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BEFORE THE DIVISION OF WATER RIGHTS
DEPARTMENT OF PUBLIC WORKS
STATE OF CALIFORNIA

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IN THE MATTER OF APPLICATIONS NOS. 348,349,1990 and 2916
OF THE CITY OF SAN LUIS OBISPO, FOR PERMITS TO APPROPRIATE
WATER FROM LOPEZ CREEK, A TRIBUTARY OF ARROYO GRANDE CREEK
IN SAN LUIS OBISPO COUNTY, CALIFORNIA, AND FROM SALINAS
RIVER IN SAN LUIS OBISPO COUNTY, CALIFORNIA, FOR MUNICIPAL
PURPOSES, AND

IN THE MATTER OF APPLICATION NO. 2302 OF VICTOR L. BENTSON,
ON BEHALF OF THE BIDDLE ESTATE, FOR A PERMIT TO APPROPRI-
ATE WATER FROM ARROYO GRANDE CREEK, TRIBUTARY TO THE PACIFIC
OCEAN, IN SAN LUIS OBISPO COUNTY, FOR AGRICULTURAL PURPOSES.

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DECISION NO. 348,349,1990,2302 and 2916 D 109
Decided June 1, 1926.

APPEARANCES AT HEARING HELD JUNE 13, 1924, AT ARROYO
GRANDE, CALIFORNIA.

For Applicant, (City of San Luis Obispo)

Walter L. Huber,
Civil Engineer,
Louis F. Sinsheimer, Mayor,
M. A. Fitzgerald,
City Attorney,
W. B. Burch, Engineer

For Applicant, (Victor L. Benston)

Victor L. Bentson
James Killian

For Protestant, (Water Users Association,
Arroyo Grande Valley
Chamber of Commerce)

Clarence C. Ward

For Protestant, (Branch Mill Water Co.)

S. V. Wright

For Protestant, (Midland Counties
Public Service Corporation)

F. H. Pearson

For Protestant, (Mrs. Clara Tomek)

in propria persona

Examiner:

Edward Hyatt, Jr.,
Chief of Division of
Water Rights, Department
of Public Works, State of
California.

O P I N I O N

Application Number 348 was filed by the City of San Luis Obispo on May 20, 1916. It proposes an appropriation of five cubic feet per second by direct diversion from the waters of Lopez Creek, tributary to Arroyo Grande Creek in San Luis Obispo County, to be used for power purposes. The application was protested by the following:

<u>Protestant</u>	<u>Date filed</u>
Farmers Local Union No. 145 of Arroyo Grande Valley	May 2, 1917
Arroyo Grande Chamber of Commerce	May 10, 1917
City of Arroyo Grande	May 10, 1917
Branch Mill Irrigation Company and Arroyo Grande Irrigation Company, et al.	May 15, 1917
Twenty-two individual protestants	May 17, 1917
Fifty-four individual protestants	May 18, 1917
Fourteen individual protestants	May 19, 1917
Oceana Chamber of Commerce	May 29, 1917
Mrs. Cora Tomek	August 20, 1921
Albert C. Hayes	June 1, 1922
Philip Biddle, et al.	July 13, 1922
R. I. Pierce	May 29, 1924

Application Number 349 was filed by the City of San Luis Obispo on May 20, 1916. It proposes an appropriation of eight cubic feet per second by direct diversion of the waters of Salinas River in San Luis Obispo County to be used for municipal purposes. It was protested by the following:

<u>Protestant</u>	<u>Date Filed</u>
60 citizens of Santa Margarita and vicinity	April 10, 1917
Santa Margarita Land and Cattle Company	May 19, 1917
C. E. Range	May 14, 1917
32 Residents of the Valley of the Salinas River	May 21, 1917
City of El Paso de Robles	June 8, 1917
16 farmers of Salinas Valley	June 23, 1917
C. S. Pike	June 14, 1917
J. L. Hardie	June 14, 1917
A. Nyberg	June 14, 1917
R. L. Perry	June 14, 1917
A. W. Allen	June 14, 1917
Andrew P. Borkey	June 14, 1917
John Stich and Joe Stich	June 14, 1917
D. R. Hardie	June 14, 1917
John Estergren	June 14, 1917
E. N. Hayes	June 14, 1917
M. C. Clark and John Marsorini	June 14, 1917

<u>Protestants</u>	<u>Date Filed</u>
M. S. Stevenson	June 14, 1917
J. M. Kalar	June 14, 1917
H. C. Hurst	June 14, 1917
Alex Webster and M. F. Gates	June 14, 1917
F. B. Pendry	June 14, 1917

Application Number 1990 was filed by the City of San Luis Obispo on August 30, 1920. It proposes an appropriation of four cubic feet per second by direct diversion from the waters of Lopez Creek, tributary to Annoyo Grande Creek in San Luis Obispo County, to be diverted from January 1st to December 31st of each year, and to be used for municipal purposes. The application was protested by the following:

<u>Protestants</u>	<u>Date Filed</u>
Philip Biddle, et al	July 13, 1922
Water Users of Arroyo Grande District	May 9, 1924
Mrs. Cora Tomek	May 22, 1924
Stewart and Jones Ditch Company	May 24, 1924
Jessie G. and Albert C. Hayes	May 29, 1924
R. I. Pierce	May 29, 1924
R. W. Nuttall	June 16, 1924

Application Number 2302 was filed by Victor L. Bentson on behalf of the Biddle Estate on April 13, 1921. It proposes an appropriation of 16 cubic feet per second by direct diversion from the waters of Arroyo Grande Creek in San Luis Obispo County, to be used for irrigation purposes on 378.81 acres of land in Rancho Corral de Piedra and Rancho Santa Manuela. To be so diverted from March 1st to November 30th of each season. The application was protested by the following:

<u>Protestant</u>	<u>Date of Filing</u>
Midland Counties Public Service Corporation	October 5, 1921
Branch Mill Water Company	October 13, 1921
Arroyo Grande Irrigating Company	October 31, 1921
Stewart and Jones Ditch Company	October 31, 1921
Paul Routzahn, L. W. Routzahn and Routzahn Co.	October 31, 1921
McNeil Pumping Company	October 31, 1921
R. A. Harris, W. A. Harris & Geo. R. Woodworth	October 31, 1921
Chamber of Commerce of San Luis Obispo, et al.	October 31, 1921

Application Number 2916 was filed by the City of San Luis Obispo on July 5, 1922. It proposes an appropriation of 1799 acre feet per annum by diversion to storage from the waters of Lopez Creek, tributary to Arroyo Grande Creek in San Luis Obispo County. To be diverted to storage between November 1st and April 1st of each season, and to be used for municipal purposes in the City of San Luis Obispo. The application was protested by the following:

<u>Protestant</u>	<u>Date of Filing</u>
Mrs. Cora Tomek	April 14, 1924
R. A. & W. A. Harris and Geo. R. Woodworth	April 21, 1924
Stewart and Jones Ditch Company	April 21, 1924
Paul and L. W. Routzahn and Routzahn Company	April 21, 1924
Arroyo Grande Irrigating Company	April 21, 1924
McNeil Pumping Company	April 21, 1924
J. R. Withrow, et al.	April 21, 1924
Branch Mill Ditch Company	April 21, 1924
Branch Mill Water Company	May 14, 1924
R. I. Pierce	May 29, 1924
R. W. Nuttall	June 16, 1924

The several applications were completed in accordance with the Water Commission Act and the requirements of the Rules and Regulations of the Division of Water Rights, and being protested were set for public hearing at the Justice Court Room, Arroyo Grande, California, on June 13, 1924, at 10:00 o'clock A. M. Of this hearing applicants and protestants were duly notified.

The protestants, in general, allege that the proposed diversions of the applicants would deprive them of an adequate supply of water to which they are lawfully entitled by virtue of their riparian or other prior vested rights; that their lands would consequently be rendered less valuable and even rendered practically worthless in many cases; that there is already an insufficient supply

for irrigation purposes during the summer months of a normal year and the necessity of water for irrigation purposes is becoming greater each year as more land is being developed in the valley; that the City of San Luis Obispo is not within the drainage area of the streams from which it is proposed to divert and for this reason should not be permitted to take water which already belongs to the riparian owners and legal appropriators; that the underground supply to which many of the people of the Valleys have resorted because of the insufficient surface flow in the streams during the summer months, it will be diminished and a lowering of the subterranean waters of the creeks and valleys caused by the proposed diversions, and that there are other sources of supply available for the use of the city without resorting to a source which if diminished would affect the property of the entire valley itself and consequently that of the city itself.

At the hearing held at Arroyo Grande on June 13, 1924, there was very little data presented of a physical character upon which the Division could be guided in its endeavor to render a decision in the matter of the applications of the City of San Luis Obispo and the applications of Victor L. Bentson for the Biddle Estate.

Mr. G. V. Rhodes, assistant hydraulic engineer of the Division of Water Rights, assisted by Mr. A. C. Rutherford who was delegated by the Protective Association for that purpose, made a field investigation of Lopez Creek, as a possible source of water

supply for the City of San Luis Obispo, from October 11th to November 15th, 1921, the expense of the investigation being paid jointly by the City and the Association and following the investigation a report by Mr. Rhodes was submitted to the Division of Water Rights and the interested parties under date of December 1, 1921.

As a result of this field investigation the Division was informed of the number and type of diversions from Arroyo Grande Creek, the approximate area of the irrigable lands in the valley, the duty of water, the monthly distribution of use, the physical characteristics of the canyon and the velocity of flow at several points in the basin underlying the dry portion of the creek bed during the time of the year at which the investigation was conducted, but no data was presented by which the probable runoff of the stream could be determined.

A measuring station was installed on or about November 1, 1921, but was washed out soon afterwards and no attempt has been made to keep records of the flow since that time.

Lopez Creek, tributary to the Arroyo Grande Creek, is an intermittent stream sinking at certain places and rising again. It has a drainage area of approximately 33 square miles of which 20.6 square miles are above the proposed points of diversion named in Applications 1990 and 2916. The basin is rather rocky and is well covered with brush.

While the data obtained by Mr. Rhodes on the character and extent of the underground flow of Lopez Canyon was very meagre and the conclusions very indeterminate there appears to be a considerable underground flow with relatively high velocity. While it is believed that any diversion during the summer months may have a tendency to diminish the underground storage, there is no doubt but that the storage will be adequately replenished during the period of rainfall and it is believed that the proposed storage of the applicant would not interfere with such replenishment.

Evidence was presented at the hearing that during all of the winter months even during as dry a season as that of 1923-24 there is water running in the creek which finds its way to the ocean without being put to beneficial use and that during the past there have been large floods such as occurred in the years 1909 and 1911, when much damage has been done. This being the case, it would appear that the interests of the water users in the Valley would be best served if these waters should be conserved by means of storage.

Evidence was presented at the hearing that during the months of May to August, during the last two or three years, ~~that~~ there has been a scarcity of water for irrigation purposes in the Valley.

As there have been few measurements made of the flow of the creeks from which it is proposed to divert, it becomes necessary to resort to some ~~other~~ method other than stream measurement upon which to estimate the normal flow of the stream and therefore ~~if~~ this office has resorted to estimating the run-off from rainfall in that locality.

Fortunately, records of rainfall at San Luis Obispo are complete for a period of 55 years and the mean of the rainfall during

this period which is 21.1 inches may be relied upon to give a mean rainfall at that station, which will probably be correct within one or two percent of the true value.

On account of the lack of reliable data as to the amount of water supply available in Lopez Creek the Division of Water Rights requested the applicant to prepare and submit an engineering study of the subject and in accordance with this request, the consulting engineer of the applicant, Mr. W. L. Huber, filed with the Division on March 2, 1925 a "Memorandum of the Flow of Lopez Creek." The Division in its determination of the water supply available also had access to the report of Mr. G. V. Rhodes, mentioned above, Bulletin No. 5 of the Division of Engineering and Irrigation entitled "Flow in California Streams" and Bulletin No. 6 of the same Division, entitled "Irrigation Requirements of California Lands." These various reports and bulletins have been given careful consideration by the Division of Water Rights in the determination of whether there is sufficient unappropriated water in Lopez Creek and Arroyo Grande Creek to justify the approval of the application.

The elevation of San Luis Obispo is about 200 feet, while the elevation of the watershed tributary to Lopez Canyon varies from 1,000 to 2,800 feet, but in addition to the rainfall records at San Luis Obispo a complete record of rainfall at Rhynes Ranger Station in Lopez Canyon has been kept for the season of 1922-23 upon which the effect of the higher elevation on the rainfall may be estimated. The elevation of the Ranger station is approximately 1,000 feet and

rainfall as measured for this season was 31.38 inches which is 35% greater than the rainfall, at San Luis Obispo for the same year.

Since the elevation of the watershed of Lopez Creek is from about 1000 to 2800 feet, its average rainfall would be greater than at the point of measurement at Rhynes Station and it, therefore, seems reasonable to assume that the average precipitation over this watershed would be 50% greater than that at San Luis Obispo. Based upon this assumption of the rainfall, during a normal season, upon the Lopez watershed may be assumed to be approximately 31.7 inches.

There is no direct relation between rainfall and runoff, as runoff is influenced by many different factors, depending upon the amount and intensity of rainfall, the nature of the soil, area and configuration of the catchment basin, vegetation, prevailing wind, relative humidity of the atmosphere, barometric pressure, etc., and any runoff obtained by this method is at best a rough approximation only and should be conservatively made.

From a comparison of the runoff from the Lopez Creek watershed with that from the Coyote Creek watershed in Santa Clara County and from the Pescadero Creek watershed in San Benito County, Mr. Huber in the report referred to estimates the runoff from the Lopez Creek watershed to be 11 inches, or 0.92 acre feet per acre.

It is believed that this value is a little high for the Lopez watershed and consequently we have based our estimates on the

value of 10 inches or 0.83 acre feet per acre as the probable runoff.

As the average elevation of the Arroyo Grande Creek and its tributaries other than that of Lopez Creek above the point of diversion named in application No. 2302 is less than that of Lopez Creek, it is

believed that the mean annual rainfall over this watershed would be approximately that at Rhynes' Station or a mean of 28.5 inches, as determined from the mean rainfall at San Luis Obispo and a conservative value for the runoff from this basin may be taken at 8 inches per annum or 0.67 acre feet per annum.

Records given in Bulletin No. 5 of the Division of Engineering and Irrigation above referred to cannot be used directly for the determination of runoff from these areas, as the area which is named in this bulletin represents a much larger drainage area than we are concerned with in this study.

The main agricultural area of the valley lies below the junction of Lopez Creek with the Arroyo Grande Creek. Based on the maps of the U. S. G. S. the area of the watershed of Lopez Creek above the junction is 33 square miles and the watershed of Arroyo Grande Creek is 35.9 square miles above the same point.

Applying the values of runoff as determined from rainfall to these two areas the combined mean annual runoff of the two creeks would be 32,900 acre feet per annum.

The area of the Lopez Creek watershed above the proposed diversions of the City of San Luis Obispo under applications Numbers 1990 and 2916 from the contour maps of the United States Geological Survey, appears to be about 20.6 square miles and the average annual runoff is estimated at 10,940 acre feet, on the assumption that the runoff is 10" as above outlined.

Just what the monthly distribution of the runoff may be is rather difficult to say. Mr. Huber deduces the monthly distribution from records of the Pescadero Creek runoff obtained from the Spring Valley Water Company. There is also an estimate of the monthly distribution of the San Luis Obispo Creek Group which contains the watershed of Arroyo Grande Creek, given in Bulletin No. 5 of the Department of Public Works, Division of Engineering and Irrigation, but it is believed that Mr. Huber's estimate would represent more nearly the conditions as they actually exist, for the reason that the distribution of runoff given in Bulletin No. 5 represents the runoff from a great deal of less precipitous country.

Mr. Rhodes determined the duty of water for the area under the McNeil Ditch to be one acre foot per acre per annum as an average over a three year period. Bulletin 6 of the Division of Engineering and Irrigation gives a value of 1.5 acre feet per acre per annum for the average net duty of the San Luis Obispo area. Assuming a loss of 33-1/3%, the probable value for the gross duty of water in this locality would appear to vary from 1.50 acre feet per acre per annum to 2.25 acre feet per acre per annum.

The total area irrigated in this locality is about 900 acres although Mr. Rhodes' investigation showed that there were 2,540 acres which were irrigable lying below the junction of the Arroyo Grande and Lopez Canyon Creeks.

The monthly distribution of the seasonal irrigation demand as determined by Mr. Rhodes differs somewhat from the distribution

given in Bulletin 6, referred to above for the San Luis Obispo area.

The following tables have been completed using the different estimated values for water supply and irrigation demand from which deductions have later been drawn.

TABLE NO. 1

S U P P L Y

Month	Distribution of Run-off (%)		Arroyo Grande and Lopez Creeks Distribution of Run-off ac. ft.		Lopez Creek above City's points of diver- sion under Applidations Numbers 1990 and 2916 Distribution of Run-off Ac. Ft.	
	Huber	Bull.No. 5.	Huber	Bull.5	Huber	Bull. 5
Jan	12.4	24.5	4080	8060	1360	2680
Feb	30.7	23.1	10100	7600	3360	2530
Mar	29.3	26.8	9650	8820	3110	2940
Apr	7.9	9.9	2600	3260	870	1080
May	4.3	4.7	1410	1540	470	510
Jun	2.1	2.1	690	690	230	230
Jul	1.4	0.8	460	260	150	90
Aug	1.2	0.3	390	100	130	30
Sep	1.4	0.3	460	100	150	30
Oct	1.8	0.6	590	200	200	70
Nov	3.8	1.2	1250	400	410	130
Dec	3.7	5.7	1210	1870	400	620
	100.0	100.0	32900	32900*	10940*	10940*

* - See Page 12.

TABLE NO. 2

DEMAND

(Based upon Gross Duty of 2.25 Acre Feet)

Month	Monthly Distribution %		Distribution of Use on 900 Acres ac. ft.		Distribution & Use on 2,540 Acres ac. ft.	
	Rhodes	Bull. #6	Rhodes	Bull. #6	Rhodes	Bull. #6
Jan	0	2	0	40	0	114
Feb	0	2	0	40	0	114
Mar	1	2	20	41	57	114
Apr	9	5	182	101	514	285
May	14	12	284	243	800	685
Jun	26	16	527	324	1485	914
Jul	25	20	506	405	1428	1142
Aug	16	16	324	324	915	914
Sep	8	13	162	264	457	742
Oct	1	8	20	162	57	458
Nov	0	2	0	40	0	114
Dec	0	2	0	41	0	114
	100	100	2025	2025	5713	5710

An analysis of the proposed water supply necessary for the needs of the City of San Luis Obispo has been made by the Division and the conclusion accepted that the additional amount of water applied for over and above the present supply of the city should not be in excess of 2.32 cubic feet per second of direct diversion which agrees with the statement made by the applicant's engineer in his preliminary report on the Water Supply for the City of San Luis Obispo dated March 31, 1921 that the City "will ultimately need an additional supply of from 1,250,000 to 1,500,000 gallons daily".

The applicant's engineer stated at the hearing in the above matter (see page 66 of Transcript) that the direct flow and storage named in Applications Numbers 1990 and 2916 were still to be worked down to their final figures; that with a direct flow of 4 cubic feet per second the year around there would be no need for storage and that with a storage of 1799 acre feet per annum, a direct diversion of 4 second feet the year around would not be necessary, and that he thought the city officials would be glad to have the Division of Water Rights make a decision in the matter. Applicant's engineer also stated that he believed that the City should have an average additional supply of 2.7 second feet to allow for necessary losses, that draft through two or three maximum months being borne by the storage. It is thought, however, that 2.32 cubic feet per second as mentioned above is sufficient as the water is to be conveyed by pipe line to the city and the conveyance loss would be negligible.

The tables show that there is unappropriated water in Lopez Creek during the months of November to April inclusive of an average year and possibly some during the month of October. However, the flow during the month of October is rather uncertain and the applicant should not divert water during this month under Application Number 1990 to the injury of the lower appropriators.

Under date of November 13, 1924, the attorney for the applicant advised the Division that the City of San Luis Obispo was willing to restrict Application Number 1990 for 4 cubic feet per second to the period October 1st to April 30th, which is for all practical purposes the non-irrigation period.

If application No. 1990 be restricted to the period above named and the amount of direct diversion named therein be reduced to 2.32 cubic feet per second and application Number 2916 be approved for 1799 acre feet of storage, the total amount of diversion would be equal to 2770 acre feet which would be ample to satisfy the yearly demand of 2070 acre feet per annum based upon an average supply of 2.7 second feet as proposed by applicant's engineer and any losses that might occur and enable the city to meet any peak demands that might be placed upon it.

It may be said in answer to certain protests directed against the City of San Luis Obispo that a water right is consummated by the beneficial use of the same, and if water is not used or reasonably needed for use on riparian lands it is subject to appropriation irrespective of watershed boundaries.

Records of the case show that a representative of the City has stated that the City is no longer interested in applications Numbers 348 and that application Number 349 on the headwaters of Lopez Creek is of small value because it is too high up to have a dependable water supply, but wishes to proceed with applications Numbers 1990 and 2916. This same intention was manifested at the Hearing and for this reason together with the fact that the water supply appears to be adequate under applications Numbers 1990 and 2916, applications Numbers 348 and 349 should be cancelled.

According to information set forth upon the maps which were filed in support of Application Number 2302 of Victor L. Bentson on behalf of the Biddle Estate, it is the intention of the applicant to divert water from Arroyo Grande Creek at three different points, the water to be diverted for irrigation purposes on five parcels of land as follows:

From D1	it is proposed to irrigate	Tract A	(74.62 acres)
" D2	" " " "	" "	Tract A (74.62 acres)
" D2	" " " "	" "	Tract B (41.15 acres)
" D2	" " " "	" "	Tract C (35.38 acres)
" D3	" " " "	" "	Tract D (104.45 acres)
" D3	" " " "	" "	Tract E (123.21 acres)

Diversion D1 cannot be utilized unless the underflow of Lopez and Arroyo Grande Creeks can be reached by slight excavation., a fact not yet determined, otherwise, Tract A will be served from D2 as shown above.

For irrigation use the maximum allowance for ordinary crops is the equivalent of one second foot continuous flow to each eighty acres of irrigated land and as the amount named in the application is greatly in excess of the same it should be reduced accordingly.

Based upon the above rule the diversion from D1 should not be in excess of 0.93 cubic feet per second, the diversion from D2 should not be greater than 1.89 cubic feet per second, the total diversion from D1 and D2 not exceeding 1.89 cubic feet per second and the diversion from D3 should not be greater than 2.85 cubic feet per second, to be so diverted from March 1st to November 30th of each season, the total amount of diversion under the application being 4.74 cubic feet per second.

The point of diversion D1 is at the junction of Lopez Creek and Arroyo Grande Creek, the other two points being below the junction. The supply necessary for the City's needs and the irrigational requirements for the Biddle Estate having been determined, a study of Tables I and II shows that the proposed diversion to storage of 1799 acre feet per annum under Application 2916 may be made between November 1st and April 1st of a normal season without apparent injury to the lower appropriators either at the present time or when the entire irrigable area of the valley may be irrigated.

From an inspection of the tables it appears that there is unappropriated water in Arroyo Grande Creek, which is available for appropriation under Application Number 2302 from March 1st to June 30th and from September 1st to November 30th of each season, but that during the months of July and August of an average season diversion could not be made under Application Number 2302 without interfering with the prior vested rights of the lower appropriators and therefore it would appear that the Biddle Estate would have to rely upon whatever existing right they may have to irrigate during these two months.

O R D E R

2302

Applications Numbers 348, 349, 1990/and 2916, for permits to appropriate water having been filed with the Division of Water Rights, as above stated, protests having been filed, a public hearing having been held and the Division of Water Rights now being fully informed in the premises.

IT IS HEREBY ORDERED that the said Applications Numbers 348 and 349 be denied.

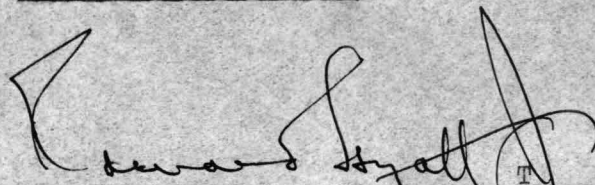
That Application Number 1990 be approved and permit issued for 2.32 cubic feet ^{per second} of direct diversion, subject to the usual terms and conditions except that the diversion period named in the application be limited to the period "from about October 1st to about April 30th of each season."

That Application Number 2302 be approved for 4.74 cubic feet per second and permit issued subject to the usual terms and conditions except that the diversion period named in the application be limited to the period "from about March 1st to about June 30th and from about September 1st to about November 30th of each season."

That Application Number 2916 be approved and permit issued, subject to the usual terms and conditions.

Dated at Sacramento, California,

this 1st day of June, 1926.



CHIEF OF DIVISION OF WATER RIGHTS.
DEPARTMENT OF PUBLIC WORKS.
STATE OF CALIFORNIA.