerns are omitted here. These are addressed in the Final EIR.

31. The Board's response to these concerns is as follows:

a. The findings regarding the availability of unappropriated water indicates that sufficient water is available in most years.

b. The Final EIR discusses the impact of new development in considerable detail and this discussion will not be repeated. The requested appropriation could provide domestic water during normal years for between 60 and the intended 141 additional residential connections (without severe rationing such as that practiced during 1977) depending on what unit supply rate or method of calculation is used. Although approval of this application does not guarantee any specific development, since additional environmental clearances, approvals, and permits would be required by other public agencies, the denial of this application might effectively prohibit the intended development for lack of an adequate water supply. A denial by this Board based solely on the ground of growth inducement is not warranted. The appropriate level of growth in this area is principally a matter for local agencies to decide. Where, on the other hand, such growth may substantially adversely effect other areas within the Board's expertise, such as water quality, a denial of an application may be appropriate.

c. Due to a lack of information on the design and construction of Hare Dam No. 1, it may be that this dam presents a safety hazard. Records concerning Hare Dam No. 2, however, indicate that a soil mechanics, foundations, and materials consulting engineer performed design studies and prepared placement specifications for the foundation and fill material of the dam. During construction, the consultant also performed materials testing and inspected all foundation and embankment operations. Upon completion, the consultant indicated that the project was constructed in accordance with its recommendations. It is apparent that neither dam is within the jurisdiction of the Division of

Safety of Dams, Department of Water Resources. The Final EIR contains recommendations mostly regarding the safety of Hare Dam No. 1. In addition, Hare Dam No. 2 may require maintenance work to correct conditions that may have developed due to nonuse and minimum repair since construction in 1972. The Board concludes that, in accordance with Section 781, Article 19, Subchapter 2, Chapter 3 of Title 23, Cal. Adm. Code, the permit for Application 24172 and the Change Order for License 8199 should be withheld until an engineer, registered in the State of California, certifies that the recommendations contained in the EIR have been completed and that any necessary maintenance work on Hare Dam No. 2 has been accomplished.

d. The discussion of availability of unappropriated water concludes that there is sufficient water in normal years for both this appropriation and satisfaction of protestant DeNault's alleged riparian right. Furthermore, since the measuring point of the Department's minimum flow requirements could be located downstream of protestant DeNault's diversion point, he can be assured of adequate water to supply his claimed riparian right.

e. The Final EIR confirms that while it would be desirable to have the completed Waterway Management Plan, there is no good reason to withhold action on this application pending preparation of the final Plan.

PUBLIC INTEREST CONSIDERATIONS RELATED
TO APPLICATION 24804

32. There is no objection to Application 24804 insofar as it provides for service to existing connections in the Company's system. Other concerns are as follows:

a. The approval of Application 24804 will allow increased growth;

b. There are no proposed fish and wildlife minimum flow requirements as in Application 24172,

36. 33. The Board's response to these concerns is as follows:
for the petition: a. The response in Finding 31(b) applies.
held before the Board: b. The four unnamed streams ultimately contribute to
inflow in that portion of Boulder Creek downstream of the confluence of
Boulder Creek and Hare Creek. The Department's minimum flow require-
ments, therefore, mitigate, at least in part, the adverse impact of
these diversions as well.

information contain PUBLIC INTEREST CONSIDERATION RELATED
TO LICENSE 8199

37. The

34. There is no major objection to the petition to change the purpose
caused by the appr and place of use under License 8199. The two major concerns are the safety of
change License 8199

Hare Dam No. 1, which was discussed above, and, the applicability of the

a. Department's minimum flow requirements to the water stored under this license.
geology but it not

Since the Department did not protest the change petition, the Department's

b. minimum flow requirements do not apply to it. Moreover, because Hare Reservoir
to initial siltation

No. 2 could be completely drained into Hare Reservoir No. 1, the permittee

c. could evade the Department's minimum flow requirements. To assure that the
increased during

d. minimum downstream flow is not circumvented in this manner, the first water

stored in Hare Reservoir No. 2 could be reserved for downstream release purposes
summer flows. App

with a specified declining balance on the first of each month from May through
of water from the

November. The sixth provision in the order for Application 24172 implements
substantially red

e. the above condition.

35. License 8199 does not presently contain several standard terms.
area and this dir

The third and fourth provision in the order for License 8199 adds these terms.

residential const

FINDINGS CONCERNING THE CALIFORNIA
ENVIRONMENTAL QUALITY ACT

36. The Board prepared an EIR for Application 24172 and 24804 and for the petition to change License 8199. A public hearing on the Draft EIR was held before the Board on December 6, 1977. On May 18, 1978, the Board certified in Resolution No. 78-32 that the Final EIR had been completed in compliance with the California Environmental Quality Act (Public Resources Code Section 21000 et. seq.) and the State EIR Guidelines (Chapter 3, Title 14 of the Cal. Adm. Code, commencing with Section 15000) and that the Board had reviewed and considered the information contained therein.

37. The Final EIR identified the following impacts that could be caused by the approval of Applications 24172 and 24804 and the petition to change License 8199:

- (1) Increased erosion following the residential construction;
- (2) Increased erosion following the residential construction;
- (3) A long term increase in erosion following the residential construction;
- (4) A temporary increase in erosion following the residential construction;
- (5) A long term increase in erosion following the residential construction;
- (6) Increased erosion following the residential construction;
- (7) Natural vegetation will be removed or destroyed by construction to restrict root penetration;
 - a. The Final EIR indicated no significant impacts relating to geology but it noted that the project was in an area of geologic activity. *blepharophylla*, a rare and endangered plant, will be removed or destroyed by construction to restrict root penetration;
 - b. Increased turbidity of water in Hare Creek may occur due to initial siltation during filling;
 - c. Dissolved oxygen may be reduced and water temperature increased during late summer in both reservoirs;
 - d. Presently, golf course irrigation during dry years depletes an adverse effect on wildlife due to present summer flows. Approval of Application 24804 will continue the consumptive use of water from the four unnamed streams. Approval of Application 24172 will substantially reduce the underflow drainage to Boulder Creek.
 - e. Residential growth may occur within the Company's service area and this direct impact may cause the following secondary impacts:
 - (1) A temporary increase in erosion may occur from the consumption because of the residential construction;

(2) A temporary degradation of air quality may occur from dust emissions from construction equipment;

(3) A long term degradation of air quality may occur from increased traffic associated with residential occupancy;

(4) A temporary increase of ambient noise levels may occur from construction activity;

(5) A long term increase of ambient noise levels may occur from increased traffic associated with residential occupancy;

(6) Increased erosion may occur for two to three years following the residential construction;

(7) Natural vegetation around residential development sites will be removed or destroyed by construction activity and soil compaction will

(8) Development of Unit 7 may destroy habitat of *Arabis blepharophylla*, a rare and endangered plant species; site investigation yielded

(9) Increased human presence will have an adverse effect on wildlife and their habitat;

(10) Domestic dogs and cats and feral house cats will have an adverse effect on wildlife due to predation;

(11) There will be an increase in solid waste associated with increased residential growth;

(12) There will be an increase in sewage flow associated with increased growth;

(13) There will be an increase in electrical energy consumption because of the residential growth.

13/ The only years when there will be insufficient water for the Department's minimum flow requirements will be in those years when no water is available for appropriation under Application 24172.

38. The Board makes the following findings concerning the impacts indicated in Finding 37:

a. The geologic activity of the area was treated as a constraint on the use of storage facilities on Hare Creek. The dam safety study included in the Final EIR recommended several changes, mostly concerning Hare Dam No. 1. As indicated in Finding 31.c. above, the Board will withhold issuance of a permit on Application 24172 and a change order for License 8199 until a registered engineer certifies that the recommendations have been completed.

b. This impact, although adverse, is not significant.

c. This impact is an unavoidable impact of any small storage reservoir.

d. The Department's minimum flow requirements will assure mitigation and represents a beneficial long-term impact. In those years when there is insufficient water for the Department's minimum flow requirements, the fish resources and riparian habitat will be adversely effected, but this is an unavoidable impact of the approval of these applications and the petition to change.^{13/} In those years, the Company also will have insufficient water to supply its customers and a stringent water conservation program would have to be undertaken. The tenth provision of the order for Application 24172 mandates such a program.

^{13/} The only years when there will be insufficient or no water for the Department's minimum flow requirements will be in those years when no water is available for appropriation under Application 24172.

(1) The applicants indicate that this impact can be mitigated by controlled construction practices. Any water quality problems associated with said construction is within the jurisdiction of the California Regional Water Quality Control Board, Central Coast Region; the Regional Board shall assure protection of water quality from said construction activities.

ORDER

(2) - (7) The impacts identified in subsections (2) through (7), although adverse, are not substantial and that a permit be issued to the applicants subject to vested rights and to the following terms and conditions: (8) Since no specimens of this rare and endangered plant species were found in the identified habitat, this impact, although adverse, is not substantial and shall not exceed 61.5 acres-foot per annum to be collected from November 1 of each year.

(9) This adverse impact is an unavoidable consequence of the approval of these applications and the petition to change of 1,000 steelhead trout year.

(10) This adverse impact is in part an unavoidable consequence of the approval of these applications and the petition to change. The County of Santa Cruz has jurisdiction in this area and enforcement of leash laws would partially mitigate this adverse impact. Fish and Game Code.

(11) This impact, although adverse, is not substantial for maintenance of domestic sewage. The County Service Area No. 7 treatment plant is capable of handling increased domestic sewage. Approximately 17% of historic domestic water use has been reclaimed through the sewage treatment plant for irrigation use on the Boulder Creek Country Club Golf Course. Similar less.

(12) From November 1 through the sewage treatment plant for reclamation of increased sewage can be expected, the downstream flow shall be 0.05 cubic foot per second.

(13) This impact, although adverse, is not substantial.

(3) From November 1 to November 15, the downstream flow shall be a minimum of 0.05 cubic foot per second.

From the foregoing findings, the Board concludes that Applications 24172 and 24804 and the petition to change License 8199 should be approved and that permits should be issued to the applicants and a change order to the licensee, subject to the limitations and conditions set forth in the orders following:

ORDER

IT IS HEREBY ORDERED that Application 24172 be approved and that a permit be issued to the applicants subject to vested rights and to the following terms and conditions:

1. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 61.5 acre-feet per annum to be collected from November 1 of each year to April 30 of the succeeding year.

2. Permittee shall pay for annual replacement planting of 1,000 steelhead trout yearlings in the San Lorenzo River drainage below the project area to mitigate for losses of steelhead and habitat. This planting shall be done by the Department of Fish and Game, subject to the approval of the Fish and Game Commission under Section 5942 of the Fish and Game Code.

3. Water from the reservoir shall be released in sufficient quantity for maintenance of downstream fishlife and riparian habitat according to the following schedule:

(1) From November 16 through April 30, the downstream flow shall be 0.5 cubic foot per second or the natural inflow, whichever is less.

(2) From May 1 through October 31, the downstream flow shall be 0.05 cubic foot per second or the natural inflow, whichever is more.

(3) From November 1 to November 15, the downstream flow shall be a minimum of 0.05 cubic foot per second.

4. No water shall be diverted under this permit until permittee has installed devices satisfactory to the State Water Resources Control Board which are capable of measuring the flows required by the conditions of this permit. Natural inflow shall mean the total streamflow in Hare Creek immediately upstream of the project reservoir. Downstream flow shall mean the flow in Hare Creek within 100 yards of the confluence of Boulder Creek, but in no case upstream of the existing diversion facilities of John B. DeNault. Said measuring devices shall be properly maintained.

5. In accordance with Section 1603 and/or Section 6100 of the Fish and Game Code, no water shall be diverted under this permit until the Department of Fish and Game has determined that measures necessary to protect fishlife have been incorporated into the plans and construction of such diversion. The construction, operation, or maintenance costs of any facility required pursuant to this provision shall be borne by the permittee.

6. Water held in storage under this permit shall first be considered reserved for necessary releases to satisfy the maintenance of downstream fishlife and riparian habitat as required by the conditions of this permit. To this end, 19.5 acre-feet of water, or the total amount in the reservoir if less, shall be retained in storage on May 1 of each year. On the first day of each succeeding month, a quantity determined by subtracting three acre-feet per month from said 19.5 acre-feet, or the total amount in the reservoir on such date, if less, shall be retained in storage for releases during the period from May 1 through November 15 of each year.

7. Permittee shall install and maintain devices satisfactory to the State Water Resources Control Board to measure the quantity of water held in storage in the reservoir for maintenance of downstream fishlife and riparian habitat.

8. Permittee shall maintain records showing the quantity of natural inflow into the reservoir, downstream flow in Hare Creek, reserved storage volume and releases from storage to satisfy the maintenance of downstream fish-life and riparian habitat, withdrawals for domestic purposes, and withdrawals for irrigation purposes. Said records shall be compiled no less frequently than weekly. Copies of such records shall be forwarded to the State Water Resources Control Board no less frequently than bimonthly.

9. Permittee shall assure that all connections to its water system are metered.

10. If precipitation for the months of October through April of any water year is less than 50 percent of the median precipitation for those months (as measured at the precipitation station nearest Boulder Creek with a minimum period of record of ten years), the permittee shall, by May 15, submit a water conservation program to the Board for review in accordance with the continuing authority specified in paragraph 16 next below.

11. This permit does not authorize collection of water to storage outside of the specified season to offset evaporation and seepage losses or for any other purpose.

12. The amount authorized for appropriation may be reduced in the license if investigation warrants.

13. Complete application of the water to the proposed use shall be made on or before December 1, 1982.

14. Progress reports shall be submitted promptly by permittee when requested by the State Water Resources Control Board until license is issued.

15. Permittee shall allow representatives of the State Water Resources Control Board and other parties, as may be authorized from time

to time by said Board, reasonable access to project works to determine compliance with the terms of this permit.

16. Pursuant to California Water Code Section 100, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water. It is hereby further ordered that the Executive Director shall not issue a permit. This continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to minimizing waste of water and to meeting the reasonable water requirements of permittee without unreasonable draft on the source. Permittee may be required to implement such programs as (1) reusing or reclaiming the water allocated; (2) restricting diversions so as to eliminate agricultural tail-water or to reduce return flow; (3) suppressing evaporation losses from water surfaces; (4) controlling phreatophytic growth; and (5) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

17. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Resources Control Board if, after notice to the permittee and an opportunity

for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

IT IS HEREBY FURTHER ORDERED that the Executive Director shall not issue a permit on Application 24172 until an engineer, registered in the State of California, has certified that the following actions have been completed:

1. A soils and geotechnic investigation shall be carried out to determine the adequacy of the Hare Dam No. 1 embankment and foundation, and any necessary remedial work shall be completed.
2. Spillways of Hare Dam No. 1 shall be reconstructed to pass a 1,000 year flood safely with 1½ feet of freeboard.
3. Roadway bridge supports shall be removed from the spillways of Hare Dam No. 1.
4. Debris barriers shall be installed upstream of the Hare Dam No. 1 spillways.
5. Repair work shall be undertaken on the spillway of Hare Dam No. 2 to prevent further erosion and damage to the structure.
6. Wooden boards shall be removed from the spillway of Hare Dam No. 2.
7. Maintenance work necessary for initiation of storage behind Hare Dam No. 2, such as removal of brush and repair of surface erosion of the embankment, shall be completed.

IT IS HEREBY FURTHER ORDERED that Application 24804 be approved and that a permit be issued to the applicant subject to vested rights and to the following terms and conditions:

1. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 0.52 cubic foot per second by direct diversion and 10 acre-feet per annum by storage from January 1 to December 31 of each year.

The total amount of water to be taken from the sources shall not exceed 335.25 acre-feet per water year of October 1 to September 30.

2. The amount authorized for appropriation may be reduced in the license if investigation warrants.

3. Complete application of the water to the proposed use shall be made on or before December 1, 1982.

4. Progress reports shall be submitted promptly by permittee when requested by the State Water Resources Control Board until license is issued.

5. Permittee shall allow representatives of the State Water Resources Control Board and other parties, as may be authorized from time to time by said Board, reasonable access to project works to determine compliance with the terms of this permit.

6. Pursuant to California Water Code Section 100, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

This continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to minimizing waste of water and to meeting the reasonable water requirements of permittee without unreasonable draft on the source. Permittee may be required to implement such programs as (1) reusing or reclaiming the water allocated; (2) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow (3) suppressing evaporation losses from water surfaces; (4) controlling phreatophytic growth; and (5) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

7. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Resources Control Board if, after notice to the permittee and an opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

8. Permittee shall not exercise any other existing right to the use of water named herein so long as this permit or any license issued pursuant thereto remains in effect.

IT IS HEREBY FURTHER ORDERED that the petition to change License 8199 is granted and License 8199 is amended as follows:

1. The purpose of use shall be amended to read: domestic and irrigation use.

2. The place where water is put to beneficial use shall be amended as follows:

Irrigation

imposing specific requirements on and 65.5 acres within Section 14, T9S, R3W, MDB&M, as shown on map filed with the State Water Resources Control Board.

requirements of Domestic without unreasonable

may be required to improve area of the Big Basin Water Company, being within Sections 12, 14, 15, 23, and 24, T9S, R3W, MDB&M, as shown on map filed with the State Water Resources Control Board.

3. The following terms shall be added as follows:

The quantity of water diverted under this license is subject to modification by the State Water Resources Control Board if, after notice to the licensee and an opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the water code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements

IT IS HEREBY FURTHER ORDERED that the specific requirements which have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and State of California, has certified that

(2) the water quality objectives cannot be achieved solely through the control of waste discharges.

4. The following term shall be added as follows:

Pursuant to California Water Code Section 100, all rights and privileges under this license, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to prevent waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of said water.

This continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this license with a view to minimizing waste of water and to meeting the reasonable water requirements of licensee without unreasonable draft on the source. Licensee may be required to implement such programs as (1) reusing or reclaiming the water allocated; (2) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (3) suppressing evaporation losses from water surfaces; (4) controlling phreatophytic growth; and (5) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this license and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

Dated: June 15, 1978

WE CONCUR:

/s/ W. W. ADAMS

/s/ JOHN E. BRYSAN

W. W. Adams, Member

John E. Bryson, Chair

/s/ W. DON MAUGHAN
W. Don Maughan, Vice Chair

IT IS HEREBY FURTHER ORDERED that the Executive Director shall not issue a change order for License 8199 until an engineer, registered in the State of California, has certified that the following actions have been completed:

1. A soils and geotechnic investigation shall be carried out to determine the adequacy of the Hare Dam No. 1 embankment and foundation, and any necessary remedial work shall be completed.

2. Spillways of Hare Dam No. 1 shall be reconstructed to pass a 1,000 year flood safely with 1½ feet of freeboard.

3. Roadway bridge supports shall be removed from the spillways of Hare Dam No. 1.

4. Debris barriers shall be installed upstream of the Hare Dam No. 1 spillways.

5. Repair work shall be undertaken on the spillway of Hare Dam No. 2 to prevent further erosion and damage to the structure.

6. Wooden boards shall be removed from the spillway of Hare Dam No. 2.

7. Maintenance work necessary for initiation of storage behind Hare Dam No. 2, such as removal of brush and repair of surface erosion of the embankment, shall be completed.

Dated: June 15, 1978

WE CONCUR:

/s/ W. W. ADAMS
W. W. Adams, Member

/s/ JOHN E. BRYSON
John E. Bryson, Chairman

/s/ W. DON MAUGHAN
W. Don Maughan, Vice Chairman