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THE RESOURCES AGENCY

Department of Water Resources

WATERMASTER SERVICE IN NORTHERN CALIFORNIA

1965 SEASON

Office Report

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TABLE OF CONTENTS

	Page
ORGANIZATION	v
PART I - GENERAL INFORMATION	1
Introduction	1
Water Supply	5
PART II - 1965 WATERMASTER SERVICE	11
Ash Creek Service Area	11
Big Valley Service Area	14
Burney Creek Service Area	17
Butte Creek Service Area	20
Cow Creek Service Area	23
Digger Creek Service Area	27
Hat Creek Service Area	31
Indian Creek Service Area	34
Middle Fork Feather River Service Area	37
North Fork Cottonwood Creek Service Area	42
North Fork Pit River Service Area	44
Seiad Creek Service Area	50
Shackleford Creek Service Area	52
Shasta River Service Area	55
South Fork Pit River Service Area	62
Surprise Valley Service Area	68
Susan River Service Area	78

TABLES

Number		Page
1	Superior Court Decrees Regulating Water Distribution and Dates Watermaster Service Areas Created	2
2	Snowpack as of April 1 and May 1, 1965, at Representative Snow Courses	7
3	Precipitation at Selected Stations - 1964-65 Season	8
4	Runoff at Selected Stations - 1964-65 Season	10

APPENDIXES

A	Streamflow Records	A-iii
B	Schematic Diagrams of Diversions	B-iii

PLATES

Number	
1	Watermaster Service Areas in Northern California (follows Appendix B)

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The Resources Agency
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PART I - GENERAL INFORMATION

Introduction

Distribution of water in watermaster service areas is a continuing statutory function of the Department of Water Resources as provided in Part 4, Division 2, of the Water Code. The primary purpose of watermaster service is to prevent expensive and unnecessary litigation by equitably distributing water where water rights have been defined, either by court decree or by voluntary agreement.

The first watermaster service areas were created in September 1929, while the most recent addition was made in June 1964. Prior to 1929, watermaster service was provided in accordance with the Water Commission Act of 1914. Table 1 lists the date each watermaster service area was created and the corresponding decrees and agreements under which each is operated.

Description of Watermaster Service Areas

There are 17 watermaster service areas in Northern California. Fifteen are located within the Northern District and are administered by eight watermasters; the other two are located in the Sacramento District. Plate 1 shows the name and location of each service area.

The service areas are located primarily in the mountainous northeastern part of the State. The growing season varies between about 100 and 140 days. Meadow hay and alfalfa are the principal crops under irrigation, although a considerable amount of land is used exclusively for pasturing livestock. Most irrigation is accomplished by gravity systems, with water users diverting directly from the streams at one or more diversion points.

TABLE I

SUPERIOR COURT DECREES REGULATING WATER DISTRIBUTION
AND DATES WATERMASTER SERVICE AREAS CREATED

Watermaster service area	Name of stream system	County	Decree number	Date watermaster service area created	Remarks
Ash Creek	Ash Creek	Modoc * and Lassen	3670	4-03-59	Included as part of Big Valley service area 1949 through 1958.
Big Valley	Pit River	Modoc * and Lassen	6395	11-13-34	Service provided in accordance with recorded agreement in 1934. Service area operated under recorded agreement 1935 through 1958, and under decree since 1959.
Burney Creek	Burney Creek	Shasta	5111	9-11-29	Service provided in accordance with decree since 1926.
Butte Creek	Butte Creek	Butte	18917	1-07-43	
Cow Creek	North Cow Creek	Shasta	5804	10-17-32	
	Oak Run Creek	Shasta	5701	10-17-32	Included in Cow Creek service area 1-21-38.
	Clover Creek	Shasta	6904	1-21-38	
Digger Creek	Digger Creek	Shasta and Tehama *	2213 3214 3327 4570	6-11-64	
Hat Creek	Hat Creek	Shasta	5724 7858	9-11-29	Service provided in accordance with decree since 1924.
Indian Creek	Indian Creek	Plumas	4185	2-19-51	
Middle Fork Feather River	Middle Fork Feather River	Plumas * and Sierra	3095	3-29-40	

TABLE 1 (Continued)

SUPERIOR COURT DECREES REGULATING WATER DISTRIBUTION
AND DATES WATERMASTER SERVICE AREAS CREATED

Watermaster service area	Name of stream system	County	Decree number	Date watermaster service area created	Remarks
North Fork Cottonwood Creek	North Fork Cottonwood Creek	Shasta	5479	9-11-29	Service provided intermittently in accordance with the decree since 1924.
North Fork Pit River	North Fork Pit River and all tributaries except Franklin Creek	Modoc	4074	12-18-39	These stream systems consolidated into North Fork Pit River service area 12-12-40.
	New Pine Creek	Modoc	2821	6-22-32	
	Cottonwood Creek	Modoc	2344	12-13-40	
	Davis Creek	Modoc	2783	7-13-32	
	Franklin Creek	Modoc	3118	12-14-33	
Seiad Creek	Seiad Creek	Siskiyou	13774	11-06-50	Service provided in accordance with decree by order of the court in 1950.
Shackleford Creek	Shackleford Creek	Siskiyou	13775	11-06-50	Service provided in accordance with decree by order of the court in 1950.
Shasta River	Shasta River	Siskiyou	7035	3-01-33	
South Fork Pit River	South Fork Pit River	Modoc * and Lassen	3273	12-31-34	
	Pine Creek	Modoc	Agreement	1-12-35	
Surprise Valley	Cedar Creek	Modoc	1206 2343	9-11-29	Service started in accordance with the decree in 1926.

TABLE 1 (Continued)

SUPERIOR COURT DECREES REGULATING WATER DISTRIBUTION
AND DATES WATERMASTER SERVICE AREAS CREATED

Watermaster service area	Name of stream system	County	Decree number	Date watermaster service area created	Remarks
Surprise Valley(Cont'd)	Soldier Creek	Modoc	2405	9-11-29	Service was provided on Soldier and Owl Creeks in accordance with the decrees by order of the court in 1929.
	Owl Creek	Modoc	2401	9-11-29	
	Emerson Creek	Modoc	2840	4-02-30	
	Mill Creek	Modoc	3024	12-30-31	
	Deep Creek	Modoc	3101	12-29-34	All adjudicated stream systems in Surprise Valley were consolidated into the Surprise Valley service area on 1-10-39. Bidwell Creek was added on March 16, 1960.
	Pine Creek	Modoc	3391	1-13-37	
	Rader Creek	Modoc	3626	6-12-37	
	Eagle Creek	Modoc	2304 3284	1-10-39	
	Bidwell Creek	Modoc	6420	3-16-60	
Susan River	Susan River	Lassen	4573	11-10-41	
	Baxter Creek	Lassen	8174	2-16-56	
	Parker Creek	Lassen	8175	2-16-56	

* Decree entered by the superior court of this county.

Schematic drawings of the major stream systems within each service area are presented in Appendix B. These drawings show the relative location of major roads, stream gaging stations, and diversion points along with corresponding water right allotments.

Watermaster Responsibilities

To assure the equitable distribution of water within his service area, the watermaster must determine the amount of water available and distribute it to best serve both the water users and the State. To accomplish his purposes, the watermaster is provided authority under both the California Water Code and the provisions of pertinent court decrees or voluntary agreements to design and supervise construction of diversion dams, headgates, and measuring devices.

Each watermaster supervises approximately 100 to 200 diversions in one or more service areas. The frequency of visiting diversion points substantially increases in years of short water supply. In some service areas the water supply must be predicted in advance to determine the date watermastering will begin and, to some extent, the manpower needed. The Department's Bulletin No. 120 series, "Water Conditions in California" is used to assist in estimating these requirements.

Water Supply

Water supply in the watermaster service areas is derived primarily from unregulated runoff of small streams. This runoff, mostly snowmelt, occurs in the spring with a relatively small streamflow available in the summer and early fall. Supplemental supplies from stored water or ground water are used in some areas, but in most instances these are not within the watermaster's jurisdiction.

Precipitation

The streamflow available for distribution is affected by total precipitation, snowpack, temperature, and the amount of precipitation received during the irrigation season. The latter is particularly important in the upper Pit River-Surprise Valley area, where about 25 to 30 percent of the annual precipitation occurs in April, May, and June. These spring storms, normally accompanied by cooler temperatures, materially affect both the supply and the demand for water.

Temperatures in the spring affect the demand for water and the manner in which snowmelt runoff occurs. A hot, dry spring depletes the water supply very early, even in cases where there is a normal snowpack. A cold, wet spring can extend the supply well into the irrigation season, but cold spring temperatures retard the growth of crops and are not necessarily desirable.

Data collected at representative snow courses showing the snowpack as of April 1 and May 1, 1965, are presented in Table 2. This information was obtained from the Department's Bulletin No. 120-65.

Table 3 presents data on precipitation at selected stations in the service areas. The seasonal precipitation gives an indication of the related water supply available for distribution, and forms a basis for comparison of a current years supply with the average supply.

Streamflow

The watermaster determines the amount of water available for distribution within his area, primarily by the use of stream gaging stations and measuring devices in the diversion ditches. The watermaster has four sources from which he obtains this information:

TABLE 2

SNOWPACK AS OF APRIL 1 AND MAY 1, 1965, AT REPRESENTATIVE SNOW COURSES

Watermaster service area	Snow course *	Elevation (in feet)	Water content of snow (in inches)				
			April 1 Average (1931-1960)	April 1 1965	In percent of April 1 Average	May 1 1965 **	In percent of April 1 Average **
Shasta River	Mount Shasta	7,900	49.4	43.5	88	55.7	113
Shackleford Creek	Parks Creek	6,700	34.1	30.3	89	33.4	98
Seiad Creek	Middle Boulder No. 1	6,600	32.9	19.2	58	18.7	57
	Little Shasta	6,200	21.4	10.9	51		
Surprise Valley	Blue Lake Ranch	7,300	10.3	8.3	81		
North Fork Pit River	Eagle Peak	7,200	16.2	14.8	91		
South Fork Pit River	Cedar Pass	7,100	17.0	15.2	89	10.9	64
Ash Creek	Adin Mountain	6,350	14.0	5.0	36	Patches	
Big Valley							
Hat Creek	Thousand Lakes	6,500	36.8	40.1	109	30.0	82
Burney Creek	New Manzanita Lake	5,900	7.2	3.9	54	0.0	0
Cow Creek	Burney Springs	4,700	2.5	0	0		
Digger Creek							
North Fork Cottonwood Creek							
Butte Creek	Humbug Summit	4,850	12.4	2.1	17		
Susan River	Silver Lake Meadows	6,450	27.7	27.3	99	24.2	87
	Fredonyer Pass No. 1	5,750	9.3	2.4	26		
Middle Fork Feather River	Independence Lake	8,450	41.1	52.1	127		
	Mount Deyer No. 1	7,100	24.6	26.3	107	24.5	100
Indian Creek	Rowland Creek	6,700	17.3	20.7	120	14.1	82
	Yuba Pass	6,700	31.8	32.5	102	21.4	67

* Snow courses are listed according to elevation within each major grouping of watermaster service areas. They do not necessarily correspond to any specific river or creek.

** May 1 data collected for selected courses.

TABLE 3

PRECIPITATION AT SELECTED STATIONS - 1964-65 SEASON

Station Name	County	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	Percent of mean
Happy Camp Ranger Station	Siskiyou	0.93	10.92	30.39	11.36	1.60	0.31	6.04	0.12	0.30	1.21	2.20	0.00	65.38	119
		4.07	7.25	10.41	11.31	8.24	6.45	2.72	2.16	1.06	0.38	0.17	0.74	54.96	
Yreka	Siskiyou	0.30	1.84	13.71	3.02	0.68	0.02	1.96	0.37	0.31	0.31	2.46	0.75	25.73	145
		1.45	2.00	3.30	3.19	2.29	1.61	0.92	1.03	0.86	0.27	0.39	0.45	17.76	
Fort Jones Ranger Station	Siskiyou	0.39	3.24	11.90	4.48	0.82	0.01	2.56	0.23	0.32	0.61	2.61	0.33	27.50	126
		1.59	2.77	4.02	4.06	3.14	2.21	0.98	1.11	0.81	0.35	0.34	0.40	21.78	
Redding Fire Station No. 2	Shasta	1.89	6.74	16.25	6.40	1.10	1.09	9.80	0.23	0.21	T	1.43	T	45.14	116
		2.27	3.76	7.26	7.69	6.19	4.90	2.95	1.74	1.31	0.11	0.13	0.61	38.92	
Chico Experiment Station	Butte	1.69	5.93	5.35	5.41	1.02	2.36	3.43	0.02	0.00	0.00	1.00	0.05	26.26	101
		1.46	2.41	5.12	5.03	4.43	3.29	2.31	1.16	0.44	0.01	0.07	0.33	26.06	
Hat Creek Pump House No. 1	Shasta	0.15	2.53	6.72	4.02	0.36	0.72	2.00	0.41	1.96	0.33	*	0.00	*	*
		1.30	1.83	2.93	2.85	2.84	2.02	1.35	1.26	0.77	0.28	0.16	0.47	18.06	
Bieber	Lassen	0.30	2.35	7.78	3.06	0.55	0.74	1.73	0.48	1.36	*	*	*	*	*
		1.06	1.80	2.29	1.91	2.08	1.69	1.12	1.26	0.86	0.21	0.16	0.43	14.87	
Lakeview, Oregon	Lake	0.45	2.06	8.96	2.81	0.32	0.26	1.38	1.10	3.56	0.16	0.87	0.05	21.98	152
		1.21	1.37	1.88	1.84	1.71	1.52	1.15	1.51	1.28	0.22	0.17	0.58	14.44	
Cedarville	Modoc	0.24	2.30	4.38	1.92	0.23	0.16	0.37	0.82	1.47	0.61	0.86	T	13.36	104
		1.17	1.41	1.69	1.84	1.50	1.45	0.99	1.04	0.94	0.33	0.15	0.37	12.88	
Alturas Ranger Station	Modoc	0.45	1.61	4.15	2.95	0.16	0.23	1.76	1.63	2.34	0.38	3.00	0.01	18.67	146
		1.07	1.35	1.63	1.62	1.45	1.37	1.03	1.31	1.03	0.31	0.22	0.43	12.82	
Jess Valley	Modoc	0.57	1.79	6.97	3.23	0.72	0.52	2.79	1.34	3.93	0.45	1.27	0.11	23.69	138
		1.31	1.66	1.92	1.89	1.95	1.88	1.64	2.02	1.62	0.41	0.26	0.66	17.22	
Susanville Airport	Lassen	0.11	1.44	11.12	5.39	0.47	0.70	0.89	0.12	1.55	0.45	1.09	0.05	23.38	161
		0.92	1.51	2.56	2.53	2.51	1.51	0.82	0.83	0.67	0.18	0.09	0.35	14.48	
Vinton	Plumas	0.20	1.53	6.42	2.41	0.36	1.59	1.00	0.44	0.77	0.19	1.32	0.30	16.53	128
		0.89	1.44	2.12	1.94	1.87	1.43	0.84	1.01	0.50	0.36	0.18	0.25	12.91	
Sierraville Ranger Station	Sierra	0.21	3.52	17.49	6.00	0.81	1.70	2.00	0.99	0.88	0.77	1.85	0.73	36.95	146
		1.83	2.76	4.49	4.94	4.23	2.84	1.63	1.25	0.54	0.29	0.15	0.44	25.39	
Greenville Ranger Station	Plumas	0.42	6.28	18.69	13.51	1.13	2.72	4.76	0.28	0.91	0.16	2.67	0.15	51.68	120
		2.61	4.81	5.93	8.89	7.44	6.47	2.84	1.71	0.75	0.35	0.21	0.95	42.95	

* Data unavailable

Note: Figures above line are for current season; below line are long-term averages.

1. U. S. Geological Survey stream gaging stations.

2. Department of Water Resources stream gaging stations.

3. Stream gaging stations maintained by the watermaster and used primarily for aid in distributing the water.

4. Measuring devices installed in individual diversion ditches by the water right owner under supervision of the watermaster.

The 1965 water year produced better than average water supply conditions in the majority of watermaster service areas.

Table 4 presents runoff data at selected stream gaging stations in or near the several service areas. Appendix A presents runoff data at the stream gaging stations utilized by the watermasters. These data show the distribution of runoff during the season and indicate the adequacy or shortage of water supply at that time.

Streams in the Lahonton drainage basin produced runoff typical of a good irrigation season. Spring and summer rains supplemented the surface water supply and provided some areas with a good start toward irrigation of second crops.

The Pit River drainage area had generally good stream runoff. Scattered summer rainstorms helped to alleviate irrigation shortages that usually occur late in the summer.

Higher than average streamflow, combined with timely late summer storms produced sufficient runoff in the Upper Sacramento Valley to provide surplus allotments throughout much of the irrigation season.

All service areas in the Klamath River drainage basin experienced an excellent year with surplus water supplies available through most of the irrigation season.

TABLE 4

RUNOFF AT SELECTED STATIONS
1964-65 SEASON
(In acre-feet)

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	TOTAL	AVERAGE *	PERCENT AVERAGE
Shasta River near Yreka	8,380	11,380	75,180	48,170	21,980	13,780	21,420	7,370	5,880	4,080	5,030	5,450	228,100	127,400	179
Hat Creek near Hat Creek	6,910	6,990	13,990	11,180	8,300	9,030	9,410	12,760	13,910	10,820	9,620	9,020	121,900	94,840	129
Pit River near Canby	3,800	5,670	61,290	92,680	53,800	19,500	38,280	33,130	21,170	6,580	7,010	7,380	350,300	164,300	213
North Fork Pit River near Alturas	151	781	12,340	21,210	9,300	3,820	11,350	4,250	3,330	1,830	207	105	68,670	32,650	210
South Fork Pit River near Likely	Data unavailable at time of printing. Will be published in U.S.G.S., "1965 Surface Water Records of California, Volume 2: Northern Great Basin and Central Valley."													51,910	
Susan River at Susanville	298	795	24,880	13,000	8,350	9,040	21,750	14,190	6,290	3,300	4,480	525	106,900	69,070	155
Indian Creek near Crescent Mills	6,900	7,880	159,900	115,500	63,370	80,330	162,000	98,780	30,960	6,350	4,920	9,180	746,100	385,900	193
Middle Fork Feather River near Clio	1,020	4,000	97,130	79,530	47,740	40,420	64,010	40,890	14,140	4,290	2,940	2,960	399,100	196,900	203
Butte Creek near Chico	3,778	6,972	120,700	104,600	33,400	28,240	57,670	32,370	17,700	11,960	10,270	8,710	436,370	282,300	155

* Average annual flow of record through 1963.

PART II - 1965 WATERMASTER SERVICE

Ash Creek Watermaster Service Area

General Description

The Ash Creek service area is located in Modoc and Lassen Counties near the town of Adin. There are 31 water right owners in this area with total allotments of 123.65 cubic feet per second.

The major sources of water supply for the service area are Ash Creek and two tributaries, Willow Creek and Rush Creek. Ash Creek rises in the eastern part of the service area and flows westerly through the town of Adin into Ash Creek Swamp and then into the Pit River. Rush Creek heads in the northeast part of the service area and joins Ash Creek above the town of Adin. Willow Creek originates in the southeast part of the service area and joins Ash Creek near the head of Ash Creek Swamp. Each of these streams is independently regulated.

The primary place of water use from this stream system is in Big Valley, west of the town of Adin, with some use along the upstream tributaries. The portion of Big Valley served is approximately 10 miles long by 6 miles wide and extends from the town of Adin to the confluence of Ash Creek and the Pit River. The valley floor is at an elevation of approximately 4,200 feet.

A schematic drawing of each major stream system within the Ash Creek service area is presented in Appendix B, Figure 1.

Water Supply

The water supply for Ash and Rush Creeks is derived primarily from snowmelt, with most of the watershed lying between the elevations of 5,000 and 6,000 feet. Willow Creek receives a substantial portion of

its water from springs. These three creeks normally have sufficient water to satisfy demands until about June 1, after which the supply decreases rapidly. By the latter part of June, Ash Creek normally has receded to about 20 cubic feet per second, Rush Creek to about two cubic feet per second, and Willow Creek to about five cubic feet per second. The flow of these creeks then remains nearly constant for the remainder of the season.

The daily mean discharge of Ash Creek at Adin is presented in Appendix A, Table A-1. This stream gaging station is located below a substantial number of the points of diversion; consequently, the table does not include all of the available supply of this creek.

No stream gaging stations were installed on Rush or Willow Creeks during the 1965 season.

Method of Distribution

Irrigation diversions from Ash Creek and its tributaries are accomplished by small dams placed in the stream channels. Most of the users have several diversion ditches at these dams. These ditches serve to convey the water to the fields where it is spread by means of small laterals. Some of the users employ a system of checks and borders; however, most of the land is irrigated by wild flooding. Return flow is captured by downstream ranches for reuse. In a few cases, pumps are used to divert the water into ditches or through sprinkler systems.

The Ash Creek decree* establishes the number of priority classes on the various stream systems within the Ash Creek service area as follows; Ash Creek - five; Willow Creek - four; Rush Creek - one; and Butte Creek - two.

* See Table 1

1965 Distribution

Watermaster service began May 1 and continued until September 30 in the Ash Creek service area. August C. Mueller, Assistant Civil Engineer, assumed the duties of field watermaster during this period.

Above-normal precipitation during April and June provided the area with an excellent water supply.

Ash Creek. The available water supply in Ash Creek was sufficient to satisfy all priority allotments (five priorities) until approximately July 15. During the remainder of the season there was generally sufficient water available for the first priority allotments.

Willow Creek. The available water supply in Willow Creek was sufficient to satisfy all priority allotments (four priorities) until approximately June 15. Then the supply steadily diminished until early August. For the remainder of the irrigation season there was water available for 60 percent of the second priority allotments.

Rush Creek. The available water supply in Rush Creek was sufficient to satisfy all priority allotments (one priority) until approximately August 1. For the remainder of the irrigation season approximately 80 percent of all allotments were satisfied.

Big Valley Watermaster Service Area

General Description

Big Valley service area is located in Modoc and Lassen Counties in the vicinity of the towns of Lookout and Bieber. There are 52 water right owners in the area with total allotments of 231.03 cubic feet per second.

Pit River is the major source of water supply for the service area. The river enters the valley north of the town of Lookout and flows southerly through the western part and out its southern end. The major place of use is about 13 miles of valley floor along the Pit River at an approximate elevation of 4,200 feet.

A schematic drawing of the Big Valley stream system is presented in Appendix B, Figure 2.

Water Supply

The available water supply in the Pit River as it flows through Big Valley is ordinarily sufficient to satisfy all demands until about June 1. The irrigation practices in Hot Springs Valley, located about 20 miles upstream from Big Valley, have a significant effect upon distribution problems in Big Valley throughout the remainder of the irrigation season. The water users in Hot Springs Valley divert most of the flow in Pit River for two- or three-week periods. Natural flow available for use in Big Valley during such times amounts to only about 15 to 20 cubic feet per second. Occasional upstream releases from Hot Springs Valley increase this amount to as much as 200 to 300 cubic feet per second for relatively short periods.

Roberts Reservoir, located at the upper end of the valley above Lookout, serves as a supplemental source of water to those users in the

area who are members of the Big Valley Mutual Water Company. Water from this reservoir is released into Pit River and distributed to members of the water company along with their natural flow rights.

Records of three stream gaging stations in the Big Valley service area are presented in Tables A-2 through A-4.

Method of Distribution

Most water users in the Big Valley service area irrigate on a rotation schedule by either wild flooding or by checks and borders. Large flashboard dams placed in the channel make it possible to utilize the large heads of water characteristic of the supply in the area. In addition, some pumps are used for diversion, both into ditches and directly into sprinkler systems. During periods when the flow is inadequate to produce heads sufficient for irrigation by wild flooding (when Hot Springs Valley users are temporarily retaining the flow) the ranches employing pumps are allowed to take their decreed allotments, so that whenever larger flows are available, the ranches which have to irrigate by wild flooding can utilize the entire available flow. Return flow is recaptured for use by subsequent downstream lands, resulting in a relatively high irrigation efficiency for the valley.

The Big Valley decree* provides for the distribution of water from Pit River in four priority classes.

1965 Distribution

Watermaster service began May 1 and continued until September 30 in the Big Valley service area. August C. Mueller, Assistant

* See Table 1

Civil Engineer, assumed the duties of field watermaster during this period.

Above-normal precipitation during April, June, and August combined with ample upstream storage provided an excellent water supply in the area.

Sufficient water was generally available to satisfy all priority allotments (four priorities) until July 20. From then until August 15, approximately 80 percent of the second priority allotments were satisfied. Throughout the remainder of the irrigation season a sufficient water supply existed for all allotments. However, due to several August rainstorms many users did not divert their entire allotments.

Water was released from Roberts Reservoir between July 24 and July 31 for use by the shareholders of the Big Valley Mutual Water Company as follows:

Name	Shares	Water Used in Acre-Feet
Norris and Peter Gerig 294.2828	5	---
Oral (Sam) Gerig	3	---
Lester Babcock	3	180
L. W. Kramer	2	12
Hunt Estate Company	2	---
Arad Babcock (Clarence Hawkins)	1	60
Merlin Kennedy	1	---
Cyril Mamath	1	---
Ford Ranch	1	100
L. H. Monchamp	1	---
	20	352

Burney Creek Watermaster Service Area

General Description

The Burney Creek service area is located in Shasta County near the town of Burney. There are 10 water right owners in the area with total allotments of 33.09 cubic feet per second. The source of water supply for this service area is Burney Creek, which enters the southern part of the service area and flows through Burney in a northerly direction to the Pit River. The portion of the valley served by this stream is approximately 11 miles long and two miles wide, and extends both north and south of Burney. The valley floor elevation is approximately 3,200 feet.

A schematic drawing of the Burney Creek stream system is presented in Appendix B, Figure 3.

Water Supply

The water supply for Burney Creek comes from springs and snowmelt. Most of the watershed lies between the elevations of 4,000 and 7,500 feet on the northeast slopes of Clover Mountain and the west slopes of Burney Mountain. The creek normally has sufficient water to supply all demands until about the middle of June; the supply then gradually decreases until the end of July. During the remainder of the irrigation season stream flow remains nearly constant, at approximately 40 percent of allotments, because of runoff of perennial springs.

The daily mean discharge of Burney Creek near Burney is presented in Table A-5. The stream gaging station on Burney Creek is located below four points of diversion; consequently, the records do not show all of the available water supply of the creek.

Method of Distribution

The Burney Creek decree* sets forth a rotation schedule of distribution. The water users, however, have found it more beneficial to irrigate on a continuous-flow basis (one priority class plus surplus allotments), which is now the normal practice. The water allotted to the Greer-Cornaz Ditch is distributed to the various users on that ditch by the watermaster in accordance with a supplemental court decree.

Water is diverted from Burney Creek, in most cases by means of low diversion dams, into ditches which convey it some distance to the place of use. Lateral ditches are then used to irrigate the land. Scott Lumber Company utilizes its allotment for industrial use by means of a pump and pipeline.

1965 Distribution

Watermaster service began May 1 in the Burney Creek service area and continued until September 30. Kenneth H. Lloyd, Water Resources Engineering Associate, assumed the duties of field watermaster during this period.

The watermaster distributed all allotments by the continuous flow method. The available water supply was well above average, due in part to heavy carryover snowpack. Surplus flow was available to all users until the last week in July, at which time all diversions were regulated to 100 percent of first priority allotments. The flow then continued to gradually decrease until August 10 when the available water supply satisfied 75 percent of first priority allotments. Between August 10 and August 18 an unusual summer storm deposited approximately

*See Table 1.

three inches of rainfall in the Burney Creek drainage basin. This storm increased the available water supply to again allow 100 percent of first priority allotments. The flow then gradually decreased until August 30, when 75 percent of the first priority allotments were being served. Throughout the remainder of the irrigation season the flow remained constant.

Butte Creek Watermaster Service Area

General Description

The Butte Creek service area is located in Butte County near the City of Chico. There are 35 water right owners in the area with total allotments of 219.71 cubic feet per second. Butte Creek is the major source of water supply. The area served by this stream extends from a point east of Chico to the diversion of the Great Western Canal, about 11 miles south. It contains about 20,000 acres of valley floor lands at an average elevation of 150 feet.

A schematic drawing of the Butte Creek stream system is presented in Appendix B, Figure 4.

Water Supply

Butte Creek rises on the west slope of the Sierra Nevada Mountains in the northeasterly portion of Butte County, between Humbug and Humboldt Passes, at elevations from 5,000 to 6,000 feet.

Snowmelt normally produces high sustained flows until about the end of June, after which perennial springs at the headwaters continue to produce flows of more than 40 cubic feet per second. Foreign water is transported from the West Branch Feather River by means of the Hendricks (Toad Town) Canal through DeSabla Reservoir and Powerhouse into Butte Creek. This imported water is rediverted at Parrott Dam through the Parrott Ditch.

Records of the daily mean discharge at several stream gaging stations in the Butte Creek service area are presented in Tables A-6 through A-11.

Method of Distribution

Water is diverted from Butte Creek by pumping and by gravity diversions. The Parrott Investment Company, M&T Incorporated, and the Durham Mutual Water Company divert relatively large amounts of water into several ditches leading to their individual distribution systems. Various methods of irrigation are in general practice. These include contour checks, strip or border checks, basin checks, furrows, wild flooding, and sprinklers. The use of sprinklers has increased in popularity within the past few years, especially for use on orchards.

Foreign water diverted from the West Branch Feather River through the Hendricks Canal and DeSabla Powerhouse into Butte Creek has, in the past, caused wide fluctuation in the Butte Creek flow. In accordance with "Memorandum and Order" entered May 10, 1949, by the Superior Court of Butte County, water users below Parrott Dam (where the foreign water is rediverted) must be provided their natural flow allotments at all times without undue fluctuation caused by intermittent presence of foreign water. For the past several years PG&E has maintained reasonably steady releases which has greatly simplified this rediversion problem.

The Butte Creek decree* establishes three priority classes for summer distribution purposes and, in addition, defines two surplus flow allotments.

1965 Distribution

Watermaster service began June 1 and continued until September 30 in the Butte Creek service area. Ross P. Rogers, Assistant Civil Engineer, assumed the duties of field watermaster during this period.

*See Table 1

The available water supply for the 1965 irrigation season on Butte Creek was the best since the "wet years" of 1957 and 1958.

Soil moisture conditions were excellent as the season began and a generally abundant water supply existed for the first few months. These conditions, combined with timely rainstorms during the latter part of the season, enabled several water users to irrigate their lands adequately without the necessity of continuously diverting their full allotments. At no time during the season was any user regulated below 100 percent of his allotment. Several users who could put extra water to beneficial use were allowed to divert 25 percent more than their normal allotments.

Cow Creek Watermaster Service Area

General Description

The Cow Creek service area is located in Shasta County in the foothills east of Redding. There are 88 water right owners in the area with total allotments of 56.366 cubic feet per second. The major sources of water supply are: North Cow Creek (commonly called Little Cow Creek), Cedar Creek (which is tributary to North Cow), Oak Run Creek, and Clover Creek. These creeks, which are all tributaries of Cow Creek, flow in a westerly or southwesterly direction through narrow valleys to Cow Creek near the town of Palo Cedro. The service area is located in the narrow valleys along the several creeks and consists of small parcels separated by brush-covered hills. The entire area is about 25 miles long by 10 miles wide and varies in elevation from about 500 to 2,000 feet.

A schematic drawing of each major stream system in the Cow Creek service area is presented in Appendix B, Figures 5 through 5c.

Water Supply

Water supply for this service area is derived mostly from springs and seepage with some early snowmelt runoff. The watershed consists primarily of low brushy hills which do not accumulate a heavy snowpack. Relatively large amounts of precipitation during the winter normally produce substantial springs and seepage that flow throughout the irrigation season.

Cedar Creek flow is usually sufficient to supply all allotments until about July 15, after which time it steadily decreases throughout the remainder of the season.

The flow of North Cow Creek is generally sufficient to supply all allotments. In drier years it is necessary to reduce the allotments during the latter part of the summer.

The flow of Oak Run Creek is augmented by a first priority allotment of five cubic feet per second of foreign water diverted from the North Cow Creek watershed. This imported water combined with the natural flow of Oak Run Creek is generally sufficient to supply all allotments throughout the season.

Clover Creek flow is generally sufficient to supply all allotments throughout the season.

Records of the daily mean discharge at three stream gaging stations in the Cow Creek service area are presented in Tables A-12 through A-14.

Methods of Distribution

Water in the Cow Creek service area is used for domestic and stockwatering purposes and for irrigation of meadow hay, alfalfa, small orchards, and vegetable gardens. The alfalfa and hay lands are irrigated primarily by wild flooding, sometimes augmented by sprinkler systems. Furrows are used for irrigating gardens, and basins or checks and sprinklers are used for orchards. Much of the water applied is lost by surface runoff or by deep percolation; some of this water returns to the creeks and thereby becomes available for rediversion downstream.

Only one priority allotment was provided in each of the Cow Creek service area decrees*, except that the Oak Run Creek decree also included a surplus allotment.

See Table 1.

1965 Distribution

Watermaster service began in the Cow Creek service area on May 1 and continued until September 30. Kenneth H. Lloyd, Water Resources Engineering Associate, assumed the duties of field watermaster during this period.

Cedar Creek. Adequate spring rainfall combined with an unusual August storm provided Cedar Creek users with an excellent water supply throughout the irrigation season. This supply was further augmented through the Truman Ranch's nonuse of its allotment. Therefore, 100 percent of all allotments were satisfied throughout the irrigation season.

North Cow Creek. The summer flow of North Cow Creek depends upon winter and spring rains to saturate the drainage area and replenish underground supplies which maintain flow in the headwater springs. Precipitation during the period October 1964 through September 1965 averaged approximately 120 percent of normal, with 3 inches of this amount occurring in August.

As the flow of North Cow Creek gradually decreased through June and July, regulation was required to provide all users with their proportionate share of the available surplus water. On July 30 all diversions, including the one appropriative surplus right, were regulated to 100 percent of their allotments. The flow then decreased slightly until August 10 when the drainage area received approximately 1.5 inches of rainfall. Scattered showers ensued and on August 17 another 1.5 inches of rainfall occurred. Throughout the remainder of the season surplus water was available to all users.

Oak Run Creek. The available water supply in Oak Run Creek was sufficient to satisfy all allotments.

Diversions for irrigation of riparian land downstream from the adjudicated area continued into early September. This extremely unusual situation reflects the excellent water conditions existing during 1965.

Clover Creek. The available water supply in Clover Creek was sufficient, through careful regulation, to satisfy all priority allotments (one priority) with surplus water available until August 4. From that date until August 10, 100 percent of all allotments were being served. The mid-August storm, which deposited an average of 3 inches of rainfall over the Clover Creek watershed, increased the flow sufficiently to provide surplus water until August 25. Throughout the remainder of the irrigation season all users were allowed to divert their entire allotments.

Digger Creek Watermaster Service Area

General Description

The Digger Creek service area is located in portions of southeastern Shasta County and northeastern Tehama County. There are 33 water right owners in the area with total allotments of 23.225 cubic feet per second.

Digger Creek forms a portion of the boundary line between Shasta County on the north and Tehama County on the south. It drains an area of approximately 45 square miles on the western slopes of mountains situated immediately west of Lassen National Park. The creek flows in a westerly direction through the town of Manton to its confluence with the North Fork of Battle Creek. Manton, the only community in the area, is located approximately 40 miles northeast of Red Bluff.

A schematic drawing of the Digger Creek stream system is presented in Appendix B, Figure 6.

Water Supply

Precipitation, occurring principally in the winter months, is typical of Northern California foothill areas. Snowmelt contributes to the early runoff but the summer streamflow is primarily from springs and rising water. In a normal year there is sufficient flow in Digger Creek, with careful regulation, to satisfy all decreed allotments throughout the entire irrigation season. However, serious deficiencies do occur in dry years.

Records of the daily mean discharge of Digger Creek below South Fork Branch are not available for the 1965 season because the station was washed out by the floods of December 1964. An attempt will be made to replace this station in 1966.

Method of Distribution

There are four court decrees on Digger Creek. These decrees, in effect, have divided the water rights on the creek into two groups: the upper users and the lower users. The three upper users irrigate lands adjoining the stream, so that all water not consumptively used returns to Digger Creek. The lower users are located within a three-mile reach of the stream and within a five-square-mile area. Very little runoff from the lower users returns to the creek.

The three upper users' water rights are absolute and not correlative to the lower users; therefore, allotments are not cut proportionally as Digger Creek flows decrease. The lower users, whose total water rights are based on 600 miner's inches, or 12 cubic feet per second, have their allotments cut proportionally as the flow decreases. In effect, the upper users have first priority allotments and the lower users have second priority allotments.

Irrigation is done principally by wild flooding, although there is a limited amount of land leveling and border check construction and sprinklers are used on a few fields. Small diversion dams are placed in the stream channel to divert water into ditches for conveyance to the fields.

1965 Distribution

Watermaster service began May 1 in the Digger Creek service area and continued until September 30. Kenneth H. Lloyd, Water Resources Engineering Associate, assumed the duties of field watermaster during this period.

The available water supply in Digger Creek was sufficient to satisfy all priority allotments (two priorities) throughout the 1965

irrigation season. Surplus flows were also available for the entire season.

Special Occurrences

The 1965 season is the second year watermaster service has been provided on Digger Creek. During the first year of service, six metal headgates and four concrete Parshall flumes were installed in the upper users' diversion ditches.

During the summer of 1965 a concrete Parshall flume was installed near the head of Love's Mill Branch, replacing a temporary wooden weir. A metal headgate was constructed at the lower end of the branch to control irrigation releases. With the completion of these two structures all upper diversions, excepting one small domestic diversion, now have control gates and measuring devices.

The watermaster proposed a plan to consolidate two lower diversions, the Crooker and Harrison Ditches. Alleviation of excessive channel and ditch losses occurring in this reach of the stream, and improved diversion facilities anticipated from this plan were stressed. During the summer a wooden flume in the Harrison Ditch was destroyed by a falling tree, thereby providing the opportunity to test the merger plan. After a series of meetings with the water right owners of the two ditches, a water users association was formed and an agreement was reached to divert all their water into the Crooker Ditch and construct a rediversion structure for the Harrison Ditch allotments at a specified point further down the Crooker Ditch. A concrete turnout box was built for this purpose late in the season. Approximately 50 feet of open ditch and 200 feet of pipeline will be constructed prior to the 1966 irrigation season

to connect this structure with the Harrison Ditch. A concrete weir box will also be installed to measure the Harrison Ditch allotments.

Construction of a diversion dam and a Parshall flume in the combined Crooker-Harrison Ditch, scheduled for September, was delayed due to unusually high flows in Digger Creek. These projects are now scheduled for 1966.

A three-foot concrete Parshall flume was constructed in the Boole Ditch. This measuring device combined with the existing headgate in the ditch now provides a good method for control and measurement of the diverted flows.

During the winter of 1964-65 a section of the Williams Ditch at its point of diversion from Digger Creek was destroyed by high flows. During the summer a temporary diversion dam and flume were installed to provide water to this ditch. Permanent repairs to the diversion dam and construction of a permanent weir and headgate in the ditch are planned for the summer of 1966.

Hat Creek Watermaster Service Area

General Description

The Hat Creek service area is located in the eastern part of Shasta County north of Lassen Volcanic National Park. There are 44 water right owners in the area with total allotments of 135.535 cubic feet per second. Hat Creek, which flows in a northerly direction through the area, is the only source of water supply in the service area. The place of use is Hat Creek Valley, which is approximately 20 miles long and two miles wide. Commencing at a point about three miles south of the town of Old Station, the valley extends northward to the confluence of Rising River and Hat Creek. The irrigable lands, which consist primarily of volcanic ash, are interlaced with large outcroppings of volcanic rock.

Schematic drawings for both the upper and lower users' diversion systems from Hat Creek are presented in Appendix B, Figures 7 through 7b.

Water Supply

The water supply of Hat Creek is derived from snowmelt runoff on Mount Lassen and from large springs. Snowmelt normally creates a high flow during May and June; however, the substantial portion of supply throughout the season comes from large springs which decrease only slightly in output during the late summer. This flow reflects not only the precipitation of the preceding winter but also that of several previous years. Only after a series of dry years does the flow of these springs fall below 75 percent of the total allotments.

A record of the daily mean discharge of Hat Creek near the town of Hat Creek is presented in Table A-16.

Method of Distribution

The Hat Creek decree* divides the water rights on Hat Creek into two groups (upper users and lower users) who use the water on a ten-day rotation schedule with one priority class for each group as the basis for distribution. This requires a complete reregulation of all diversions every ten days, providing an irrigation supply to one group and a minimum flow (stockwater) to the other group.

Most irrigation in the area is accomplished by wild flooding. Large heads of water are used to cover the land rapidly, thereby preventing excessive loss from percolation in the extremely porous soil. Diversion dams constructed across the creek serve to divert water into large ditches. The fields, many of which have checks and borders, are then flooded from the main diversion ditch or from laterals. A few domestic rights are met by pumping directly from Hat Creek.

1965 Distribution

Watermaster service began May 1 in the Hat Creek service area and continued until September 30. Kenneth H. Lloyd, Water Resources Engineering Associate, assumed the duties of field watermaster during this period.

The available water supply in the Hat Creek service area during the 1965 irrigation season was above average.

The distribution of Hat Creek water was continued on a ten-day rotation schedule (one priority) between the upper and lower users beginning May 1. Surplus water was available until July 10 when the upper users were regulated to their minimum stockwater allotments in order to

*See Table 1.

provide 100 percent of the irrigation allotments to the lower users. The flow then remained constant until the second week of August when an unusual summer storm deposited snow on Mount Lassen and an average of 3 inches of rain fell in Hat Creek Valley. After the storm and continuing throughout the remainder of the irrigation season surplus flows were available to all users.

Special Occurrences

During March 1965 a metal screw-type headgate with a concrete headwall was installed in the Floyd Sites Ditch. This structure replaced a wooden control gate.

Removal of willow trees and other growth from the channel and banks of Hat Creek continued in 1965. In six areas a total of approximately 8,000 lineal feet of channel was cleared by bulldozer and backhoe. These corrective measures are being employed to alleviate channel loss during the summer and to increase channel capacity during high flow periods. Two water users intend to complete approximately 2,400 lineal feet of additional channel clearing prior to the 1966 irrigation season.

Indian Creek Watermaster Service Area

General Description

The Indian Creek service area is located in the north central part of Plumas County in the vicinity of the town of Greenville. There are 45 water right owners in the service area with total allotments of 97.015 cubic feet per second. The major sources of water supply in the service area are Indian Creek and two major tributaries, Wolf Creek and Lights Creek. Indian Creek and its minor tributaries rise in the mountains east of the service area. It flows through Gennessee Valley and Indian Valley past the towns of Taylorsville and Crescent Mills to its confluence with the North Fork Feather River. Indian Creek is joined from the north by Lights and Wolf Creeks in the northwest part of Indian Valley. The major place of water use is in Indian Valley, which is about four miles long and $2\frac{1}{2}$ miles wide at an elevation of about 3,500 feet.

A schematic drawing of each major stream system within the Indian Creek service area is presented in Appendix B, Figures 8 through 8c.

Water Supply

The water supply in the Indian Creek service area is derived primarily from snowmelt runoff with springs and seepage maintaining some late summer flow. The flow of Wolf Creek is normally sufficient to supply all allotments until June 1, while Indian and Lights Creeks, with the exception of some tributaries, have sufficient flow to supply all allotments until early July. After these dates, the flow decreases rapidly until by the end of August only a small proportion of allotments is available.

A record of the daily mean discharge of Indian Creek near Taylorsville is presented in Table A-17.

Method of Distribution

The basic method of irrigation in Indian Valley is wild flooding. Small diversion dams are placed in the stream channels to divert the water into distribution ditches for conveyance to the fields. Small check dams, located throughout the fields in swales, help to spread the water over the ground. There is a limited amount of check and border irrigation in the valley with sprinklers used to irrigate a few fields.

The Indian Creek decree* establishes three priority classes for each of the major stream systems within the Indian Creek service area.

1965 Distribution

Watermaster service began in the Indian Creek service area on April 8 and continued until September 30. Harvey M. Jorgensen, Water Resources Engineering Associate, assumed the duties of field watermaster during this period.

An above-average water supply existed in the service area during the 1965 season.

Wolf Creek. The available water supply of Wolf Creek was sufficient to satisfy all priority allotments (three priorities) until August 15. Regulation of diversions was necessary after this date for equitable distribution of available streamflow. The flow in Wolf Creek gradually decreased until only 50 percent of the second priority allotments were being served during the latter part of August.

*See Table 1

Lights Creek and Tributaries. The available water supply of Lights Creek was sufficient to satisfy all priority allotments (three priorities) until late August. The streamflow then steadily decreased.

The available water supply of Cooks Creek satisfied all priority allotments (three priorities) until August 1. On July 28 one cubic foot per second was passing the road bridge at diversion number 81. The creek is normally dry on this date.

Indian Creek. The available water supply of Indian Creek was sufficient to satisfy all priority allotments (three priorities). On July 29 there was fifty cubic feet per second in Indian Creek at diversion number 54. Sufficient water spilled over the Mill Race diversion dam to meet the allotments of the downstream users.

Special Occurrences.

During the watermaster season, one-foot concrete Parshall flumes were constructed in the following diversion ditches on Wolf Creek: 67, 68, 69, and 70. During the 1966 season control gates and spillback structures are scheduled to be built in diversion ditches 67 and 68 to facilitate the distribution of Wolf Creek water.

Middle Fork Feather River Watermaster Service Area

General Description

The Middle Fork Feather River service area is located in the plateau area on the west slope of the main divide of the Sierra Nevada Mountains in the east portion of Sierra and Plumas Counties. There are 86 water right owners with total allotments of 370.865 cubic feet per second.

Major sources of supply for this service area are the tributaries of the Middle Fork Feather River in Sierra Valley and are divided into five major stream groups. These groups, starting in the northeast corner of the valley and proceeding in a southerly and westerly direction, are Little Last Chance Creek, Smithneck Creek, Webber Creek and tributaries, West Side Canal, and Fletcher Creek. The Middle Fork Feather River Channel flows in a general northerly direction for approximately twenty miles through Sierra Valley and then turns and flows in a westerly direction. The major place of use is in Sierra Valley, which is about fifteen miles long and ten miles wide. The average elevation of the valley floor is 4,900 feet.

A schematic drawing of the Middle Fork Feather River service area is presented in Appendix B, Figure 9.

Water Supply

The major water supply in the Middle Fork Feather River service area is derived from snowmelt runoff, with minor flow from springs and from supplemental stored and foreign water.

The flow of Little Last Chance Creek is reregulated and supplemented by stored water through use of Frenchman Dam which was constructed

on the stream by the Department of Water Resources in 1961. This water is now released and used as needed in accordance with annual contracts between the Last Chance Creek Water District and the Department of Water Resources.

Smithneck Creek flow is normally sufficient to supply allotments until about the middle of May and then decreases rapidly until June 1, then only first and second priority allotments are available for the remainder of the season.

The natural flow of Webber Creek is normally sufficient to supply all allotments until the middle of May. At that time foreign water, up to 60 cubic feet per second, is used to supplement the flow. This foreign water is diverted from Little Truckee River through the Little Truckee Ditch into Cold Stream and then into Webber Creek for the use of shareholders in the Sierra Valley Mutual Water Company. This supplemental supply decreases rapidly during July, producing only small amounts of water for the latter part of the season.

The streams supplying the West Side Canal normally meet all allotments until the first part of June; thereafter, the flow gradually decreases throughout the remainder of the season.

The flow of Fletcher Creek and Spring Channels normally supplies all allotments until July 1. It then gradually decreases throughout the remainder of the season.

Records of daily mean discharge of several stream gaging stations in the Middle Fork Feather River service area are presented in Tables A-18 through A-22.

Method of Distribution

Wild flooding is employed by the majority of the water users to irrigate their lands. Small diversion dams are placed in the stream channels to divert the water into the individual distribution systems. Once the water reaches the fields, check dams are constructed in the swales to implement flooding.

The Middle Fork Feather River decree* establishes the number of priority classes for each of the major stream systems within the Middle Fork Feather River service area as follows: Little Last Chance Creek - five; Smithneck Creek and tributaries - five; West Side Canal and tributaries - five; Turner Creek - five; Fletcher Creek and Spring Channels - three; Sierra Valley Mutual Water Company - one; and Webber Creek and tributaries - six.

1965 Distribution

Watermaster service began April 1 in the Middle Fork Feather River service area and continued until September 30. Joe Nessler, Water Resources Engineering Associate, assumed the duties of field watermaster during this period. He was assisted by Conrad Lahr, Water Resources Technician II.

An above-average water supply existed in the service area during during the 1965 season. Frequent rains during the irrigation season supplemented the supply and reduced the demand.

Little Last Chance Creek. Frenchman Dam began its fourth season of operation during 1965. A contract concerning release and distribution of stored water was again negotiated with the Last Chance

*See Table 1.

Creek Water District. Distribution was in accordance with the provisions of this contract and individual agreements between the water right owners and the District.

Smithneck Creek. The available water supply in Smithneck Creek was sufficient to supply all priority allotments (five priorities until June 7. A rotation schedule was followed by second priority users below Loyalton between June 7 and July 2, when the demand decreased due to the start of haying operations. From August 1 until the end of the irrigation season the supply was sufficient to satisfy first priority and about 10 percent of second priority allotments.

Webber Creek and Tributaries. The natural flow of Webber Creek was sufficient to satisfy all priority allotments (six priorities) until July 1. Supplemental foreign water diverted from the Little Truckee River provided sufficient water to meet all demands throughout the season; however, full utilization was not possible due to restricted channel capacity at one point in the distribution system.

Little Truckee Ditch. The Sierra Valley Water Company imported 1,517 acre-feet of water through the Little Truckee Ditch during the period June 29 through August 5. Water was distributed to shareholders in accordance with schedule 9 of the Middle Fork Feather River decree.

West Side Canal Group. The West Side Canal Group, consisting of Hamlin, Miller, and Turner Creeks, provided a water supply sufficient to supply all priority allotments (five priorities) throughout the irrigation season. Although fairly close control of most diversions in the group was required during the season, the normal rotation practice on Turner Creek below the State Highway was not followed this year.

Fletcher Creek and Spring Channels. The available water supply was sufficient to supply all priority allotments (three priorities) until

about July 15. After that date and continuing throughout the season the supply was sufficient to satisfy about 50 percent of the third priority allotments.

Special Occurrences

High stream runoff during December 1964 caused extensive damage to the Sierra County Waterworks District No. 1 diversion dam on Fletcher Creek, and the Little Truckee Ditch diversion dam on Little Truckee River. Both of these structures were repaired during the 1965 season.

North Fork Cottonwood Creek Watermaster Service Area

General Description

The North Fork Cottonwood Creek service area is located in the southwestern part of Shasta County near the towns of Ono and Gas Point. There are nine water right owners in the area with total allotments of 30.30 cubic feet per second.

North Fork Cottonwood Creek and its tributaries, Moon Creek and Jerusalem Creek, are the major sources of water supply in the area. These creeks rise on the east slopes of the foothills of the Coast Range Mountains. North Fork Cottonwood Creek flows in a southeasterly direction to its confluence with Cottonwood Creek near Gas Point. The area is characterized by high summer temperatures and moderate rainfall. The irrigable land consists of sparsely scattered acreages separated by steep, brushy hills and lies near the 1,000-foot elevation.

A schematic drawing of the North Fork Cottonwood Creek stream system is presented in Appendix B, Figure 10.

Water Supply

Snowmelt from the east slope of the Coast Range foothills is available in the North Fork Cottonwood Creek area only during the early weeks of the irrigation season and is usually insignificant as irrigation demands approach the maximum. Perennial springs provide a gradually decreasing flow throughout the season. The flow is normally sufficient to supply all demands.

A record of the daily mean discharge of North Fork Cottonwood Creek near Igo is presented in Table A-23. This stream gaging station is located downstream from most points of diversion on the creek but gives a general indication of the water supply.

Method of Distribution

The general practice throughout the area is to irrigate by the wild flooding method. One water user, however, pumps directly from the creek using a sprinkler system to irrigate his crops. Pumping was necessary at this diversion point because of the higher elevation of the irrigated land in relation to the creek channel.

The North Fork Cottonwood Creek decree provides for distribution of water on an equal and correlative basis for all users - one priority class.

1965 Distribution

Watermaster service began May 1 in the North Fork Cottonwood Creek service area and continued until September 30. Kenneth H. Lloyd, Water Resources Engineering Associate, assumed the duties of field watermaster during this period.

The available water supply for the North Fork Cottonwood Creek service area was above average for the 1965 irrigation season. In addition, unusual rainstorms during the month of August implemented this supply and contributed significantly to an excellent irrigation season.

As stream gaging stations are not maintained in the upper portion of the service area, no exact streamflow comparison with previous years can be made. The North Fork Cottonwood Creek near Igo stream gaging station recorded a total of 45,090 acre-feet of runoff between April 1 and September 30, which is approximately 137 percent of the mean for a nine-year period of record.

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* See Table 1

North Fork Pit River Watermaster Service Area

General Description

The North Fork Pit River service area lies along the west slopes of the Warner Mountains in northeastern Modoc County and extends from the Oregon border about 45 miles southward to a point just below Alturas. There are 97 water right owners in the area with total allotments of 215.065 cubic feet per second. A number of small independent stream systems, rising on the west slope of the Warner Mountains and generally flowing in a westerly direction, comprise the major source of water supply. Three of these streams, New Pine Creek, Cottonwood Creek, and Davis Creek, are tributary to Goose Lake on its eastern shore. The other streams in the service area, all tributary to North Fork Pit River, are: Linville Creek, Franklin Creek, Joseph Creek, Thoms Creek, and Parker Creek. Shields Creek and Gleason Creek are tributaries to Parker Creek. The North Fork Pit River flows in a general southerly course from the south rim of Goose Lake to its confluence with the South Fork Pit River immediately below Alturas. Streams tributary to Goose Lake are not considered part of the North Fork Pit River watershed since the lake has not spilled into the river for nearly 100 years.

The place of use in the northern half of the area lies in a relatively long, narrow, sloping strip along almost the entire eastern shore of Goose Lake in California and extends eastward to the foothills of the Warner Mountains. The place of use in the southern half of the area, consisting of the North Fork Pit River and its tributaries, is primarily in the narrow valleys bordering these streams.

A schematic drawing of each major stream system within the North Fork Pit River service area is presented in Appendix B, Figures 11 through 11k.

Water Supply

The streams which serve the area are fed by snowmelt runoff and springs in the Warner Mountains. A large portion of the runoff occurs early in the spring, decreasing rapidly in May and June. The watershed of New Pine Creek, however, is at a higher elevation and maintains a good supply well into the summer. After the snowpack is depleted, perennial springs at the headwaters of the tributaries are the main source of water supply. Linville Creek has a small drainage basin and its flow depends almost entirely on the springs at its head. Gleason Creek, Thoms Creek, and Cottonwood Creek are usually dry in August, except during years of above-average water supply.

Some supplemental water is stored in small reservoirs throughout the area, none of which are operated by the watermaster. However, the inflows to some of these reservoirs are under the jurisdiction of the watermaster.

Records of the daily mean discharge at several stream gaging stations in the North Fork Pit River service area are presented in Tables A-24 through A-35.

Methods of Distribution

Irrigation is accomplished primarily by wild flooding from random field ditches along high spots in the meadows. Water is diverted from the natural stream by various type structures into small earth ditches which convey water to the meadows. At present there is a limited

amount of sprinkler irrigation, some by naturally developed pressure and some by direct pumping from small sumps in the ditches. Subirrigation by the use of large flashboard dams to raise the water level in the stream channel is being practiced on the North Fork Pit River between Parker Creek and Alturas.

The several decrees* which apply to the North Fork Pit River service area establish the following number of priority classes for the various stream systems: New Pine Creek - four; Cottonwood Creek - six; Davis Creek - four; Linville Creek - two; Franklin Creek - four; Joseph Creek - four; Thoms Creek - three; Parker Creek - four; Shields Creek - four; Gleason Creek - five; and North Fork Pit River - five.

1965 Distribution

Watermaster service began on April 19 and continued until September 30, 1965. John H. Summers, Assistant Civil Engineer, assumed the duties of field watermaster during this period.

Throughout the service area the available water supply during the 1965 irrigation season was generally above average.

New Pine Creek. Surplus water was available to New Pine Creek users throughout the period that the proration or correlative system of distribution was in effect (until June 30). Commencing July 1, in accordance with provisions of the decree, distribution was based on the priority system (four priorities). Fourth priority allotments received some water until mid-July. All third priority allotments were satisfied until mid-August; thereafter, the flow gradually decreased until approximately 80 percent of the second priority allotments were met near the end of the season.

See Table 1.

Cottonwood Creek. A sufficient water supply existed in Cottonwood Creek to satisfy all allotments (six priorities) until late spring. The fourth priority allotments were served until mid-June. Thereafter, the flow decreased rapidly, reaching first priority level by mid-July. Near the end of the season the flow had further receded so that approximately 25 percent of the first priority allotments were served.

Davis Creek. The available water supply in Davis Creek was sufficient to satisfy all priority allotments (four priorities) until mid-spring. One hundred percent of the third priority allotments were served until mid-June. The flow then steadily decreased until by late September only a small percentage of the third priority allotments were served.

Linville Creek. The available water supply in Linville Creek remained quite consistent throughout the irrigation season but was never sufficient to supply all priority allotments (two priorities). The flows, all in the first priority allotments, ranged from 75 percent in early May to 60 percent near the end of the season.

Franklin Creek. The available water supply in Franklin Creek was sufficient to satisfy all priority allotments (four priorities) until late April. The flow then gradually decreased until by mid-August about 15 percent of the third priority allotments were being served. Throughout the remainder of the season the flow remained constant. On September 15 the winter schedule of priorities became effective.

Joseph Creek. A surplus water supply existed in Joseph Creek throughout June. The flow then receded rapidly until only first priority allotments (out of four priorities) were being served at the end of July.

Thereafter the flow gradually receded to 25 percent of first priority allotments near the end of the season.

Thoms Creek. A sufficient water supply existed in Thoms Creek to meet all priority allotments (three priorities) plus a surplus supply until July 5. The flow then receded to 100 percent of second priority allotments by mid-July and to 30 percent of the second priority allotments by the end of the season.

Gleason Creek. The available water supply in Gleason Creek was sufficient to satisfy fourth priority allotments (out of five priorities) until June 4. The flow then rapidly dropped to 100 percent of second priority allotments by July 1. By late July the creek was dry.

Shields Creek. A surplus water supply existed in Shields Creek until July 10. The flow decreased rapidly until approximately 75 percent of third priority allotments (out of four priorities) were being served on September 12. Throughout the remainder of the season the flow remained fairly constant.

Parker Creek. The peak flow in Parker Creek occurred in mid-May and decreased steadily thereafter until July 10, when 100 percent of all priority allotments (four priorities) were served. From then until the end of August the flow continued to gradually decrease. Throughout the remainder of the season the flow remained constant at 50 percent of third priority allotments.

North Fork Pit River. A surplus water supply existed in North Fork Pit River until early June after which the Dorris Reservoir allotment was reduced. The flow then decreased rapidly until by mid-July the available supply was sufficient to serve only 100 percent of the first

priority allotments (out of five priorities). A steady decrease in flow continued until the third week in August when only stockwater was available. This level continued throughout the remainder of the season.

Seiad Creek Watermaster Service Area

General Description

The Seiad Creek service area is located in northwestern Siskiyou County near the town of Seiad Valley. There are 10 water right owners in the area with total allotments of 6.82 cubic feet per second. Seiad Creek, a major source of supply for the area, has two tributaries (Canyon and Darky Creeks) which join the main stream from the north near the head of Seiad Valley. Seiad Creek traverses the northerly portion of the valley while the main body of agricultural land lies to the south.

The Seiad Creek service area comprises Seiad Valley and a narrow strip of land in a canyon extending upstream from the head of the valley for a distance of about two miles. Seiad Valley extends from the Klamath River, which forms the western boundary, for a distance of about one mile to the mouth of the canyon. The elevation of the valley is about 1,400 feet.

Many years ago gold dredging operations destroyed about 40 percent of the agricultural land within Seiad Valley. There have not been any attempts at reclamation.

A schematic drawing of the Seiad Creek stream system is presented in Appendix B, Figure 12.

Water Supply

Snowmelt from the higher elevations provides the main source of water supply to Seiad Valley, although flows from springs and seepage provide some water in the summer and fall. The watershed of the Seiad Creek stream system includes the heavily forested, steep, mountainous area on the southern slopes of the Siskiyou Range in Siskiyou County. It

varies in elevation from 6,700 feet along the crest of those mountains bordering the basin on the north, to about 1,400 feet at the Klamath River on the south. The stream system drains an area of about 29 square miles. Of this total, 17 square miles are tributary to the main stream, nine square miles are tributary to Canyon Creek, and three square miles are tributary to Darky Creek.

Method of Distribution

Irrigation of the agricultural land is accomplished by wild flooding. Diverted water is used primarily for domestic gardens and lawns. Two of the diversions in use, 8 and 8A, are pump diversions for domestic water and are located in Canyon Creek. Distribution of the remaining water is accomplished by small ditches and laterals.

The Seiad Creek decree* provides two separate areas of distribution within the service area, and establishes the following priority classes: Seiad Creek - four, and Canyon Creek - two.

1965 Distribution

The Department of Water Resources suspended watermaster service in the Seiad Creek service area at the end of the 1964 season since it appeared that service may no longer be required. Therefore, no watermaster service was performed in the area during 1965. Periodic reappraisals will be conducted to determine if a need exists to have watermaster service reinstated.

* See Table 1

Shackleford Creek Watermaster Service Area

General Description

The Shackleford Creek service area is located in western Siskiyou County near the town of Fort Jones in Scott Valley. There are 21 water right owners in the service area with total allotments of 63.98 cubic feet per second. The major sources of water supply for this service area are Shackleford Creek which flows through the central part of Quartz Valley, and its tributary, Mill Creek, which rises east of the headwaters of Shackleford Creek. Evans Creek, a small tributary to Mill Creek, enters from the south. The service area encompasses the Quartz Valley region of Scott Valley and includes the entire agricultural area within the Shackleford Creek Basin. It is about two miles wide by six miles long with the main axis and drainage running from south to north. Elevations on the agricultural area range from about 3,100 feet at the south to about 2,650 feet at the confluence of Shackleford Creek and Scott River.

A schematic drawing of the Shackleford Creek stream system is presented in Appendix B, Figures 13 and 13a.

Water Supply

The water supply for Shackleford Creek is derived from snowmelt runoff, springs and seepage, and supplemental stored water released from Cliff Lake and Campbell Lake. These lakes are located near the headwaters of Shackleford Creek.

The watershed of the Shackleford Creek stream system contains about 31 square miles, located in the heavily forested, steep, mountainous terrain on the northeasterly slopes of the Salmon Mountains. It varies

in elevation from about 7,000 feet along its west rim to about 3,000 feet at the foot of the slopes bordering Quartz Valley.

Snowmelt runoff is normally sufficient to supply all demands until the middle of July. The supply then usually decreases until the first part of August when water is released from Cliff and Campbell Lakes to maintain sufficient flow for second priority allotments in the Shackleford Ditch.

Records of the daily mean discharge of two stream gaging stations in the Shackleford Creek service area are presented in Tables A-36 and A-37.

Method of Distribution

Irrigation is accomplished primarily by wild flooding of permanent pasture and alfalfa fields. Water is distributed by ditches and laterals to the places of use. Shackleford Ditch, the largest of these ditches, has a length of about six miles and a capacity of about twelve cubic feet per second.

The Shackleford Creek decree* provides four separate areas of distribution within the service area and establishes the following number of priority classes for these areas: Upper Shackleford Creek - seven; Lower Shackleford Creek - seven; Upper Mill Creek - three; and Lower Mill Creek - two.

1965 Distribution

Watermaster service began in the Shackleford Creek service area on June 1 and continued until September 30. James M. Mathison, Assistant Civil Engineer, assumed the duties of field watermaster during this period.

*See Table 1.

The 1965 season produced an above-average water supply for the entire service area. The available water supply in both Shackleford and Mill Creeks was greater than demands throughout the season.

The floods of December 1964 caused widespread destruction in the service area and completely washed out four large log diversion dams on upper Shackleford Creek. Two of these dams were replaced, allowing the Camp and Howard-Jones Ditches to divert water this season. The other two dams, located at the Eastlick and Shackleford Ditch diversion points, were scheduled to be rebuilt during the fall of 1965. Nonuse of allotments of these two ditches greatly contributed to the abundant water supply in the remainder of the Shackleford Creek service area.

Shasta River Watermaster Service Area

General Description

The Shasta River service area is located in the central part of Siskiyou County in the vicinity of the town of Yreka. There are 112 water right owners in the service area with total allotments of 594.612 cubic feet per second.

The source of supply for this service area is Shasta River and its tributaries. Shasta River enters the south end of Shasta Valley near the town of Weed where it is joined by several tributaries. Little Shasta River enters Shasta River from the east near the town of Montague. Shasta River then flows out the north end of the valley, near Yreka, to its confluence with the Klamath River.

The place of use is in Shasta Valley which is approximately 30 miles long and 30 miles wide. The valley has numerous small, cone-shaped, volcanic hillocks scattered throughout its central portion that produce the effect of dividing the area into a number of distinctively separate parts. Because of these formations only about 141,000 acres of the approximately 507,000 acres within the valley are irrigable. The valley floor elevation averages approximately 3,000 feet.

A schematic drawing of each major stream system within the Shasta River service area is presented in Appendix B, figures 14 through 14i.

Water Supply

The water supply for Shasta Valley is derived from snowmelt runoff and from springs and underground flow. In several portions of the stream system the spring and underground flow is sufficient to supply

nearly all allotments throughout the season. Much of the underground flow apparently has its source on Mount Shasta, which rises to an elevation of 14,162 feet at the south end of Shasta Valley. Although a normally heavy snowpack exists on Mount Shasta, only negligible surface runoff occurs.

Parks Creek, Upper Shasta River, and Little Shasta River derive a major portion of their water supply from snowmelt runoff. This flow is normally sufficient to supply all allotments until the middle of May.

Beaughan Creek, Carrick Creek, Shasta River from Boles Creek to Dwinnell Reservoir, Big Springs, and Lower Shasta River normally have sufficient flow from springs to supply a large percentage of the allotments throughout the season.

Records of the daily mean discharge at several stream gaging stations in the Shasta River service area are presented in Tables A-38 through A-48.

Methods of Distribution

Irrigation of permanent pasture and alfalfa lands is accomplished principally by wild flooding. Much of the return water is recaptured and used on lower pasture lands. Sprinkling systems are employed for irrigating some alfalfa and grain lands.

Water is primarily diverted by diversion dams and then conveyed by ditch or canal to the place of use. The largest and longest canal in the area is the Edson-Foulke Yreka Ditch, which has a capacity of about 60 cubic feet per second and a length of about 15 miles. Water is also supplied into ditch systems by pumped diversions. Generally

these belong to the several irrigation districts, although many riparian water right users employ pump diversions.

Many privately-owned storage reservoirs exist in the area. Stored water is normally used to supplement continuous flow allotments. Several of these reservoirs are also used for regulatory storage of natural flow allotments.

The Shasta River decree* provides eight separate areas of distribution within the service area and establishes the following number of priority classes for these areas: Shasta River above confluence with Big Springs Creek - 43, Boles Creek - 20, Beaughan Creek - 5, Carrick Creek - 13, Jackson Creek - 7, Parks Creek - 25, Shasta River below confluence with Big Springs Creek - 29, and Little Shasta River - 7.

Four privately-operated water districts within the service area have main diversions which are directly under supervision of the watermaster. These are: Montague Water Conservation District, Shasta River Water Users Association, Brenada Irrigation District, and Big Springs Irrigation District.

A number of riparian water users along the Lower Shasta River were not included in the Shasta River decree. Owners of these undefined water rights are therefore not subject to watermaster supervision; consequently, in seasons of short supply these rights can be the cause of considerable distribution problems.

1965 Distribution

Watermaster service began on April 1 in the Shasta River service area and continued through September 30. James M. Mathison, Assistant Civil Engineer, assumed the duties of field watermaster for this period.

* See Table 1

The available water supply in the service area was generally above average during the 1965 season.

Parks Creek. The flow in Parks Creek was sufficient to satisfy all priority allotments until early July. Some water was available for diversion to the Edson-Foulke Yreka Ditch all season. Water users below the Yreka Ditch diversion received a portion of their allotments during the latter part of the season from return flow and from water rising in the gravel streambed.

The Edson-Foulke Yreka Ditch was unable to divert water from Parks Creek until early May, since the diversion facility was completely washed out by the previous winter's floods.

Beaughan Creek. The flow of Beaughan Creek was sufficient to satisfy most demands for the entire season. The discharge of the creek measured below Beaughan Springs was 7.7 cubic feet per second on September 21. This was sufficient to supply approximately 90 percent of the second priority allotments (five priorities). The creek is routed through a mill pond owned by the International Paper Company. Approximately 35 percent of the flow is alloted to them for industrial purposes. Intermittent observations made at the Parshall flume below the mill pond are:

Date	Discharge in cubic feet per second	Date	Discharge in cubic feet per second
April 26	10.6	July 19	8.0
May 26	8.3	August 13	7.3
June 28	8.4	September 21	5.9

Carrick Creek. The water supply in Carrick Creek was sufficient to satisfy main stream allotments all season. The flow of Carrick Springs is determined by adding diversions 116 and 117, and the flow of the creek measured at the Highway 97 bridge.

Shasta River from Boles Creek to Dwinnel Reservoir. Boles Creek and Shasta River from Boles Creek to Dwinnell Reservoir were operated as one stream with water being distributed on an equal and correlative basis. A sufficient water supply was available to satisfy all priority allotments throughout the season.

Upper Shasta River. The diversion works of the Edson-Foulke Yreka Ditch and the flume crossing Parks Creek were washed out by the December floods. These structures were rebuilt and the ditch was placed in operation May 20, 1965. Throughout the remainder of the season the entire flow of the Upper Shasta River was diverted into this ditch.

Dwinnell Reservoir. Reservoir releases from Dwinnell Reservoir to the Montague Water Conservation District commenced on April 21 and continued through October 7, 1965. Reservoir operation data for the 1965 season are shown in Tables A-41 and A-42.

By agreements with the Montague Water Conservation District, natural flow water rights below Dwinnell Reservoir are met upon demand by the release of stored water in place of natural flow rights. The agreement allotment totals and seasonal amounts delivered to each user are as follows:

DELIVERIES TO NATURAL FLOW WATER RIGHT OWNERS
BELOW DWINNELL RESERVOIR - 1965

Name of Water Right Owner	Allotment per Agreement, in Acre-Feet	Amount Delivered From Dwinnell Reservoir	
		Acre-Feet	% of Allotment
Flying L. Ranch	198	145	73
K. K. Waters and Emily S. Waters	464	464	100
J. N. Taylor	1,200	1,200	100
W. W. Valentine, Jr.			
Hole-in-the Ground Ranch	596	0	0
Seldom Seen Ranch	924	924	100
TOTALS	3,382	2,733	81

Big Springs. The available water supply in Big Springs was sufficient to satisfy all priority allotments during the 1965 season.

Little Shasta River. A sufficient water supply was available in the Little Shasta River to satisfy 100 percent of the fifth priority allotments (seven priorities) until June 5. After that date close regulation became necessary to satisfy the higher priority allotments. The flow steadily receded to approximately 35 percent of fifth priority allotments by August 1, however, it increased slowly throughout the remainder of the month. On September 1, 50 percent of the fifth priority allotments were being served.

The daily mean discharge of Little Shasta River near Montague is presented in Table A-46. This runoff is augmented by substantial inflow from Cleland Springs, a tributary approximately two miles downstream from the stream gaging station, and from rising water along the river channel. Therefore, considerably more water is usually available

for distribution at downstream diversion points than is indicated in the discharge table.

Lower Shasta River. The available water supply on the Lower Shasta River was sufficient to satisfy all priority allotments throughout the season. Daily operation data for the Grenada Irrigation District and the Shasta River Water Users Association are presented in Tables A-44 and A-45.

Special Occurrences. Heavy rainfall and subsequent flooding occurring in December 1964 severely eroded large portions of irrigable land in the service area. Several log-type diversion structures were destroyed. However, none of the concrete structures received significant damage.

South Fork Pit River Watermaster Service Area

General Description

The South Fork Pit River service area is located primarily in Modoc County with a small portion extending into the northern part of Lassen County. There are 39 water right owners in the area with total allotments of 336.00 cubic feet per second.

Water supply for this service area is obtained from the South Fork Pit River and its tributaries which rise on the western slopes of the Warner Mountains. The river enters South Fork Valley near Likely and then turns north to its confluence with North Fork Pit River at Alturas. South Fork Pit River is joined by Fitzhugh Creek near the middle of the valley and by Pine Creek just south of Alturas.

The major area of water use is in South Fork Valley between Likely and Alturas. South Fork Valley is about 16 miles long and 3 miles wide with the valley floor lying at an elevation of about 4,500 feet. The valley is bounded on both sides by a rocky plateau that separates it from the surrounding mountains.

A schematic drawing of each major stream system within the South Fork Pit River service area is presented in Appendix B, Figures 15 through 15d.

Water Supply

The water supply for Pine Creek is derived primarily from snowmelt runoff from relatively high mountains. The runoff, generally small in the early spring, increases to a peak in May as temperatures rise and then gradually decreases throughout the remainder of the season. This requires the water users to supplement their irrigation supplies from other sources, where available.

The water supply for Fitzhugh Creek consists of snowmelt runoff early in the season and supplemental water diverted from Mill Creek above Jess Valley later in the season. Surplus water from Fitzhugh Creek is normally diverted into the Payne and French Reservoirs through Payne-French Ditch (Diversion 136) until June, when the diversion is closed to supply downstream allotments. By July the creek has normally receded until only first priority allotments are available.

Payne Ditch (Diversion 1) is opened to import water from Mill Creek to Fitzhugh Creek when the snow has melted enough to allow access. This foreign water is rediverted from North Fork Fitzhugh Creek through the Bowman Ditch to the Bowman Ranch. Return flow from Bowman Ranch to the creek is rediverted through Diversion 136 for stockwatering purposes in the Payne-French Ditch.

The water supply for South Fork Pit River is derived primarily from snowmelt runoff supplemented by stored water released from West Valley Reservoir. A number of streams, which rise at high elevations, collect at the mouth of Jess Valley to form the South Fork Pit River. West Valley Reservoir is located on West Valley Creek which enters the river below Jess Valley.

Most of the water users on South Fork Pit River, except those in Jess Valley, are in the South Fork Irrigation District. The district stores water in West Valley Reservoir which has a capacity of 22,240 acre-feet and releases it to the South Fork Pit River as a supplemental supply when the natural flow becomes insufficient to meet demands. This normally occurs during the middle of June. Reservoir releases together with the natural flow are distributed by the watermaster in cooperation

with the Board of Directors of the irrigation district. Normally, natural flow combined with stored water is sufficient to supply all demands for water on the South Fork Pit River throughout the irrigation season.

Records of the daily mean discharge of the several stream gaging stations in the area are presented in Tables A-49 through A-52.

Methods of Distribution

Irrigation of the lands along tributary streams is accomplished by flooding through use of small lateral ditches. The water is distributed on a continuous flow basis through each user's individual ditch.

The water users on the South Fork Pit River generally use the check and border method of irrigation. They normally receive water on a demand basis supplemented by water released from West Valley Reservoir. This must be modified to eliminate large peak demands from the reservoir and to utilize return flow as much as possible. The actual distribution of this water varies each year as there is no specific irrigation schedule in use.

The South Fork Pit River decree* and the Pine Creek agreement* establish a two-priority class system of distribution for the Fitzhugh Creek and Pine Creek stream systems. Distribution to the South Fork Pit River users (the decree provides for a two-priority class system) is carried out on an equal and correlative basis in accordance with the

* See Table 1

normal water requirements for each ranch. This method of operation has been made possible through the construction of West Valley Reservoir in 1937.

1965 Distribution

Watermaster service began in the South Fork Pit River service area on April 1 and continued until September 30. George H. Pape, Assistant Civil Engineer, assumed the duties of field watermaster for this period.

The water supply for the 1965 irrigation season was generally above average throughout the service area. The water supply from streamflow was supplemented by frequent heavy rains during June and July.

Pine Creek

Although streamflow was below 100 percent of all priority allotments (two priorities) throughout most of April and May, close regulation was not required due to saturated soil conditions caused by frequent rains. Some water was diverted for storage in Doris Reservoir throughout this period. An adequate runoff supply in the creek, supplemented by rainfall, existed until haying time in July. Haying in some of the area extended well into August due to difficulty in drying up the fields. This permitted full utilization of the available water by rotating unused rights to other users. A dwindling water supply at the end of haying was alleviated by the Modoc Refuge permitting the other users to divert some of its water.

For the remainder of the season the flow in Pine Creek decreased steadily. In late September there was only 13 cubic feet per second

available which was sufficient to satisfy approximately 60 percent of the first priority allotments (out of two priorities).

Fitzhugh Creek

Distribution of Fitzhugh Creek water was facilitated this year by the Pit River Ranch leaving its land fallow and not utilizing its water right. In addition, Herb Bell leased the Massae Ranch and its Payne-French Reservoir water rights making him the only water user below the confluence of the North and South Forks of Fitzhugh Creek. Thus, an informal rotation of water in this area was possible.

Water was diverted for storage into the Payne-French Ditch through July since all water at and below that point was controlled by one user.

An adequate water supply in Fitzhugh Creek, and the heavy rains which made the diversion inaccessible, delayed opening the Payne Ditch on Mill Creek until mid-July, about two weeks after diversion began at the Bowman Ditch on the North Fork of Fitzhugh Creek.

The diversion dam and Parshall flume constructed in 1964 at the Yankee Jim diversion underwent their first full season of operation. These structures greatly facilitated the distribution of water at this point.

South Fork Pit River

Water was distributed on a demand basis to the South Fork Pit River users, with West Valley Reservoir providing supplemental water as the natural flows receded. There was no need to divert South

Fork water into the reservoir during the watermaster season. The reservoir filled and began spilling on April 14 and continued until July 16. Water was released to the users from June 6 to June 13 and from July 21 to the end of the season. Releases were shut down on September 29, at which time 10,000 acre-feet of storage remained in the reservoir.

Surprise Valley Watermaster Service Area

General Description

The Surprise Valley service area is located in the extreme eastern part of Modoc County. There are 171 water right owners in the service area with total allotments of 313.75 cubic feet per second. The source of water supply is comprised of 10 individual stream systems rising on the eastern slope of the Warner Mountains. These streams are fed by snowmelt runoff and traverse a fast precipitous course down the Warner's eastern slope to the valley floor. From that point numerous and scattered diversion ditches convey water to the irrigated lands. Nearly all of the place of use is the irrigable lands situated in a long, narrow area between the foot of the Warner Mountains and the Alkali Lakes which lie in the center of Surprise Valley.

Surprise Valley extends in a north-south direction approximately 50 miles with an average width of eight to ten miles. It is bordered on the north, south, and west by the rugged Warner Range and on the east by the typical mountainous desert terrain of Nevada. The valley floor is at an elevation of approximately 4,700 feet.

A schematic drawing of each major stream system within the Surprise Valley service area is presented in Appendix B, Figures 16 through 16j.

Water Supply

The water supply is derived almost entirely from snowmelt runoff, with only minor spring-fed flows occurring in the latter part of the season. There are no known economically justified storage sites

on the service area creeks. Because of the lack of regulatory storage, the available water supply at any specific diversion point may vary considerably within a few hours. Rising or falling temperatures from day to night combine with the relatively short and steep drainage areas to promote these fluctuations of flow. In addition, occasional summer thunder showers may cause a creek to discharge a flow of mammoth proportions for several hours. These flashes are apt to cause considerable damage in washouts and debris deposition, and are of such short duration that no beneficial use can be made of the water.

Records of the daily mean discharge at several stream gaging stations within the service area are presented in Tables A-53 through A-63.

Method of Distribution

The continuous flow method of distribution is employed on most creeks; however, in a few instances the available water supply is rotated among the users in accordance with either decree schedules or by mutual agreements.

Alfalfa and meadow hay, the major crops grown in the valley, are irrigated in most instances by wild flooding. There are also considerable lands dependent upon subsurface irrigation. In addition, recent development of numerous deep wells has popularized sprinkler irrigation. This type of irrigation, however, is limited because of available ground water supply and costs of installation and maintenance.

To facilitate distribution of irrigation waters construction of permanent diversion dams, headgates, and measuring devices has been

underway during the recent years. Although construction of these control devices does not solve the problems of discharge variation and debris deposition, they do provide significant assistance in meeting normal water measurement and distribution problems.

The several decrees* which apply to the Surprise Valley service area establish the following number of priority classes for the various stream systems: Bidwell Creek - four until July 10, five thereafter; Mill Creek - four; Soldier Creek - from March 19 to June 19 the water is distributed on a rotation schedule (the upper users have eight priorities and the lower users have seven priorities), after which twelve priorities are in effect during the remainder of the year; Pine Creek - a rotation schedule based on accumulative flow in acre-feet is used; Cedar Creek - four priorities; Deep Creek - five priorities; Owl Creek - twenty-one priorities; Rader Creek - six priorities; Eagle Creek - four priorities; and Emerson Creek - four priorities.

1965 Distribution

Watermaster service began in the Surprise Valley service area on March 19 and continued until September 30. John A. Nolan, Water Resources Technician II, assumed the duties of field watermaster during this period.

The 1965 season was above average for irrigation purposes throughout most of the valley. The above-normal snowpack on the Warner Mountains combined with frequent rain showers provided an excellent water supply in most creeks through the first hay cuttings in late June and early July.

* See Table 1

Excellent crop yields were experienced throughout the valley as sufficient water was available to meet almost all priorities. The runoff was steady through the first half of the irrigation season. After the first hay crop was cleared from the land a second irrigation was begun. From early July throughout the remainder of the season the flows receded quickly and in late September there was generally only first priority water available.

All creeks produced seasonal runoffs ranging between 70 and 140 percent of their long-term averages.

Bidwell Creek. Total stream runoff available to Bidwell Creek users during the period from April 1 through September 30 was 17,250 acre-feet, or approximately 140 percent of normal (based on records of seasonal runoff since 1955).

Due to a good snowpack in the Bidwell Creek Basin there was enough runoff to supply all priority allotments until mid-June (there are four priorities until July 10, five priorities thereafter). From then until July 10 close regulation was required as only third priority allotments were available. From the first part of July, and continuing throughout the remainder of the season, the discharge of Bidwell Creek receded at a fairly constant rate reaching a low of approximately four cubic feet per second during the latter part of September. This amount was sufficient to supply all first priority allotments.

Mill Creek. Total stream runoff available to Mill Creek users during the period April 1 through September 30 was 5,510 acre-feet or approximately 97 percent of normal.

An abundant water supply existed throughout April, May, and most of June with much of the surplus flow in Mill Creek wasting into Upper Alkali Lake. On June 21 the flow became insufficient to supply all priority allotments (four priorities). From then until mid-August, third priority water was available in steadily decreasing quantities. Second priority allotments were shut off in late August. Throughout the remainder of the season the available water supply was generally sufficient to satisfy the first priority allotments.

Soldier Creek. Total stream runoff available to Soldier Creek users during the period March 19 through September 30 was 3,840 acre-feet or approximately 104 percent of normal.

Because of the above-normal runoff all lands, except those with surplus rights, were adaquately irrigated through the middle of June.

All diversions were closely regulated during the rotation periods (March 19 to June 19) as the stream runoff was generally insufficient to satisfy all priority allotments (eight priorities during the upper users' cycle, seven priorities during the lower users' cycle). After the middle of June the flow of Soldier Creek decreased at a fairly constant rate. Full second priority allotments were satisfied through the middle of July after which the available water supply continued to recede until the season low was reached in late September. At that time only first priority allotments were served.

Pine Creek. Total stream runoff available to Pine Creek users during the period March 20 through September 30 was 979 acre-feet or approximately 69 percent of normal.

The stream system was operated according to the rotation schedule (an accumulative flow basis) as set forth in the court decree.

On May 26 the flow in Pine Creek dropped below 4.0 cubic feet per second thereby ending the rotation schedule. From this date through June 4 the flow was divided between the Andrae and Eastlick Ranches. On June 5 the 1.6 cubic foot per second level was reached and in accordance with the decree the entire flow was then diverted into the South Channel to the Bordwell Ranch. This diversion continued for about three weeks, or as long as the water would reach the place of use. From early July throughout the remainder of the season Pine Creek was essentially dry.

Cedar Creek. Total stream runoff available to Cedar Creek users during the period April 1 through September 30 was about 2,400 acre-feet or approximately 80 percent of normal.

No water was available for the fourth priority user (a total of four priorities on the creek) this season and the third priority allotments were only partially satisfied for a short period during early May. Second priority regulation began during the middle of May with the streamflow declining steadily thereafter.

The entire streamflow was diverted by the only first priority user during the last week in June and throughout the remainder of the season.

Deep Creek. Total stream runoff available to Deep Creek users during the period April 1 through September 30 was 2,980 acre-feet or approximately 78 percent of normal.

Sufficient water existed to fulfill all priority allotments (five priorities) until the third week in May, at which time the streamflow began receding. From this time until the end of the irrigation season the entire flow of North Deep Creek was diverted by the Company Ditch, since only first priority water was available (one priority on North Deep Creek).

Second priority regulation began on South Deep Creek on June 1 and continued through June 9. Throughout the remainder of the irrigation season only first priority water was available in steadily declining amounts.

Owl Creek. Total stream runoff available to Owl Creek users during the period April 1 through September 30 was 8,600 acre-feet or approximately 131 percent of normal.

The flood control and distribution project is providing an excellent means of equitable distribution of irrigation waters. During the 1965 season the highest flow recorded in the system was 78 cubic feet per second, which is very close to the design capacity of the system. No distribution problems were encountered other than the usual one of gravel and debris accumulating at the intake and restricting flows into the system. Employment of a routine flushing schedule for the intake works minimized this problem.

A sufficient water supply existed to supply nearly all priority allotments (21 priorities) for most of May and June. During the last few days in June the flow declined rapidly cutting off many of the priorities. Beginning in early July and continuing throughout the season the flow receded gradually. A low of approximately three cubic feet per second was reached in late September.

The "special" eight priority allotments were fulfilled during their respective periods.

Rader Creek. Total stream runoff available to Rader Creek users during the period April 1 through September 30 was probably well above 100 percent of normal. Due to the severe channel damage caused by the flood of December 1964, there was no adequate site for a stream gaging station until the channel repairs were made. A station was installed for the months of July, August, and September and the flow recorded for these three months was almost half of the seasonal normal.

All users (six priorities) received ample irrigation water until the middle of July. As the streamflow began receding, close regulation of all diversions was required to maintain equitable distribution. Diversion No. 1 was closed on July 28 because there was no longer sufficient water available to reach the place of use. After that the streamflow receded steadily throughout the remainder of the irrigation season. Second priority allotments terminated on August 31 in accordance with the decree. For the remainder of the season first priority water was available in varying amounts.

Eagle Creek. Total stream runoff available to Eagle Creek users during the period of April 1 through September 30 was probably well above 100 percent of normal. Here again as on Rader Creek, extensive channel damage caused by the previous winter's floods prevented operation of a stream gaging station until late in the season.

An abundant water supply was available to all users (four priorities) throughout June and most of July after which the flow steadily declined. During the last week of July all third priority water was diverted by the Ford Ranch, in accordance with the decree, since channel losses were excessive in the lower reaches of the creek. Second priority allotments were shut off in late August and thereafter only first priority water was available (stockwater and domestic garden water).

Emerson Creek. Total stream runoff available to Emerson Creek users during the period April 1 through September 30 was 4,730 acre-feet or approximately 126 percent of normal.

A sufficient water supply existed to satisfy all priorities (four priority allotments) until approximately the middle of June at which time the streamflow began to recede. Fourth priority allotments were terminated for the season on June 16 and the third priority allotments on June 26 as the creek continued to recede at a fairly constant rate. From the end of June and throughout the remainder of the season the water supply was sufficient to serve the second priority allotments in steadily decreasing amounts.

Emerson Creek users again supplemented their second crop irrigation supply by the use of several deep wells.

Special Occurrences. The floods of December 1964 caused extensive damage to the majority of the stream channels in Surprise Valley. Modoc County was included as part of the disaster area in California and therefore eligible for federal aid. The Corps of Engineers let contracts to remove the debris, heavy gravel, and rubble deposits

from virtually all of the channels. In some cases the channels were realigned. Upon completion of this work all stream channels were probably in better condition than ever before.

This flood also damaged or destroyed several stream gaging stations, diversion points, diversion ditches, and measuring devices. However, in the watermaster service area only one permanent-type concrete structure was destroyed--a two-foot Parshall flume on Emerson Creek. This flume was rebuilt early in the season.

Susan River Watermaster Service Area

General Description

The Susan River service area is located in the southern part of Lassen County in the vicinity of Susanville. There are 166 water right owners in the service area with total allotments of 351.822 cubic feet per second. The primary place of use is in Honey Lake Valley between Susanville and the northwest shore of Honey Lake, a distance of about 25 miles. The valley floor is at an elevation of about 4,000 feet. The source of supply is comprised of three stream systems: Susan River and tributaries, Baxter Creek and tributaries, and Parker Creek.

Susan River originates on the east slope of the Sierra Nevada Mountains immediately east of Lassen National Park at an elevation of about 7,900 feet. Its channel runs easterly from Silver Lake through McCoy Flat Reservoir, the town of Susanville, and then to Honey Lake.

Susan River has four major tributaries: Piute Creek, entering from the north at Susanville; Gold Run and Lassen Creeks, entering from the south between Susanville and Johnstonville; and Willow Creek, entering from the north above Standish. Gold Run and Lassen Creeks rise on the north slope of Diamond Mountain at an elevation of about 7,600 feet. The watersheds of Piute and Willow Creeks are on the south slopes of Round Valley Mountains at lower elevations.

A short distance below its confluence with Willow Creek the Susan River divides into three channels: Tanner Slough Channel on the north, Old Channel in the middle, and Dill Slough Channel on the south. Hartson Slough and Whitehead Slough divert from Dill Slough on its south bank further downstream.

The Baxter Creek stream system is located in Honey Lake Valley on the east slope of the Sierra Nevada Mountains about 10 miles southeast of Susanville. The principal creeks in the system are: Baxter Creek, which rises in the extreme western portion of the basin and flows in an easterly direction; Elesian Creek and its tributaries; Sloss Creek; and Bankhead Creek. All these streams are tributary to Baxter Creek from the south.

Parker Creek is situated in Honey Lake Valley on the east slope of the Sierra Nevada Mountains about 15 miles southeast of Susanville. It rises on the east slope of Diamond Mountain and flows in an easterly direction for about five miles into Honey Lake.

A schematic drawing of each major stream system within the Susan River service area is presented in Appendix B, Figures 17 through 17e.

Water Supply

The water supply in the Susan River service area is obtained from two major sources, snowmelt runoff and springs. Snowpack on the Willow Creek Valley and Piute Creek watersheds, which embrace more than one-half of the Susan River stream system, melts early in the spring and is usually depleted by May 1. Irrigation requirements from this portion of the stream system are then almost entirely dependent upon the flow of springs that are relatively constant throughout the year.

Under normal conditions the flows of Lassen, Gold Run, Baxter, and Parker Creeks and of Susan River above Susanville are sustained by snowmelt runoff until early June. The flow from perennial springs in this portion of the system is comparatively small.

The Lassen Irrigation District stores supplemental water in Hog Flat and McCoy Reservoirs, located on the headwaters of the Susan River. This stored water is released into the Susan River channel and commingled with the natural flow, usually during June and July. It is then rediverted into Lake Leavitt for further distribution by the irrigation district.

Records of the daily mean discharge of the several stream gaging stations in the service are presented in Tables A-64 through A-74.

Methods of Distribution

Irrigation in the Susan River service area is accomplished by placing dams in the main channels, thus raising the water level for subsequent diversion into canals and ditches. These diversion dams are relatively large on the Susan River channel and much smaller on the tributaries. Wild flooding is the most common of the various methods of irrigation in practice. Portions of the irrigated lands have been leveled, permitting a more efficient use of water by using border checks and furrows. Subirrigation occurs in some areas incidental to surface irrigation or as a result of seepage from ditches and creek channels.

When the Lassen Irrigation District is releasing water from its upstream storage reservoirs, there is no existing method of determining the natural flow in Susan River. Experience indicates that a reduction of approximately 10 percent per week in natural flow is reasonable during the early summer months. An agreement between the district and the watermaster provides that during these periods of release the watermaster will reduce the total flow available for distribution under his jurisdiction by approximately 10 percent each week. Control is

maintained at the diversion points ordinarily served by the natural flow in the Susan River. The remaining water is then diverted by the Lassen Irrigation District.

The several decrees* which apply to the Susan River service area establish the following number of priority classes for the major stream systems and distribution areas: Baxter Creek - five; Parker Creek - four; Gold Run Creek - three; Lassen Creek - two and Piute and Hills Creeks - one; Willow Creek - two; and Susan River - three. The geographical features of the Susan River, Willow Creek, and Lower Susan River areas are subject to interrelated priorities.

1965 Distribution

Watermaster service began in the Susan River service area on April 1 and continued until October 31. Kenneth E. Morgan, Water Resources Engineering Associate, assumed the duties of field watermaster during this period.

Generally the available water supply throughout the Susan River service area was above average. Unusually heavy rain showers occurred during June, July, and August, contributing to irrigation supplies.

Parker Creek. The available water supply in Parker Creek was sufficient to satisfy all priority allotments (four priorities) until May 20. The flow steadily decreased through June, meeting 75 percent of second priority allotments on June 1 and only 25 percent by June 15. From July 1 throughout the remainder of the season only first priority allotments (stockwater) were served.

*See Table 1.

Baxter Creek. The available water supply in Baxter Creek was sufficient to supply all priority allotments (five priorities) until about May 20. Approximately 50 percent of third priority allotments were supplied in early June. By July 1 only 50 percent of first priority allotments were being served. From July 15 through October 31, the flow remained reasonably constant at approximately 25 percent of first priority allotments, providing some irrigation water for the upper users and stockwater for the lower users.

Lassen-Holtzclaw Creek. The available water supply in Lassen-Holtzclaw Creek was sufficient to supply all priority allotments (two priorities) until about July 1. The flow decreased from 50 percent to 10 percent of second priority allotments between July 20 and August 1. Throughout the remainder of the season the Hulsman Ranch was entitled to all the water available in the stream system.

Hills Creek. The available water supply in Hills Creek was sufficient to supply all allotments (one priority) until about July 1. On July 15 approximately 50 percent of the total priority allotments were being served. From August 1 through the remainder of the season only stockwater was available. All storage facilities on Hills Creek were filled during spring runoff.

Gold Run Creek. The available water supply in Gold Run Creek was sufficient to supply all priority allotments (three priorities) until June 20. At this time many users began drying out their meadows for haying. The flow then decreased rapidly to the first priority allotment level. From mid-July through October the upper users (above Richmond Road) with first priority allotments were able to irrigate some land. The lower users received sufficient amounts for stockwatering purposes.

Piute Creek. The available water supply in Piute Creek was sufficient to satisfy all priority allotments (one priority) and supply a small surplus to the Susan River throughout the season.

Willow Creek. Sufficient water was available in Willow Creek until May 26 to satisfy all priority allotments (three priorities). From then until haying operations began in early July, close regulation of releases from the Barron Ranch reservoir was required. From late May through September approximately 50 percent of the second priority allotments were supplied.

Susan River. The available water supply in Susan River was sufficient to provide surplus water until mid-June and satisfied all priority allotments (three priorities) until July 10. Careful regulation was required during July as the flow decreased rapidly and many users began irrigating their second crops.

Susan River flow above Willow Creek was sufficient to supply about 20 percent of the second priority allotments from July 15 through October 31.

After July 15, Willow Creek provided almost the entire water supply of the Susan River below their confluence. This flow was sufficient to satisfy 45 percent of the second priority allotments (out of two priorities) of Schedule Three of the decree from July 15 through September 20. The flow then gradually increased until October 20, when all Schedule Three allotments were supplied.

Lassen Irrigation District Reservoirs. McCoy Flat Reservoir and Lake Leavitt filled to capacity during early spring. Once filled, these reservoirs are not entitled to store additional water until November unless there is a surplus of natural streamflow.

On June 9 surplus flow had diminished in the Lower Susan River area, thereby creating a demand for more water. The inflow of 33 cubic feet per second to McCoy Flat Reservoir was less then the evaporation, hence the reservoir did not spill. The Lassen Irrigation District requested that the amount of inflow to McCoy Flat Reservoir be released from its downstream Hog Flat Reservoir since the latter is shallow and the evaporation and seepage loss is therefore much higher. However, due to a mechanical breakdown in the Hog Flat Reservoir gate, 36 cubic feet per second was released until the reservoir was emptied on July 24. For all flows released from Hog Flat Reservoir in excess of the inflow to McCoy Flat Reservoir, an equal amount (minus 15 percent or a minimum of 2 cubic feet per second for transportation losses) was allowed to be transferred to the Lassen Irrigation District's Lake Leavitt located east of Susanville.

Between July 26 and August 21 the Lassen Irrigation District transferred its McCoy Flat Reservoir water to Lake Leavitt. A transportation loss study was made on July 28. A 13 percent loss was noted between McCoy Flat Reservoir and the United States Geological Survey gaging station at Susanville when 108 cubic feet per second was released and the natural streamflow was 14 cubic feet per second. An assumption of an additional 2 percent loss between the gaging station and Lake Leavitt is reasonable.

Special Occurrences

Five new stream gaging stations in the Lower Susan River area were installed in October under supervision of the watermaster. These stations will be operated by the watermaster in cooperation with the State Department of Conservation. Valuable streamflow data will be obtained

to assist the Department of Conservation in planning work for the proposed Willow Creek Project. These stations will also be of great assistance to the watermaster in distributing water in the Lower Susan River area. The new stations are: Susan River above Willow Creek (Chappuis Lane), Tanner Slough at Head, Tanner Slough below Diversion 84 (to Department of Fish and Game), Dill Slough at Head, and Hartson Slough flow to Hartson Lake.

APPENDIX A

STREAMFLOW RECORDS

TABLE OF CONTENTS

DAILY MEAN DISCHARGE TABLES

Table		Page
	Ash Creek Watermaster Service Area	
A-1	Ash Creek at Adin	A-1
	Big Valley Watermaster Service Area	
A-2	Pit River near Canby	A-2
A-3	Pit River near Bieber	A-3
A-4	Roberts Reservoir (Daily Mean Releases)	A-4
	Burney Creek Watermaster Service Area	
A-5	Burney Creek near Burney	A-5
	Butte Creek Watermaster Service Area	
A-6	Butte Creek near Chico	A-6
A-7	Butte Creek near Durham	A-7
A-8	Durham Colony Ditch	A-8
A-9	Dayton Ditch at Edgar Slough	A-9
A-10	Parrott Ditch	A-10
A-11	Toadtown Canal above Butte Canal	A-11
	Cow Creek Watermaster Service Area	
A-12	Millville Ditch-Clover Creek	A-12
A-13	Cook and Butcher Ditch from Little Cow Creek	A-13
A-14	Oak Run Creek near Oak Run	A-14
	Digger Creek Watermaster Service Area	
A-15	Digger Creek below South Fork Branch	A-15
	Hat Creek Watermaster Service Area	
A-16	Hat Creek near Hat Creek	A-16
	Indian Creek Watermaster Service Area	
A-17	Indian Creek near Taylorsville	A-17

Table		Page
	Middle Fork Feather River Watermaster Service Area	
A-18	Little Last Chance Creek near Chilcoot	A-18
A-19	Little Truckee Ditch at Head	A-19
A-20	Middle Fork Feather River near Portola	A-20
A-21	Smithneck Creek near Loyalton	A-21
A-22	Miller Creek near Sattley	A-22
	North Fork Cottonwood Creek Watermaster Service Area	
A-23	North Fork Cottonwood Creek near Igo	A-23
	North Fork Pit River Watermaster Service Area	
A-24	New Pine Creek below Schroeder's	A-24
A-25	Cottonwood Creek below Larkin Garden Ditch	A-25
A-26	Davis Creek at Old Fish Wheel	A-26
A-27	Linville Creek at Old Power House	A-27
A-28	Franklin Creek above Diversions	A-28
A-29	Joseph Creek below Couch Creek	A-29
A-30	North Fork Pit River below Thoms Creek	A-30
A-31	Thoms Creek at Cedarville-Alturas Highway	A-31
A-32	Parker Creek at Fogarty Ranch	A-32
A-33	Shields Creek below Pepperdine Ranch	A-33
A-34	Parker Creek above Highway 395 near Alturas	A-34
A-35	North Fork Pit River near Alturas	A-35
	Shackleford Creek Watermaster Service Area	
A-36	Howard Jones Ditch	A-36
A-37	Camp Ditch	A-37
	Shasta River Watermaster Service Area	
A-38	Edson-Foulke Yreka Ditch at Shasta River	A-38
A-39	Shasta River at Edgewood	A-39
A-40	Parks Creek above Edson-foulke Yreka Ditch	A-40
A-41	Dwinnell Reservoir (Daily Mean Storage)	A-41
A-42	Dwinnell Reservoir (Daily Mean Releases)	A-42
A-43	Big Springs Irrigation District Flume	A-43
A-44	Grenada Irrigation District Pumping Plant	A-44
A-45	Shasta River Water Association Pumping Plant	A-45
A-46	Little Shasta River near Montague	A-46
A-47	Shasta River at Montague-Grenada Highway Bridge	A-47
A-48	Shasta River near Yreka	A-48

Table		Page
	South Fork Pit River Watermaster Service Area	
A-49	South Fork Pit River near Likely	A-49
A-50	West Valley Creek below West Valley Reservoir	A-50
A-51	Fitzhugh Creek below Diversion No. 137	A-51
A-52	Pine Creek near Alturas	A-52
	Surprise Valley Watermaster Service Area	
A-53	Bidwell Creek near Fort Bidwell	A-53
A-54	Mill Creek	A-54
A-55	Soldier Creek	A-55
A-56	Pine Creek	A-56
A-57	Cedar Creek at Cedarville	A-57
A-58	North Deep Creek	A-58
A-59	South Deep Creek	A-59
A-60	Owl Creek	A-60
A-61	Rader Creek	A-61
A-62	Eagle Creek at Eagleville	A-62
A-63	Emerson Creek	A-63
	Susan River Watermaster Service Area	
A-64	Susan River at Susanville	A-64
A-65	Gold Run Creek near Susanville	A-65
A-66	Susan River at Johnstonville Bridge	A-66
A-67	Willow Creek near Susanville	A-67
A-68	Willow Creek near Litchfield	A-68
A-69	Jacobs-Neuhaus Ditch at Barron-Murrer Property Line	A-69
A-70	Susan River inflow to McCoy Flat Reservoir	A-70
A-71	Bridge Creek inflow to McCoy Flat Reservoir	A-71
A-72	McCoy Flat Reservoir releases to Susan River	A-72
A-73	Hog Flat Reservoir releases to Susan River	A-73
A-74	Transfer of Lassen Irrigation District Water from McCoy Flat and Hog Flat Reservoirs to Lake Leavitt (less transportation loss of 15 percent)	A-74

TABLE A-1

DAILY MEAN DISCHARGE
ASH CREEK AT ADIN

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	186	139	188	23	25	18	538
2	161	171	172	22	22	17	511
3	149	160	159	17	19	16	458
4	150	153	147	17	18	17	415
5	140	153	132	16	19	14	382
6	144	165	121	18	17	16	352
7	138	160	116	25	16	18	325
8	150	148	104	20	16	16	298
9	153	153	94	31	17	12	262
10	158	181	85	28	15	9.4	232
11	160	284	77	24	17	25	204
12	170	293	71	17	18	22	179
13	156	247	66	12	20	15	156
14	150	223	57	25	23	14	133
15	146	213	48	32	25	14	111
16	145	238	47	15	32	16	87
17	143	223	46	51	36	13	68
18	136	226	46	51	42	17	56
19	133	246	37	32	45	17	37
20	126	256	47	20	47	17	26
21	125	331	52	31	45	37	24
22	127	333	85	20	55	25	22
23	129	292	59	21	6.7	17	21
24	128	271	44	28	7.0	17	21
25	125	261	32	32	10	16	21
26	128	248	30	38	19	17	21
27	137	230	21	28	21	17	20
28	147	221	18	22	24	17	22
29	140	213	21	21	19	16	25
30	134	203	21	22	15	16	26
31	129		19		16	16	
Mean	143	221	73.0	25.3	23.4	17.2	168
Runoff in acre-feet	8,810	13,160	4,490	1,500	1,440	1,060	10,020

TABLE A-2

DAILY MEAN DISCHARGE
PIT RIVER NEAR CANBY

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	493	258	858	292	268	78	119
2	445	302	858	210	242	76	101
3	415	356	858	346	229	73	100
4	385	333	852	290	233	72	71
5	360	328	816	233	218	86	27
6	351	351	768	194	196	84	37
7	351	385	702	125	157	61	32
8	356	405	642	86	127	5.7	36
9	338	370	582	130	104	38	31
10	328	385	482	215	96	94	46
11	324	430	476	347	91	67	40
12	324	515	425	328	56	136	133
13	333	630	320	322	66	142	240
14	310	738	155	302	38	150	244
15	310	798	482	333	22	136	185
16	297	846	548	392	20	159	217
17	292	828	510	498	35	183	235
18	279	732	450	623	102	143	197
19	270	648	395	713	134	145	167
20	258	702	375	739	112	161	149
21	262	828	297	763	114	173	147
22	266	912	243	627	93	166	147
23	254	954	493	413	56	148	183
24	230	954	515	162	25	131	143
25	238	930	696	151	21	107	125
26	270	912	636	215	31	114	124
27	310	882	542	417	66	118	124
28	315	864	515	501	63	130	97
29	315	858	460	394	77	130	113
30	288	864	395	312	128	117	109
31	266		356		99	111	
Mean	317	643	539	356	107	114	124
Runoff in acre-feet	19,500	38,280	33,130	21,170	6,580	7,010	7,380

TABLE A-3

DAILY MEAN DISCHARGE
PIT RIVER NEAR BIEBER

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	1,190	545	1,210	140	417	28	26
2	1,070	621	1,180	46	291	18	24
3	925	701	1,160	62	91	15	27
4	855	727	1,120	25	67	14	25
5	818	675	1,100	18	90	10	33
6	789	669	1,060	60	316	8.6	57
7	768	694	1,000	306	285	4.4	56
8	761	727	925	137	282	2.9	35
9	789	754	840	60	163	2.6	45
10	803	810	747	73	142	2.0	168
11	746	989	540	49	104	5.3	54
12	803	1,140	505	39	83	6.8	25
13	768	1,250	430	40	72	8.6	20
14	747	1,270	392	49	63	29	25
15	727	1,260	299	285	34	17	27
16	714	1,320	86	358	23	18	24
17	688	1,510	198	361	17	73	23
18	651	1,510	588	417	14	76	43
19	593	1,460	515	550	13	64	128
20	566	1,390	435	582	10	53	204
21	555	1,370	540	627	8.6	104	294
22	550	1,540	467	651	6.5	303	276
23	535	1,670	372	727	5.0	313	151
24	520	1,680	365	663	4.1	220	122
25	481	1,610	422	530	4.1	184	128
26	496	1,530	472	326	2.9	160	170
27	582	1,460	651	158	3.2	148	153
28	682	1,380	720	220	4.7	114	153
29	657	1,320	540	369	6.5	52	120
30	604	1,260	472	426	3.5	50	84
31	566		426		8.6	57	
Mean	711	1,161	638	278	85.0	69.7	90.7
Runoff in acre-feet	43,730	69,110	39,230	16,570	5,260	4,270	5,400

TABLE A-4

DAILY MEAN DISCHARGE
ROBERTS RESERVOIR

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1							
2							
3							
4							
5							
6							
7							
8							
9							
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24					* 16		
25					40		
26					32		
27					20		
28					20		
29					20		
30					20		
31					** 8		
Mean					22.0		
Runoff in acre-feet					349		

* Reservoir opened
** Reservoir closed

TABLE A-5

DAILY MEAN DISCHARGE
BURNEY CREEK NEAR BURNEY

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	121	85	233	62	25	18	17
2	102	165	202	57	25	18	16
3	57	137	172	52	23	17	17
4	54	125	155	49	23	18	17
5	52	126	146	45	24	17	17
6	51	146	134	44	22	17	18
7	48	134	123	45	21	18	18
8	49	123	111	48	20	17	18
9	50	136	102	47	20	15	17
10	50	118	99	36	20	16	17
11	52	100	95	33	20	27	17
12	60	101	97	34	20	29	17
13	60	131	100	33	19	20	17
14	51	131	93	37	18	18	17
15	49	163	92	43	25	17	17
16	48	461	92	45	21	17	18
17	48	263	94	51	14	19	18
18	44	331	90	59	18	25	17
19	40	571	92	48	18	20	17
20	38	541	115	39	19	19	16
21	40	592	107	32	14	19	16
22	45	500	138	27	13	19	15
23	47	392	109	27	14	18	15
24	48	339	85	27	15	18	16
25	46	313	80	32	16	20	16
26	49	294	81	29	16	18	14
27	78	285	78	27	15	18	15
28	97	281	76	25	15	22	15
29	78	273	68	24	15	19	15
30	64	259	63	27	17	18	15
31	62		61		18	22	
Mean	57.4	254	109	39.5	18.8	19.1	16.5
Runoff in acre-feet	3,530	15,110	6,710	2,350	1,160	1,180	982

TABLE A-6

DAILY MEAN DISCHARGE
BUTTE CREEK NEAR CHICO

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	487	521	811	380	206	184	149
2	460	501	746	371	208	178	140
3	448	480	676	370	210	177	147
4	441	467	662	367	205	178	146
5	434	474	647	366	199	164	146
6	441	480	606	354	194	158	146
7	434	474	576	340	191	156	152
8	434	571	557	331	190	160	151
9	415	1,140	543	326	208	160	151
10	428	921	529	315	205	156	149
11	422	704	540	311	203	158	147
12	467	647	545	311	203	306	147
13	454	656	550	304	202	182	146
14	428	690	547	307	197	168	144
15	415	976	534	305	195	154	144
16	409	2,950	525	293	195	154	143
17	409	1,640	536	295	194	170	138
18	403	1,360	523	308	192	174	140
19	397	1,440	513	290	192	180	142
20	391	1,380	498	279	191	165	142
21	391	1,450	499	273	192	157	142
22	403	1,300	476	268	190	171	143
23	415	1,140	448	260	186	165	143
24	441	1,060	435	246	186	157	142
25	422	1,020	420	237	185	153	142
26	441	984	415	238	187	151	150
27	803	962	405	231	189	150	173
28	689	920	396	223	187	148	156
29	571	910	390	217	183	146	148
30	528	856	387	209	181	148	143
31	516		384		184	148	
Mean	459	969	526	298	195	167	146
Runoff in acre-feet	28,240	57,670	32,370	17,700	11,960	10,270	8,710

TABLE A-7

DAILY MEAN DISCHARGE
BUTTE CREEK NEAR DURHAM

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	520	546	803	242	19	37	16
2	518	527	730	212	19	32	21
3	505	513	661	204	22	23	21
4	500	499	614	201	21	23	22
5	495	470	587	194	19	30	23
6	506	476	552	196	17	28	28
7	498	471	503	186	28	22	28
8	498	566	464	173	28	21	23
9	476	1,070	436	167	38	22	23
10	474	986	428	154	42	22	22
11	476	803	418	144	44	30	22
12	512	754	408	148	45	201	17
13	510	756	394	145	38	83	14
14	482	781	386	139	34	50	15
15	473	916	371	139	34	43	16
16	463	2,690	363	120	38	38	18
17	466	1,680	360	117	41	39	26
18	460	1,390	342	130	53	39	30
19	451	1,450	338	115	41	42	33
20	451	1,400	327	103	37	34	31
21	450	1,420	325	102	37	27	29
22	459	1,290	312	96	35	32	37
23	466	1,170	292	86	33	41	37
24	476	1,110	282	69	23	36	36
25	469	1,050	276	54	23	31	36
26	483	1,010	261	49	23	33	45
27	744	949	245	44	26	32	55
28	691	912	243	36	26	24	77
29	588	899	243	27	32	22	97
30	549	850	237	21	29	17	102
31	542		235		31	16	
Mean	505	980	401	127	31.5	37.7	33.3
Runoff in acre-feet	31,040	58,320	24,670	7,560	1,940	2,320	1,980

TABLE A-8

DAILY MEAN DISCHARGE
DURHAM COLONY DITCH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				59	47	58	37
2				60	47	50	38
3				60	48	48	39
4				60	48	49	39
5				60	46	51	41
6				59	45	45	43
7				58	46	41	43
8				58	49	41	43
9			30	57	56	42	43
10			26	56	58	40	44
11			28	57	56	43	44
12			32	50	55	49	44
13			40	49	56	42	44
14			41	55	55	40	42
15			41	55	55	38	41
16			41	54	54	43	42
17			42	53	52	45	43
18			44	54	49	46	42
19			44	54	53	46	42
20			48	56	54	42	42
21			53	54	55	42	43
22			53	51	56	46	43
23			52	50	55	45	43
24			52	48	50	42	43
25			50	49	52	40	42
26			46	54	51	39	37
27			59	53	49	39	34
28			59	50	52	42	34
29			59	49	51	39	30
30			59	49	49	35	27
31			59		51	35	
Mean			46.0	54.4	51.6	43.3	40.4
Runoff in acre-feet			2,300	3,240	3,170	2,660	2,400

TABLE A-9

DAILY MEAN DISCHARGE
DAYTON DITCH AT EDGAR SLOUGH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				22	22	16	20
2				22	22	16	20
3				21	21	16	
4				15	18	16	
5				14	19	16	
6				13	21	16	
7				14	22	16	
8			21	17	22	16	
9			19	21	22	16	
10			20	21	22	16	
11			21	22	21	16	
12			21	21	22	17	
13			21	21	22	20	
14			19	19	22	20	
15			20	21	21	19	
16			21	22	21	20	
17			22	21	21	20	
18			21	22	18	20	
19			21	21	21	20	
20			21	21	21	21	
21			21	22	21	20	
22			21	22	21	21	
23			19	22	18	20	
24			21	22	18	20	
25			21	22	17	20	
26			19	22	17	20	
27			20	22	17	20	
28			21	22	16	20	
29			21	22	16	20	
30			21	22	16	20	
31			22		16	20	
Mean			20.6	20.4	19.8	18.5	
Runoff in acre-feet			982	1,210	1,220	1,140	

TABLE A-10

DAILY MEAN DISCHARGE
PARROTT DITCH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1			70	129	121	90	87
2			75	129	122	96	83
3			90	127	123	110	81
4			102	127	120	107	80
5			102	124	119	90	80
6			92	114	113	93	81
7			84	112	105	103	82
8			118	112	101	100	82
9			118	111	100	102	82
10			118	111	98	100	81
11			120	110	98	99	80
12			124	110	98	122	80
13			133	110	101	108	80
14			141	109	99	97	80
15			147	109	95	93	80
16			150	112	92	92	67
17			152	118	90	96	60
18			150	119	86	96	60
19			148	113	89	97	60
20			156	107	92	95	59
21			159	105	91	93	57
22			166	110	90	91	53
23			156	114	95	84	53
24			142	116	109	84	53
25			134	119	105	87	53
26			133	119	105	87	53
27			129	119	107	86	53
28			124	118	99	86	37
29			126	120	94	86	27
30			129	124	104	86	27
31			129		100	87	
Mean			126	116	102	94.9	66.4
Runoff in acre-feet			7,770	6,900	6,270	5,840	3,950

TABLE A-11

DAILY MEAN DISCHARGE
TOADTOWN CANAL ABOVE BUTTE CANAL

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	118	118	124	114	79	95	62
2	118	118	125	114	88	93	62
3	118	118	126	113	91	96	62
4	118	115	125	113	86	94	63
5	118	121	127	113	83	80	62
6	118	123	126	112	81	78	63
7	117	123	126	113	80	77	65
8	116	128	125	112	85	76	65
9	116	124	123	111	102	73	65
10	116	117	120	110	97	69	64
11	116	123	119	110	96	84	65
12	118	124	121	110	96	102	63
13	118	127	122	109	95	84	63
14	118	124	120	108	94	76	63
15	120	127	119	110	94	69	63
16	119	116	119	108	94	68	62
17	118	129	121	106	94	76	63
18	118	129	122	110	94	75	63
19	118	127	122	112	93	74	64
20	118	126	123	111	93	69	65
21	118	124	123	107	93	69	65
22	118	118	123	104	93	78	65
23	118	120	122	102	93	73	65
24	120	118	120	98	93	71	65
25	119	124	120	95	93	70	65
26	127	125	120	92	94	69	66
27	122	124	118	90	95	69	66
28	114	124	116	86	96	69	67
29	117	125	116	84	95	67	65
30	116	124	115	81	95	62	65
31	116		114		95	61	
Mean	118	123	121	105	91.9	76.3	64.2
Runoff in acre-feet	7,270	7,310	7,460	6,260	5,650	4,700	3,820

TABLE A-12

DAILY MEAN DISCHARGE
MILLVILLE DITCH-CLOVER CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				6.8	6.8	5.7	5.2
2				7.5	6.4	6.2	5.2
3				7.4	5.7	6.8	5.0
4				7.3	4.4	7.0	4.8
5				7.3	4.4	6.8	4.4
6				7.2	5.7	6.2	5.1
7				7.0	6.2	6.4	5.3
8				7.0	5.9	6.2	5.2
9				7.0	5.9	6.2	5.1
10				6.9	5.7	6.3	5.1
11			8.0	6.8	6.4	7.4	5.0
12			8.0	6.8	6.3	8.0	4.3
13			8.0	7.0	6.3	7.6	4.6
14			7.9	7.5	5.9	7.4	4.1
15			7.6	8.0	6.2	7.2	4.4
16			7.5	7.8	6.2	6.9	3.6
17			7.5	8.3	6.2	7.0	3.1
18			7.6	8.3	5.7	7.6	3.6
19			7.6	9.3	5.7	7.6	4.1
20			7.4	8.0	5.7	7.0	3.8
21			7.4	8.0	5.7	6.8	3.8
22			7.2	7.9	6.1	5.9	3.9
23			6.6	7.5	5.7	6.2	3.6
24			6.3	7.5	5.1	6.3	3.4
25			6.7	7.4	5.2	5.7	3.6
26			6.7	7.3	5.7	4.9	4.1
27			6.6	7.0	5.4	4.6	
28			6.6	6.9	5.4	4.1	
29			6.4	6.6	5.4	4.6	
30			6.3	6.8	5.7	5.1	
31			6.2		6.1	5.1	
Mean			7.1	7.4	5.8	6.3	4.4
Runoff in acre-feet			298	438	355	390	225

TABLE A-13

DAILY MEAN DISCHARGE
COOK AND BUTCHER DITCH FROM LITTLE COW CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				14	12	7.3	7.7
2				13	12	7.7	8.2
3				12	11	5.9	8.4
4				12	11	5.6	8.0
5				12	11	5.2	7.9
6				11	11	5.6	7.9
7				11	8.9	5.1	8.2
8				10	8.9	5.2	9.4
9				10	8.9	5.8	9.1
10				8.9	10	5.1	8.9
11				7.7	8.4	12	8.4
12				10	8.9	20	9.6
13				11	10	18	8.4
14				14	8.4	15	8.9
15				18	7.7	9.6	7.3
16			10	14	7.7	8.9	6.5
17			7.8	14	7.1	8.4	6.7
18			6.2	12	5.6	12	6.7
19			7.9	11	5.6	22	8.0
20			7.7	10	5.6	20	8.2
21			7.3	11	5.2	18	7.7
22			8.0	12	6.7	16	7.6
23			6.5	11	6.7	14	7.6
24			4.7	11	5.6	12	7.7
25			3.8	12	6.7	11	6.5
26			3.3	12	7.1	11	7.7
27			4.0	11	6.7	10	8.9
28			19	10	6.7	8.9	
29			19	8.9	6.7	7.1	
30			17	11	5.2	7.7	
31			15		5.6	8.2	
Mean			9.2	11.5	8.0	10.6	8.0
Runoff in acre-feet			292	685	493	651	429

TABLE A-14

DAILY MEAN DISCHARGE
OAK RUN CREEK NEAR OAK RUN

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	10	25	19	5.5	4.2	5.6	2.8
2	10	57	18	5.6	4.2	3.2	2.3
3	9.8	20	17	5.8	4.0	3.0	3.4
4	9.6	15	15	6.2	3.9	3.1	3.3
5	9.6	15	12	6.0	3.7	2.5	4.2
6	9.6	106	12	5.6	2.4	2.8	4.3
7	9.6	36	12	5.8	4.2	3.1	3.5
8	9.2	97	12	6.1	2.9	2.9	4.7
9	9.0	201	12	6.2	2.4	2.9	4.1
10	9.0	120	9.2	5.4	3.6	3.9	3.9
11	8.9	72	9.2	4.9	3.5	7.6	3.6
12	11	53	9.1	4.3	4.2	5.9	3.8
13	9.2	53	8.6	4.1	4.5	4.9	3.5
14	8.5	55	7.9	4.9	3.7	4.2	3.2
15	8.1	68	7.2	5.5	4.4	4.5	3.3
16	8.1	168	7.1	5.5	5.5	4.5	3.7
17	8.1	69	8.0	6.4	4.5	4.6	3.8
18	7.8	141	8.5	5.8	4.4	9.1	2.7
19	7.6	115	9.0	4.5	4.6	6.1	2.5
20	7.5	90	9.4	4.4	4.8	5.5	2.3
21	7.5	82	11	4.3	5.9	5.0	1.9
22	7.5	59	11	4.8	6.2	4.8	2.1
23	7.3	46	8.6	4.5	6.3	4.8	3.5
24	7.2	39	8.5	4.9	5.5	4.9	3.8
25	7.5	33	8.0	4.7	4.8	5.2	4.3
26	18	29	7.4	4.3	5.1	5.1	4.1
27	32	27	7.5	4.3	4.1	4.8	3.9
28	12	25	7.5	4.1	4.2	4.3	3.9
29	10	23	6.3	4.1	4.3	4.2	3.9
30	9.8	21	4.0	4.1	5.7	3.3	3.3
31	9.8		4.6		7.8	3.0	
Mean	10.0	65.3	9.9	5.1	4.5	4.5	3.5
Runoff in acre-feet	612	3,890	608	303	277	276	205

TABLE A-15

DAILY MEAN DISCHARGE
DIGGER CREEK BELOW SOUTH FORK BRANCH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11			NO RECORD AVAILABLE				
12							
13			FOR 1965 SEASON				
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
Mean							
Runoff in acre-feet							

TABLE A-16

DAILY MEAN DISCHARGE
HAT CREEK NEAR HAT CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	154	139	209	227	201	162	146
2	154	137	192	236	199	161	146
3	154	135	178	249	199	160	146
4	156	133	178	260	199	160	146
5	154	135	178	264	197	159	148
6	152	135	173	260	194	159	147
7	150	133	170	251	190	157	149
8	150	135	173	242	192	157	157
9	150	137	178	244	189	152	155
10	150	137	182	249	187	149	151
11	148	135	190	253	185	169	151
12	150	133	199	247	185	164	150
13	148	135	209	235	184	155	150
14	148	133	217	233	182	153	150
15	146	141	217	231	180	153	150
16	146	146	220	222	184	152	150
17	146	139	227	227	177	153	152
18	144	143	222	226	175	160	157
19	143	175	227	227	173	161	156
20	144	185	233	233	164	160	154
21	144	194	226	235	156	161	154
22	148	182	218	233	156	161	153
23	146	175	213	236	154	159	152
24	146	177	215	233	154	158	153
25	144	180	217	229	157	157	154
26	146	185	222	218	156	156	154
27	144	194	226	208	156	151	154
28	137	206	226	202	154	150	154
29	137	217	229	202	155	148	154
30	137	215	233	202	159	148	153
31	137		235		163	147	
Mean	147	158	207	234	176	157	152
Runoff in acre-feet	9,030	9,410	12,760	13,910	10,820	9,620	9,020

TABLE A-17

DAILY MEAN DISCHARGE
INDIAN CREEK NEAR TAYLORSVILLE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	705	1,610	2,380	752	204	85	63
2	646	1,490	2,180	721	192	83	69
3	619	1,380	1,970	712	183	80	67
4	608	1,490	1,760	702	176	78	65
5	573	1,590	1,620	680	169	78	104
6	558	1,540	1,470	634	161	76	198
7	569	1,360	1,390	572	151	72	203
8	588	1,210	1,240	539	143	69	206
9	647	1,140	1,130	511	135	69	204
10	659	1,120	1,080	490	131	68	198
11	662	988	1,070	464	123	96	193
12	776	1,070	1,090	442	117	115	193
13	732	1,140	1,110	413	115	100	189
14	672	1,070	1,110	379	113	96	185
15	706	1,220	1,120	374	119	90	181
16	743	2,070	1,120	353	119	86	182
17	834	1,870	1,190	394	131	94	183
18	792	1,700	1,190	417	128	111	182
19	766	2,110	1,160	381	120	101	185
20	772	2,710	1,130	343	113	93	186
21	905	3,100	1,070	324	107	92	193
22	1,160	2,970	1,030	308	102	95	189
23	1,490	2,580	978	290	99	89	188
24	1,570	2,540	870	297	96	83	188
25	1,290	2,550	813	277	96	80	186
26	1,100	2,540	817	252	92	78	184
27	1,160	2,550	812	236	92	74	184
28	1,050	2,570	821	240	87	65	182
29	1,140	2,650	819	224	84	65	172
30	1,280	2,590	813	216	82	64	95
31	1,410		789		80	62	
Mean	877	1,884	1,198	431	125	83.5	167
Runoff in acre-feet	53,920	112,100	73,670	25,660	7,660	5,130	9,910

TABLE A-18

DAILY MEAN DISCHARGE
LITTLE LAST CHANCE CREEK NEAR CHILCOOT

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	63	8.8	364	73	18	55	81
2	5.5	8.6	350	64	18	55	80
3	5.1	8.4	324	86	18	45	79
4	5.0	8.5	288	79	18	25	79
5	4.5	8.8	268	74	18	30	79
6	4.4	8.4	246	73	17	35	79
7	4.4	8.0	222	68	17	34	53
8	4.2	7.8	201	64	17	34	35
9	4.5	7.3	180	80	17	43	35
10	4.8	6.8	165	114	17	52	31
11	5.0	6.9	153	130	17	52	18
12	5.7	6.7	146	129	21	52	17
13	5.5	7.2	145	134	28	52	16
14	5.4	7.2	141	152	21	52	15
15	5.5	18	136	135	16	52	14
16	5.8	83	134	121	16	52	14
17	6.0	114	135	88	16	56	14
18	5.9	73	152	44	16	36	13
19	5.7	106	128	33	16	23	13
20	5.8	166	126	28	19	22	12
21	6.6	242	123	29	26	22	11
22	7.2	292	130	29	26	21	10
23	7.9	317	126	23	21	21	9.2
24	8.0	326	116	18	48	25	8.1
25	7.6	331	105	18	55	29	7.6
26	7.2	340	98	17	55	29	7.2
27	7.4	345	92	18	77	38	7.1
28	7.1	351	108	18	99	44	6.9
29	7.0	366	114	18	75	43	6.5
30	7.6	374	106	18	55	65	5.9
31	8.0		98		55	83	
Mean	7.8	132	168	65.8	30.7	41.2	28.6
Runoff in acre-feet	483	7,840	10,350	3,920	1,890	2,530	1,700

TABLE A-19

DAILY MEAN DISCHARGE
LITTLE TRUCKEE DITCH AT HEAD

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1					37	11	
2					37	13	
3					37	15	
4					50	14	
5					60	** 6.0	
6					59		
7					59		
8					49		
9					8.2		
10					7.9		
11					7.6		
12					7.3		
13					7.3		
14					7.1		
15					7.3		
16					7.6		
17					7.9		
18					7.9		
19					10		
20					18		
21					17		
22					16		
23					15		
24					15		
25					15		
26					14		
27					14		
28					13		
29				*19	13		
30				37	12		
31					12		
Mean				28.0	20.9	11.8	
Runoff in acre-feet				111	1,290	117	

* Ditch opened.
** Ditch closed.

TABLE A-20

DAILY MEAN DISCHARGE
MIDDLE FORK FEATHER RIVER NEAR PORTOLA

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	963	635	1,120	153	52	10	15
2	601	687	1,080	157	46	11	17
3	492	639	1,060	158	44	10	20
4	435	606	1,040	156	42	8.0	18
5	400	663	1,010	153	38	7.2	18
6	374	613	877	145	34	6.7	20
7	354	573	801	138	31	7.2	23
8	342	523	729	148	29	6.2	30
9	343	513	674	147	28	5.1	49
10	343	502	603	137	26	4.9	63
11	344	486	537	125	22	6.5	45
12	372	461	501	112	23	10	36
13	469	467	446	98	21	13	33
14	553	460	396	91	20	10	31
15	585	508	368	102	22	12	30
16	527	651	352	104	26	19	30
17	464	635	363	129	27	16	30
18	412	817	358	164	31	52	30
19	384	1,120	346	153	23	20	30
20	371	1,460	356	157	20	11	30
21	387	1,650	342	152	16	13	30
22	427	1,440	344	133	15	17	30
23	474	1,370	344	117	15	20	30
24	512	1,450	325	101	15	24	30
25	540	1,390	328	89	11	25	30
26	545	1,310	334	77	10	25	30
27	570	1,270	290	76	9.0	23	30
28	646	1,250	239	90	9.0	21	30
29	673	1,250	177	74	8.2	19	31
30	620	1,210	117	60	8.9	17	31
31	562		142		9.1	16	
Mean	487	887	516	123	23.6	15.0	29.9
Runoff in acre-feet	29,920	52,780	31,730	7,330	1,450	924	1,780

TABLE A-21

DAILY MEAN DISCHARGE
SMITHNECK CREEK NEAR LOYALTON

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	21	34	48	17	7.5	5.8	4.8
2	21	33	45	17	6.8	5.1	4.9
3	21	28	41	16	6.5	5.7	5.2
4	21	30	37	15	5.4	5.3	4.9
5	21	31	34	14	5.4	4.9	5.2
6	21	29	32	14	5.6	4.5	7.8
7	21	25	30	14	4.8	4.2	8.0
8	18	26	32	14	5.1	4.2	5.4
9	19	26	33	13	4.7	4.1	5.0
10	20	23	33	12	4.6	4.0	4.5
11	19	21	33	12	4.7	6.0	4.5
12	20	21	33	10	4.8	6.7	4.6
13	19	19	32	9.6	4.5	5.3	4.6
14	19	20	31	10	4.5	7.3	4.6
15	19	20	30	11	4.4	15	4.8
16	20	25	31	10	5.6	11	4.8
17	21	23	32	13	5.9	9.8	4.8
18	20	25	30	12	11	9.2	4.8
19	21	42	30	9.9	7.7	6.6	4.8
20	22	63	30	9.2	6.0	5.9	4.8
21	27	78	28	9.4	5.5	5.2	4.8
22	33	96	31	10	5.6	5.2	4.8
23	35	83	29	9.3	5.6	4.9	4.5
24	33	87	26	8.4	5.4	4.6	4.5
25	27	95	24	8.2	7.6	4.2	4.5
26	28	102	23	7.7	8.3	5.0	4.5
27	28	87	21	7.6	6.2	5.0	4.5
28	27	66	21	7.8	5.4	4.6	4.5
29	26	64	19	9.0	5.1	4.5	4.5
30	26	55	18	9.0	6.1	4.5	4.5
31	29		17		6.5	5.2	
Mean	23.3	45.9	30.1	11.3	5.9	5.9	4.9
Runoff in acre-feet	1,430	2,730	1,850	673	363	364	1,430

TABLE A-22

DAILY MEAN DISCHARGE
MILLER CREEK NEAR SATTLEY

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	9.7	9.3	46	47	34	17	11
2	9.3	8.9	36	47	32	16	11
3	9.4	8.7	29	52	32	16	11
4	9.0	8.4	28	55	32	16	11
5	9.8	9.1	27	58	32	15	11
6	9.5	8.9	24	60	32	15	14
7	9.2	8.3	21	62	29	14	12
8	9.1	8.2	20	58	28	14	11
9	9.3	8.1	22	59	28	13	11
10	9.4	7.4	25	61	26	14	11
11	9.5	7.4	29	64	26	19	10
12	9.7	7.5	32	63	25	22	10
13	9.5	7.7	36	57	25	15	9.6
14	9.2	8.0	39	54	24	23	9.0
15	9.3	8.6	43	52	24	17	9.3
16	9.6	11	51	50	26	16	9.1
17	8.4	8.8	53	61	26	18	9.0
18	8.2	12	51	52	24	16	9.4
19	8.2	27	54	50	23	15	9.2
20	8.3	38	57	49	22	14	9.0
21	8.6	46	43	50	21	14	8.8
22	10	34	34	50	20	13	8.6
23	11	30	34	48	20	13	8.6
24	11	32	33	48	19	12	8.6
25	9.1	34	34	45	18	12	8.6
26	8.8	35	37	41	18	12	8.6
27	8.6	38	36	39	18	12	8.6
28	8.2	47	41	37	18	12	8.6
29	8.4	57	45	36	18	12	8.6
30	9.0	55	48	35	17	11	8.6
31	9.1		49		17	11	
Mean	9.2	21.0	37.3	51.3	24.3	14.8	9.8
Runoff in acre-feet	566	1,250	2,290	3,060	1,500	910	583

TABLE A-23

DAILY MEAN DISCHARGE
NORTH FORK COTTONWOOD CREEK NEAR IGO

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	100	57	270	57	37	22	17
2	97	97	257	55	36	23	18
3	96	84	242	51	34	20	15
4	95	67	201	49	31	19	15
5	97	69	190	60	30	18	16
6	97	89	182	64	31	17	18
7	100	81	177	67	29	16	16
8	99	583	175	66	27	9.5	17
9	94	772	168	63	26	11	16
10	90	547	158	59	26	17	13
11	90	394	159	57	26	22	8.8
12	87	219	160	55	27	31	3.6
13	86	240	156	57	26	25	3.5
14	82	420	154	57	25	20	3.3
15	78	650	151	57	24	17	3.4
16	76	871	140	55	23	18	3.2
17	74	616	134	53	23	23	3.1
18	74	1,360	127	56	23	34	3.4
19	70	1,180	127	50	21	28	3.7
20	67	1,390	128	44	20	26	2.8
21	52	1,390	136	44	23	25	2.9
22	50	1,010	130	42	23	25	3.2
23	52	626	118	41	21	23	3.0
24	48	429	105	40	20	23	2.6
25	48	369	86	42	19	25	2.7
26	49	325	80	46	18	25	3.8
27	54	306	67	44	17	24	4.8
28	48	292	65	43	17	21	6.2
29	49	286	60	39	15	20	5.4
30	50	285	57	38	17	19	3.6
31	52		58		19	17	
Mean	74.2	504	143	51.7	24.3	21.4	7.9
Runoff in acre-feet	4,560	29,960	8,760	3,080	1,500	1,320	472

TABLE A-24

DAILY MEAN DISCHARGE
NEW PINE CREEK BELOW SCHROEDER'S

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				58	23	12	9.0
2				56	22	12	9.0
3				56	22	13	8.0
4				55	22	13	8.0
5				54	22	13	9.0
6				54	23	13	9.0
7				53	22	13	9.0
8				53	24	12	9.0
9				50	22	13	9.0
10				48	22	13	9.0
11				48	21	13	8.7
12				47	21	18	8.7
13				49	21	13	8.7
14				52	20	12	8.6
15				62	19	11	8.5
16				75	19	10	8.5
17				60	18	9.0	
18				43	18	9.0	
19				40	17	9.0	
20			66	38	16	9.0	
21			67	38	15	10	
22			66	36	15	11	
23			64	33	15	10	
24			64	30	14	10	
25			64	28	14	11	
26			60	25	14	11	
27			61	25	14	11	
28			60	23	14	10	
29			59	23	14	10	
30			59	23	16	9.0	
31			58		14	9.0	
Mean			62.3	44.5	18.5	11.4	8.7
Runoff in acre-feet			1,480	2,650	1,140	698	277

TABLE A-25

DAILY MEAN DISCHARGE
COTTONWOOD CREEK BELOW LARKIN GARDEN DITCH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				11	5.1	1.0	0.7
2				11	5.0	1.0	0.8
3				10	4.8	1.2	0.8
4				10	4.5	1.2	0.8
5				10	4.5	1.2	0.8
6				10	4.2	1.1	0.8
7				10	3.9	1.0	0.8
8				10	3.8	1.0	0.8
9				10	3.5	1.0	0.9
10				10	3.5	1.0	
11				10	3.2	1.7	
12				10	3.0	1.2	
13				10	2.8	1.1	
14				12	2.7	1.0	
15				16	2.5	1.0	
16				32	2.3	1.0	
17				15	2.3	1.0	
18				11	2.1	1.0	
19				9.0	2.0	1.0	
20				8.5	1.7	1.0	
21				8.5	1.7	1.0	
22				8.0	1.5	1.0	
23				8.0	1.3	0.9	
24				7.0	1.3	0.9	
25				7.5	1.0	0.9	
26				6.0	0.9	0.8	
27				5.8	0.9	0.8	
28				5.5	0.9	0.8	
29				5.5	0.9	0.8	
30				5.5	0.9	0.7	
31					0.9	0.7	
Mean				10.1	2.6	1.0	0.8
Runoff in acre-feet				601	158	61	14

TABLE A-26

DAILY MEAN DISCHARGE
DAVIS CREEK AT OLD FISH WHEEL

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				40	22	10	8.0
2				40	21	10	8.0
3				39	20	10	7.8
4				39	19	9.5	7.8
5				39	19	9.5	7.7
6				39	18	9.5	7.7
7				39	18	9.5	7.5
8				40	18	9.0	7.5
9				48	17	9.0	7.5
10				38	15	9.0	7.5
11				37	14	9.0	7.7
12				37	14	9.0	7.7
13				35	13	9.0	7.8
14				38	13	8.9	8.0
15				45	13	8.7	8.0
16				58	13	8.5	8.0
17				42	12	8.7	8.0
18				36	12	8.5	
19				34	12	8.3	
20				33	12	8.1	
21				34	12	8.0	
22				32	11	8.0	
23				30	11	7.5	
24				29	11	8.1	
25			36	27	11	8.0	
26			37	27	10	8.2	
27			37	27	10	12	
28			37	26	10	8.0	
29			38	25	10	8.0	
30			38	24	10	8.0	
31			39		10	8.0	
Mean			37.4	35.9	13.9	8.8	7.8
Runoff in acre-feet			520	2,136	855	542	262

TABLE A-27

DAILY MEAN DISCHARGE
LINVILLE CREEK AT OLD POWER HOUSE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				2.5	2.2	2.1	2.3
2				2.3	2.3	2.1	2.3
3				2.3	2.3	2.1	2.3
4				2.3	2.3	2.1	2.3
5				2.3	2.2	2.2	2.3
6				2.4	2.1	2.2	2.3
7			2.9	2.4	2.2	2.2	2.3
8			2.9	2.4	2.2	2.2	2.3
9			2.9	2.4	2.2	2.2	2.3
10			2.9	2.4	2.2	2.2	2.3
11			2.9	2.4	2.1	2.3	2.3
12			2.9	2.4	2.2	2.3	2.3
13			2.9	2.4	2.2	2.3	2.3
14			2.9	2.4	2.2	2.3	2.3
15			2.9	2.4	2.2	2.3	2.3
16			2.8	2.5	2.1	2.3	2.3
17			2.8	2.5	2.1	2.3	2.3
18			2.8	2.5	2.1	2.3	2.3
19			2.8	2.5	2.0	2.3	
20			2.8	2.5	2.0	2.3	
21			2.8	2.5	2.0	2.3	
22			2.8	2.5	2.0	2.3	
23			2.8	2.4	2.0	2.3	
24			2.8	2.4	2.1	2.3	
25			2.8	2.4	2.1	2.3	
26			2.8	2.4	2.1	2.3	
27			2.7	2.4	2.1	2.3	
28			2.7	2.4	2.1	2.3	
29			2.5	2.3	2.1	2.3	
30			2.5	2.3	2.1	2.3	
31			2.5		2.1	2.3	
Mean			2.8	2.4	2.1	2.3	2.3
Runoff in acre-feet			138	143	131	139	82

TABLE A-28

DAILY MEAN DISCHARGE
FRANKLIN CREEK ABOVE DIVERSIONS

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1			9.2	6.7	4.6	3.0	2.7
2			9.0	6.7	4.4	3.0	2.7
3			8.3	6.8	4.2	2.9	2.7
4			8.2	6.8	4.0	2.8	2.7
5			7.8	6.7	4.0	2.8	2.7
6			7.2	6.7	3.9	2.7	2.7
7			6.8	6.7	3.9	2.7	2.7
8			6.5	10	3.7	2.7	2.7
9			6.4	6.9	3.7	2.8	2.7
10			6.6	6.7	3.5	2.7	2.7
11			6.3	6.5	3.6	2.8	2.7
12			6.5	6.5	3.5	2.7	2.7
13			9.0	6.4	3.6	2.7	2.7
14			11	6.4	3.6	2.8	2.7
15			9.1	6.9	3.5	2.8	2.7
16			8.0	7.2	3.4	2.9	2.7
17			7.2	6.9	3.4	2.8	2.7
18			6.7	6.7	3.4	2.8	2.7
19			6.5	6.5	3.3	2.8	
20			6.5	6.4	3.3	2.8	
21		12	6.9	6.3	3.3	2.8	
22		12	7.0	6.4	3.3	2.7	
23		14	7.1	6.4	3.4	2.7	
24		12	7.5	6.2	3.5	2.7	
25		12	7.1	6.1	3.4	2.7	
26		12	7.0	6.0	3.3	2.6	
27		11	7.0	5.6	3.2	2.6	
28		11	6.9	5.3	3.2	2.7	
29		10	6.8	5.0	3.1	2.7	
30		9.0	6.7	4.8	3.1	2.7	
31			6.8		3.0	2.7	
Mean		11.5	7.4	6.5	3.6	2.8	2.7
Runoff in acre-feet		228	455	387	219	170	96

TABLE A-29

DAILY MEAN DISCHARGE
JOSEPH CREEK BELOW COUCH CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1			24	15	9.0	2.0	0.7
2			22	15	8.5	1.8	0.7
3			21	15	8.1	1.7	0.8
4			19	15	7.9	1.5	0.7
5			18	16	7.5	1.3	0.7
6			18	16	7.5	1.2	0.7
7			17	20	6.5	1.3	0.8
8			19	15	6.5	1.3	0.8
9			19	15	6.2	1.4	0.8
10			17	14	5.9	1.2	0.9
11			17	15	5.6	7.0	0.7
12			17	14	5.2	1.3	0.7
13			16	14	4.8	1.2	2.0
14			16	15	4.7	1.3	0.6
15			16	24	4.5	1.2	
16			15	17	4.5	1.6	
17			17	16	4.3	10	
18			17	16	4.0	2.5	
19			17	15	3.9	2.0	
20			15	16	3.8	2.1	
21			16	16	3.7	1.8	
22			14	15	3.4	1.6	
23			15	15	3.6	1.4	
24			15	13	3.0	1.3	
25			15	14	3.0	1.1	
26		28	17	12	2.8	1.2	
27		28	16	12	2.7	1.0	
28		29	16	11	2.7	1.1	
29		26	16	11	2.5	0.8	
30		23	15	10	2.3	0.8	
31			16		2.3	0.7	
Mean		26.8	17.0	14.9	5.0	1.9	0.8
Runoff in acre-feet		266	1,050	887	307	114	23

TABLE A-30

DAILY MEAN DISCHARGE
NORTH FORK PIT RIVER BELOW THOMS CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1			73	38	20	5.2	1.3
2			71	36	18	5.0	1.3
3			66	36	15	4.5	1.0
4			63	35	14	4.9	0.9
5			61	35	14	4.7	0.9
6			61	34	12	4.7	0.8
7			59	33	13	4.2	0.7
8			57	32	12	4.0	0.7
9			56	33	10	4.0	0.8
10			53	33	10	4.1	0.8
11			53	32	9.4	3.9	0.9
12			51	32	9.0	4.0	0.9
13			48	32	8.2	8.0	0.8
14			51	31	6.5	4.2	0.7
15			50	34	6.5	3.8	0.7
16			50	43	6.2	3.8	0.7
17			48	36	6.4	6.5	0.7
18			46	33	6.8	3.7	0.7
19			47	31	6.5	3.4	
20			47	31	8.9	3.0	
21			45	29	6.8	3.1	
22		95	46	29	6.6	2.9	
23		95	43	28	6.3	2.6	
24		92	43	28	6.4	2.3	
25		90	42	28	6.2	2.1	
26		90	40	29	6.3	2.0	
27		86	41	28	6.5	1.9	
28		85	41	28	6.2	1.8	
29		81	41	25	6.0	1.7	
30		78	39	22	5.8	1.5	
31			39		5.5	1.4	
Mean		88.0	50.7	31.8	9.1	3.6	0.8
Runoff in acre-feet		1,570	3,120	1,890	557	224	30

TABLE A-31

DAILY MEAN DISCHARGE
THOMS CREEK AT CEDARVILLE-ALTURAS HIGHWAY

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				12	8.5	2.4	2.3
2				12	7.5	2.4	2.3
3				12	7.0	2.3	2.2
4				12	7.0	2.1	2.2
5				13	6.5	2.0	2.2
6				13	6.0	2.2	2.2
7				12	5.1	2.2	2.1
8				12	4.8	2.2	2.2
9				11	4.6	1.9	
10				8.3	4.2	2.1	
11				8.0	3.9	2.1	
12				8.0	3.7	2.1	
13				8.3	3.5	2.3	
14				9.1	3.4	2.3	
15				11	3.5	2.4	
16				15	3.4	2.4	
17				20	3.3	2.4	
18				28	3.6	2.4	
19				18	3.4	2.4	
20				14	3.4	2.4	
21				12	3.4	2.5	
22				12	3.4	2.5	
23				12	3.1	2.5	
24				12	3.1	2.5	
25				11	3.0	2.5	
26			16	16	3.0	2.7	
27			14	12	2.7	2.6	
28			14	10	2.7	2.4	
29			13	9.5	2.7	2.4	
30			13	9.5	2.5	2.4	
31			13		2.5	2.3	
Mean			13.8	12.4	4.1	2.3	2.2
Runoff in acre-feet			165	739	255	143	35

TABLE A-32

DAILY MEAN DISCHARGE
PARKER CREEK AT FOGARTY RANCH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1			39	34	33	6.2	5.1
2			40	31	18	6.4	5.1
3			41	30	15	6.1	5.0
4			42	26	13	5.2	5.0
5			42	19	12	5.9	5.0
6			44	17	12	6.0	5.0
7			44	17	12	6.0	5.1
8			44	17	16	6.0	5.1
9			44	16	16	5.8	5.2
10			47	16	16	6.0	5.2
11			48	15	10	10	5.4
12			49	16	10	5.6	5.4
13			49	15	9.5	5.5	5.4
14			51	15	8.9	5.3	5.4
15			53	30	9.0	5.4	5.4
16			65	80	9.5	5.4	5.4
17			60	100	9.0	5.0	5.4
18			53	78	8.8	5.2	5.4
19			51	40	8.6	8.9	
20			48	18	7.9	7.9	
21			45	18	6.5	5.1	
22			42	17	5.1	5.0	
23			42	17	5.1	5.0	
24			42	25	10	5.1	
25			38	19	4.2	5.5	
26		30	37	18	3.7	6.0	
27		36	37	17	3.0	5.5	
28		33	37	17	4.0	5.5	
29		33	33	17	5.2	5.0	
30		37	33	19	5.2	4.9	
31			35		5.8	5.1	
Mean		33.8	44.4	27.1	10.1	5.9	5.2
Runoff in acre-feet		335	2,730	1,610	619	360	186

TABLE A-33

DAILY MEAN DISCHARGE
SHIELDS CREEK BELOW PEPPERDINE RANCH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				9.5	7.7	2.0	3.4
2				8.5	7.5	2.1	3.4
3				7.7	7.0	2.1	3.2
4				7.3	6.5	2.1	3.2
5				7.0	6.5	2.1	3.2
6			29	7.5	6.0	2.1	3.2
7			27	7.5	6.0	1.9	3.0
8			25	7.2	5.7	1.9	3.0
9			21	7.0	5.0	1.9	3.0
10			18	10	4.2	1.9	2.9
11			18	7.8	3.2	8.5	3.0
12			15	7.8	3.0	3.6	3.0
13			17	7.5	3.0	3.5	2.8
14			17	7.2	2.8	3.4	2.8
15			16	7.0	2.8	3.4	2.8
16			15	6.8	2.8	3.1	2.9
17			15	6.8	2.8	3.3	2.9
18			15	7.0	2.6	3.2	3.0
19			15	7.0	2.6	3.3	
20			14	7.0	2.4	3.3	
21			14	7.0	2.4	3.4	
22			12	7.3	2.1	3.4	
23			12	7.5	2.0	3.4	
24			12	7.7	2.0	3.3	
25			12	7.7	2.0	3.4	
26			11	7.7	2.1	3.4	
27			11	7.7	2.1	3.4	
28			11	7.7	2.1	3.3	
29			11	7.7	2.1	3.4	
30			11	7.7	2.0	3.7	
31			10		2.0	3.5	
Mean			15.5	7.6	3.6	3.1	3.0
Runoff in acre-feet			801	450	224	191	108

TABLE A-34

DAILY MEAN DISCHARGE
PARKER CREEK ABOVE HIGHWAY 395 NEAR ALTURAS

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				18	19	3.2	2.5
2				13	18	3.1	2.6
3				6.6	15	3.1	2.9
4				6.9	14	3.0	3.0
5				14	13	3.2	3.2
6				13	12	3.2	3.2
7				13	16	3.0	3.2
8				12	20	3.0	5.1
9				12	16	3.1	
10				13	14	3.0	
11				13	13	3.0	
12				12	12	3.0	
13				12	13	3.2	
14				13	11	3.0	
15				21	12	3.1	
16				92	13	4.0	
17			17	112	11	4.5	
18			23	85	9.8	4.2	
19			29	21	8.5	8.5	
20			27	16	5.1	3.1	
21			22	13	5.2	3.0	
22			20	12	5.3	3.2	
23			18	13	5.5	3.2	
24			19	13	5.3	3.2	
25			19	13	5.2	3.2	
26			19	12	5.1	3.2	
27			18	12	2.5	3.7	
28			18	12	3.0	3.7	
29			18	12	3.1	3.7	
30			17	20	3.2	1.3	
31			18		3.2	2.1	
Mean			20.1	21.7	10.0	3.4	3.2
Runoff in acre-feet			599	1,290	617	206	51

TABLE A-35

DAILY MEAN DISCHARGE
NORTH FORK PIT RIVER NEAR ALTURAS

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	84	53	209	21	50	2.6	3.2
2	76	67	197	21	45	1.5	2.9
3	76	58	170	18	38	1.0	2.9
4	74	53	143	20	33	1.0	2.6
5	64	74	113	15	24	1.3	2.4
6	48	116	106	25	19	1.3	2.1
7	46	118	92	25	23	1.3	2.1
8	48	68	41	22	20	1.3	2.1
9	52	88	15	29	13	1.3	2.1
10	55	116	38	27	12	2.6	1.8
11	58	182	38	16	12	3.4	1.8
12	66	237	38	18	12	4.2	1.8
13	60	182	87	28	13	2.6	1.8
14	60	164	74	42	27	2.1	1.8
15	61	161	53	78	34	1.5	1.8
16	62	212	43	52	35	1.5	1.5
17	60	176	39	237	41	1.8	1.5
18	55	203	46	325	75	2.4	1.3
19	55	310	46	137	56	5.2	1.3
20	56	352	43	62	44	4.7	1.3
21	62	402	56	36	41	10	1.3
22	68	352	129	25	38	13	1.3
23	70	293	72	29	36	7.8	1.3
24	67	268	48	35	35	5.7	1.3
25	66	254	34	60	35	3.7	1.3
26	70	240	32	104	34	3.4	1.3
27	78	230	28	62	33	3.4	1.5
28	68	234	28	34	26	3.2	1.5
29	62	237	29	36	12	3.2	1.3
30	55	221	28	40	3.2	3.2	1.3
31	46		29		2.6	3.2	
Mean	62.2	191	69.2	56.0	29.7	3.4	1.8
Runoff in acre-feet	3,820	11,350	4,250	3,330	1,830	207	105

TABLE A-36

DAILY MEAN DISCHARGE
HOWARD JONES DITCH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1						6.8	6.2
2						6.6	6.2
3						6.5	5.9
4						6.3	5.8
5						6.5	5.7
6						6.8	5.6
7						6.6	5.6
8					4.5	6.5	5.4
9					4.5	6.2	5.1
10					4.5	6.2	5.0
11					4.7	6.2	5.0
12					4.8	6.8	4.9
13					5.0	6.5	4.7
14					5.1	6.2	4.5
15					5.4	5.9	4.5
16					5.6	6.0	4.5
17					5.8	6.8	4.5
18					6.0	9.3	4.5
19					6.4	8.0	4.5
20					6.8	7.5	4.5
21					7.0	7.3	4.5
22					6.9	7.3	4.5
23					6.8	6.8	
24					6.6	7.4	
25					6.5	8.3	
26					6.5	7.1	
27					7.1	6.8	
28					6.8	6.8	
29					6.8	6.8	
30					6.6	6.5	
31					6.5	6.4	
Mean					6.0	6.8	5.1
Runoff in acre-feet					284	420	221

TABLE A-37

DAILY MEAN DISCHARGE
CAMP DITCH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1						6.9	3.8
2						6.3	3.9
3						6.0	3.6
4						5.8	3.5
5						5.0	3.5
6						4.5	3.5
7						4.3	3.4
8					4.5	4.1	3.4
9					4.2	4.1	3.4
10					5.6	4.1	3.6
11					8.7	4.0	4.0
12					7.9	4.7	3.9
13					7.3	4.3	3.8
14					6.5	4.0	3.7
15					6.0	3.9	3.8
16					6.2	3.6	3.7
17					9.3	3.7	3.6
18					8.8	8.0	3.6
19					8.0	4.6	3.5
20					6.8	3.9	3.5
21					7.4	3.7	3.4
22					4.7	3.8	3.4
23					3.9	3.6	
24					3.4	4.1	
25					3.4	6.8	
26					3.9	5.6	
27					4.5	4.9	
28					5.0	4.5	
29					5.0	4.2	
30					4.6	4.0	
31					5.0	3.9	
Mean					5.9	4.7	3.6
Runoff in acre-feet					279	287	158

TABLE A-38

DAILY MEAN DISCHARGE
EDSON-FOULKE YREKA DITCH AT SHASTA RIVER

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				23	28	12	8.9
2				23	30	15	9.4
3				23	30	19	8.9
4				23	30	14	8.7
5				24	27	12	8.4
6				27	27	12	8.2
7				28	27	11	7.7
8				27	28	10	7.7
9				25	27	10	7.5
10				24	26	10	7.1
11				25	25	14	6.7
12			20	28	23	18	6.2
13			27	25	22	13	6.4
14			28	24	22	13	6.7
15			28	26	20	12	7.1
16			28	20	20	11	6.9
17			30	22	18	11	6.9
18			29	20	27	15	6.7
19			29	18	19	11	6.7
20			28	17	17	11	6.4
21			29	18	17	15	6.4
22			28	22	15	17	
23			25	28	14	13	
24			23	32	13	12	
25			23	31	13	12	
26			23	30	13	11	
27			26	24	13	11	
28			29	22	12	10	
29			30	23	12	9.6	
30			29	29	11	8.9	
31			30		12	8.7	
Mean			27.1	24.4	20.6	12.3	7.4
Runoff in acre-feet			1,080	1,450	1,270	758	309

TABLE A-39

DAILY MEAN DISCHARGE
SHASTA RIVER AT EDGEWOOD

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	94	131	175	90	26	11	11
2	90	114	147	82	23	13	12
3	87	79	125	83	20	14	10
4	82	72	108	87	20	12	10
5	84	73	54	79	20	12	10
6	82	88	86	70	19	13	10
7	80	78	76	74	16	13	8.8
8	81	86	72	71	15	12	8.3
9	80	84	72	71	15	9.6	19
10	83	83	71	66	15	9.0	8.1
11	78	85	73	65	14	9.3	8.4
12	73	76	74	58	15	13	7.6
13	70	78	70	54	15	13	8.0
14	67	124	94	73	13	13	8.1
15	67	494	106	71	13	12	7.4
16	66	235	122	54	32	12	8.0
17	64	156	126	67	70	13	8.5
18	60	219	110	72	38	18	9.2
19	60	252	110	55	21	16	9.8
20	75	341	106	42	17	15	10
21	76	305	133	40	15	16	10
22	81	233	109	38	14	15	9.4
23	80	184	87	43	14	14	9.6
24	79	176	79	51	12	13	8.7
25	76	168	75	48	12	14	8.3
26	71	160	76	53	12	15	8.5
27	70	173	82	42	10	14	8.6
28	63	184	97	35	9.9	13	8.4
29	52	228	109	32	10	12	9.2
30	49	209	115	25	10	11	8.4
31	50		110		9.6	11	
Mean	73.2	166	98.4	60.0	18.2	12.9	9.4
Runoff in acre-feet	4,500	9,850	6,048	3,570	1,120	795	558

TABLE A-40

DAILY MEAN DISCHARGE
PARKS CREEK ABOVE EDSON-FOULKE YREKA DITCH

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1			97	53	18	7.5	4.8
2			81	52	16	11	4.9
3			67	50	15	7.5	4.8
4			62	48	15	6.3	4.3
5			54	47	15	5.8	4.3
6		30	50	46	14	5.5	4.3
7		30	46	44	13	5.0	4.3
8		28	50	42	13	4.9	4.3
9		27	50	40	13	4.9	4.1
10		27	50	38	12	4.8	4.1
11		27	54	36	12	5.0	4.1
12		27	64	35	12	6.3	5.5
13		28	67	34	12	5.5	5.8
14		29	67	33	12	5.0	5.8
15		38	67	31	11	4.8	5.8
16		43	74	28	11	4.8	6.0
17		43	77	30	30	5.0	6.0
18		50	62	27	16	6.8	6.0
19		72	63	24	12	6.3	6.0
20		104	61	23	7.5	5.8	6.0
21		105	46	22	6.3	6.0	6.0
22		92	54	22	6.3	5.8	
23		81	50	23	6.3	5.5	
24		82	43	24	6.3	5.3	
25		84	42	23	6.3	5.5	
26		86	44	23	6.3	5.3	
27		100	50	20	6.4	5.0	
28		115	46	19	6.4	5.0	
29		110	47	17	5.8	5.0	
30		110	46	18	5.5	4.9	
31			54		5.5	4.8	
Mean		62.7	57.6	32.4	11.2	5.7	5.1
Runoff in acre-feet		3,110	3,540	1,930	688	350	213

TABLE A-41

SHASTA RIVER WMSA

DAILY MEAN STORAGE IN DWINNELL RESERVOIR

October 1, 1964 through September 30, 1965 (In acre-feet)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,750	2,600	4,880	27,050	35,010	37,070	37,220	43,450	38,940	33,870	26,860	20,890
2	2,680	2,650	5,080	27,300	35,150	37,120	37,480	43,450	38,770	33,620	26,680	20,800
3	2,620	2,700	5,220	27,600	35,260	37,140	37,540	43,360	38,660	33,430	26,420	20,670
4	2,570	2,730	5,320	27,900	35,440	37,150	37,560	43,270	38,510	33,220	26,220	20,540
5	2,520	2,750	5,420	28,100	35,520	37,190	37,660	43,090	38,410	33,020	25,940	20,420
6	2,460	2,790	5,520	29,300	35,600	37,220	37,730	42,920	38,260	32,770	25,700	20,300
7	2,460	2,830	5,600	29,840	35,690	37,240	37,750	42,740	38,240	32,500	25,480	20,200
8	2,450	2,900	5,710	30,130	35,780	37,250	37,820	42,580	38,160	32,190	25,250	20,050
9	2,450	3,100	5,840	30,320	35,840	37,270	37,830	42,390	38,160	31,920	24,980	19,890
10	2,450	3,280	5,960	30,560	35,880	37,290	37,980	42,180	38,050	31,620	24,720	19,760
11	2,450	3,490	6,100	30,960	35,940	37,300	38,020	41,980	37,800	31,330	24,460	19,620
12	2,440	3,590	6,210	31,250	35,980	37,300	38,070	41,810	37,560	31,060	24,220	19,470
13	2,440	3,700	6,280	31,420	36,060	37,300	38,140	41,500	37,320	30,800	24,000	19,320
14	2,420	3,780	6,320	31,570	36,170	37,300	38,190	41,420	37,170	30,500	23,780	19,190
15	2,420	3,860	6,440	31,680	36,250	37,300	38,660	41,250	37,050	30,210	23,560	19,070
16	2,420	3,920	6,520	31,790	36,340	37,270	39,430	41,100	36,830	29,920	23,360	18,920
17	2,420	4,000	6,580	31,920	36,390	37,250	39,720	40,960	36,680	29,840	23,150	18,760
18	2,410	4,060	6,640	32,000	36,460	37,220	40,020	40,820	36,610	29,730	22,970	18,660
19	2,410	4,110	6,740	32,110	36,510	37,190	40,450	40,690	36,460	29,520	22,800	18,520
20	2,400	4,170	6,900	32,240	36,560	37,150	40,700	40,540	36,270	29,300	22,620	18,410
21	2,400	4,230	8,200	32,400	36,620	37,150	41,130	40,450	36,060	29,080	22,440	18,290
22	2,400	4,300	13,200	32,510	36,660	37,200	41,570	40,420	35,860	28,820	22,240	18,170
23	2,400	4,340	20,100	32,800	36,710	37,220	41,980	40,280	35,660	28,610	22,060	18,110
24	2,420	4,410	22,900	33,560	36,760	37,220	42,180	40,110	35,500	28,370	21,880	17,900
25	2,440	4,470	24,200	33,820	36,800	37,220	42,420	39,920	35,210	28,180	21,740	17,770
26	2,460	4,540	25,100	34,060	36,880	37,220	42,660	39,750	35,030	28,100	21,580	17,650
27	2,460	4,600	25,850	34,240	36,950	37,220	42,830	39,600	34,810	27,950	21,490	17,520
28	2,480	4,650	26,150	34,420	37,030	37,220	43,090	39,430	34,600	27,830	21,380	17,390
29	2,500	4,690	26,450	34,570		37,190	43,220	39,230	34,380	27,580	21,260	17,270
30	2,520	4,670	26,750	34,700		37,120	43,360	39,140	34,140	27,350	21,140	17,160
31	2,560		26,900	34,870		37,050		39,060		27,110	21,030	

TABLE A-42

DAILY MEAN RELEASES
DWINNELL RESERVOIR

April through October 1965
(In second-feet)

Day	April	May	June	July	August	September	October
1		50	69	83	77	40	34
2		55	67	79	76	40	34
3		65	67	70	76	42	29
4		71	67	63	77	44	25
5		75	66	63	78	45	24
6		75	64	65	79	45	21
7		75	14	82	76	45	18
8		75	14	86	76	47	19
9		75	43	89	76	48	20
10		76	73	89	75	48	20
11		78	81	90	77	50	20
12		80	81	90	77	53	20
13		81	81	90	77	53	20
14		81	81	90	77	54	**15
15		81	81	90	76	54	
16		82	81	90	76	45	
17		83	81	90	76	44	
18		85	74	90	76	39	
19		80	71	90	73	39	
20		82	70	90	74	39	
21	*22	81	69	87	73	39	
22	13	81	70	82	75	39	
23	4	80	69	82	76	39	
24	28	79	75	82	68	38	
25	29	79	83	52	48	38	
26	33	80	83	19	42	38	
27	40	78	83	16	41	38	
28	43	78	83	26	41	38	
29	45	78	83	66	41	38	
30	47	77	83	72	40	37	
31		69		78	40		
Mean	30.4	76.3	70.2	75.2	68.1	43.2	22.8
Releases in acre-feet	603	4,690	4,180	4,620	4,190	2,570	633

* Reservoir opened.
** Reservoir closed.

TABLE A-43

DAILY MEAN DISCHARGE
BIG SPRINGS IRRIGATION DISTRICT FLUME

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1			21	9	30	32	29
2			24	14	29	32	0
3			27	24	29	32	32
4			27	24	29	33	26
5			27	25	29	33	27
6			27	27	29	34	27
7			27	27	29	34	27
8			27	27	29	35	27
9			27	27	18	35	27
10			27	27	19	35	27
11			27	27	28	35	27
12			27	27	29	36	27
13			27	27	30	36	27
14			27	28	30	36	27
15			26	28	30	36	27
16			24	29	27	36	27
17			24	29	27	36	13
18			22	29	32	36	0
19			22	29	32	36	0
20			24	29	32	27	13
21			27	29	32	33	28
22			28	29	32	33	
23			29	29	32	30	
24			29	29	32	27	
25			29	30	32	31	
26			29	30	33	32	
27			29	29	33	0	
28			29	30	34	0	
29		12	29	30	34	0	
30		22	29	30	34	0	
31			21		32	29	
Mean		17.0	26.4	26.9	29.9	29.0	22.1
Runoff in acre-feet		67	1,620	1,600	1,840	1,780	922

TABLE A-44

DAILY MEAN DISCHARGE
GRENADA IRRIGATION DISTRICT PUMPING PLANT

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1		28	34	34	34	34	18
2		0	34	34	34	34	18
3		0	34	34	34	34	18
4		0	34	34	34	26	18
5		0	34	34	34	0	18
6		0	34	34	34	0	14
7		0	34	34	34	0	0
8		0	34	34	34	0	0
9		0	34	34	34	3	8
10		0	34	28	34	24	24
11		0	34	0	34	24	34
12		0	34	0	34	24	34
13		0	34	0	10	24	34
14		0	34	0	0	24	34
15		0	34	0	0	24	34
16		0	30	0	2	24	34
17		0	16	0	34	32	34
18		0	16	0	34	34	34
19		0	30	0	34	34	34
20		0	34	0	34	34	34
21		0	34	0	34	34	**28
22		0	34	26	34	34	
23		0	34	34	34	34	
24		0	34	34	34	34	
25		0	34	34	34	34	
26		31	34	34	34	25	
27		34	34	34	34	18	
28		34	34	34	34	18	
29	*16	34	34	34	34	18	
30	32	34	34	34	34	18	
31	34		34		34	18	
Mean	27.3	6.5	32.6	21.1	30.0	23.2	24.0
Runoff in acre-feet	163	387	2,000	1,250	1,840	1,420	1,000

* Plant started.
** Plant shut down.

TABLE A-45

DAILY MEAN DISCHARGE
SHASTA RIVER WATER ASSOCIATION PUMPING PLANT

March through October 1965
(In second-feet)

Day	March	April	May	June	July	August	September	October
1		4.1	47	34	47	47	47	0
2		0	47	47	47	47	32	0
3		0	47	47	47	47	16	0
4		0	47	47	47	47	16	0
5		0	47	47	47	47	47	0
6		0	47	47	47	47	46	0
7		0	47	47	47	47	29	0
8		0	47	47	47	47	29	33
9		0	47	47	47	44	40	47
10		0	47	47	27	47	47	47
11		0	47	46	16	47	47	45
12		0	40	47	38	47	47	38
13		0	47	47	47	47	47	38
14		0	47	47	47	47	47	38
15	*12	0	47	47	47	46	47	38
16	37	0	47	47	47	47	47	37
17	47	0	47	47	46	47	41	**14
18	47	0	47	47	47	47	47	
19	47	0	47	47	47	32	47	
20	47	0	47	47	47	16	47	
21	47	0	47	47	47	16	47	
22	47	0	47	47	47	19	47	
23	47	12	47	47	47	41	47	
24	47	16	47	47	47	12	47	
25	47	16	47	47	47	0	47	
26	47	42	47	47	47	0	45	
27	47	47	47	47	47	0	39	
28	44	47	47	47	47	0	39	
29	38	47	47	47	47	0	39	
30	38	47	47	47	47	47	19	
31	32		37		47	47		
Mean	42.2	9.3	46.5	46.5	45.0	34.6	41.0	22.1
Runoff in acre-feet	1,420	552	2,860	2,770	2,770	2,130	2,440	744

* Plant started.
** Plant shut down.

TABLE A-46

DAILY MEAN DISCHARGE
LITTLE SHASTA RIVER NEAR MONTAGUE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				25	13	7.3	5.3
2				23	12	7.1	5.4
3				23	11	6.7	5.4
4				22	11	6.3	5.2
5				21	10	6.3	5.4
6				21	10	5.5	5.4
7				20	9.9	5.4	4.9
8				19	9.6	5.2	4.8
9				19	9.7	5.2	5.2
10				18	9.5	5.2	4.8
11				17	9.7	6.9	4.5
12				17	9.4	7.8	4.6
13	N O R E C O R D			17	9.2	6.2	4.4
14	(Station damaged in December 1964			21	8.9	5.6	4.3
15	flood)			19	8.7	5.3	4.4
16				17	10	5.5	4.4
17				24	11	5.6	5.2
18				19	9.4	8.6	4.6
19				16	8.9	9.1	5.0
20				14	8.5	8.0	5.2
21				14	8.6	6.4	5.0
22				14	8.1	14	4.8
23				12	8.1	15	4.6
24				13	7.6	7.5	5.2
25				12	7.5	8.6	4.8
26				13	7.8	6.8	4.8
27				12	7.8	6.0	4.8
28			27	12	7.4	6.0	4.8
29			27	12	7.3	5.8	5.1
30			26	13	7.3	5.7	4.6
31			26		7.3	5.4	
Mean				17.3	9.2	7.0	4.9
Runoff in acre-feet				1,029	564	428	291

TABLE A-47

DAILY MEAN DISCHARGE
SHASTA RIVER AT MONTAGUE-GRENADA HIGHWAY BRIDGE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1					74	54	65
2					74	60	74
3					78	61	91
4					66	67	84
5					66	70	76
6					65	72	78
7					64	74	81
8					62	69	89
9					65	67	78
10				69	82	59	64
11				82	78	52	67
12				88	68	58	67
13				87	65	64	68
14				88	76	61	61
15				112	74	62	61
16				124	78	66	62
17				124	74	71	74
18				130	82	78	69
19				118	69	96	
20				105	61	101	
21				102	61	105	
22				96	61	87	
23				74	61	69	
24				61	61	82	
25				57	60	118	
26				61	59	100	
27				65	60	110	
28				64	56	124	
29				63	49	114	
30				61	50	87	
31					50	78	
Mean				87.2	66.1	78.6	72.7
Runoff in acre-feet				3,630	4,060	4,830	2,600

TABLE A-48

DAILY MEAN DISCHARGE
SHASTA RIVER NEAR YREKA

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	335	325	245	98	103	32	84
2	328	440	211	79	96	37	94
3	314	403	194	91	95	48	111
4	307	334	166	90	84	48	93
5	307	320	146	67	80	62	90
6	307	497	138	63	76	63	90
7	296	479	130	67	76	67	101
8	290	396	122	62	65	63	113
9	290	348	115	62	63	70	105
10	286	352	110	80	79	57	76
11	276	396	106	94	88	43	70
12	268	404	103	106	74	42	76
13	268	368	103	109	61	55	74
14	265	329	115	114	69	55	65
15	253	310	120	146	75	46	61
16	205	400	99	171	71	59	60
17	189	502	98	164	76	60	66
18	189	412	104	168	85	83	70
19	189	408	98	154	76	96	89
20	189	428	107	132	60	102	102
21	182	436	118	124	54	114	109
22	164	457	126	115	53	95	95
23	164	352	121	94	44	70	99
24	160	306	104	67	56	103	96
25	141	299	99	64	49	175	104
26	147	242	96	75	52	141	110
27	140	198	92	75	47	135	106
28	137	201	83	80	48	151	99
29	130	204	83	78	39	153	102
30	116	256	79	73	31	112	136
31	116		83		33	97	
Mean	224	360	120	98.7	66.4	81.7	91.5
Runoff in acre-feet	13,780	21,420	7,370	5,880	4,080	5,030	5,450

TABLE A-49

DAILY MEAN DISCHARGE
SOUTH FORK PIT RIVER NEAR LIKELY

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14	Data unavailable at time of printing. Will be published in U.S.G.S., "1965 Surface Water Records of California, Volume 2: Northern Great Basin and Central Valley."						
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
Mean							
Runoff in acre-feet							

TABLE A-50

DAILY MEAN DISCHARGE
WEST VALLEY CREEK BELOW WEST VALLEY RESERVOIR

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1			94	52	10	111	133
2			106	50	9.5	111	133
3			109	48	9.5	111	124
4			109	45	9.0	110	124
5			106	57	9.0	110	124
6			105	≠ 87	8.5	109	124
7			105	73	7.5	109	122
8			104	64	7.0	109	122
9			102	59	6.0	108	122
10			100	67	5.0	107	122
11			88	66	4.5	107	121
12			85	64	4.0	105	121
13			83	## 16	4.0	105	121
14		* 3.0	85	0.9	3.0	103	120
15		9.0	85	0.8	2.0	102	59
16		17	82	0.9	** 1.5	102	59
17		23	77	1.0	0.5	102	58
18		33	77	2.0	0.5	88	58
19		40	76	5.0	0.5	68	57
20		41	68	6.5	0.5	68	57
21		45	70	7.0	≠ 2.8	67	57
22		50	76	8.0	55	89	56
23		54	73	9.0	55	130	56
24		60	68	9.5	54	44	56
25		64	65	11	66	11	24
26		68	62	12	80	61	23
27		68	57	12	81	135	23
28		68	56	12	80	135	23
29		73	53	11	80	134	## 10
30		88	52	10	90	133	
31			52		111	133	
Mean		47.3	81.6	28.9	28.5	101	83.1
Runoff in acre-feet		1,590	5,020	1,720	1,750	6,180	4,780

* Reservoir began spilling
** Reservoir stopped spilling
≠ Reservoir gates opened
Reservoir gates closed

TABLE A-51

DAILY MEAN DISCHARGE
FITZHUGH CREEK BELOW DIVERSION NO. 137

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				15	7.8	2.1	
2				14	7.7	2.0	
3				14	7.5	2.0	
4				14	7.5	1.7	
5				12	6.9	2.1	
6				12	6.0	2.1	
7				13	5.5	2.1	
8				14	5.3	1.9	
9				14	5.3	1.9	
10				12	4.4	2.1	
11				11	4.5	2.0	
12				11	4.5	2.0	
13				15	4.4	2.0	
14				18	4.0	2.1	
15				25	3.5	1.9	
16				30	3.3	1.8	
17				50	3.3	1.6	
18				75	3.1		
19			22	40	3.3		
20			22	30	3.4		
21			35	12	3.1		
22			24	11	3.0		
23			24	11	2.6		
24			19	10	2.6		
25			18	11	2.4		
26			16	15	2.3		
27			14	10	2.5		
28			14	8.5	1.9		
29			15	8.0	1.9		
30			14	8.0	2.4		
31			14		2.3		
Mean			19.3	18.1	4.1	2.0	
Runoff in acre-feet			498	1,080	254	66	

TABLE A-52

DAILY MEAN DISCHARGE
PINE CREEK NEAR ALTURAS

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	14	17	59	55	42	21	15
2	15	17	59	57	40	21	15
3	15	16	57	58	38	20	15
4	14	16	54	58	38	20	15
5	14	18	51	59	37	19	15
6	14	21	49	61	37	19	15
7	15	24	45	62	35	18	15
8	15	22	43	66	35	18	15
9	15	21	41	64	35	18	15
10	14	24	41	60	34	18	15
11	14	36	41	58	34	24	15
12	14	93	42	57	33	21	15
13	14	51	45	57	32	18	15
14	14	30	47	61	31	17	14
15	14	24	48	59	30	17	15
16	14	23	53	56	29	17	14
17	14	22	56	63	29	17	14
18	14	21	59	91	28	18	14
19	15	24	69	57	26	17	14
20	14	27	72	50	26	17	15
21	15	34	78	49	25	17	14
22	14	36	72	47	24	17	14
23	14	35	62	47	24	16	14
24	15	36	57	50	23	16	14
25	15	37	54	51	23	16	14
26	15	39	51	52	23	16	14
27	16	41	49	48	22	16	13
28	15	45	47	46	22	16	13
29	15	52	47	44	22	15	15
30	15	56	48	43	21	15	15
31	15		52		21	15	
Mean	14.5	31.9	53.2	56.2	29.6	17.7	14.5
Runoff in acre-feet	893	1,900	3,270	3,340	1,820	1,090	863

TABLE A-53

DAILY MEAN DISCHARGE
BIDWELL CREEK NEAR FORT BIDWELL

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	22	20	221	104	27	12	6.9
2	21	20	171	94	28	11	6.5
3	20	19	143	88	25	11	6.3
4	20	21	121	88	23	10	6.2
5	22	24	108	88	22	9.9	6.7
6	21	26	98	87	21	9.6	7.0
7	22	25	90	87	20	9.3	6.5
8	22	23	85	87	19	9.0	5.9
9	24	22	78	87	18	8.9	6.1
10	25	21	73	75	17	9.1	5.4
11	23	19	70	73	17	14	5.6
12	27	19	73	73	16	11	5.6
13	27	19	81	73	15	9.6	5.5
14	25	18	95	67	15	9.3	5.4
15	26	19	102	65	14	8.6	5.5
16	26	22	114	58	15	8.3	5.4
17	27	20	130	59	14	8.6	5.9
18	26	37	129	58	14	9.3	6.0
19	26	91	126	61	13	8.9	5.9
20	25	128	116	56	13	8.7	5.8
21	27	152	113	58	14	9.4	5.6
22	32	141	116	56	13	8.5	5.3
23	35	143	108	58	13	8.0	5.4
24	36	148	102	47	12	8.0	5.0
25	31	157	93	49	12	8.2	5.3
26	26	157	86	44	12	7.8	5.1
27	23	159	81	38	12	7.6	5.4
28	20	191	89	33	11	7.4	5.2
29	19	296	101	31	11	22	5.5
30	18	265	110	30	11	6.9	5.5
31	18		113		11	6.5	
Mean	24.6	80.7	108	65.7	16.1	9.6	5.8
Runoff in acre-feet	1,510	4,800	6,620	3,910	988	588	344

TABLE A-54

DAILY MEAN DISCHARGE
MILL CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1		7.2	48	32	15	4.4	1.1
2		9.0	45	31	15	4.7	1.1
3		9.6	41	31	14	4.6	1.2
4		9.5	33	31	12	4.3	1.4
5		9.5	28	32	11	3.9	1.6
6		11	25	32	11	3.4	1.7
7		12	23	33	10	2.9	1.7
8		11	22	34	11	2.6	1.7
9		11	21	34	11	2.5	1.6
10		9.5	21	33	10	2.4	1.5
11		8.5	22	32	9.6	3.7	1.4
12		7.2	25	32	9.5	6.8	1.3
13		6.8	27	32	8.5	5.7	1.3
14		5.4	31	32	8.0	5.4	1.3
15		4.9	33	33	7.6	5.4	1.4
16		5.9	36	32	7.2	5.1	1.5
17		7.0	37	28	7.0	4.6	1.7
18		7.6	37	32	6.8	4.3	1.9
19		11	40	31	6.3	3.9	2.0
20		12	40	28	6.1	3.0	2.0
21		14	41	28	6.1	2.9	1.9
22		16	42	27	5.7	3.0	1.8
23		21	40	26	5.6	2.3	1.6
24		27	37	25	5.4	1.6	1.6
25		33	35	25	6.1	1.4	1.6
26		38	27	26	5.6	1.3	1.6
27		40	27	25	5.4	1.2	1.6
28		42	27	22	4.6	1.2	1.6
29		46	28	18	4.4	1.2	1.5
30		48	32	15	4.3	1.2	1.5
31			32		4.1	1.2	
Mean		16.7	32.4	29.1	8.2	3.3	1.6
Runoff in acre-feet		993	1,990	1,730	504	204	93

TABLE A-55

DAILY MEAN DISCHARGE
SOLDIER CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1		8.0	26	17	9.4	2.7	2.4
2		7.4	22	16	8.0	2.6	2.3
3		7.0	20	16	7.4	2.6	2.3
4		8.0	17	15	7.0	2.6	2.3
5		9.9	18	15	6.5	2.5	2.3
6		9.2	17	15	5.8	2.5	2.3
7		8.0	16	14	5.7	2.5	2.4
8		7.0	16	13	5.6	2.4	2.4
9		7.4	17	13	5.5	2.4	2.4
10		7.4	19	13	5.5	2.5	2.4
11		7.0	21	13	5.5	6.1	2.4
12		7.0	21	13	5.5	4.1	2.3
13		7.4	26	12	5.0	3.2	2.3
14		8.1	27	13	4.8	3.2	2.3
15		9.5	25	13	4.8	3.0	2.3
16		11	28	13	4.6	3.0	2.2
17		9.5	25	13	4.6	2.9	2.2
18		17	24	12	4.5	2.9	2.2
19	5.0	42	22	12	4.5	2.8	2.2
20	5.0	37	22	12	4.3	2.8	2.3
21	5.3	37	22	11	4.3	3.6	2.3
22	5.8	25	22	11	4.1	3.0	2.3
23	7.0	25	18	10	4.1	2.7	2.3
24	5.5	32	17	9.9	3.9	2.6	2.2
25	4.5	29	17	11	3.6	2.6	2.2
26	4.8	30	18	10	2.9	2.6	2.2
27	5.0	32	18	8.8	2.8	2.6	2.2
28	4.6	37	18	8.6	2.7	2.6	2.2
29	4.6	35	19	8.4	2.5	2.6	2.2
30	5.0	32	18	11	2.6	2.5	2.1
31	6.5		18		2.6	2.4	
Mean	5.3	18.2	20.4	12.4	4.8	2.9	2.3
Runoff in acre-feet	136	1,090	1,260	740	299	177	136

TABLE A-56

DAILY MEAN DISCHARGE
PINE CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1		5.0	5.6	2.9	0.8		
2		5.0	5.6	2.0	0.4		
3		3.6	6.4	1.9	0.1		
4		3.6	6.4	1.8	0.1		
5		5.0	5.6	1.3	0.1		
6		5.4	6.8	0.6			
7		4.9	6.4	0.5			
8		4.4	5.9	0.5			
9		3.9	6.0	0.6			
10		3.8	5.9	0.6			
11		4.2	6.0	0.5			
12		4.4	6.0	0.5			
13		4.5	7.3	0.5			
14		5.5	7.2	0.8			
15		7.5	6.6	0.8			
16		8.3	7.2	0.9			
17		7.2	5.7	1.5			
18		11	5.4	1.0			
19		30	5.2	0.8			
20	2.2	23	4.9	0.7			
21	2.2	21	5.7	0.6			
22	2.4	12	6.6	0.6			
23	2.4	12	4.7	0.6			
24	2.6	12	4.4	0.6			
25	2.8	10	4.1	0.7			
26	2.9	9.6	3.5	0.8			
27	3.1	9.2	3.5	0.6			
28	3.2	11	3.3	0.3			
29	3.3	8.6	3.2	0.1			
30	3.5	8.2	3.2	0.5			
31	4.2		3.3				
Mean	2.9	8.8	5.4	0.9	0.2		
Runoff in acre-feet	69	523	332	52	3		

TABLE A-57

DAILY MEAN DISCHARGE
CEDAR CREEK AT CEDARVILLE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	10	13	23	11	0.2	1.6	0.3
2	9.1	13	22	10	0.2	1.5	0.3
3	8.6	12	21	9.8	0.1	1.3	0.3
4	8.5	13	19	9.8	0.1	1.0	0.3
5	8.6	14	19	9.2	0.2	0.9	0.4
6	8.3	15	18		0.2	0.9	0.5
7	8.4	14	16		0.2	1.0	0.4
8	8.3	13	15		0.1	1.0	0.4
9	8.9	13	15		0.2	0.7	0.4
10	8.6	13	14		0.5	0.7	0.3
11	8.8	14	14	N O	0.6	1.8	0.3
12	9.1	14	13		0.9	1.6	0.3
13	8.9	14	13	R	1.8	1.4	0.2
14	9.2	14	14	E	1.8	1.9	0.3
15	9.3	16	14	C	1.8	1.7	0.2
16	9.9	18	16	O R	2.0	1.6	0.3
17	9.7	17	17	D	1.8	1.6	0.5
18	9.2	20	16		1.5	2.0	0.6
19	9.0	25	16		1.6	1.6	0.7
20	9.5	27	16		1.6	1.1	0.6
21	9.8	29	16		1.7	1.1	0.5
22	10	28	16		1.7	1.0	0.5
23	11	27	14	0.2	1.6	0.8	0.5
24	11	27	13	0.2	1.7	0.7	0.4
25	10	26	12	0.2	1.9	0.6	0.5
26	11	26	12	0.2	2.2	0.6	0.5
27	11	26	12	0.1	1.9	0.5	0.6
28	11	26	12	0.1	1.6	0.5	0.6
29	11	26	12	0.1	1.4	0.4	0.6
30	11	24	12	0.2	1.3	0.3	0.6
31	11		12		1.3	0.3	
Mean	9.6	19.2	15.3		1.2	1.1	0.4
Runoff in acre-feet	590	1,140	940		71	67	26

TABLE A-58

DAILY MEAN DISCHARGE
NORTH DEEP CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1		4.1	9.8	5.4	2.0	0.5	0.5
2		4.2	7.3	4.3	1.5	0.5	0.5
3		4.2	6.3	4.0	1.4	0.5	0.5
4		4.3	5.6	3.6	1.3	0.5	0.5
5		4.3	5.4	3.5	1.3	0.5	0.5
6		4.3	5.3	3.5	1.3	0.5	0.6
7		4.2	5.2	3.5	0.8	0.4	0.6
8		3.8	5.0	3.3	0.7	0.4	0.6
9		3.8	4.9	2.3	0.7	0.4	0.5
10		4.0	5.4	2.2	0.7	0.4	0.5
11		3.8	7.2	2.1	0.7	0.7	0.5
12		3.0	7.2	2.0	0.7	0.6	0.4
13		2.4	8.7	1.8	0.7	0.6	0.4
14		2.2	15	2.3	0.7	0.6	0.4
15		2.6	15	2.2	0.6	0.6	0.4
16		5.8	16	2.4	0.6	0.6	0.4
17		5.9	16	3.6	0.6	0.6	0.5
18		8.3	14	3.8	0.6	0.7	0.5
19		13	16	2.9	0.6	0.6	0.5
20		17	13	2.7	0.6	0.6	0.6
21		21	11	2.4	0.6	0.6	0.6
22		17	8.8	2.1	0.6	0.6	0.6
23		13	7.4	1.8	0.6	0.6	0.6
24		13	6.5	2.3	0.5	0.5	0.6
25		12	5.6	2.6	0.5	0.5	0.6
26		13	4.2	2.5	0.6	0.5	0.6
27		13	4.1	2.3	0.6	0.5	0.6
28		13	4.2	2.2	0.5	0.5	0.6
29		14	4.2	2.1	0.5	0.5	0.6
30		12	5.0	2.1	0.5	0.5	0.6
31			5.8		0.5	0.5	
Mean		8.2	8.2	2.8	0.8	0.5	0.5
Runoff in acre-feet		488	506	166	48	33	32

TABLE A-59

DAILY MEAN DISCHARGE
SOUTH DEEP CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1		1.7	7.4	11	2.7	1.2	0.6
2		1.3	7.4	10	2.6	1.2	0.6
3		1.4	7.1	9.4	2.4	1.1	0.6
4		1.2	7.1	8.7	2.3	1.0	0.5
5		0.9	10	8.7	2.0	0.8	0.5
6		0.9	6.9	8.0	2.0	0.8	0.6
7		1.2	5.2	7.4	1.7	0.7	0.5
8		1.2	5.5	7.1	1.7	0.7	0.6
9		1.3	5.8	5.2	1.3	0.7	0.5
10		1.3	7.4	4.6	1.3	0.7	0.5
11		1.3	8.7	4.0	1.3	1.7	0.5
12		1.5	13	4.0	1.4	1.3	0.5
13		1.5	14	3.8	1.4	1.2	0.5
14		1.9	10	4.6	1.4	1.0	0.5
15		2.4	13	4.0	1.2	0.8	0.5
16		3.4	15	4.2	1.2	0.7	0.5
17		2.8	19	5.8	1.1	0.7	0.6
18		4.2	27	5.8	1.1	1.1	0.6
19		15	32	4.8	1.1	0.8	0.6
20		36	27	4.6	1.0	0.7	0.6
21		32	27	4.2	0.9	0.7	0.6
22		19	23	4.0	0.9	0.7	0.6
23		13	19	3.8	0.8	0.6	0.6
24		11	15	3.8	0.8	0.6	0.6
25		10	13	3.8	0.8	0.6	0.5
26		8.7	11	3.8	0.8	0.6	0.5
27		7.4	11	3.4	0.9	0.6	0.5
28		8.7	10	3.0	0.9	0.6	0.5
29		8.7	10	2.7	0.8	0.6	0.5
30		8.0	10	2.7	0.7	0.6	0.5
31			11		0.7	0.6	
Mean		7.0	13.2	5.4	1.3	0.8	0.5
Runoff in acre-feet		414	810	319	82	51	32

TABLE A-60

DAILY MEAN DISCHARGE
OWL CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1		7.8	43	57	35	8.1	3.9
2		7.9	45	61	35	8.0	3.9
3		8.2	36	75	37	7.7	3.8
4		8.5	31	84	37	7.2	3.8
5		8.8	28	78	34	6.9	3.8
6		9.2	25	65	32	6.4	3.8
7		8.7	22	49	32	6.1	3.8
8		8.6	20	58	29	6.1	3.8
9		8.2	20	60	29	5.8	3.7
10		9.0	23	59	28	5.8	3.7
11		9.0	28	50	25	13	3.6
12		8.8	35	77	22	10	3.6
13		8.8	41	68	20	6.4	3.5
14		7.0	48	56	19	5.8	3.5
15		7.3	49	45	18	5.3	3.5
16		8.2	51	31	17	5.2	3.5
17		7.4	55	38	17	5.2	3.4
18		13	58	43	16	9.8	3.5
19		23	56	37	16	6.4	3.5
20		22	56	39	15	5.4	3.5
21		23	56	45	13	6.1	3.5
22		26	53	56	13	5.3	3.4
23		24	42	63	11	5.0	3.4
24		25	36	54	10	4.9	3.4
25		24	33	48	13	4.8	3.4
26		25	35	41	12	4.8	3.3
27		34	43	35	10	4.7	3.3
28		41	46	32	9.3	4.4	3.3
29		41	60	32	8.7	4.3	3.3
30		43	79	36	8.0	4.2	3.2
31			77		8.0	4.2	
Mean		16.8	42.9	52.4	20.3	6.2	3.6
Runoff in acre-feet		1,000	2,640	3,120	1,250	383	211

TABLE A-61

DAILY MEAN DISCHARGE
RADER CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1					17	4.2	3.0
2					17	3.9	2.7
3					17	3.4	3.0
4					18	4.2	3.0
5					18	5.8	3.0
6					17	5.8	3.0
7					16	5.3	3.4
8					16	5.3	3.0
9					15	5.0	2.7
10					14	5.3	2.7
11					12	8.1	2.7
12					11	5.8	2.7
13					11	5.0	2.7
14					11	4.5	2.7
15					11	4.2	2.7
16					10	4.2	3.4
17					10	4.2	3.4
18					10	5.8	3.9
19					9.0	5.0	3.9
20					8.5	3.9	3.9
21					8.1	3.9	3.4
22					7.4	3.4	3.0
23					6.9	3.4	3.4
24					6.5	3.0	3.4
25					6.5	3.0	3.4
26					6.1	2.7	3.4
27					6.1	2.7	3.4
28					5.8	2.5	3.4
29					5.0	2.5	3.4
30					4.5	2.5	3.0
31					4.5	2.7	
Mean					10.8	4.2	3.2
Runoff in acre-feet					666	260	188

TABLE A-62

DAILY MEAN DISCHARGE
EAGLE CREEK AT EAGLEVILLE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11	NO RECORD AVAILABLE						
12							
13	FOR 1965 SEASON						
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
Mean							
Runoff in acre-feet							

TABLE A-63

DAILY MEAN DISCHARGE
EMERSON CREEK

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1		5.8	29	26	12	5.8	3.9
2		5.8	26	25	11	5.6	4.3
3		5.8	23	25	11	5.3	5.6
4		5.8	22	26	11	5.3	5.8
5		6.0	19	26	11	5.6	5.8
6		6.9	18	27	10	5.6	6.0
7		7.3	16	27	10	5.3	6.0
8		7.9	15	27	11	5.0	5.6
9		8.2	15	26	11	5.0	5.0
10		8.6	15	25	11	5.3	4.8
11		8.6	16	25	11	8.2	4.8
12		8.9	18	25	11	6.9	4.5
13		8.9	22	24	10	5.3	4.5
14		8.6	23	25	9.3	5.3	4.5
15		8.9	24	23	8.6	5.0	4.5
16		11	30	22	8.2	5.3	4.5
17		10	29	19	7.9	5.0	4.8
18		12	31	18	7.9	5.6	4.8
19		22	29	17	7.6	5.3	4.8
20		28	30	15	7.6	5.0	4.8
21		31	30	15	7.6	5.0	4.8
22		28	27	15	6.6	5.0	4.8
23		25	25	14	6.3	4.8	4.5
24		26	23	14	6.3	4.8	4.3
25		25	23	15	7.3	4.5	4.3
26		21	23	14	6.9	4.5	4.3
27		28	23	13	6.3	4.1	4.5
28		33	23	12	6.0	3.9	4.5
29		33	25	12	5.8	3.9	4.3
30		33	27	12	5.8	3.6	4.3
31			28		5.8	3.6	
Mean		15.9	23.4	20.3	8.7	5.1	4.8
Runoff in acre-feet		948	1,440	1,210	533	314	285

TABLE A-64

DAILY MEAN DISCHARGE
SUSAN RIVER AT SUSANVILLE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	139	228	560	139	97	122	9.2
2	128	217	504	174	94	108	11
3	123	202	424	156	90	109	9.5
4	118	204	270	128	86	109	9.0
5	112	219	228	117	81	105	9.0
6	108	208	206	102	76	112	9.0
7	108	190	186	86	70	114	10
8	112	190	178	80	64	118	9.8
9	117	186	182	75	60	120	9.5
10	120	172	206	82	53	120	9.0
11	123	162	215	94	49	150	9.0
12	146	160	219	92	45	142	8.3
13	144	164	224	91	41	115	7.9
14	137	156	226	92	35	101	7.9
15	135	174	228	106	31	90	7.9
16	139	433	237	93	32	82	7.9
17	148	290	243	101	33	76	7.9
18	135	280	248	115	26	73	8.3
19	128	380	260	114	23	66	9.0
20	128	492	252	117	18	58	9.0
21	148	615	250	106	15	44	8.5
22	180	620	246	99	14	24	8.3
23	194	620	228	98	13	16	8.5
24	188	625	213	98	11	13	8.5
25	178	625	200	108	9.5	12	8.5
26	182	630	152	105	9.8	11	8.5
27	200	625	123	101	64	11	8.5
28	178	640	115	98	104	10	9.2
29	180	640	112	104	102	10	9.0
30	184	620	109	99	105	9.8	9.0
31	196		109		114	9.2	
Mean	147	366	231	106	53.7	72.9	8.8
Runoff in acre-feet	9,040	21,750	14,190	6,290	3,300	4,480	525

TABLE A-65

DAILY MEAN DISCHARGE
GOLD RUN CREEK NEAR SUSANVILLE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	11	14	53	29	10	2.9	1.2
2	10	13	42	29	9.5	2.4	1.2
3	10	12	31	30	9.1	2.2	1.1
4	9.8	13	29	30	8.6	2.3	1.1
5	9.4	13	27	29	7.9	2.2	1.1
6	8.8	12	25	27	7.5	2.1	1.2
7	8.8	11	23	25	6.9	1.9	1.3
8	8.6	11	22	23	6.5	1.7	1.2
9	8.2	10	23	22	6.3	1.6	1.2
10	8.5	9.6	25	21	6.0	1.6	1.1
11	9.1	9.6	20	21	5.6	4.7	1.1
12	9.9	9.9	30	20	5.6	3.2	1.0
13	9.8	10	33	19	5.1	2.3	1.1
14	9.9	11	37	18	4.9	2.0	1.0
15	9.8	13	39	16	4.5	1.9	1.0
16	10	26	47	15	4.7	1.8	1.0
17	10	17	51	17	4.6	1.8	1.1
18	10	18	51	16	4.3	2.1	1.3
19	10	32	48	15	4.0	1.8	1.3
20	9.7	46	46	14	4.0	1.7	1.3
21	11	55	36	14	3.9	1.8	1.3
22	14	39	29	13	3.7	1.7	1.3
23	14	35	27	17	3.6	1.5	1.3
24	13	40	26	17	3.2	1.4	1.2
25	12	43	26	14	3.3	1.4	1.2
26	12	47	26	12	3.4	1.4	1.1
27	12	50	27	11	3.2	1.3	1.2
28	11	61	32	11	3.0	1.3	1.3
29	12	63	34	10	2.8	1.3	1.3
30	12	63	33	10	2.7	1.2	1.2
31	15		33		2.7	1.2	
Mean	10.6	26.9	33.3	18.8	5.2	1.9	1.2
Runoff in acre-feet	653	1,600	2,040	1,120	320	118	70

TABLE A-66

DAILY MEAN DISCHARGE
SUSAN RIVER AT JOHNSTONVILLE BRIDGE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1				145	37	11	6.5
2				169	31	5.9	6.7
3				165	27	5.7	6.5
4				86	24	4.1	6.5
5				76	22	5.5	6.5
6				65	20	1.9	6.7
7				57	17	1.1	6.7
8				56	16	1.0	6.5
9				58	14	1.6	6.1
10				62	10	2.2	5.9
11				86	8.2	5.7	5.9
12				81	7.3	25	6.1
13			186	75	6.5	4.1	5.7
14			186	78	5.9	3.8	5.5
15			182	109	5.5	3.8	5.3
16			178	85	6.1	3.6	5.3
17			200	96	6.9	5.9	5.9
18			177	129	4.5	8.4	7.3
19			165	110	3.4	8.4	0.8
20			178	89	2.7	8.2	2.0
21			177	76	2.7	8.4	1.6
22			185	65	2.8	8.0	1.4
23			137	69	2.8	7.6	1.6
24			126	84	3.0	7.1	1.9
25			126	65	4.5	6.9	3.2
26			105	55	3.8	6.7	5.1
27			77	41	2.8	6.7	5.1
28			84	37	2.7	7.1	5.1
29			82	36	3.8	7.1	5.3
30			83	44	4.1	7.1	5.5
31			87		4.9	6.9	
Mean			143	81.6	10.1	6.3	5.0
Runoff in acre-feet			5,400	4,860	621	390	298

TABLE A-67

DAILY MEAN DISCHARGE
WILLOW CREEK NEAR SUSANVILLE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	102	51	37	12	13	15	13
2	85	50	36	12	14	15	13
3	81	49	39	11	15	14	13
4	78	48	40	11	19	14	12
5	78	48	39	12	17	14	12
6	80	47	39	12	15	13	12
7	80	45	39	12	14	12	12
8	76	46	37	12	14	13	12
9	72	48	33	13	13	13	13
10	71	53	28	12	13	13	13
11	69	61	29	12	13	13	13
12	71	57	29	12	13	13	13
13	64	56	29	12	13	13	12
14	57	54	28	12	13	13	12
15	51	52	27	13	13	13	12
16	50	53	30	13	13	12	13
17	48	51	31	14	13	12	16
18	46	51	30	15	13	12	17
19	44	52	25	16	13	12	17
20	46	50	21	15	13	12	18
21	46	54	19	14	13	12	18
22	47	53	19	12	13	12	18
23	47	51	18	13	13	12	18
24	44	50	18	13	13	12	16
25	43	50	16	13	13	12	15
26	43	48	16	13	13	13	17
27	48	45	16	13	13	13	17
28	47	45	14	13	14	13	18
29	46	46	13	12	14	14	18
30	45	41	11	12	14	13	18
31	46		12		14	13	
Mean	59.7	50.2	26.4	12.7	13.7	12.9	14.7
Runoff in acre-feet	3,670	2,990	1,620	756	841	793	875

TABLE A-68

DAILY MEAN DISCHARGE
WILLOW CREEK NEAR LITCHFIELD

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1	123	59	39	14	23	17	17
2	101	60	38	13	23	17	16
3	94	58	41	14	25	17	15
4	91	57	44	14	28	17	15
5	90	55	41	14	27	16	16
6	91	53	40	15	24	14	16
7	92	51	40	14	21	12	15
8	90	52	39	15	20	13	16
9	86	55	36	19	20	15	16
10	83	63	30	17	19	15	17
11	80	78	30	18	19	17	17
12	87	78	31	20	19	14	16
13	84	71	29	22	19	13	16
14	73	64	29	24	18	12	16
15	66	59	29	25	18	11	16
16	60	59	30	26	18	11	17
17	59	58	35	27	17	12	20
18	56	58	34	27	18	12	20
19	53	59	30	29	17	13	21
20	52	56	26	29	17	13	22
21	55	60	22	27	16	14	22
22	55	59	23	23	17	13	23
23	55	57	21	24	17	14	23
24	52	56	20	24	15	14	22
25	50	54	19	24	15	15	21
26	50	53	19	24	15	16	23
27	55	49	19	23	14	15	24
28	56	48	18	24	15	15	25
29	54	49	17	23	16	17	25
30	52	45	14	24	16	17	25
31	52		14		17	17	
Mean	70.9	57.8	28.9	21.2	18.8	14.5	19.1
Runoff in acre-feet	4,360	3,440	1,780	1,260	1,160	889	1,140

TABLE A-69

DAILY MEAN DISCHARGE
JACOB-NEUHAUS DITCH AT BARRON-MURRER PROPERTY LINE

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1		2.6	2.6	1.9	2.1	2.3	2.2
2		2.6	2.8	1.9	2.6	2.2	2.2
3		2.6	2.7	2.4	2.7	2.5	2.2
4		2.6	2.6	2.6	2.6	2.2	1.6
5		2.6	2.3	2.8	2.5	2.2	1.6
6		2.6	0.8	3.2	2.3	2.2	1.9
7		2.6	0.8	3.2	2.2	2.2	1.2
8		2.6	1.2	2.7	2.0	2.2	2.3
9		2.6	2.6	2.2	2.0	2.2	2.2
10		2.6	2.5	1.6	2.2	2.2	2.1
11		2.6	2.2	2.0	2.2	2.2	1.9
12		2.6	2.3	2.2	2.0	2.2	1.9
13		2.7	2.5	2.3	2.6	2.0	1.9
14		2.6	2.5	2.3	2.6	1.9	2.1
15		2.6	2.6	2.1	2.5	1.6	2.5
16		3.6	2.6	1.9	2.4	1.6	2.2
17		2.9	2.6	2.2	2.4	2.1	2.2
18		2.6	2.6	2.6	2.3	2.6	2.2
19		2.6	2.6	2.6	2.3	2.6	2.1
20		2.6	2.5	2.6	2.3	2.7	2.0
21		2.6	2.6	2.4	2.1	2.7	2.0
22		2.6	3.0	2.3	2.7	2.7	2.0
23		2.6	2.8	2.5	2.6	2.7	2.0
24		2.6	2.6	2.6	2.6	2.6	2.1
25		2.6	2.9	2.5	2.7	2.5	2.1
26		2.7	2.4	2.5	2.8	2.3	2.2
27		3.1	1.9	2.5	2.6	2.4	1.9
28		3.5	1.9	2.3	2.4	2.2	1.6
29		2.9	1.8	1.9	2.3	1.9	1.6
30		2.6	1.8	1.7	2.3	2.0	1.5
31			1.9		2.3	2.2	
Mean		2.7	2.3	2.4	2.4	2.3	2.0
Runoff in acre-feet		161	142	140	147	139	118

TABLE A-70

DAILY MEAN DISCHARGE
SUSAN RIVER INFLOW TO McCOY FLAT RESERVOIR

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1							
2							
3							
4							
5							
6							
7							
8							
9				33			
10				31			
11				28			
12				25			
13				22			
14				19			
15				18			
16				17			
17				22			
18				21			
19				20			
20				15			
21				11			
22				7.3			
23				4.0			
24				0.5			
25				0.0			
26							
27							
28							
29							
30							
31							
Mean				18.4			
Runoff in acre-feet				583			

TABLE A-71

DAILY MEAN DISCHARGE
BRIDGE CREEK INFLOW TO McCOY FLAT RESERVOIR

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1					2	2	
2					2	2	
3					2	2	
4					2	2	
5					2	2	
6					2	2	
7					2	2	
8					2	2	
9				3	2	2	
10				3	2	2	
11				3	2	2	
12				3	2	2	
13				3	2	2	
14				3	2	2	
15				3	2	2	
16				3	2	2	
17				4	2	2	
18				4	2	2	
19				3	2	2	
20				3	2	2	
21				3	2	2	
22				3	2	2	
23				2	2	2	
24				2	2	2	
25				2	2	2	
26				2	2	2	
27				2	2	2	
28				2	2	2	
29				2	2	2	
30				2	2	2	
31					2	2	
Mean				2.7	2.0	2.0	
Runoff in acre-feet				119	123	123	

TABLE A-72

DAILY MEAN DISCHARGE
McCOY FLAT RESERVOIR RELEASES TO SUSAN RIVER

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1					2	126	
2					2	115	
3					2	111	
4					2	113	
5					2	108	
6					2	113	
7					2	119	
8					2	125	
9				2	2	123	
10				2	2	125	
11				2	2	143	
12				2	2	162	
13				2	2	119	
14				2	2	110	
15				2	2	91	
16				2	2	86	
17				2	2	80	
18				2	2	73	
19				34	2	69	
20				18	2	27	
21				9	2	24	
22				2	2	0.0	
23				2	2		
24				2	2		
25				2	2		
26				2	54		
27				2	108		
28				2	108		
29				2	108		
30				2	108		
31					110		
Mean				4.5	20.8	103	
Runoff in acre-feet				196	1,280	4,290	

TABLE A-73

DAILY MEAN DISCHARGE
HOG FLAT RESERVOIR RELEASES TO SUSAN RIVER

March through September 1965
(In second-feet)

Day	March	April	May	June	July	August	September
1					65		
2					62		
3					59		
4					55		
5					52		
6					49		
7					45		
8					42		
9				36	39		
10				36	35		
11				35	32		
12				34	29		
13				33	26		
14				33	23		
15				33	20		
16				33	17		
17				33	15		
18				33	12		
19				42	10		
20				50	8		
21				49	6		
22				52	4		
23				53	2		
24				59	1		
25				63	0		
26				60			
27				57			
28				62			
29				66			
30				66			
31							
Mean				46.2	29.5		
Runoff in acre-feet				2,020	1,400		

TABLE A-74

DAILY MEAN DISCHARGE
TRANSFER OF LASSEN IRRIGATION DISTRICT WATER FROM
McCOY FLAT AND HOG FLAT RESERVOIRS TO LAKE LEAVITT
(less transportation loss of 15 percent)

June through December 1965
(In second-feet)

Day	June	July	August	September	October	November	December
1		51	107			4.1	24
2		61	98			4.1	24
3		54	94			4.1	24
4		46	96			5.0	25
5		47	92			4.8	25
6		44	96			4.8	24
7		37	101		0.0	5.3	23
8		29	106		2.1	7.8	24
9		26	105	N	2.5	9.5	26
10	2.0	27	106	O	2.5	12	24
11	4.0	24	122		3.2	13	24
12	6.0	22	133		3.0	14	24
13	8.0	20	104		3.0	14	23
14	11	20	95		2.2	15	
15	14	19	83		2.5	22	
16	13	16	75	F	3.0	22	
17	7.0	17	67	L	3.2	24	
18	8.0	17	60	O	3.2	41	
19	36	16	57	W	3.8	19	
20	42	15	23		4.5	13	
21	37	14	20		4.5	11	
22	46	13	0.0		4.5	10	
23	42	11			4.0	27	
24	50	8.1			4.0	32	
25	42	3.9			4.5	32	
26	50	1.7			3.2	28	
27	59	2.7			4.5	28	
28	58	92			3.8	21	
29	63	92			3.8	24	
30	54	92			3.5	25	
31		94			3.5		
Mean	31.0	33.3	59.4	0.0	2.7	16.6	24.2
Runoff in acre-feet	1,290	2,050	3,650	0.0	164	985	623

APPENDIX B

SCHEMATIC DIAGRAMS OF DIVERSIONS

APPENDIX B

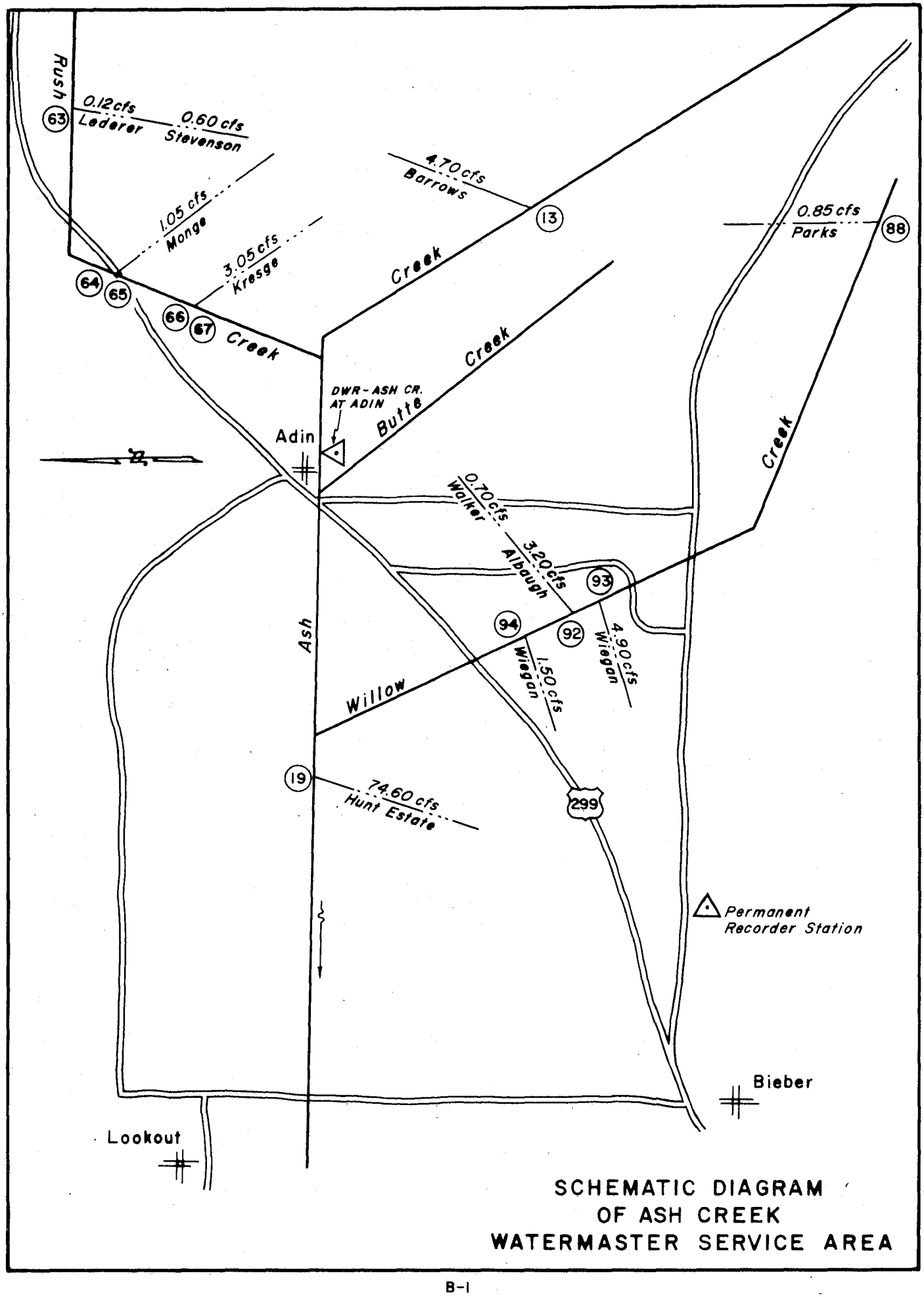
TABLE OF CONTENTS

SCHEMATIC DIAGRAMS OF DIVERSIONS

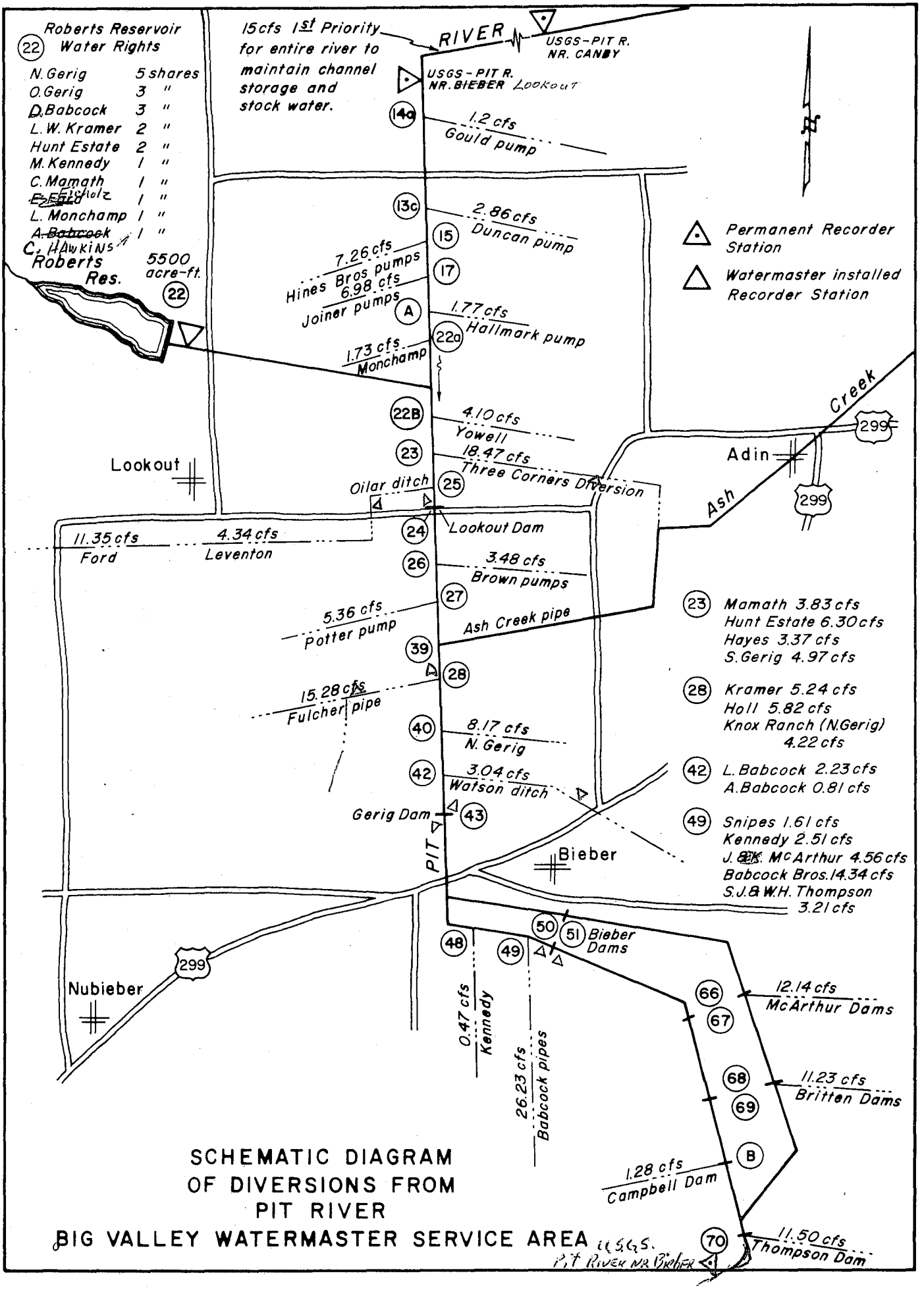
Figure		Page
1	Ash Creek Watermaster Service Area	B-1
2	Big Valley Watermaster Service Area	B-2
3	Burney Creek Watermaster Service Area	B-3
4	Butte Creek Watermaster Service Area	B-4
5	Cow Creek Watermaster Service Area	B-5
5a	North Cow Creek	B-6
5b	Oak Run Creek	B-7
5c	Clover Creek	B-8
6	Digger Creek Watermaster Service Area	B-9
7	Hat Creek Watermaster Service Area	B-10
7a	Upper Hat Creek	B-11
7b	Lower Hat Creek	B-12
8	Indian Creek Watermaster Service Area	B-13
8a	Wolf Creek	B-14
8b	Lights Creek	B-15
8c	Indian Creek and Upper Tributaries	B-16
9	Middle Fork Feather River Watermaster Service Area	B-17
10	North Fork Cottonwood Creek Watermaster Service Area	B-18
11	North Fork Pit River Watermaster Service Area	B-19
11a	New Pine Creek	B-20
11b	Cottonwood Creek	B-21
11c	Davis Creek	B-22
11d	Linville Creek	B-23
11e	Franklin Creek	B-24
11f	Joseph Creek	B-25
11g	Thoms Creek	B-26
11h	Gleason Creek	B-27
11i	Shields Creek	B-28
11j	Parker Creek	B-29
11k	North Fork Pit River above Alturas	B-30
12	Seiad Creek Watermaster Service Area	B-31
13	Shackleford Creek Watermaster Service Area	B-32
13a	Upper Shackleford Creek	B-33

Figure		Page
14	Shasta River Watermaster Service Area	B-34
14a	Upper Shasta River	B-35
14b	Boles Creek and Shasta River above Dwinnell Res.	B-36
14c	Beaughan Creek	B-37
14d	Carrick Creek	B-38
14e	Parks Creek	B-39
14f	Shasta River Prior Rights below Dwinnell Res.	B-40
14g	Big Springs Lake	B-41
14h	Little Shasta River	B-42
14i	Lower Shasta River	B-43
15	South Fork Pit River Watermaster Service Area	B-44
15a	Pine Creek	B-45
15b	Fitzhugh Creek	B-46
15c	South Fork Pit River - Likely East	B-47
15d	South Fork Pit River - Likely North	B-48
16	Surprise Valley Watermaster Service Area	B-49
16a	Bidwell Creek	B-50
16b	Mill Creek	B-51
16c	Soldier Creek	B-52
16d	Pine Creek	B-53
16e	Cedar Creek	B-54
16f	Deep Creek	B-55
16g	Owl Creek	B-56
16h	Rader Creek	B-57
16i	Eagle Creek	B-58
16j	Emerson Creek	B-59
17	Susan River Watermaster Service Area	B-60
17a	Parker Creek	B-61
17b	Baxter Creek	B-62
17c	Willow Creek	B-63
17d	Susan River and Tributaries above Willow Creek	B-64
17e	Susan River below Willow Creek	B-65

FIGURE 1

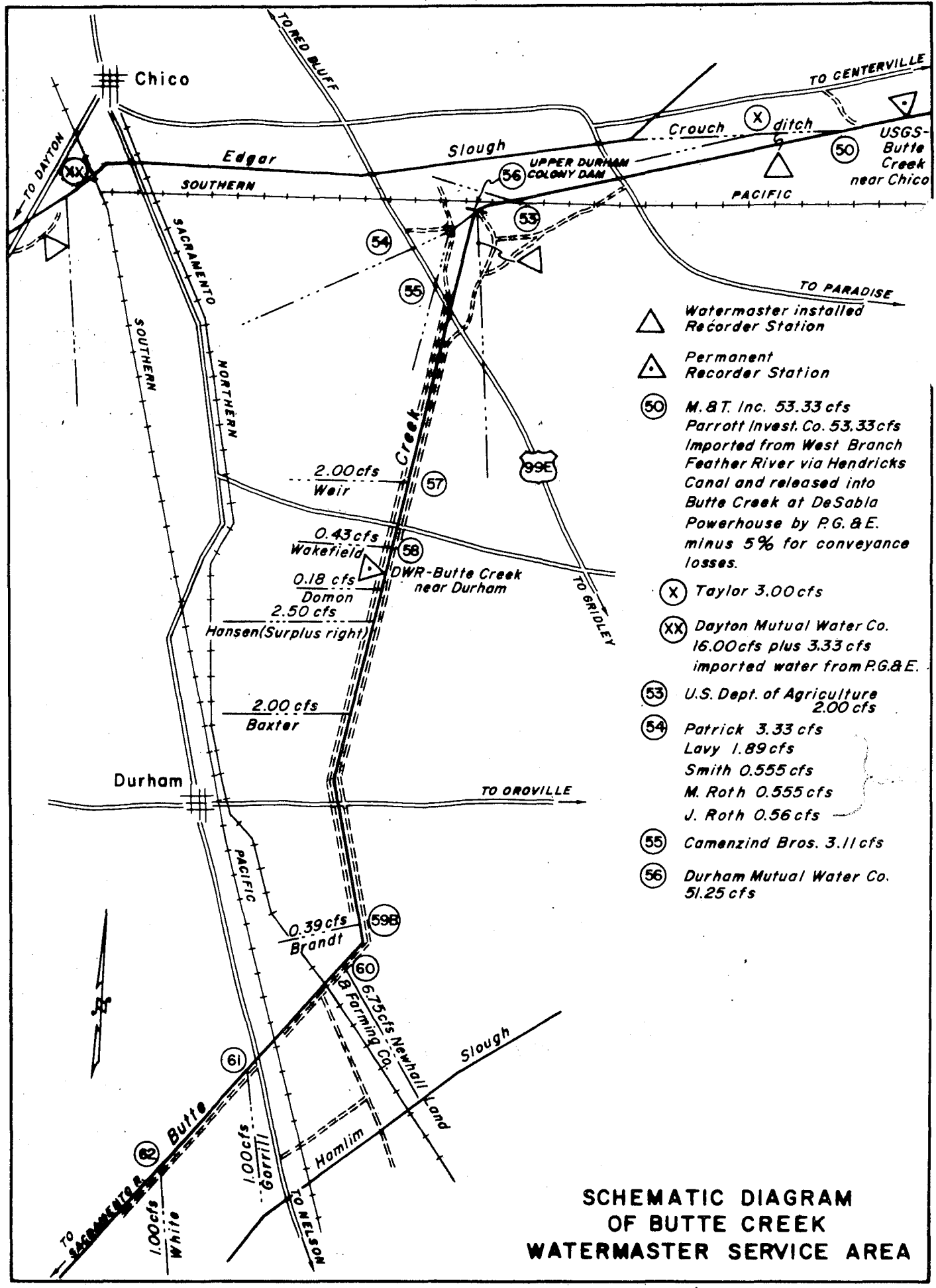


SCHEMATIC DIAGRAM
OF ASH CREEK
WATERMASTER SERVICE AREA

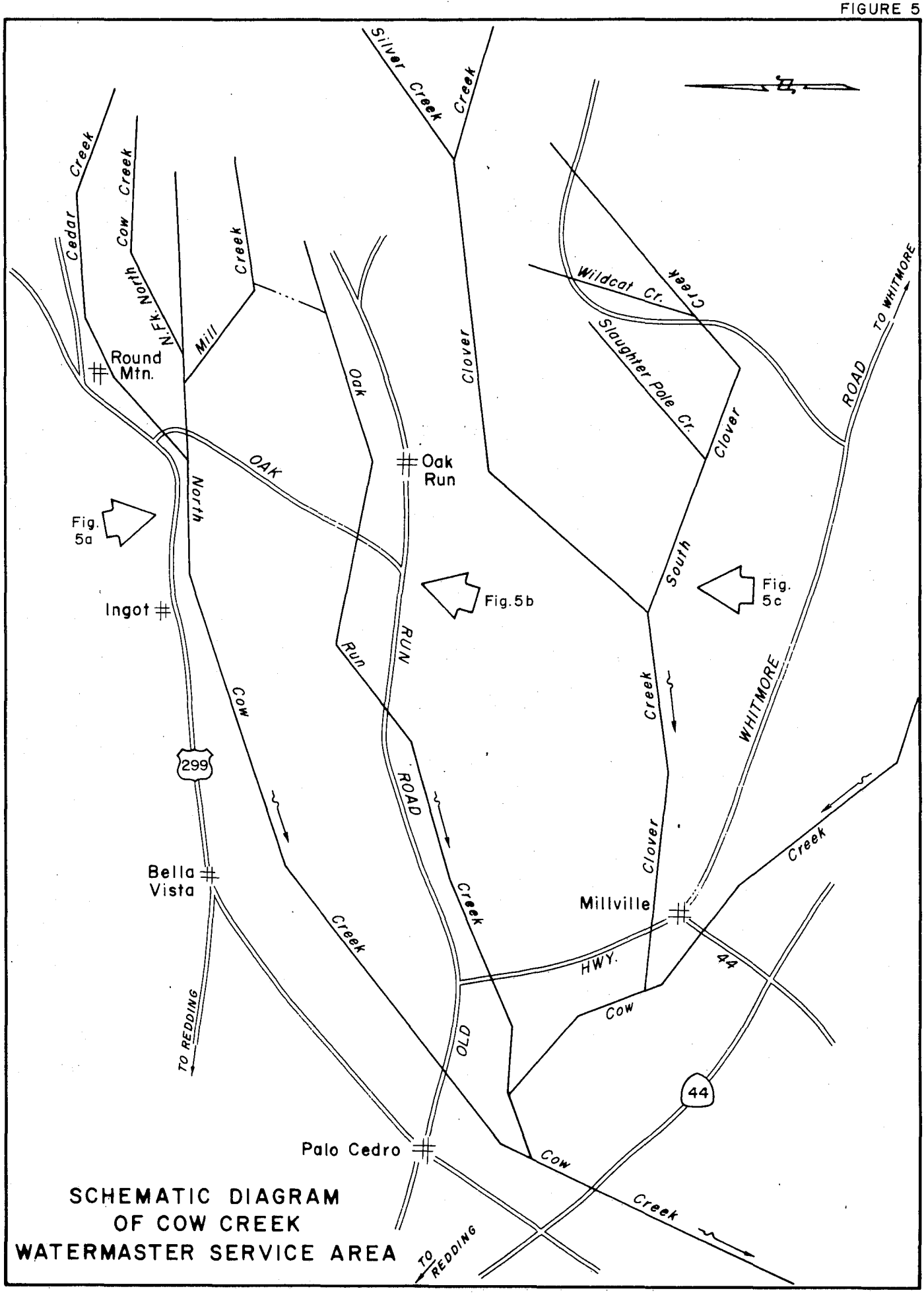


SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
PIT RIVER
BIG VALLEY WATERMASTER SERVICE AREA

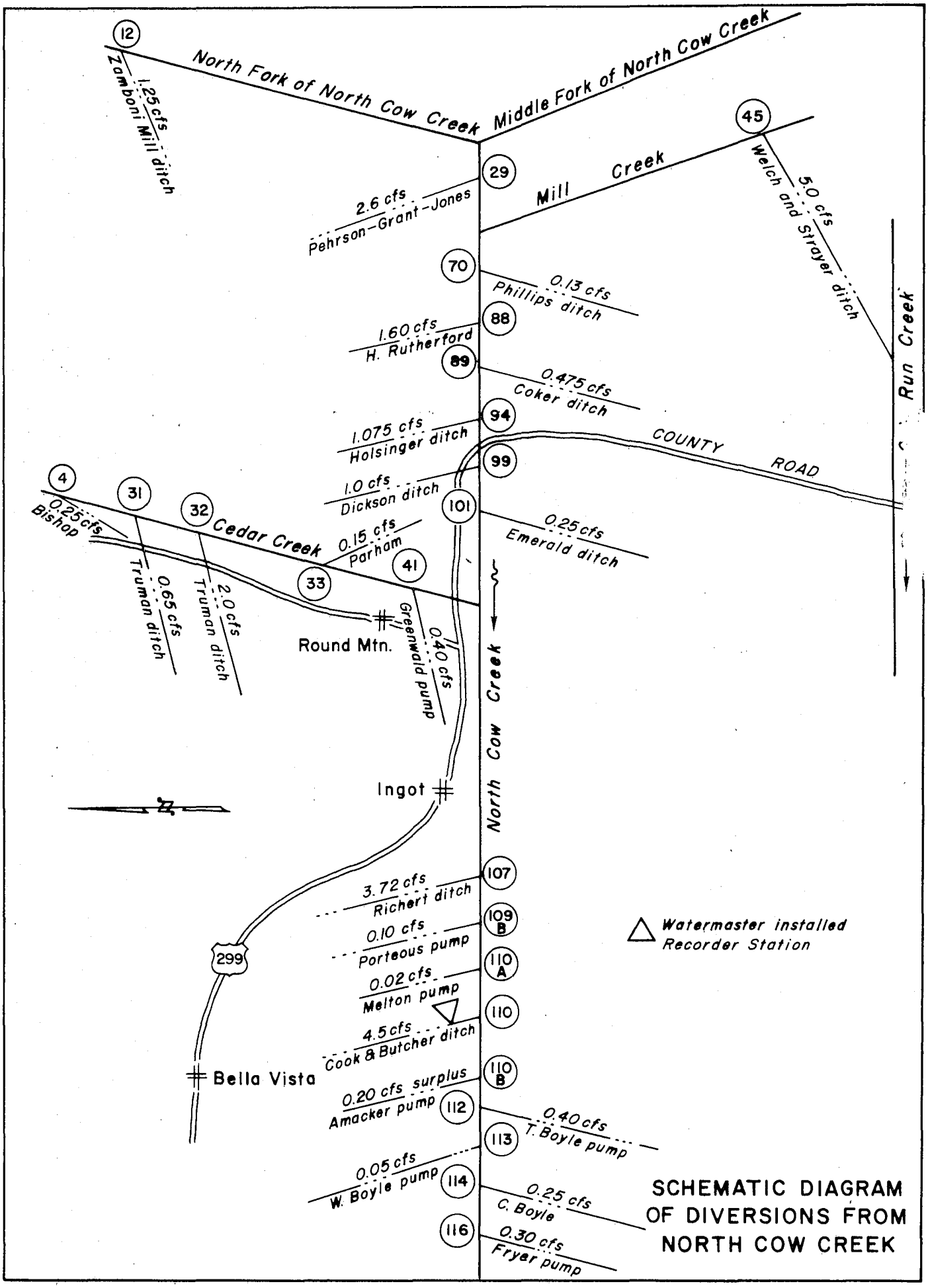
FIGURE 4

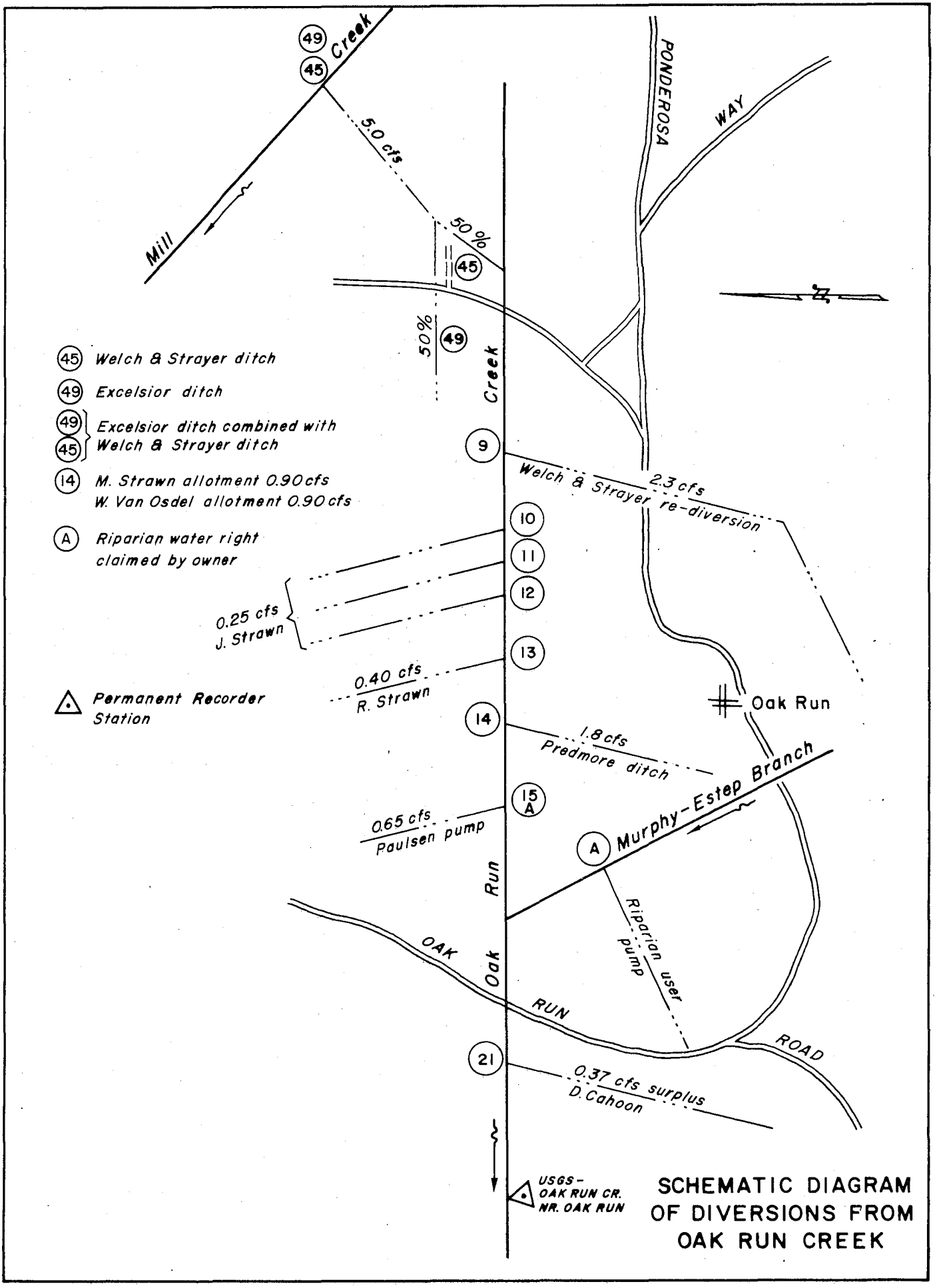


SCHEMATIC DIAGRAM
OF BUTTE CREEK
WATERMASTER SERVICE AREA



SCHEMATIC DIAGRAM
OF COW CREEK
WATERMASTER SERVICE AREA


12
North Fork of North Cow Creek
Middle Fork of North Cow Creek
Zamboni Mill ditch
1.25 cfs
45
29
Mill Creek
Welch and Strayer ditch
5.0 cfs
2.6 cfs
Pehrson-Grant-Jones
70
0.13 cfs
Phillips ditch
Run Creek
88
1.60 cfs
H. Rutherford
89
0.475 cfs
Coker ditch
94
1.075 cfs
Holsinger ditch
COUNTY ROAD
99
1.0 cfs
Dickson ditch
4
31
32
101
0.25 cfs
Bishop
Cedar Creek
0.15 cfs
Parham
0.25 cfs
Emerald ditch
41
33
Truman ditch
0.65 cfs
2.0 cfs
Truman ditch
Round Mtn.
Greenwald pump
0.40 cfs
North Cow Creek
Ingot
107
3.72 cfs
Richert ditch
109 B
0.10 cfs
Porteous pump
299
110 A
0.02 cfs
Melton pump
110
4.5 cfs
Cook & Butcher ditch
Bella Vista
110 B
0.20 cfs surplus
Amacker pump
112
0.40 cfs
T. Boyle pump
113
0.05 cfs
W. Boyle pump
114
0.25 cfs
C. Boyle
116
0.30 cfs
Fryer pump
Watermaster installed Recorder Station
SCHEMATIC DIAGRAM OF DIVERSIONS FROM NORTH COW CREEK



SCHEMATIC DIAGRAM OF DIVERSIONS FROM OAK RUN CREEK

FIGURE 5c

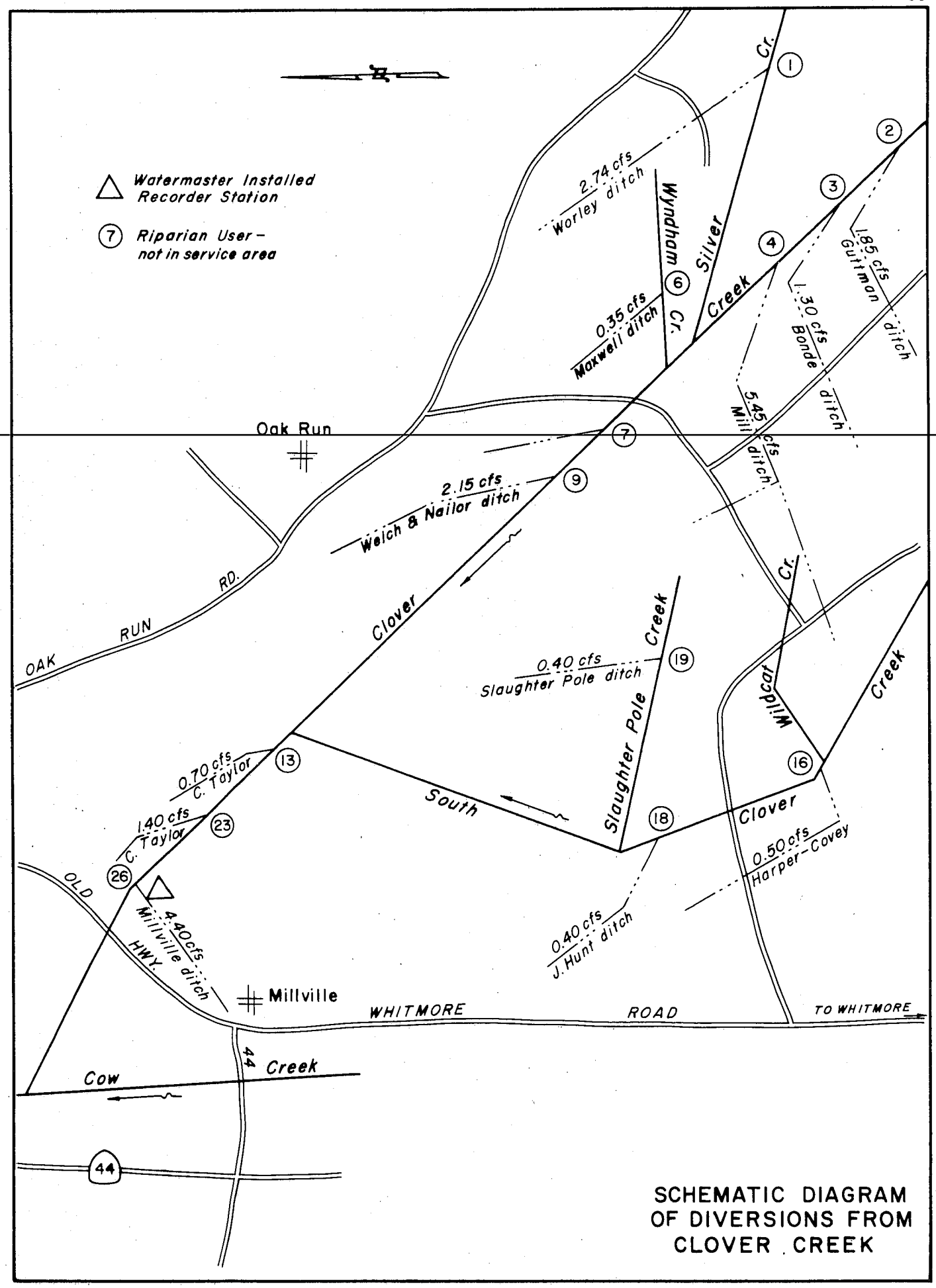
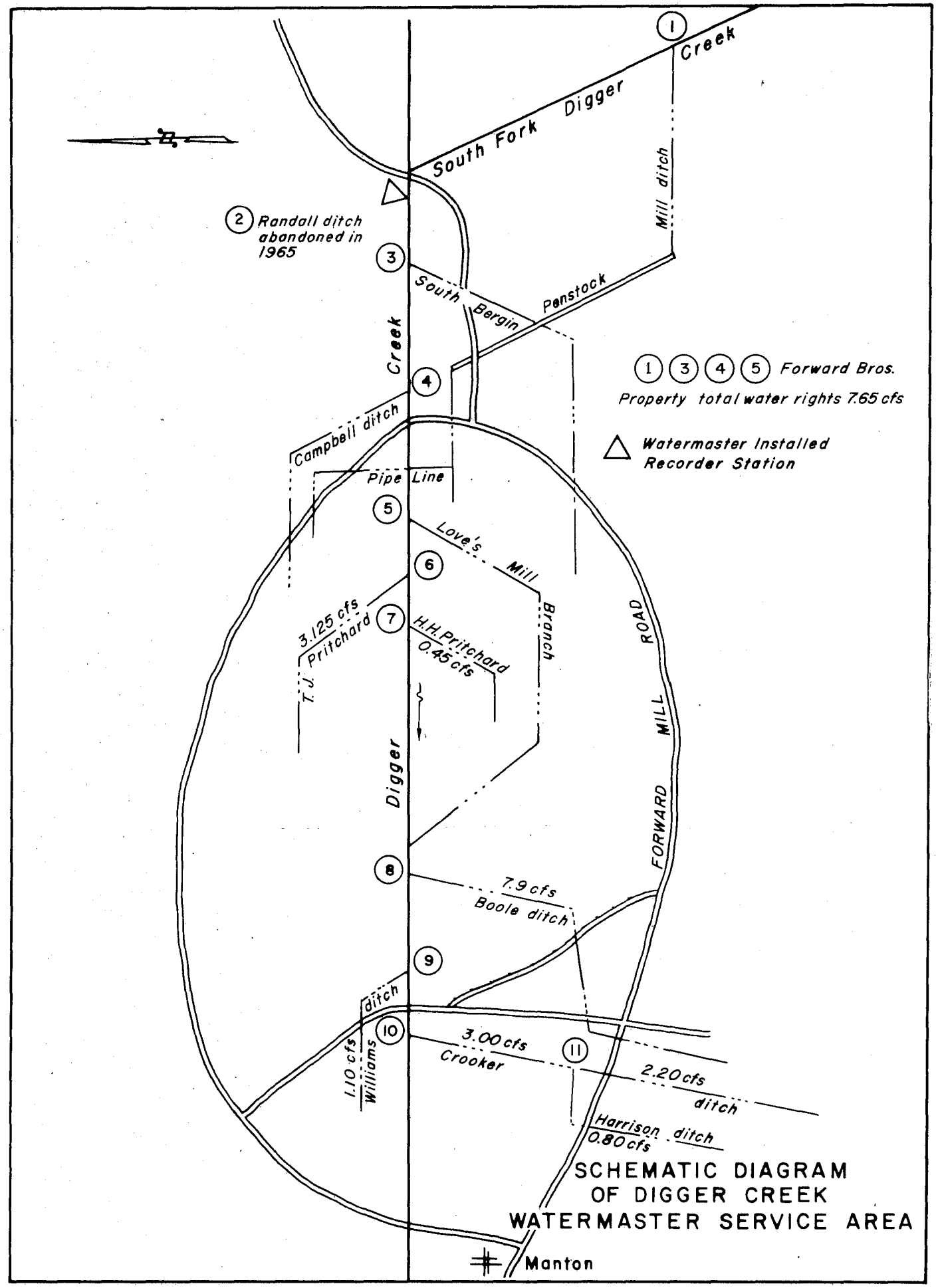
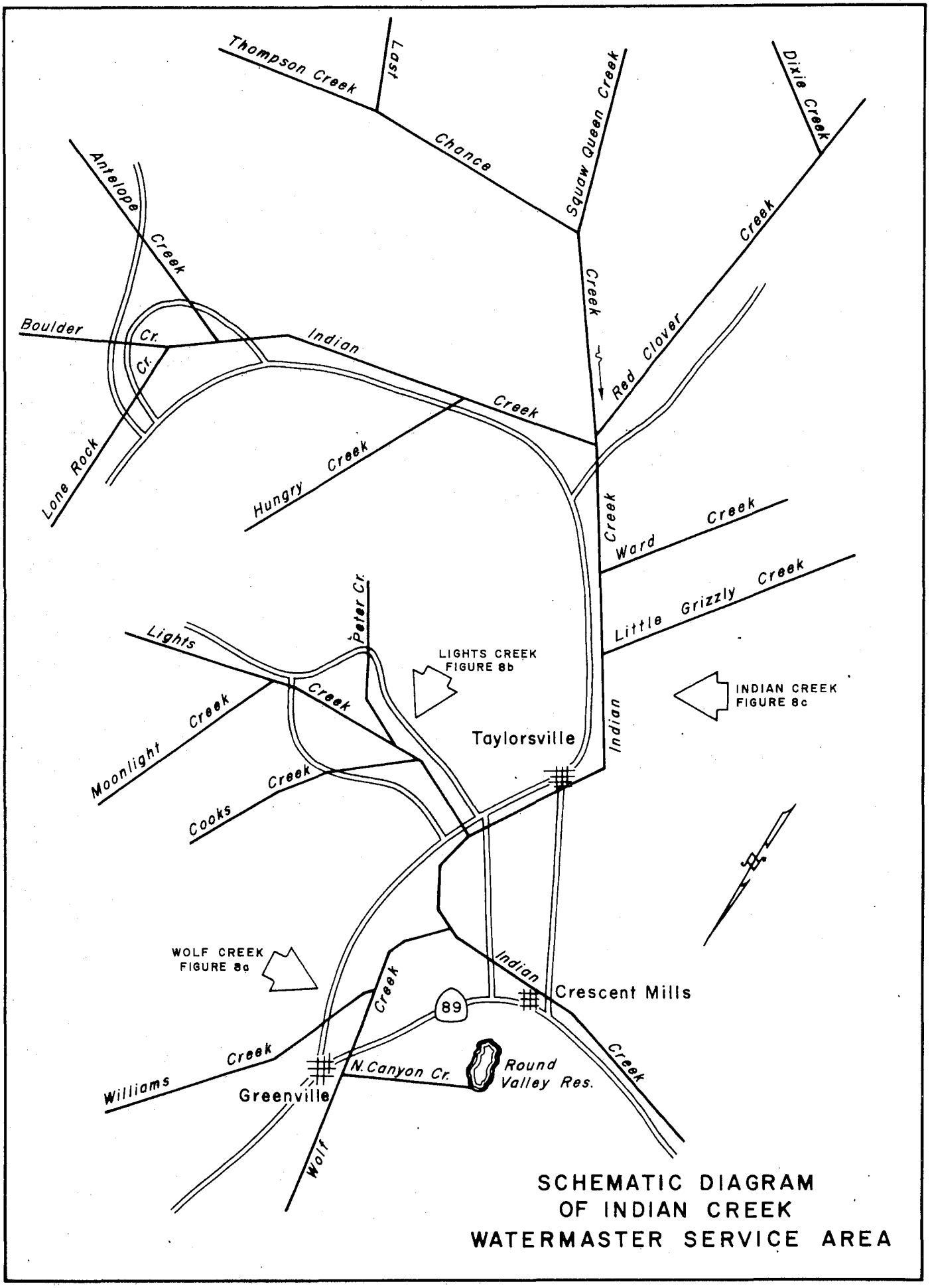

Watermaster Installed Recorder Station
(7) Riparian User – not in service area
2.74 cfs Worley ditch
Wyndham Cr.
Silver Creek
0.35 cfs Maxwell ditch
1.85 cfs Guttman ditch
1.30 cfs Bonde ditch
5.45 cfs Mill ditch
Oak Run
2.15 cfs Welch & Nailor ditch
OAK RUN RD.
Clover
0.40 cfs Slaughter Pole ditch
Slaughter Pole Creek
Wildcat Cr.
Creek
0.70 cfs C. Taylor
1.40 cfs C. Taylor
South
Clover
0.50 cfs Harper-Covey
OLD
4.40 cfs Millville ditch
HWY.
0.40 cfs J. Hunt ditch
Millville
WHITMORE ROAD
TO WHITMORE
Cow
44 Creek
44
SCHEMATIC DIAGRAM OF DIVERSIONS FROM CLOVER CREEK

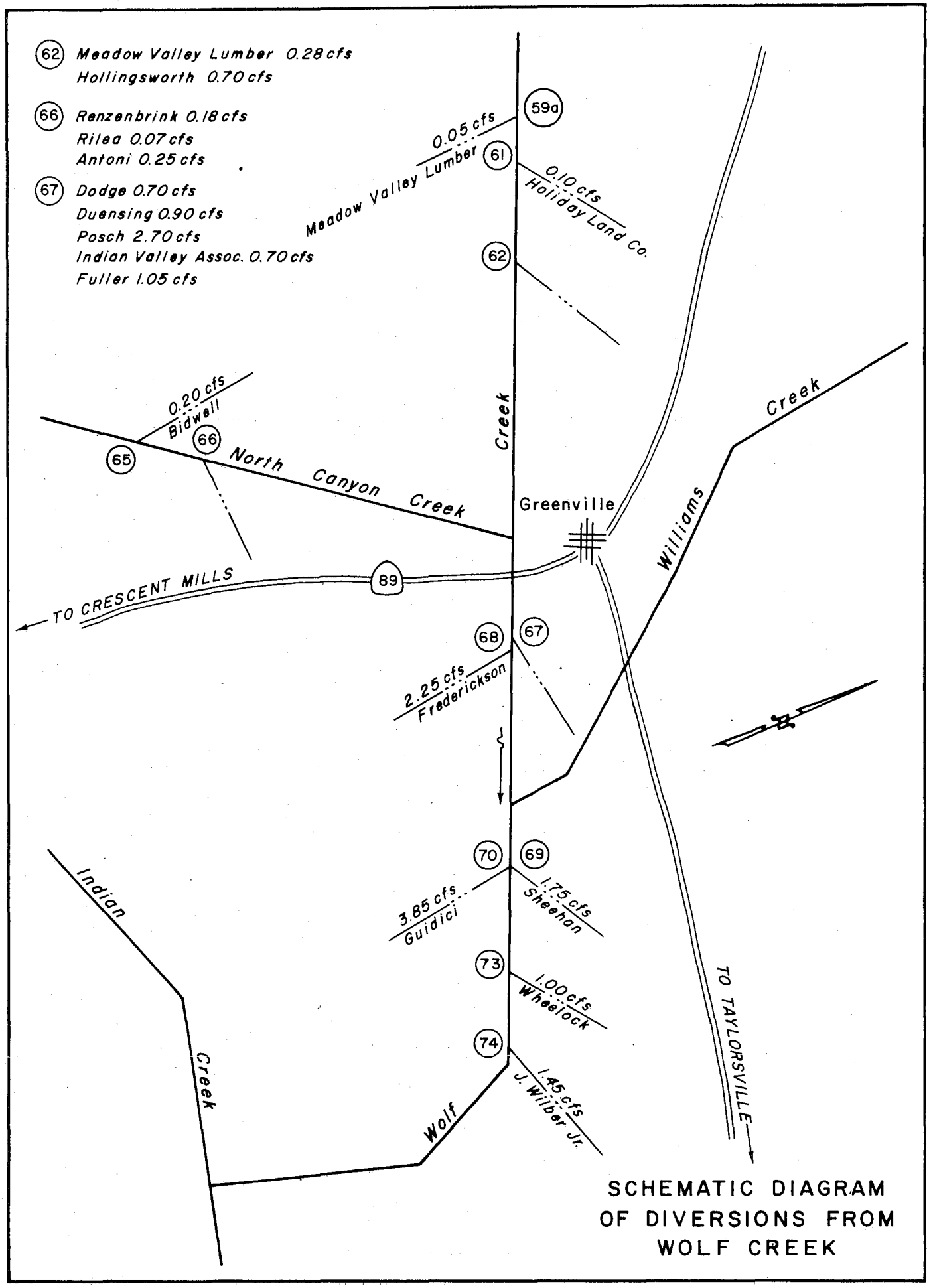
FIGURE 6

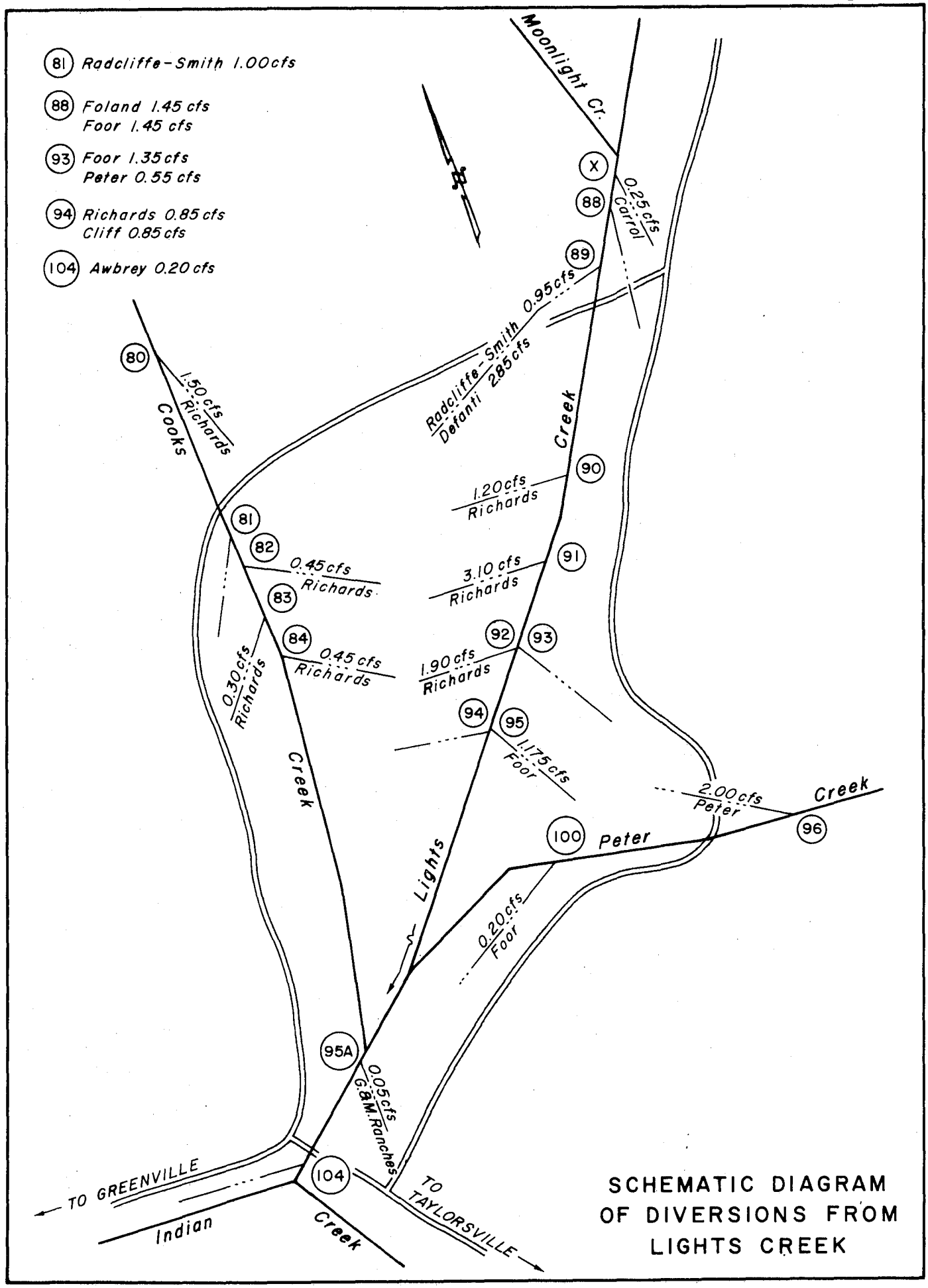


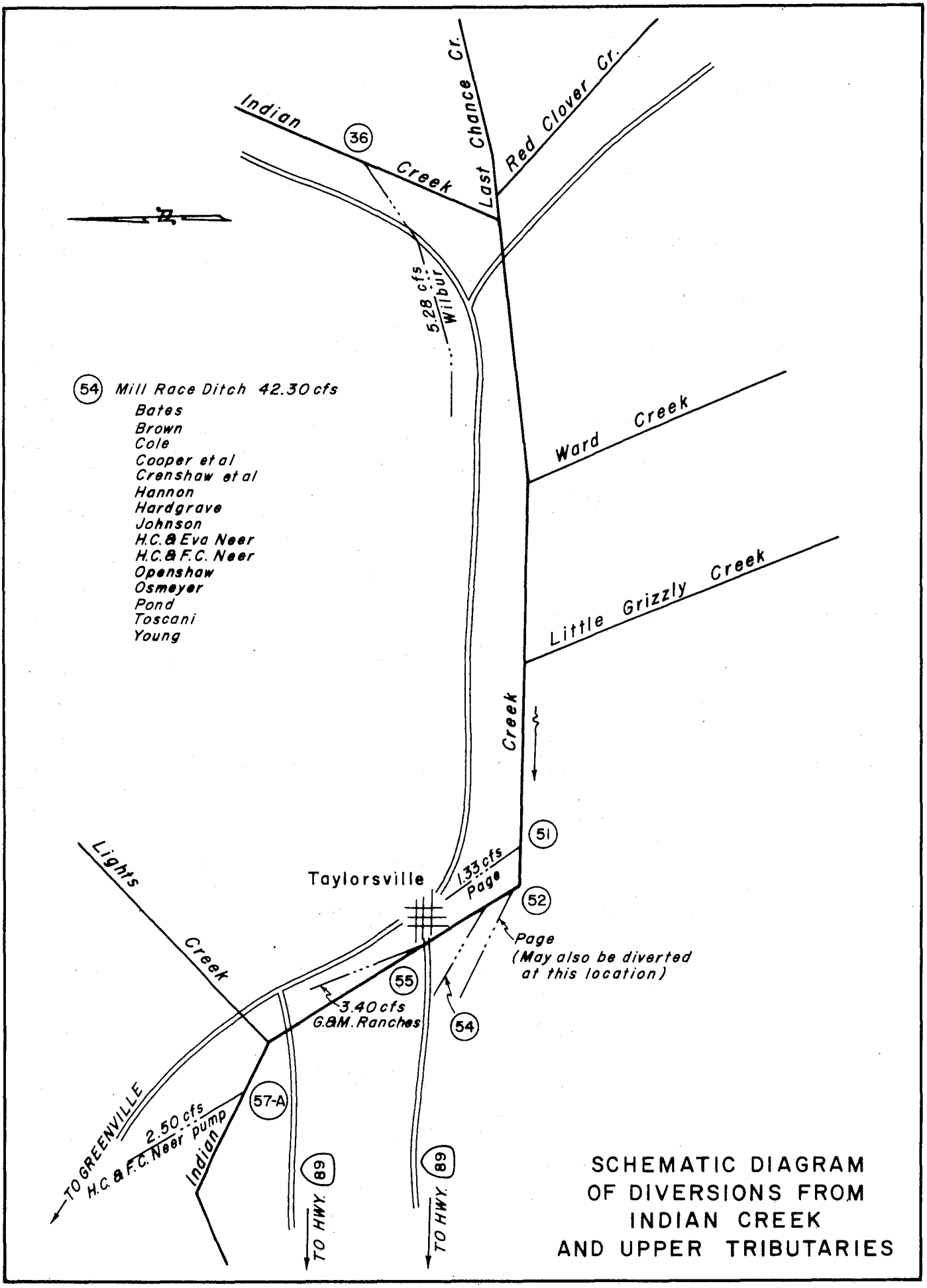
SCHEMATIC DIAGRAM
OF DIGGER CREEK
WATERMASTER SERVICE AREA



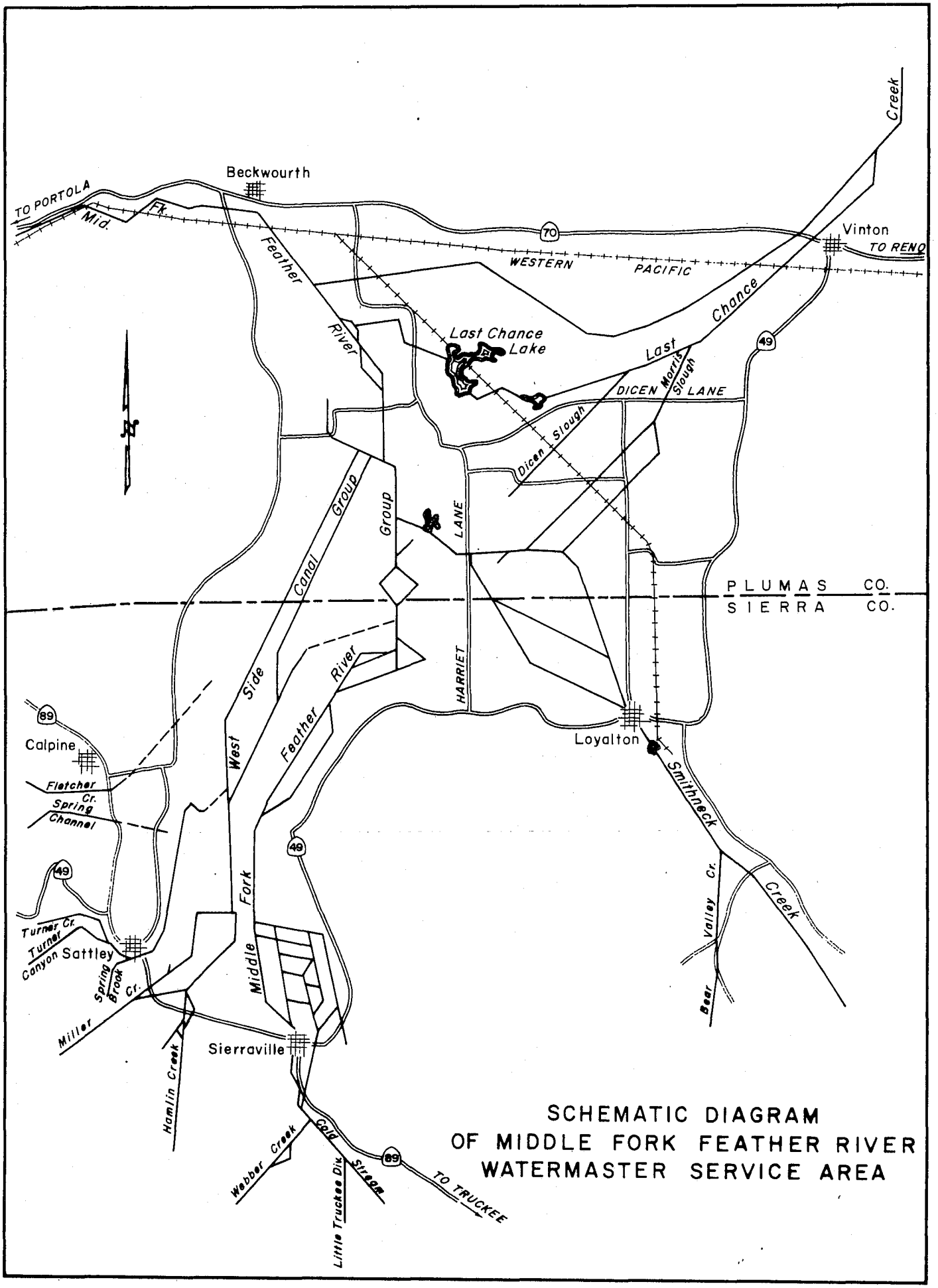
SCHEMATIC DIAGRAM
OF INDIAN CREEK
WATERMASTER SERVICE AREA


(62) Meadow Valley Lumber 0.28 cfs
Hollingsworth 0.70 cfs
(66) Renzenbrink 0.18 cfs
Rilea 0.07 cfs
Antoni 0.25 cfs
(67) Dodge 0.70 cfs
Duensing 0.90 cfs
Posch 2.70 cfs
Indian Valley Assoc. 0.70 cfs
Fuller 1.05 cfs
59a
0.05 cfs
Meadow Valley Lumber
61
0.10 cfs
Holiday Land Co.
62
0.20 cfs
Bidwell
66
65
North Canyon Creek
Creek
Greenville
Williams
Creek
TO CRESCENT MILLS
89
68
67
2.25 cfs
Frederickson
70
69
3.85 cfs
Guidici
1.75 cfs
Sheehan
73
1.00 cfs
Wheelock
74
1.45 cfs
J. Wilber Jr.
Indian
Creek
Wolf
TO TAYLORSVILLE
SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
WOLF CREEK

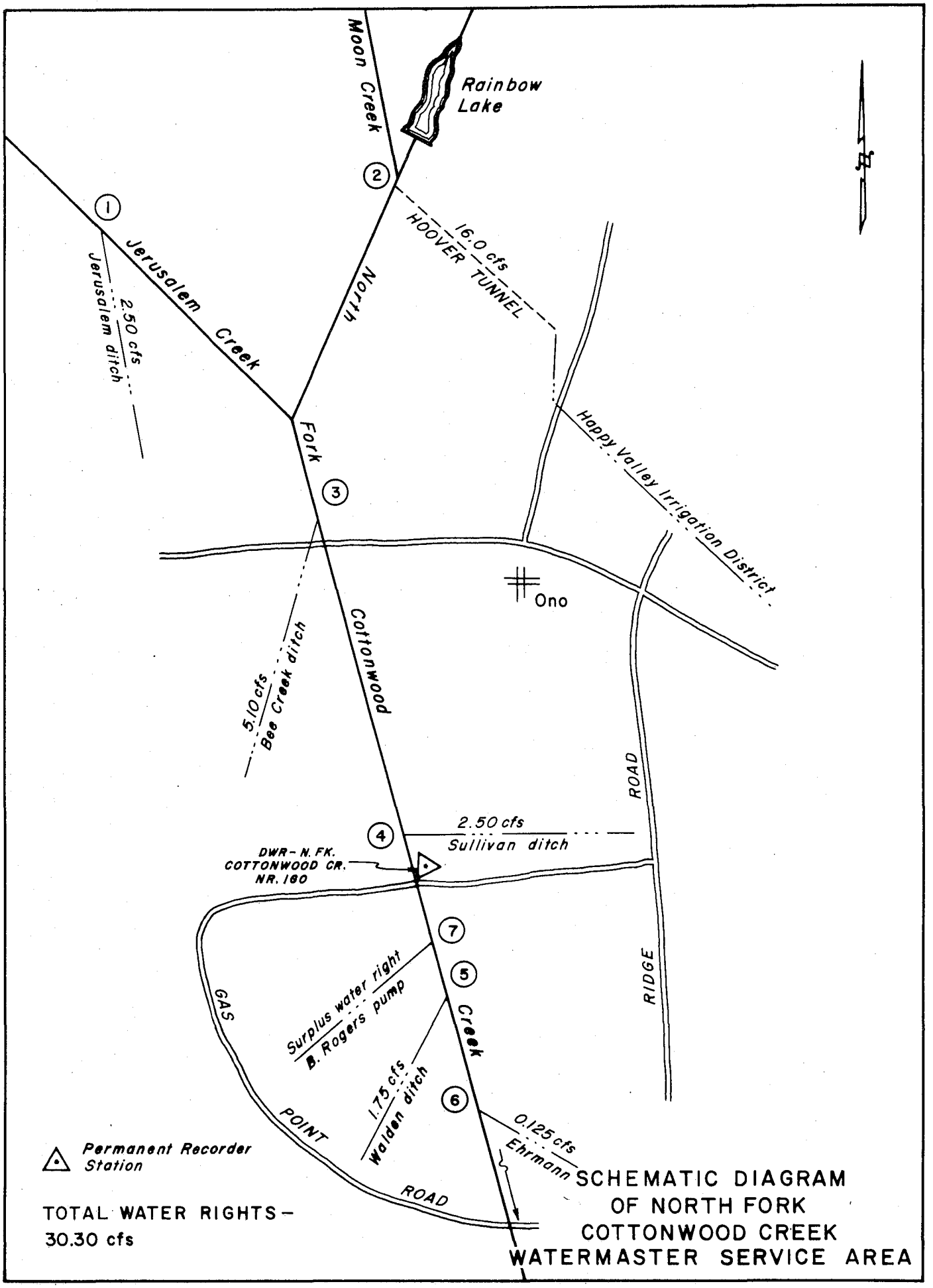

(81) Radcliffe-Smith 1.00cfs
(88) Foland 1.45 cfs
Foor 1.45 cfs
(93) Foor 1.35cfs
Peter 0.55 cfs
(94) Richards 0.85cfs
Cliff 0.85cfs
(104) Awbrey 0.20cfs
Moonlight Cr.
X
88
0.25 cfs Carrol
89
Radcliffe-Smith 0.95cfs
Defanti 2.85cfs
80
1.50 cfs Richards
Cooks Creek
90
1.20cfs Richards
81
82
0.45cfs Richards
91
3.10 cfs Richards
83
84
0.45 cfs Richards
92
93
1.90cfs Richards
0.30cfs Richards
94
95
1.175cfs Foor
2.00cfs Peter
Creek
96
100 Peter
Lights Creek
0.20cfs Foor
95A
0.05cfs G.&M. Ranches
104
TO GREENVILLE
Indian Creek
TO TAYLORSVILLE
SCHEMATIC DIAGRAM OF DIVERSIONS FROM LIGHTS CREEK



SCHEMATIC DIAGRAM OF DIVERSIONS FROM INDIAN CREEK AND UPPER TRIBUTARIES



SCHEMATIC DIAGRAM
OF MIDDLE FORK FEATHER RIVER
WATERMASTER SERVICE AREA


Moon Creek
Rainbow Lake
N
1
2
3
4
5
6
7
Jerusalem Creek
2.50 cfs
Jerusalem ditch
North Fork
16.0 cfs
HOOVER TUNNEL
Happy Valley Irrigation District
Ono
Cottonwood Creek
5.10 cfs
Bee Creek ditch
ROAD
2.50 cfs
Sullivan ditch
DWR-N.FK. COTTONWOOD CR. NR. 160
RIDGE
Surplus water right
B. Rogers pump
GAS
POINT
1.75 cfs
Walden ditch
0.125 cfs
Ehrmann
ROAD
Permanent Recorder Station
TOTAL WATER RIGHTS-
30.30 cfs
SCHEMATIC DIAGRAM
OF NORTH FORK
COTTONWOOD CREEK
WATERMASTER SERVICE AREA

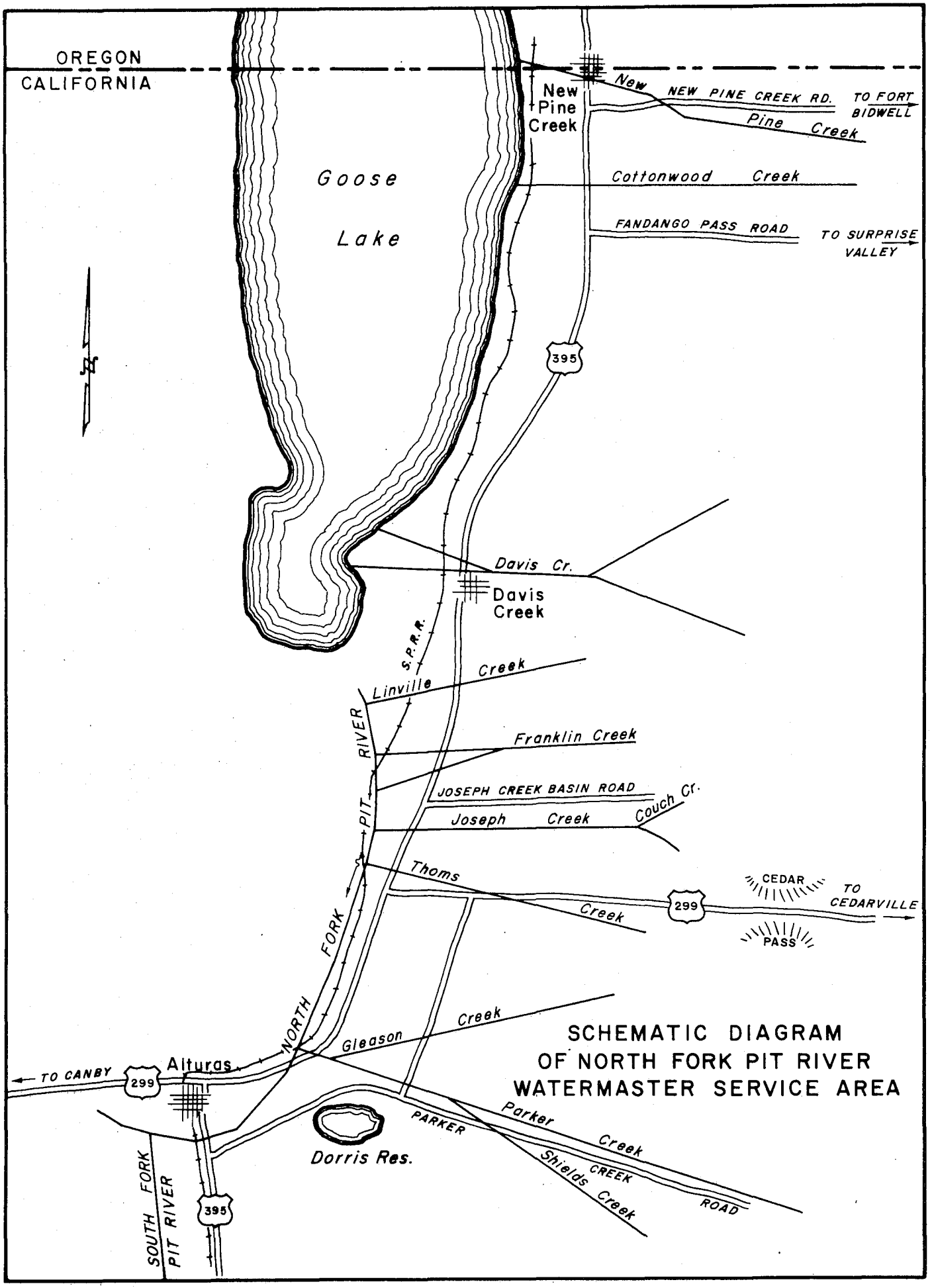
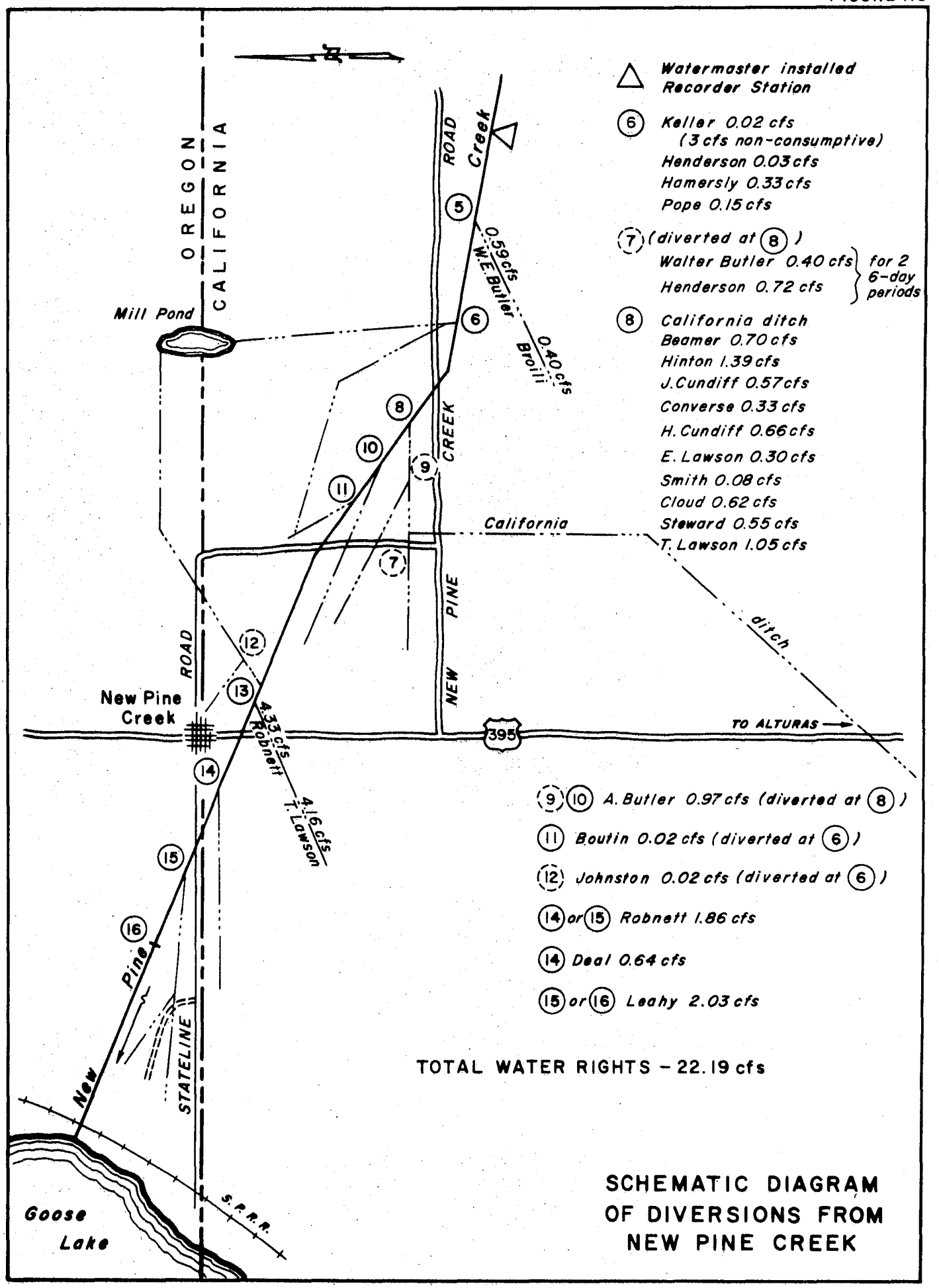

OREGON
CALIFORNIA
New Pine Creek
New
NEW PINE CREEK RD.
TO FORT BIDWELL
Pine Creek
Goose Lake
Cottonwood Creek
FANDANGO PASS ROAD
TO SURPRISE VALLEY
395
Davis Cr.
Davis Creek
S.P.R.R.
Linville Creek
NORTH FORK PIT RIVER
Franklin Creek
JOSEPH CREEK BASIN ROAD
Joseph Creek
Couch Cr.
Thoms Creek
299
CEDAR PASS
TO CEDARVILLE
Gleason Creek
TO CANBY
Alturas
299
PARKER
Parker Creek
Shields Creek
CREEK ROAD
Dorris Res.
SOUTH FORK PIT RIVER
395
SCHEMATIC DIAGRAM
OF NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

FIGURE IIa



SCHEMATIC DIAGRAM OF DIVERSIONS FROM NEW PINE CREEK

FIGURE 11b

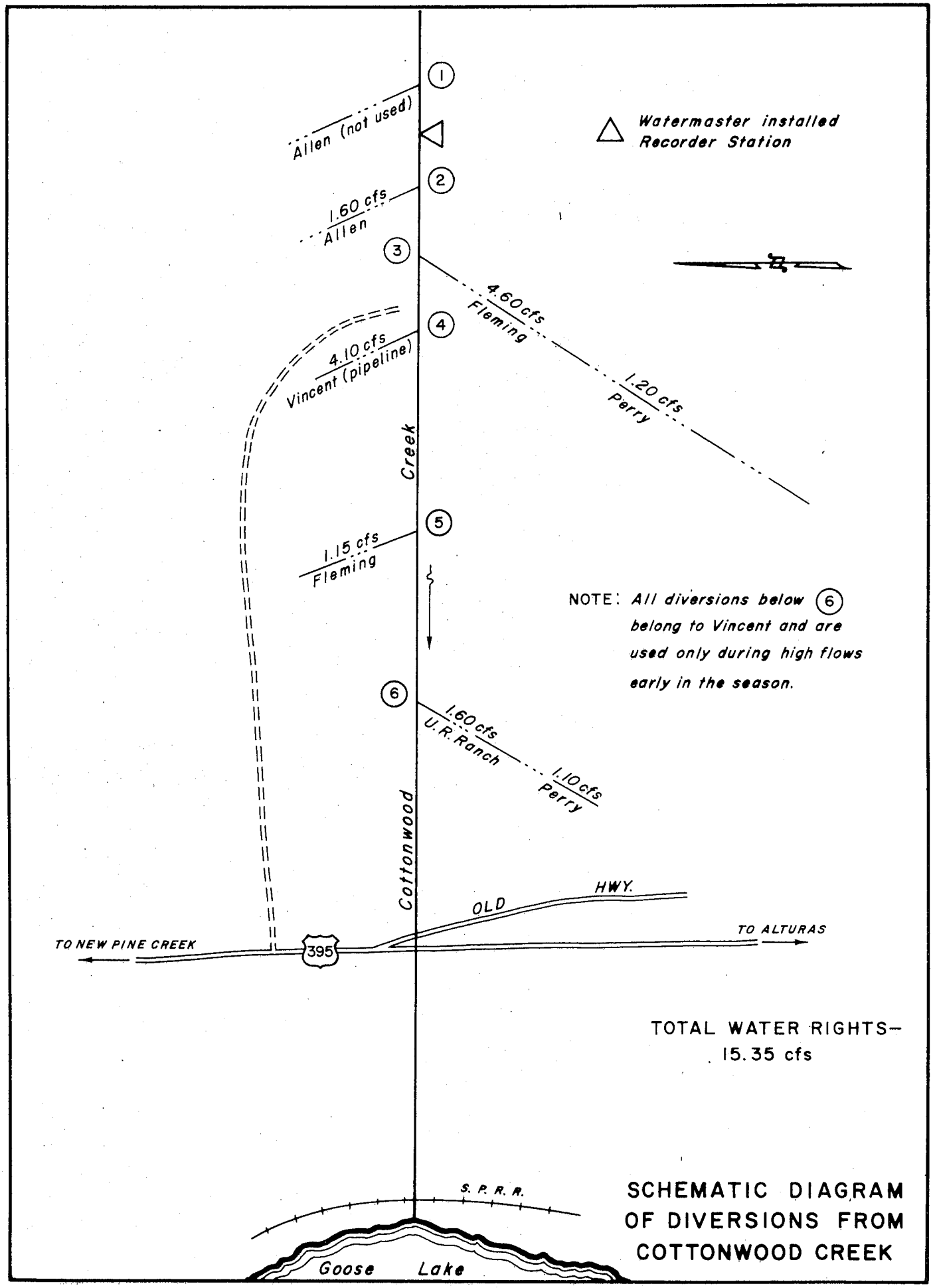

1
Allen (not used)
Watermaster installed Recorder Station
2
1.60 cfs
Allen
3
4.60 cfs
Fleming
4
4.10 cfs
Vincent (pipeline)
1.20 cfs
Perry
Creek
5
1.15 cfs
Fleming
NOTE: All diversions below (6) belong to Vincent and are used only during high flows early in the season.
6
1.60 cfs
U.R. Ranch
1.10 cfs
Perry
Cottonwood
OLD
HWY.
TO NEW PINE CREEK
395
TO ALTURAS
TOTAL WATER RIGHTS–
15.35 cfs
S. P. R. R.
Goose Lake
SCHEMATIC DIAGRAM OF DIVERSIONS FROM COTTONWOOD CREEK

FIGURE IIc

△ Watermaster installed Recorder Station

(1) Crabtree 0.40 cfs
Grace 0.40 cfs

(4) C. Brunnemer 0.80 cfs

(6) C. Brunnemer 0.40 cfs

(4) to (6), (8), (9), (11), (16), (19), (20), (22), (24), (25) C.M. Bishop 6.175 cfs

(5) Mann 0.20 cfs
C.M. Bishop 0.125 cfs

(7) Brown 0.1125 cfs
Dolon 0.0375 cfs
Keaton 0.15 cfs

(8) Mulkey 0.15 cfs
E. Brunnemer 0.15 cfs
C. Brunnemer 0.15 cfs
Grivel 0.06 cfs
Pointere 0.04 cfs

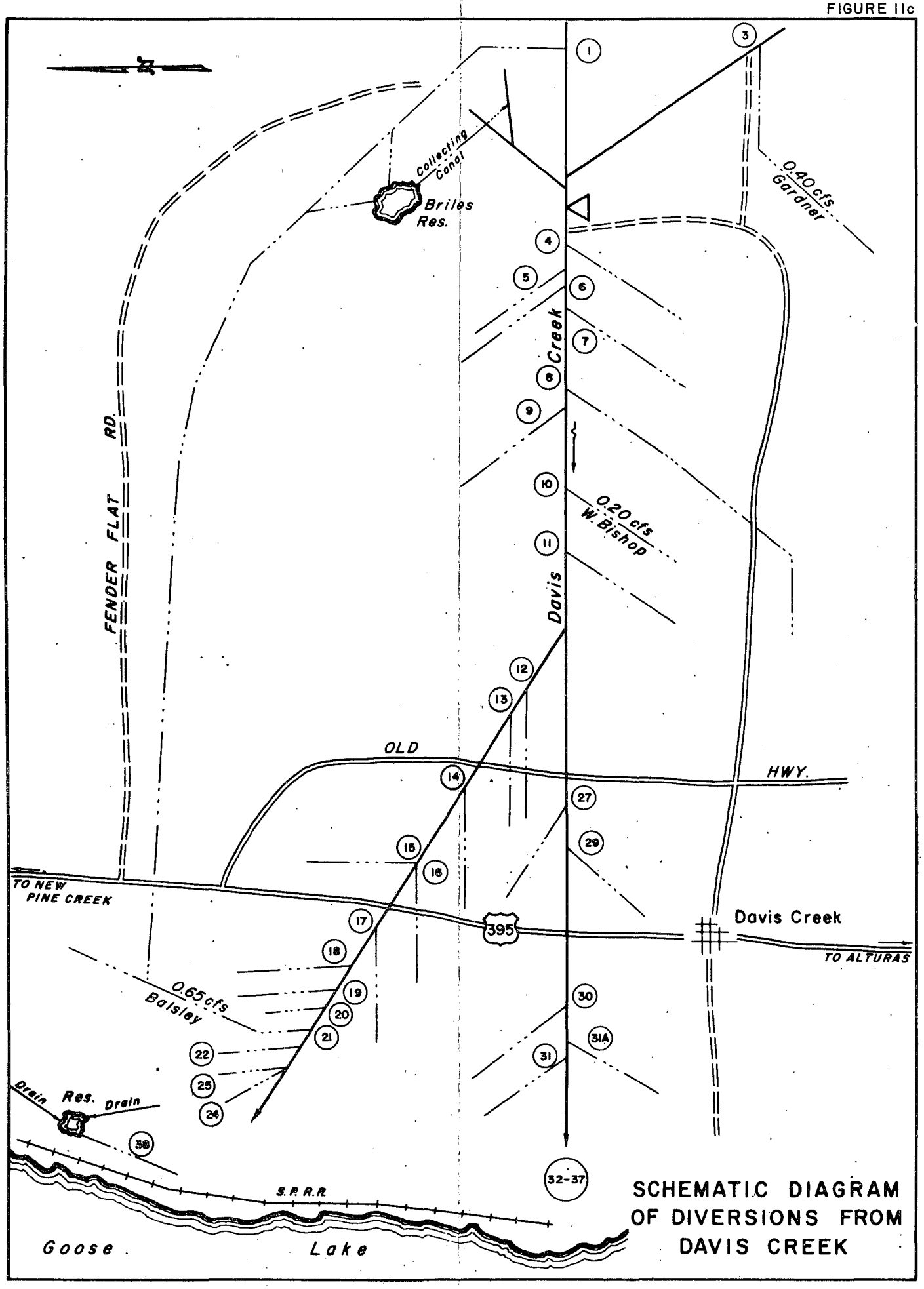
(9) Echard 0.10 cfs

(9) or (14) Dollarhide 0.15 cfs

(9), (12), (13), (16), (27), (30), (31), (31A) Echard 1.40 cfs

(9), (15), (17) to (19) Hammersly 1.50 cfs

(27), (29), (32) to (37) Grace 39.05 cfs



SCHEMATIC DIAGRAM OF DIVERSIONS FROM DAVIS CREEK

FIGURE 16a

△ Permanent Recorder Station

March 15 through July 9
(major season of use)

(5) G. Peterson 0.38 cfs
C. Bucher 0.45 cfs
Sweeney 0.07 cfs

(6) Sweeney 0.18 cfs

(7) G. Peterson 0.50 cfs

(8) McConnaughy 7.24 cfs*
Town Users 0.06 cfs

(9) Conlan 7.63 cfs
Town Users 0.22 cfs

(10) Carey 6.13 cfs
C. Bucher 0.66 cfs
P. Peterson 0.44 cfs
Town Users 0.30 cfs

(11) C. Bucher 0.38 cfs

(12) U.S. Indian Service 0.46 cfs
Green 0.14 cfs
Baty 0.12 cfs

(13) McConnaughy 5.24 cfs*
Town Users 0.44 cfs

(15) Fee 8.94 cfs
Sagehorn 1.34 cfs
O'Callaghan 2.88 cfs
Toney 0.42 cfs

(17) Kober 0.05 cfs

(20) Sagehorn 0.88 cfs

(19A) (20) (20A) Carey 1.43 cfs

(21) Sagehorn 1.39 cfs

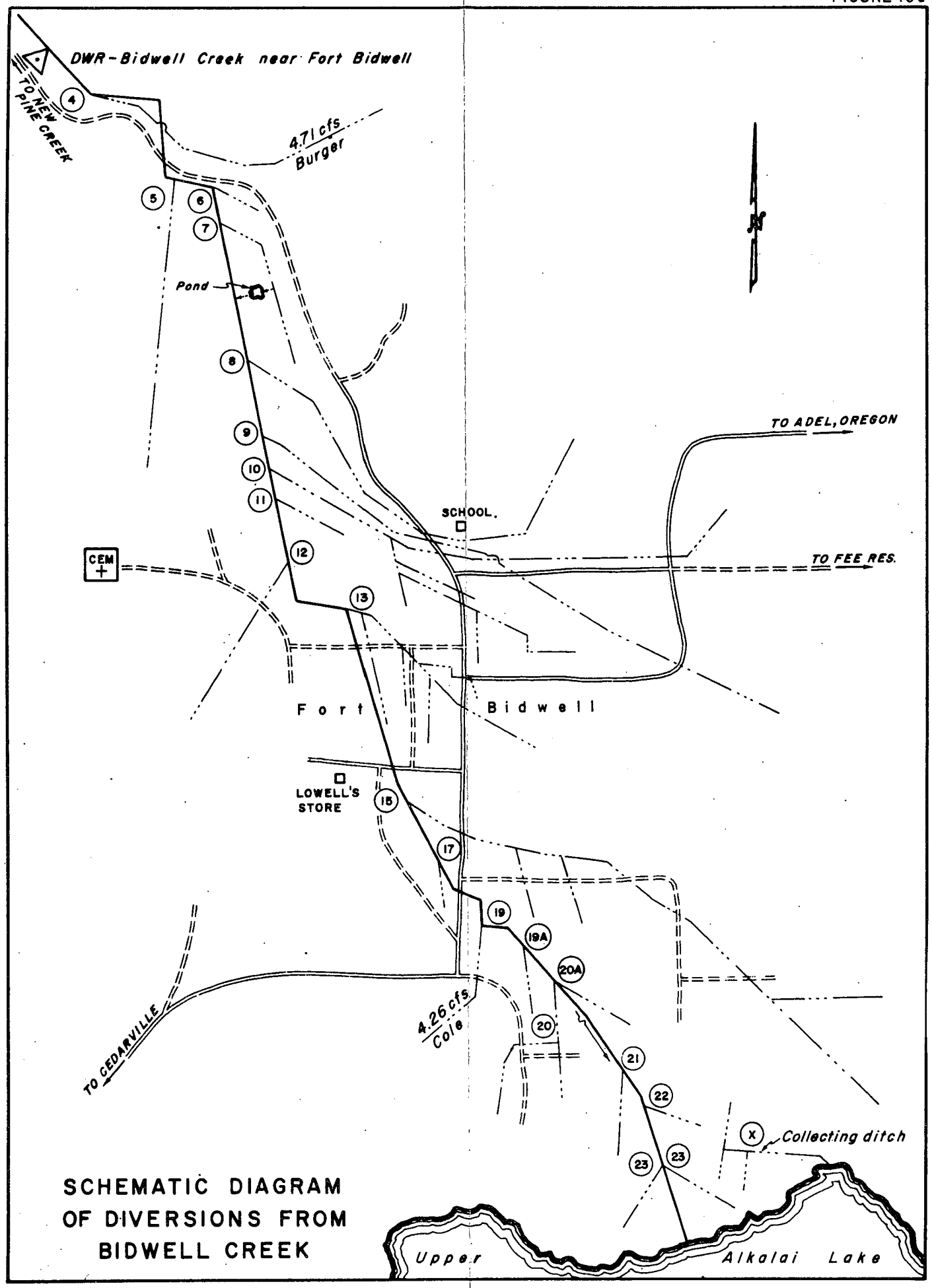
(22) O'Callaghan 0.38 cfs

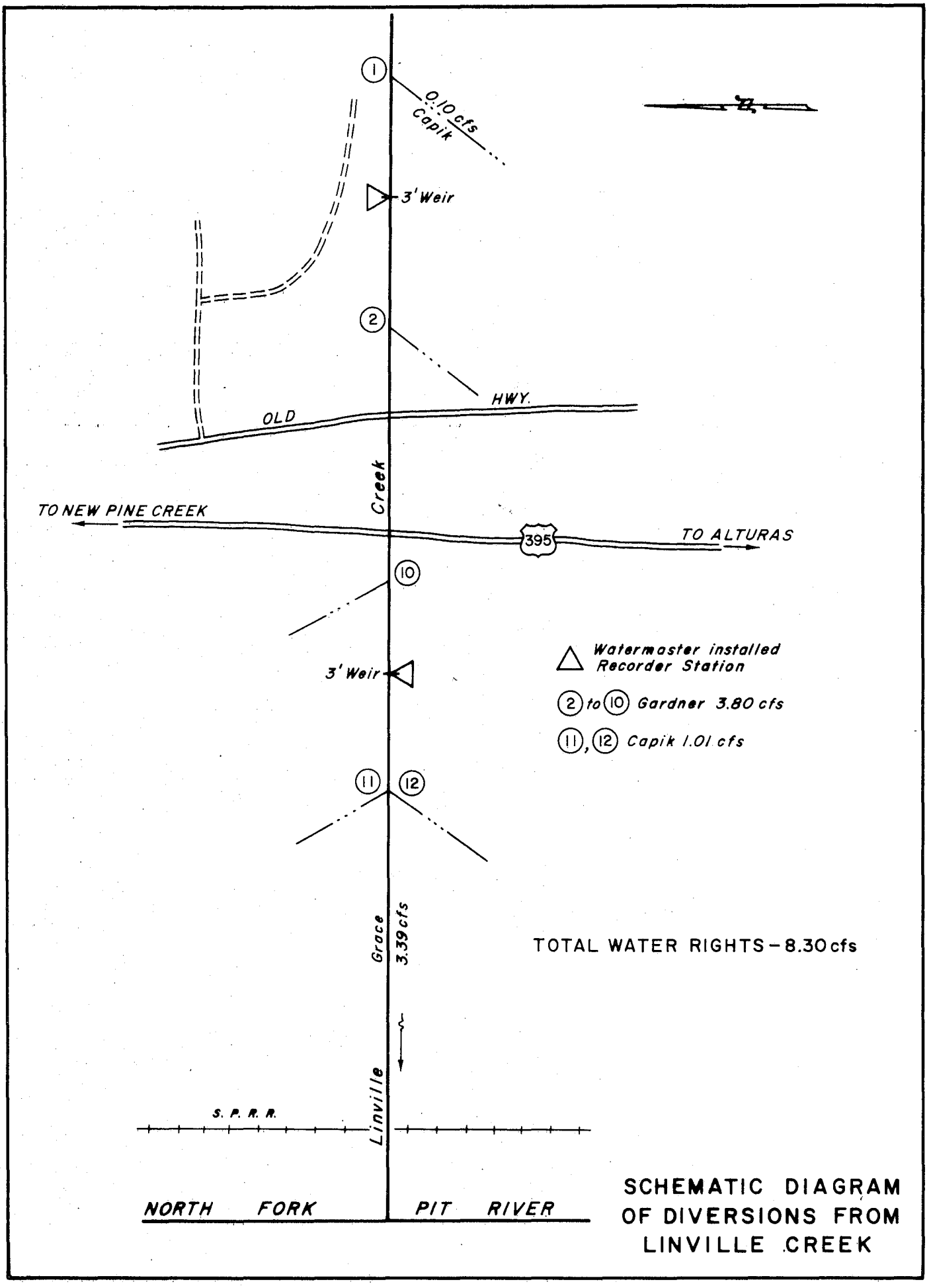
(23) Sagehorn 1.79 cfs

(X) Sagehorn — If flow is less than 3.82 cfs, deficiency is made up by additional diversion through (15) if Fee Ranch allotment is satisfied.

* May be used in either ditch

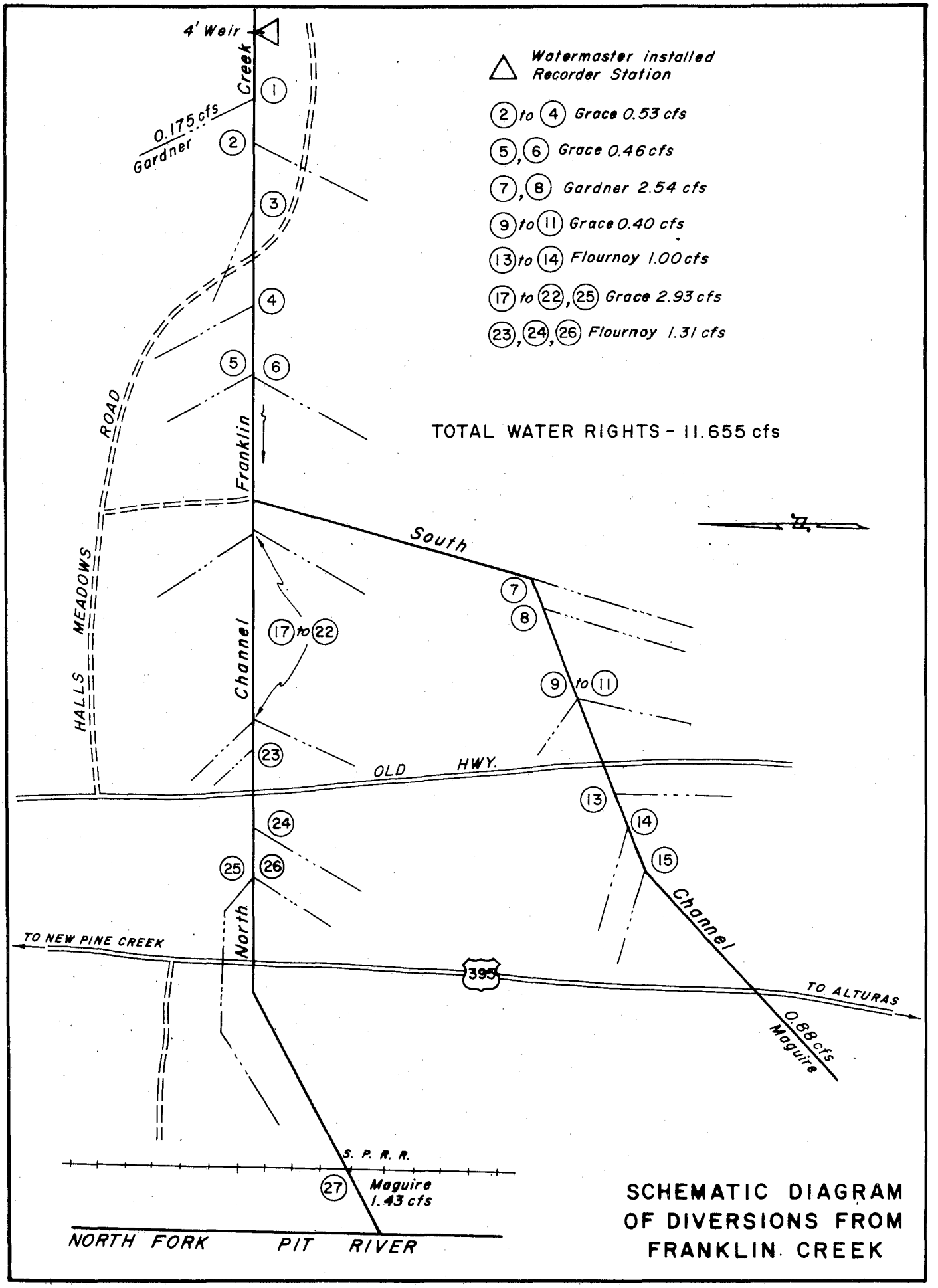
NOTE: Sagehorn and O'Callaghan waters may be used in any of their ditches at discretion of user and watermaster.





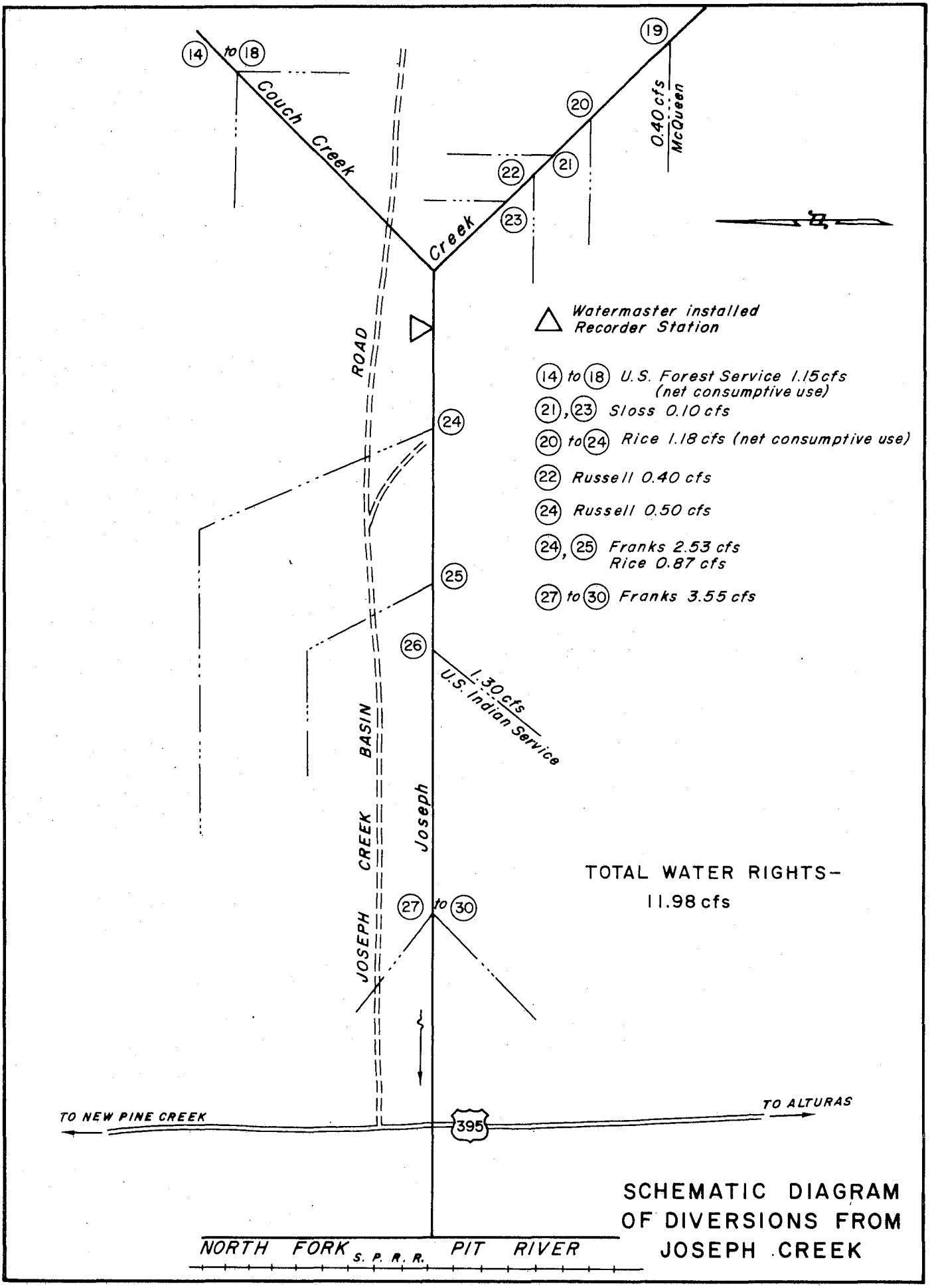
SCHEMATIC DIAGRAM OF DIVERSIONS FROM LINVILLE CREEK

FIGURE IIe



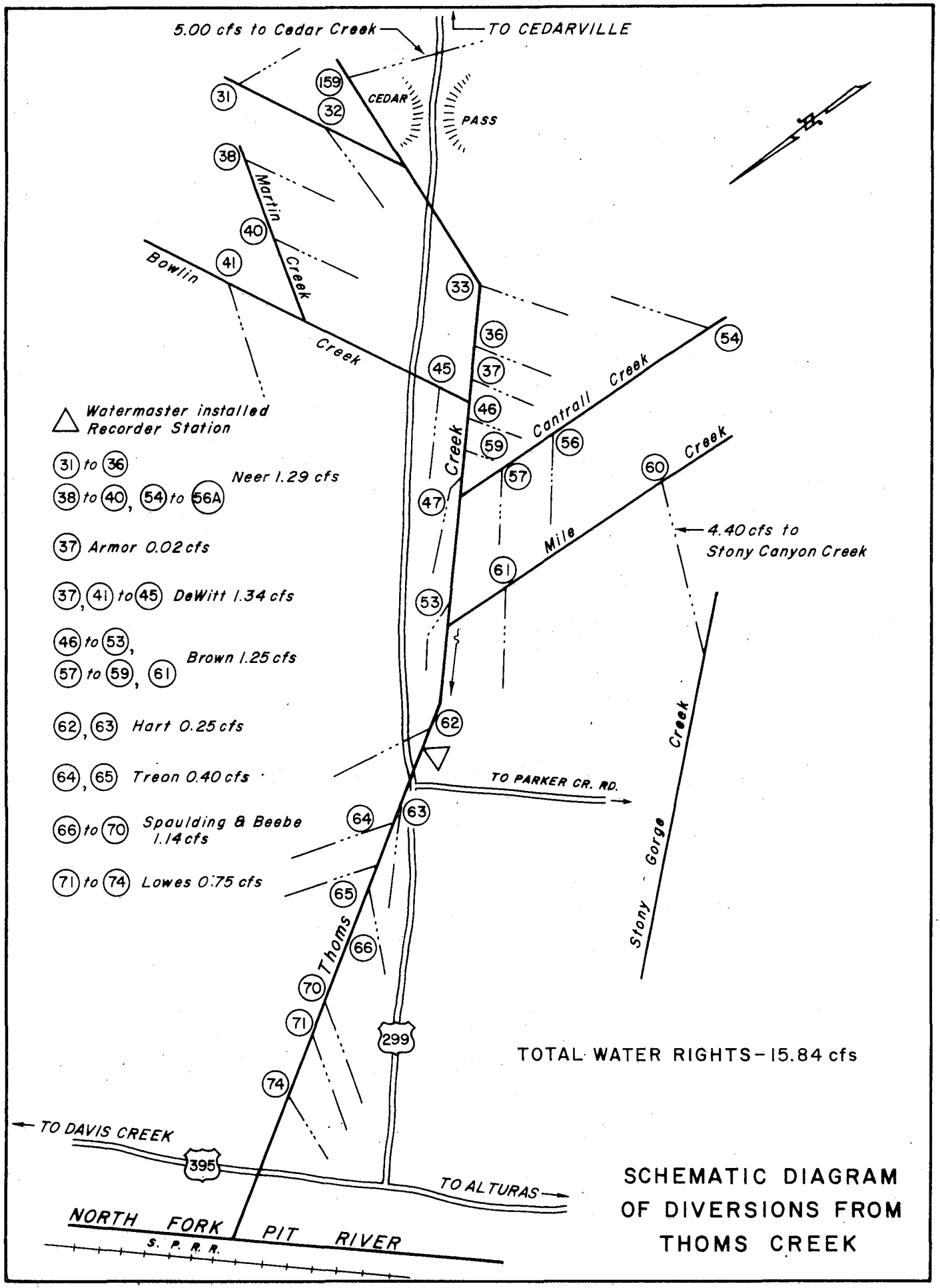
SCHEMATIC DIAGRAM OF DIVERSIONS FROM FRANKLIN CREEK

FIGURE II f

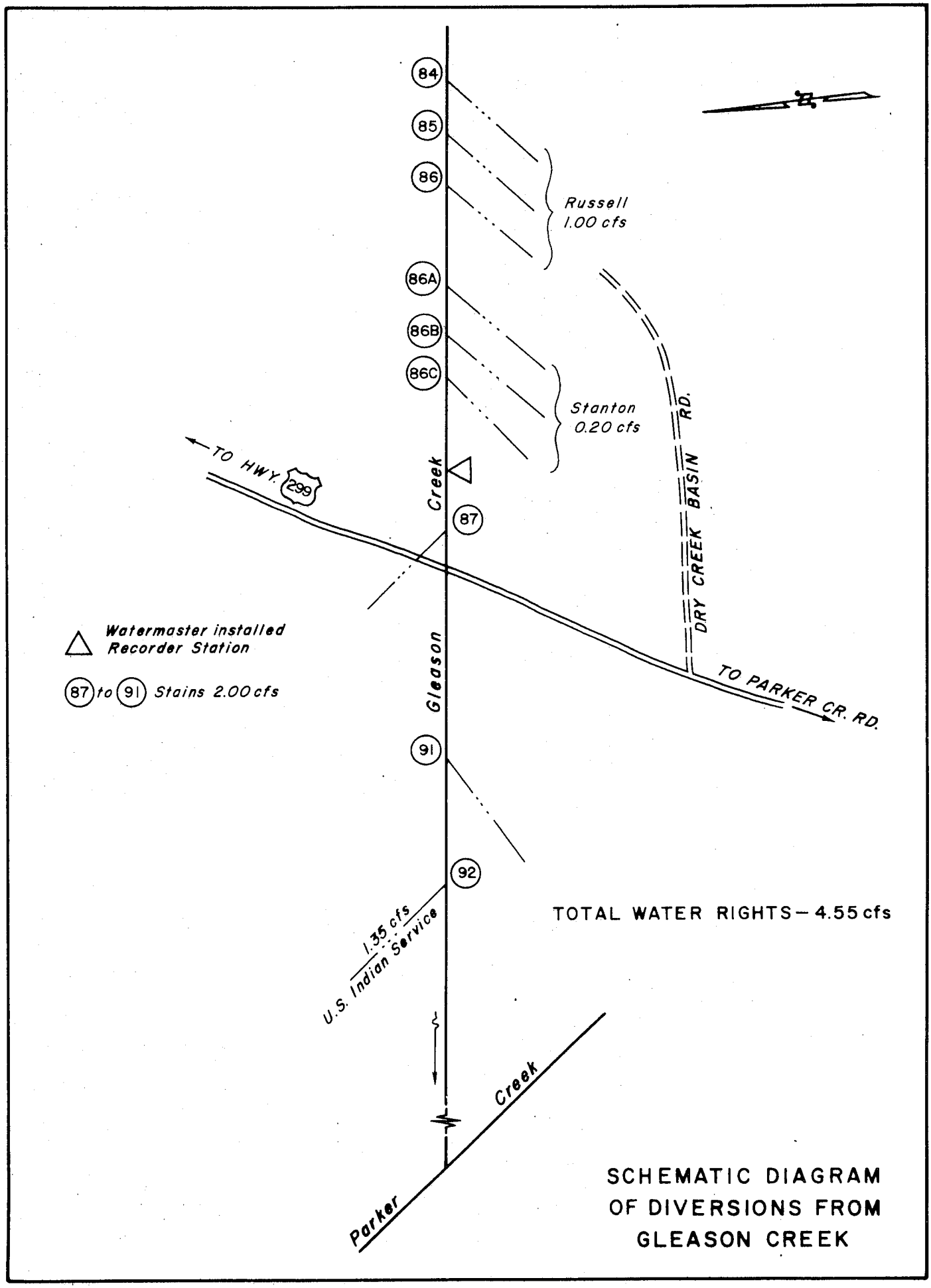


SCHEMATIC DIAGRAM OF DIVERSIONS FROM JOSEPH CREEK

FIGURE 11g



SCHEMATIC DIAGRAM OF DIVERSIONS FROM THOMS CREEK



SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
GLEASON CREEK

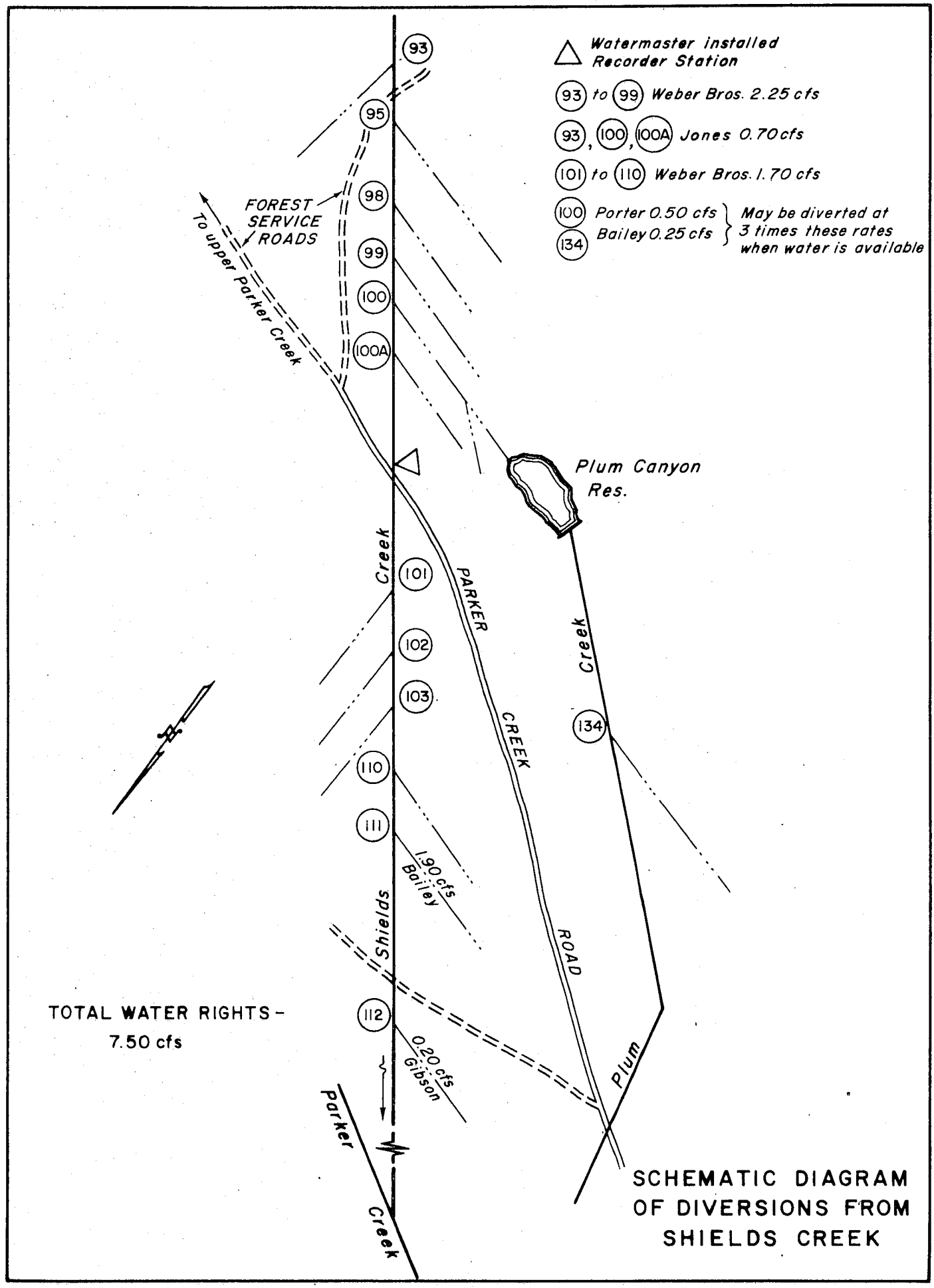
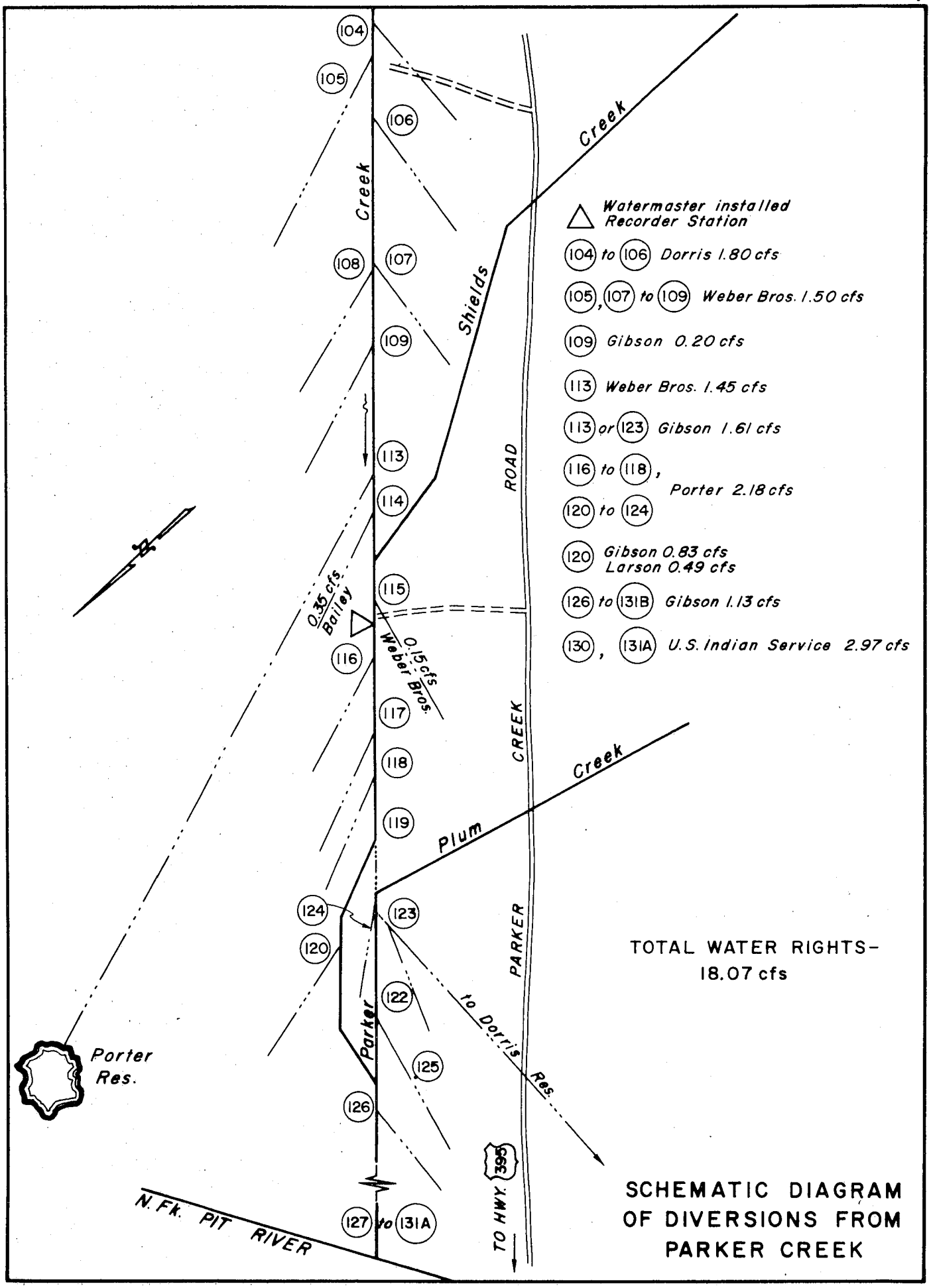
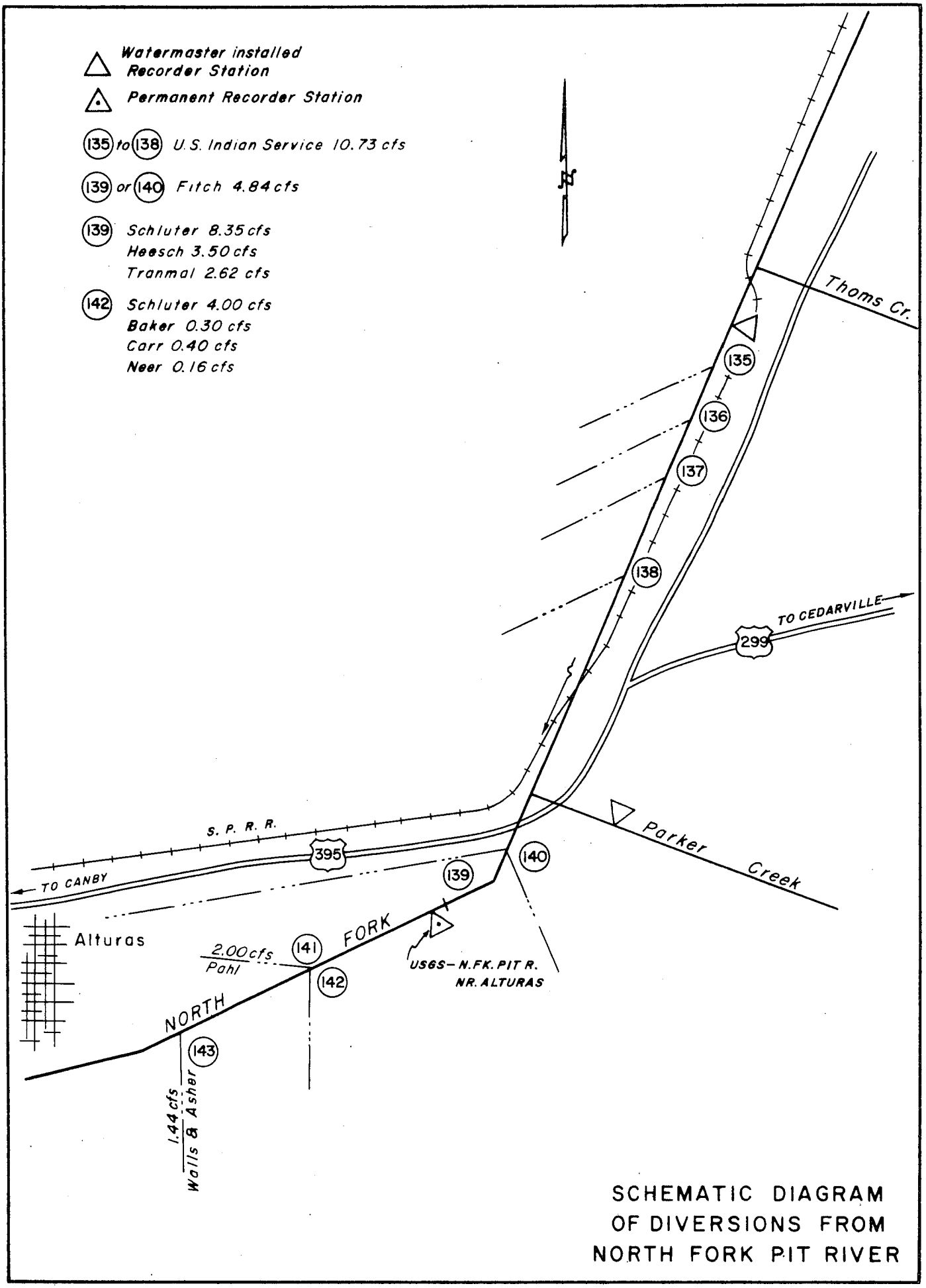
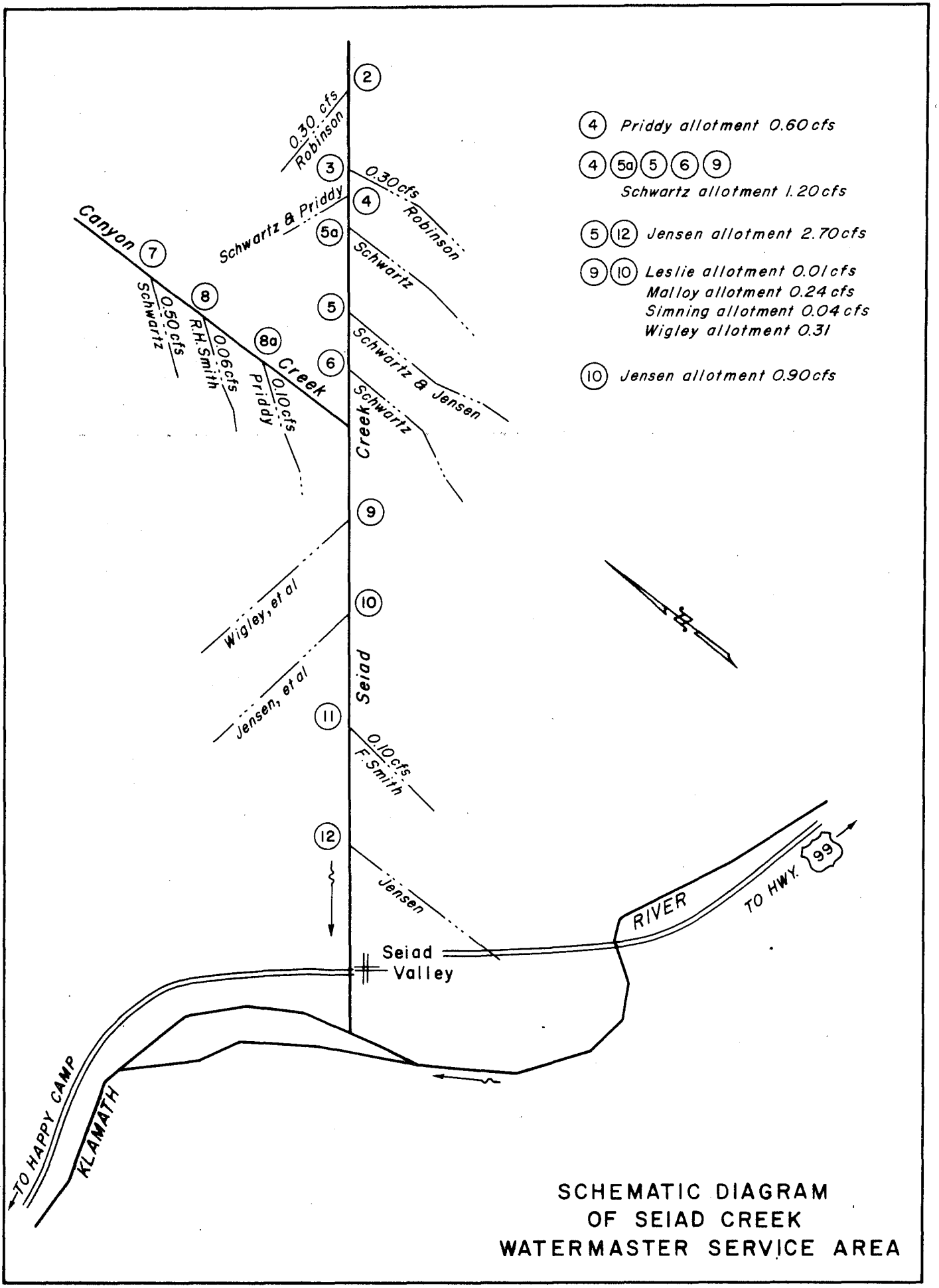

Watermaster installed Recorder Station
93 to 99 Weber Bros. 2.25 cfs
93, 100, 100A Jones 0.70 cfs
101 to 110 Weber Bros. 1.70 cfs
100 Porter 0.50 cfs
134 Bailey 0.25 cfs
May be diverted at 3 times these rates when water is available
FOREST SERVICE ROADS
To upper Parker Creek
Plum Canyon Res.
PARKER CREEK
Creek
Plum Creek
ROAD
Shields
1.90 cfs Bailey
0.20 cfs Gibson
Parker Creek
93
95
98
99
100
100A
101
102
103
110
111
112
134
TOTAL WATER RIGHTS - 7.50 cfs
SCHEMATIC DIAGRAM OF DIVERSIONS FROM SHIELDS CREEK

FIGURE 11j

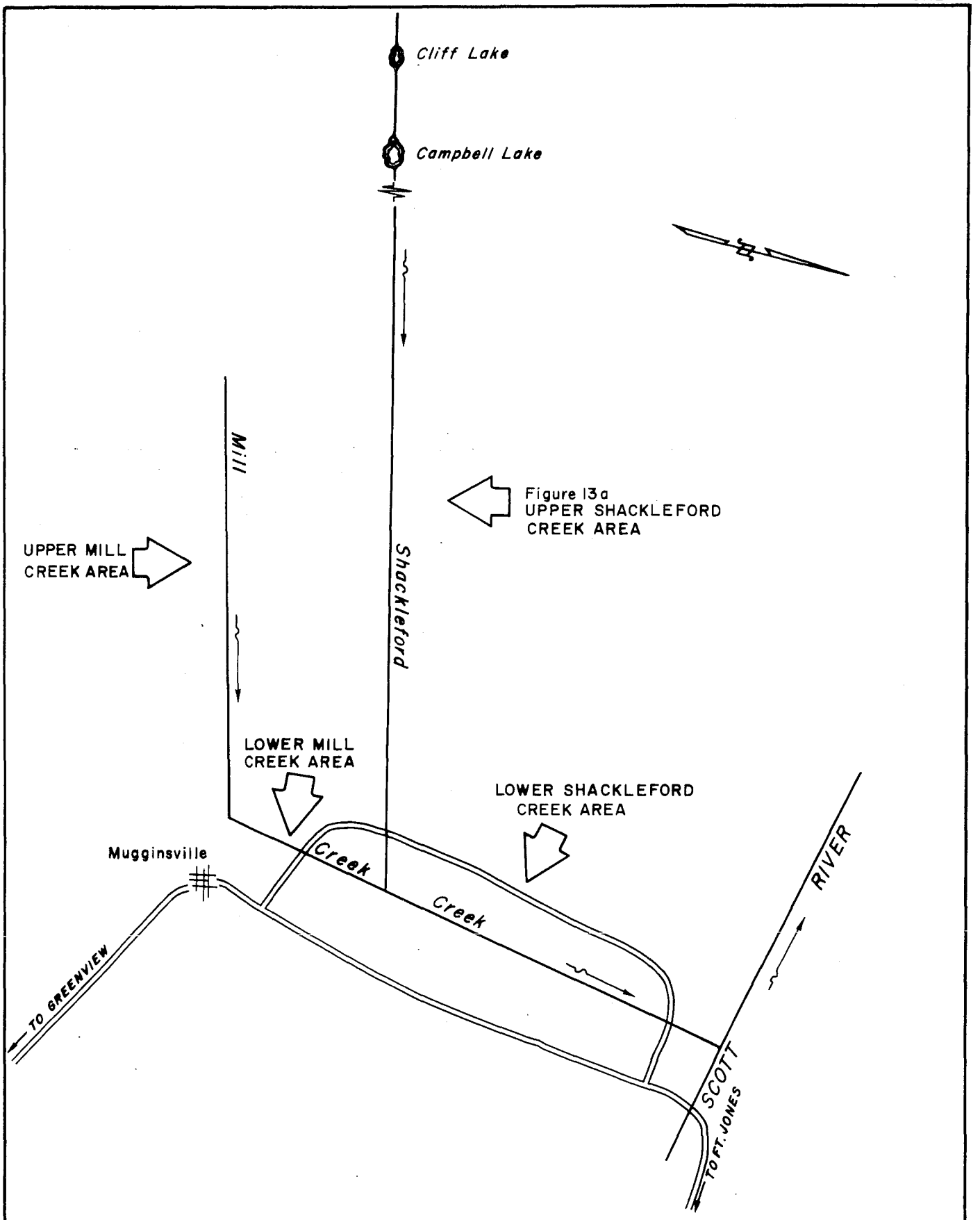

104
105
106
107
108
109
113
114
115
116
117
118
119
120
122
123
124
125
126
127 to 131A
Creek
Shields
ROAD
CREEK
PARKER
Plum
Creek
Parker
Creek
0.35 cfs. Bailey
0.15 cfs. Weber Bros.
Porter Res.
to Dorris Res.
TO HWY. 395
N. Fk. PIT RIVER
Watermaster installed Recorder Station
104 to 106 Dorris 1.80 cfs
105, 107 to 109 Weber Bros. 1.50 cfs
109 Gibson 0.20 cfs
113 Weber Bros. 1.45 cfs
113 or 123 Gibson 1.61 cfs
116 to 118, 120 to 124 Porter 2.18 cfs
120 Gibson 0.83 cfs
Larson 0.49 cfs
126 to 131B Gibson 1.13 cfs
130, 131A U.S. Indian Service 2.97 cfs
TOTAL WATER RIGHTS-
18.07 cfs
SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
PARKER CREEK



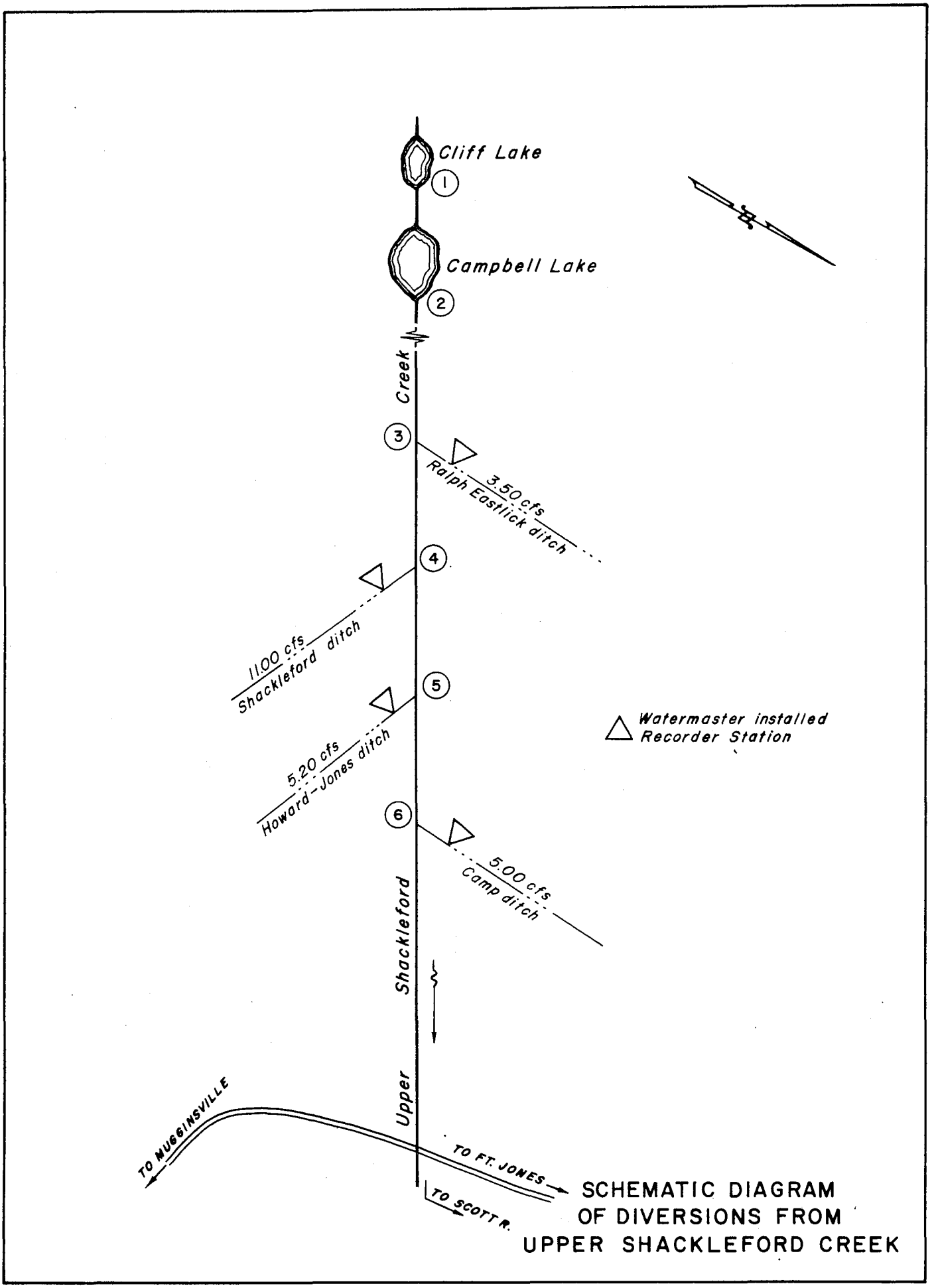
SCHEMATIC DIAGRAM OF DIVERSIONS FROM NORTH FORK PIT RIVER



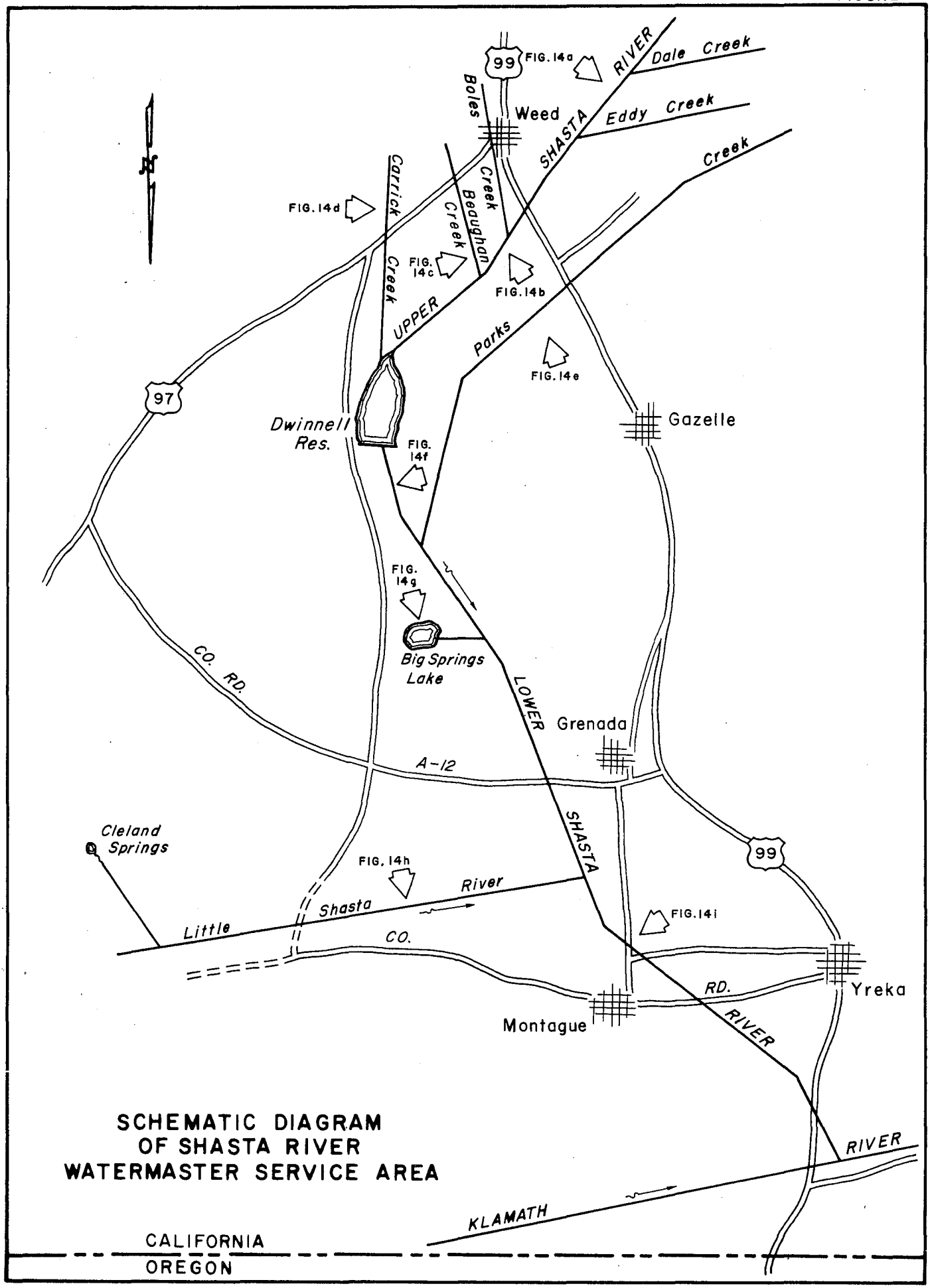
SCHEMATIC DIAGRAM
OF SEIAD CREEK
WATERMASTER SERVICE AREA



SCHEMATIC DIAGRAM
OF SHACKLEFORD CREEK
WATERMASTER SERVICE AREA

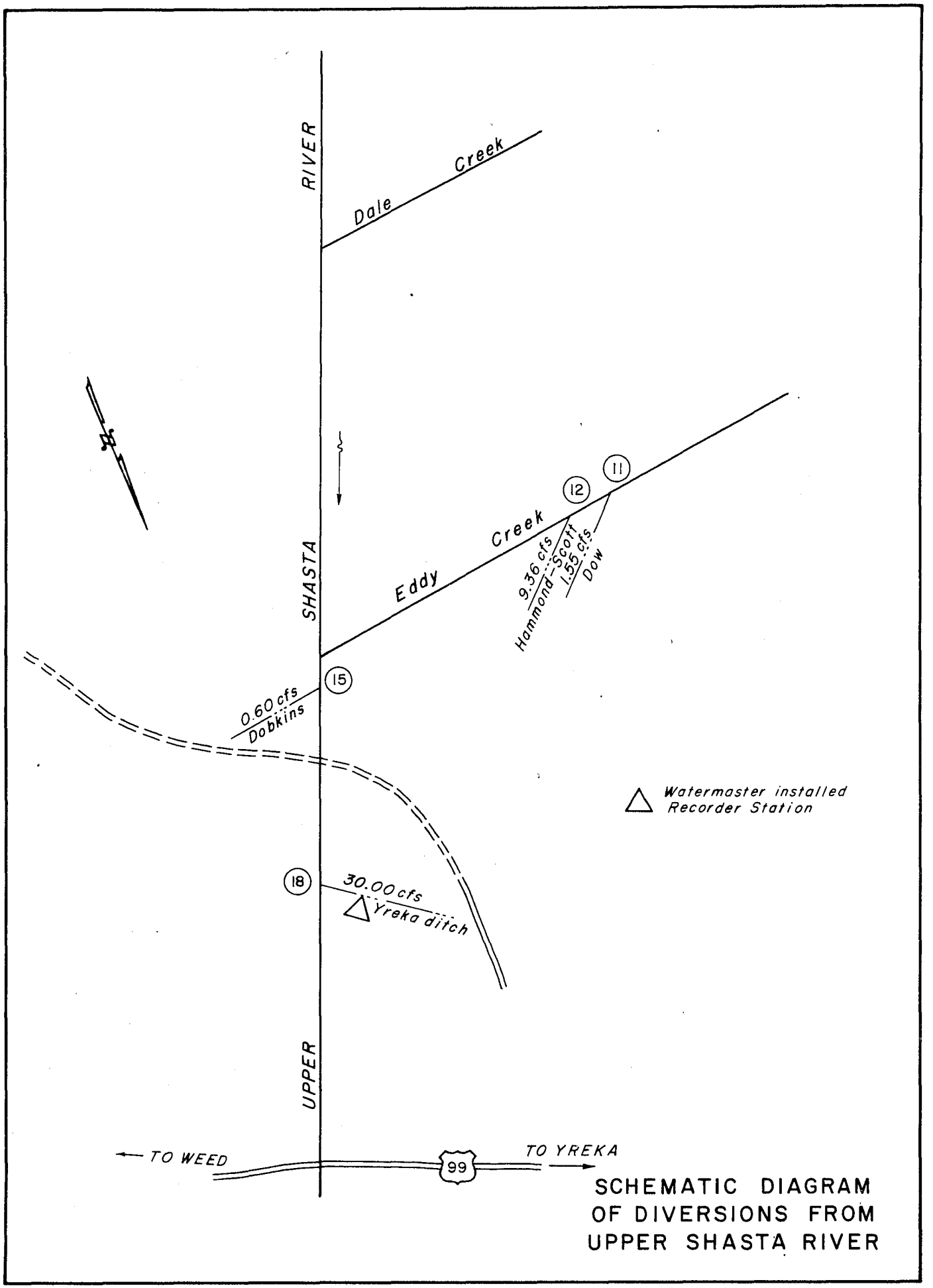


SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
UPPER SHACKLEFORD CREEK



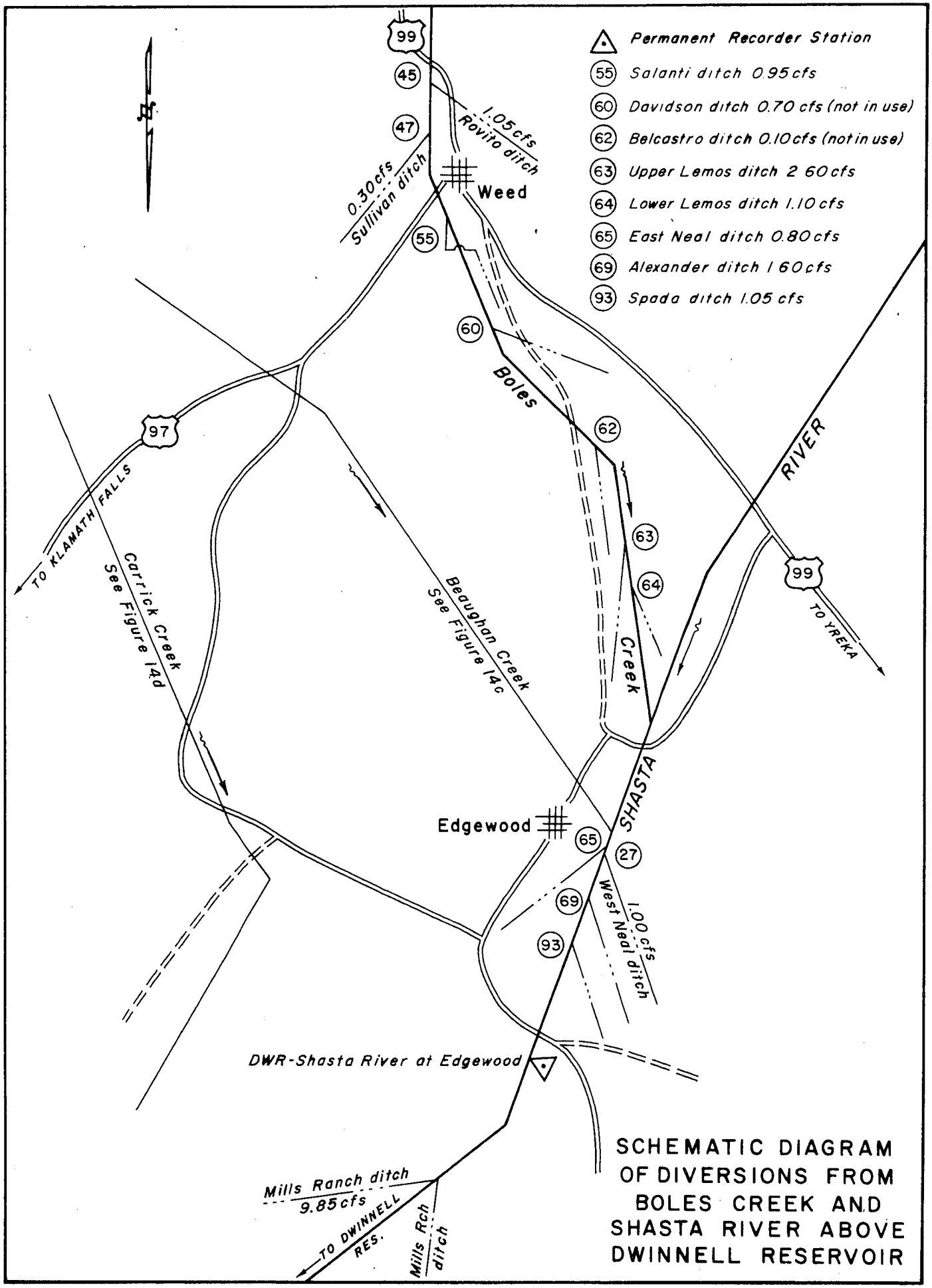
SCHEMATIC DIAGRAM
OF SHASTA RIVER
WATERMASTER SERVICE AREA

FIGURE 14a

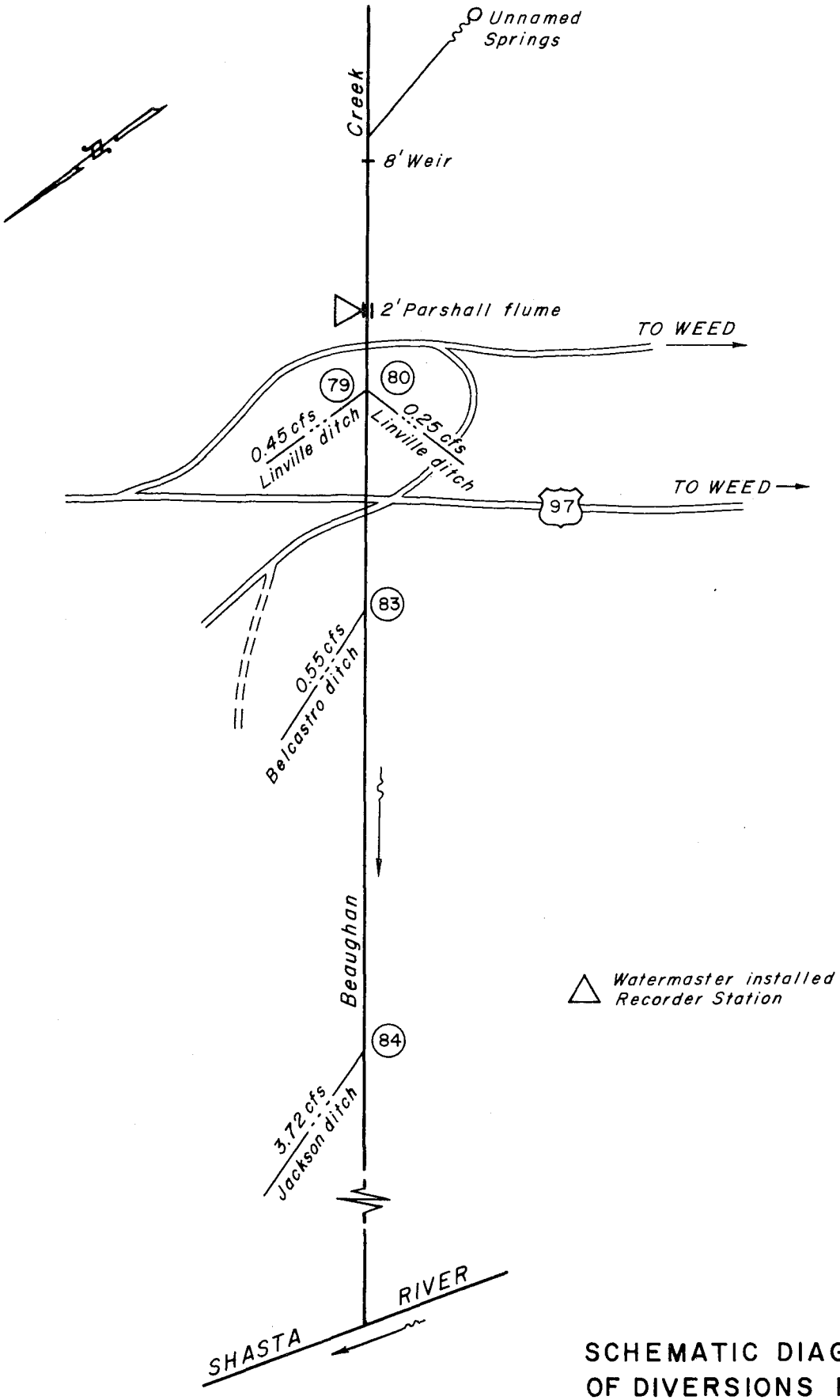


SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
UPPER SHASTA RIVER

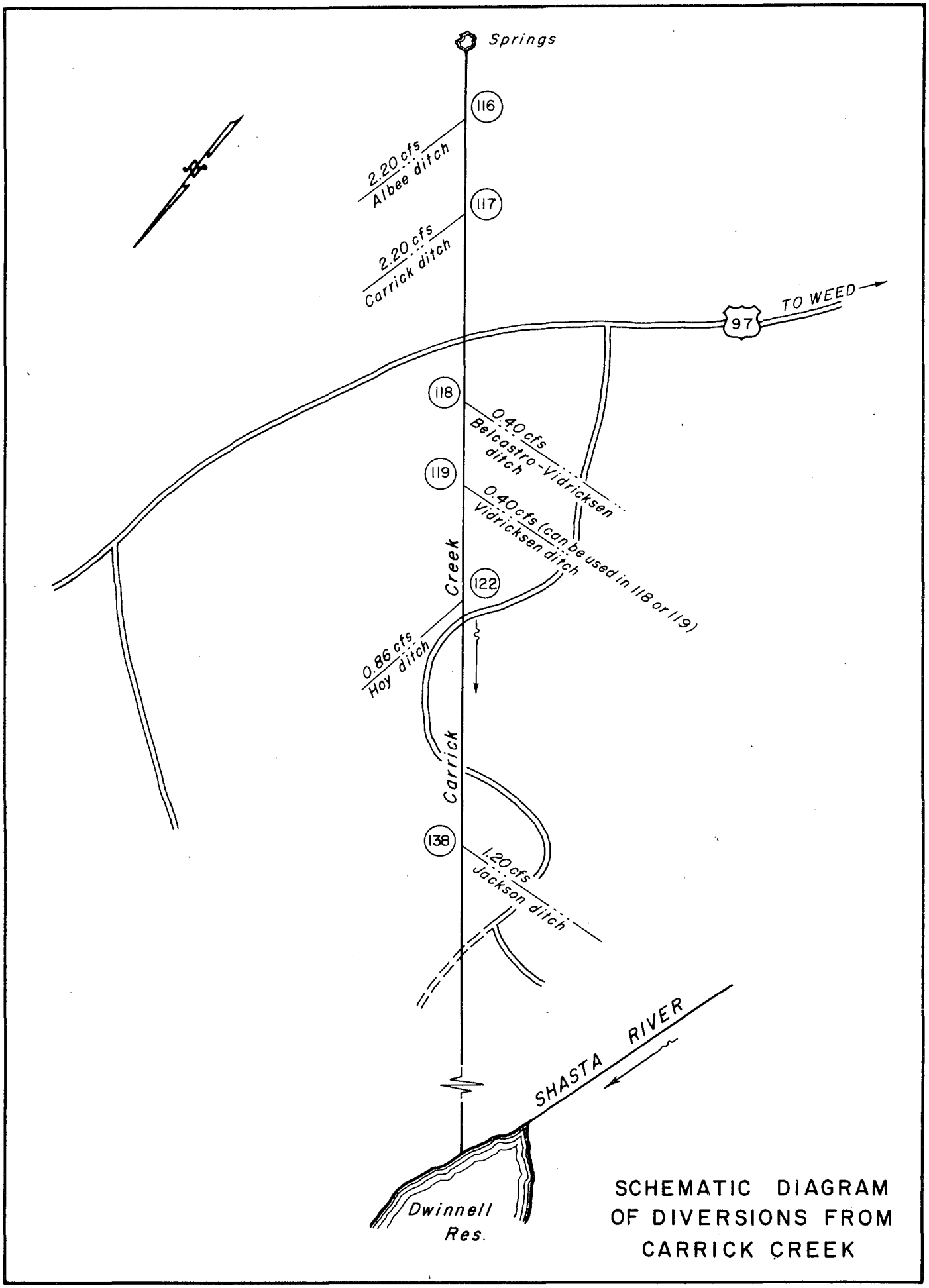
FIGURE 14b



SCHEMATIC DIAGRAM OF DIVERSIONS FROM BOLES CREEK AND SHASTA RIVER ABOVE DWINNELL RESERVOIR

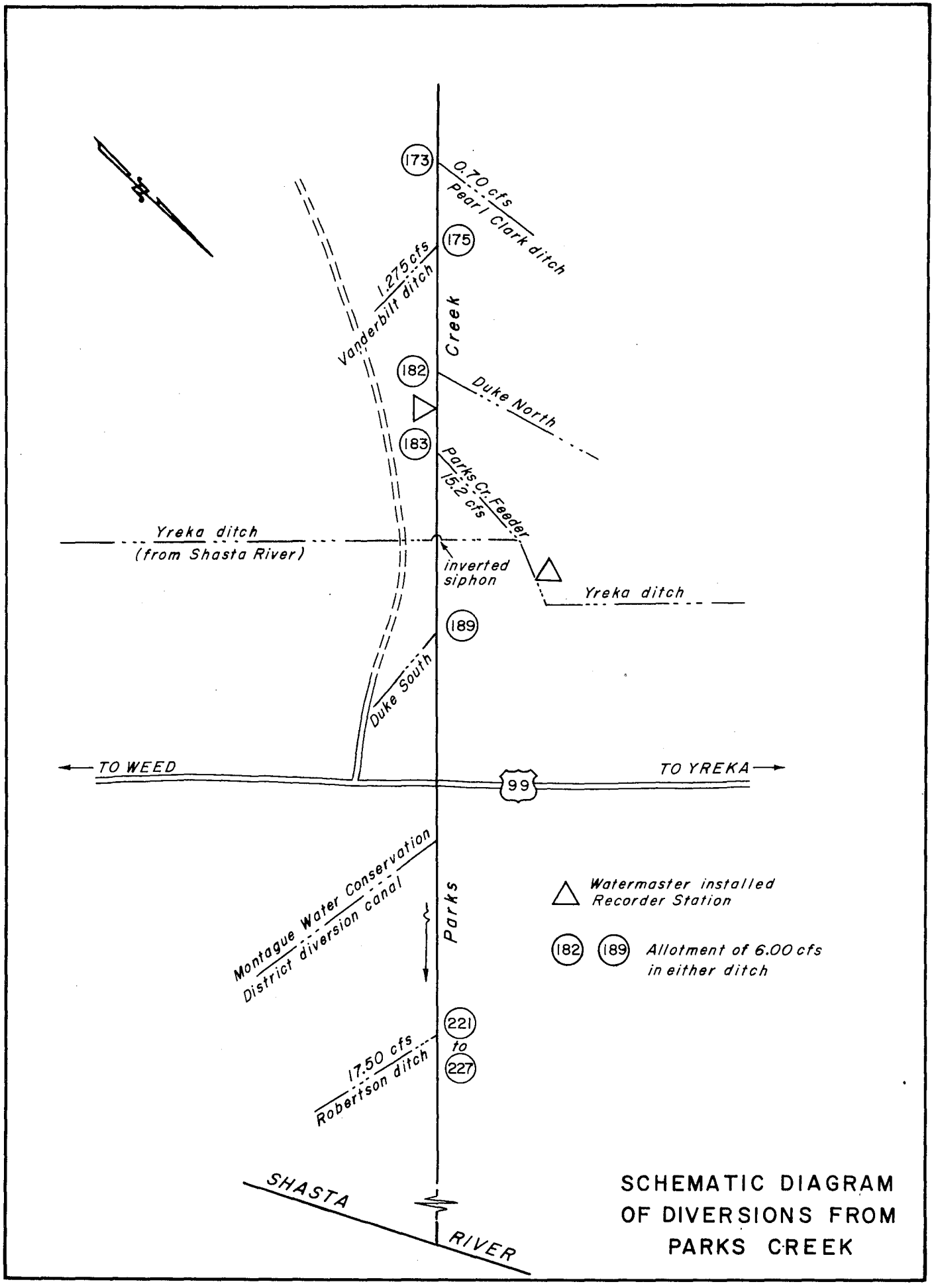


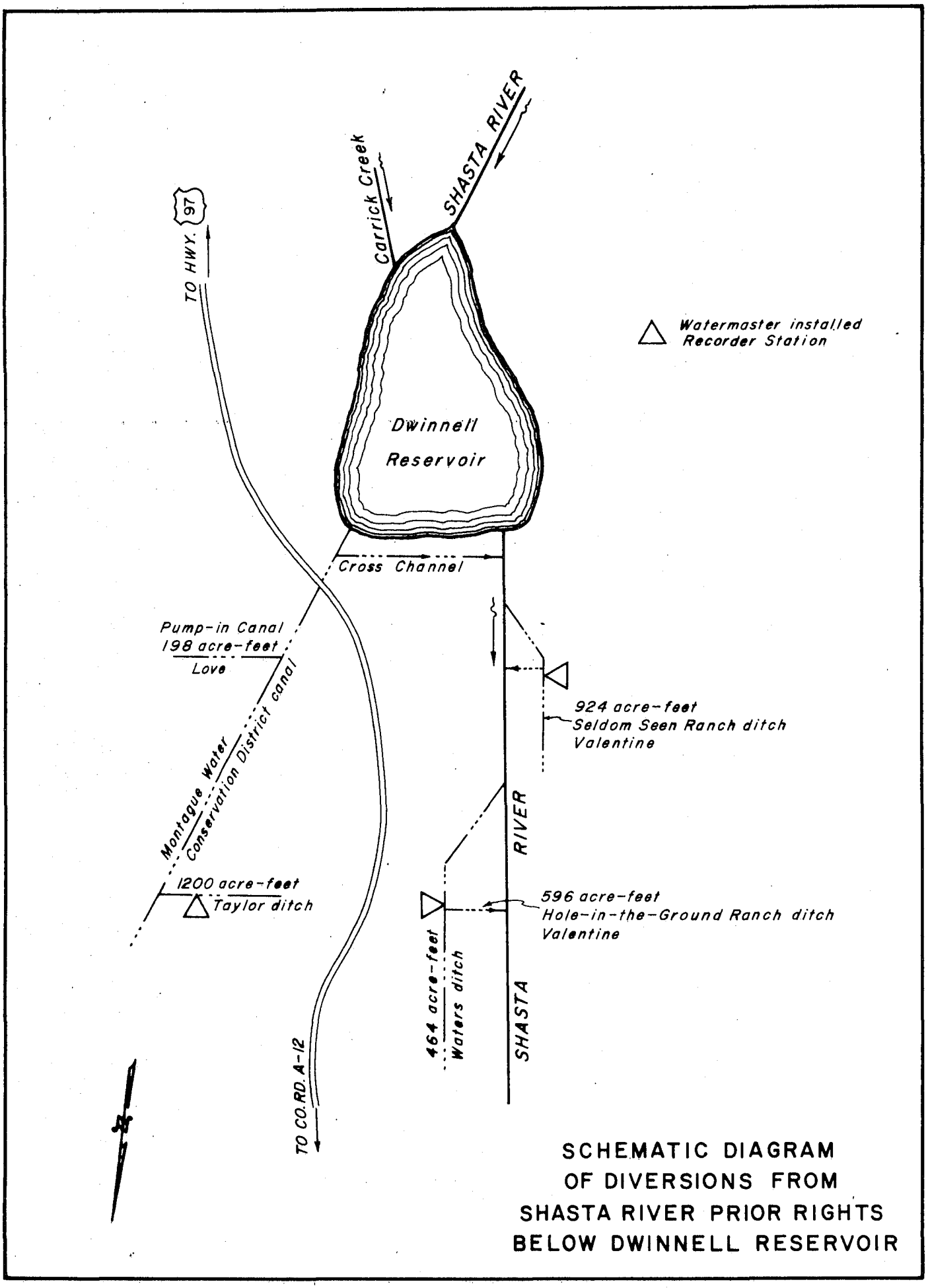
SCHEMATIC DIAGRAM OF DIVERSIONS FROM BEAUGHAN. CREEK



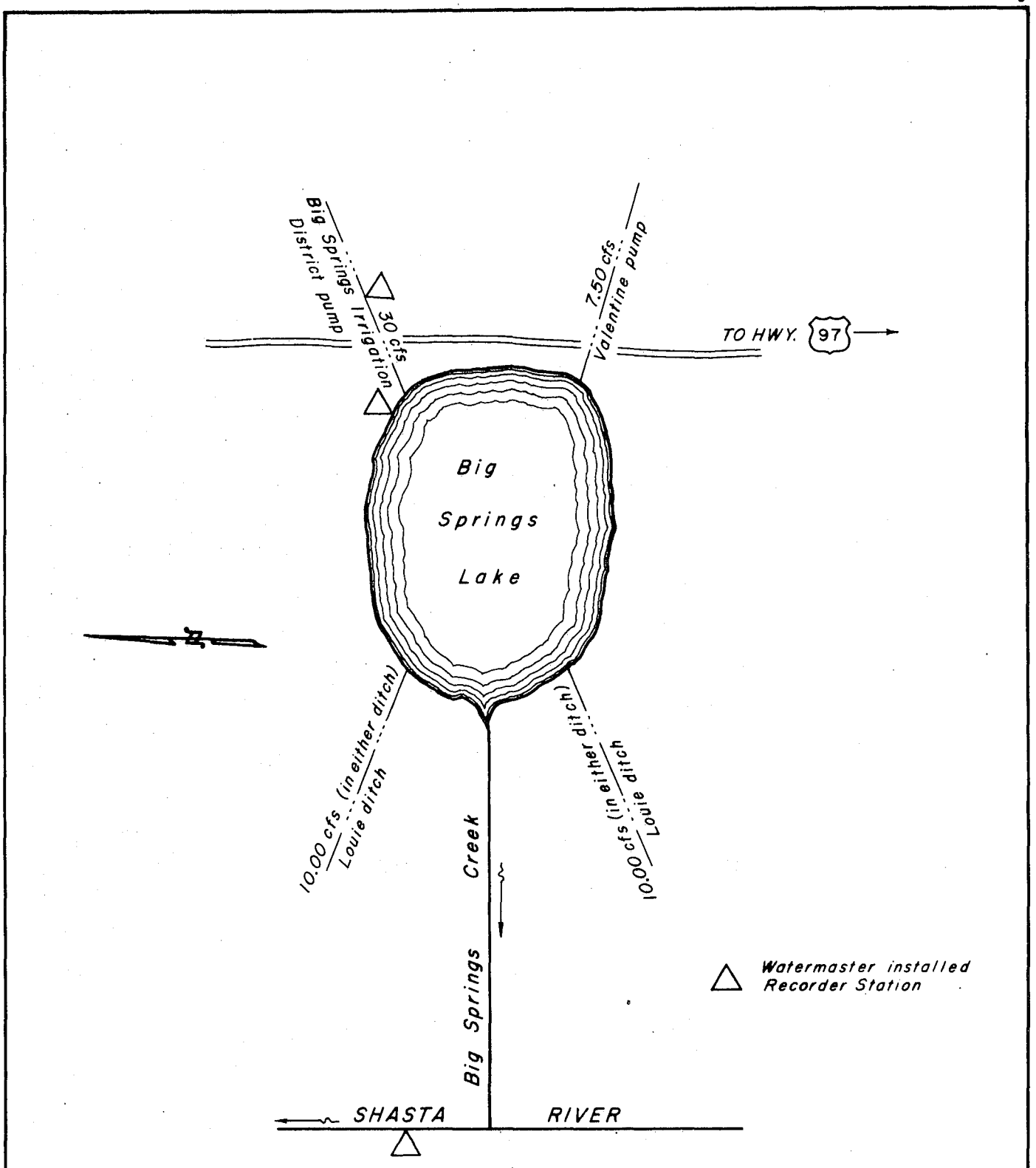
SCHEMATIC DIAGRAM OF DIVERSIONS FROM CARRICK CREEK

FIGURE 14e

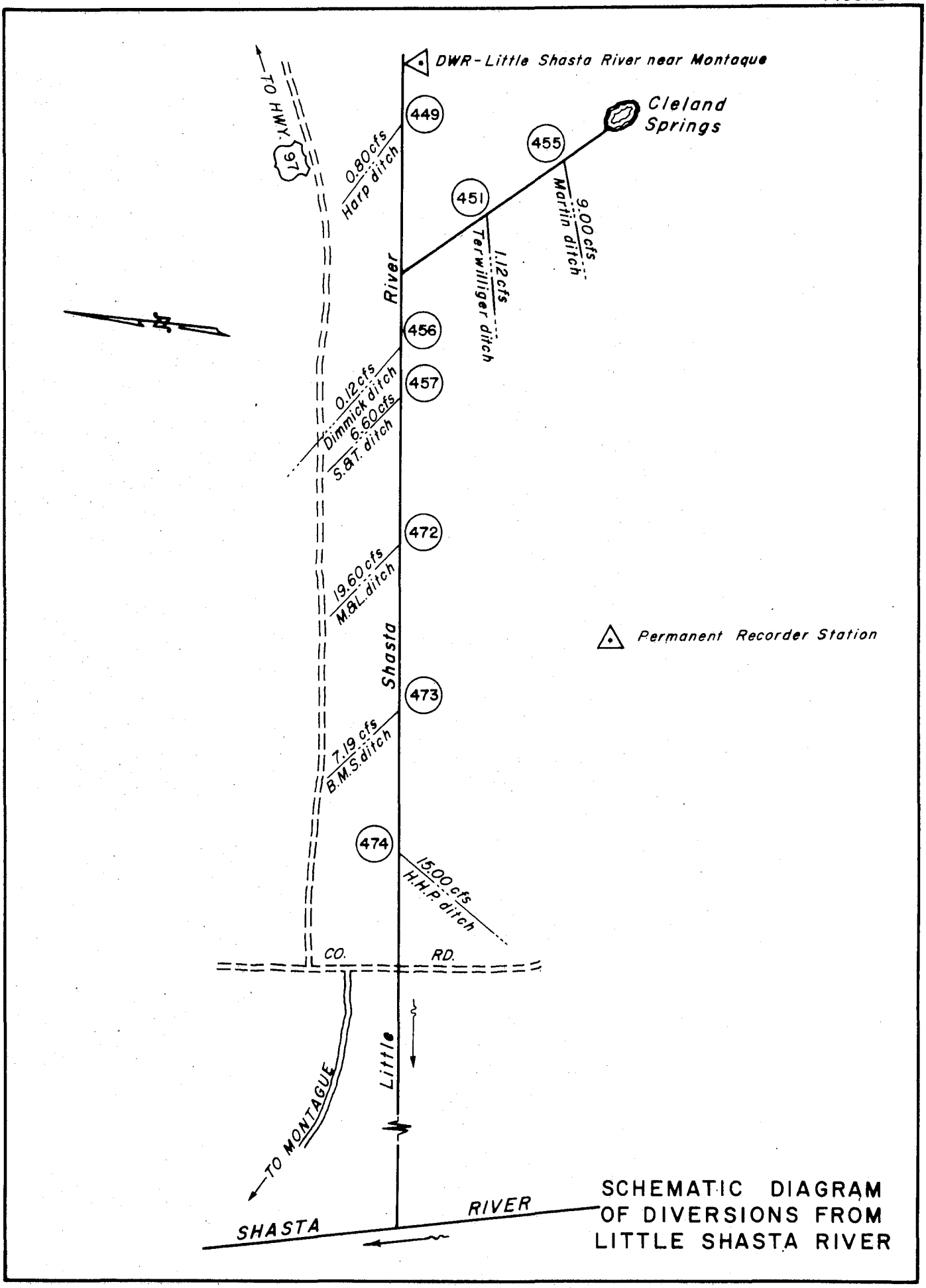

173
0.70 cfs
Pearl Clark ditch
175
1.275 cfs
Vanderbilt ditch
Parks Creek
182
Duke North
183
Parks Cr. Feeder
15.2 cfs
Yreka ditch
(from Shasta River)
inverted siphon
Yreka ditch
189
Duke South
TO WEED
TO YREKA
99
Montague Water Conservation District diversion canal
Parks
Watermaster installed Recorder Station
182 189 Allotment of 6.00 cfs in either ditch
221 to 227
17.50 cfs
Robertson ditch
SHASTA RIVER
SCHEMATIC DIAGRAM OF DIVERSIONS FROM PARKS CREEK



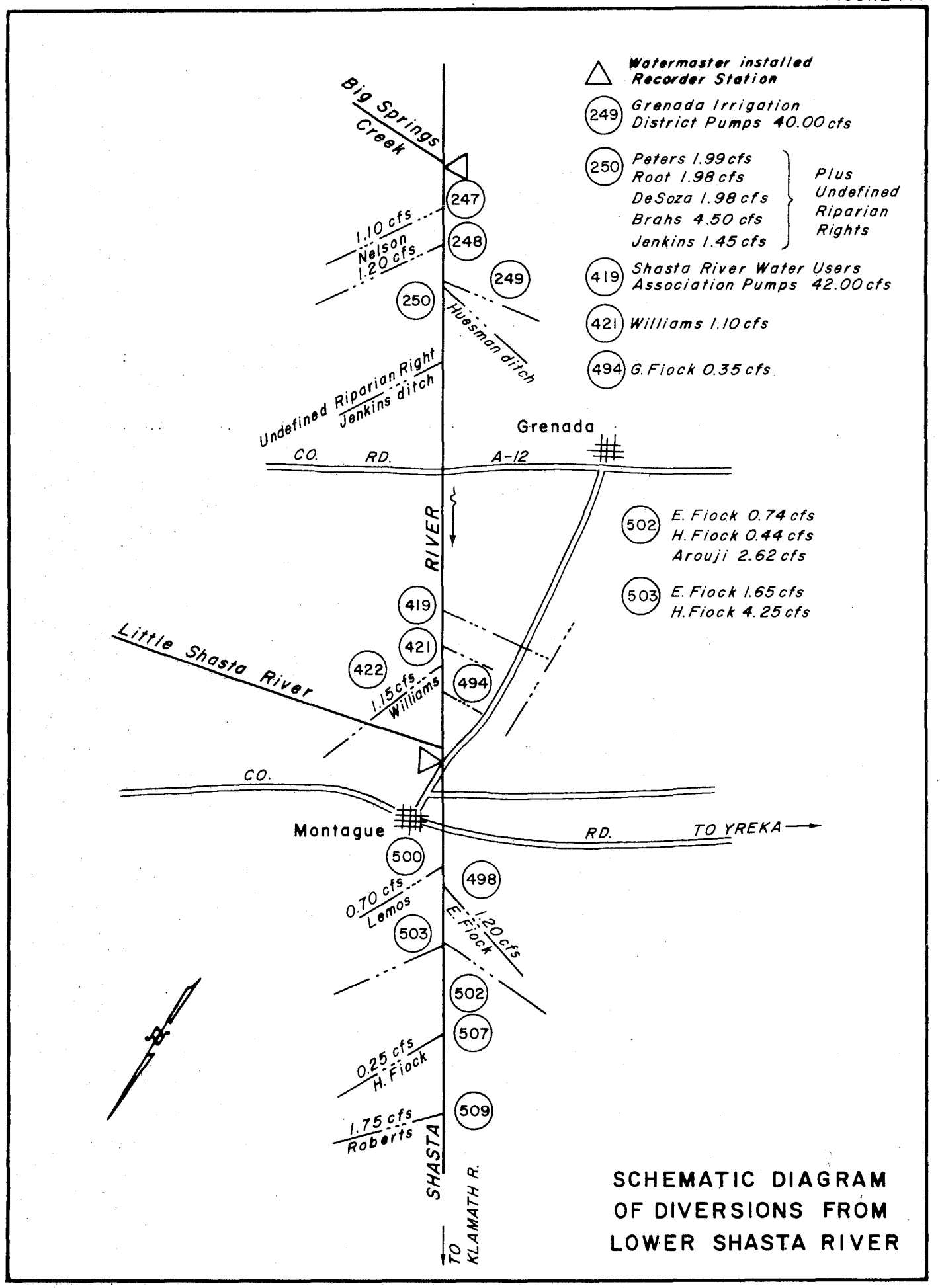
SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
SHASTA RIVER PRIOR RIGHTS
BELOW DWINNELL RESERVOIR

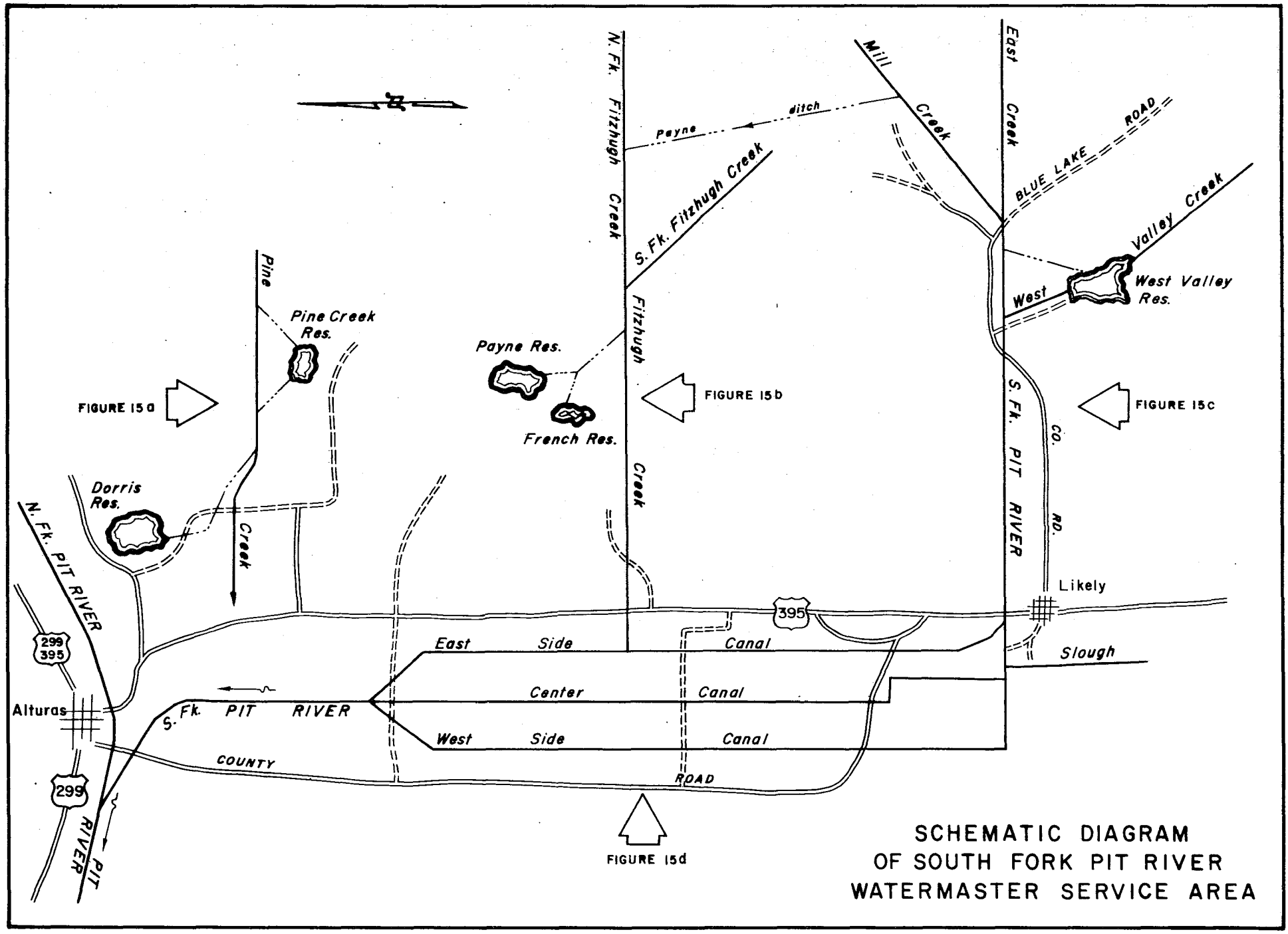


SCHEMATIC DIAGRAM OF DIVERSIONS FROM BIG SPRINGS LAKE



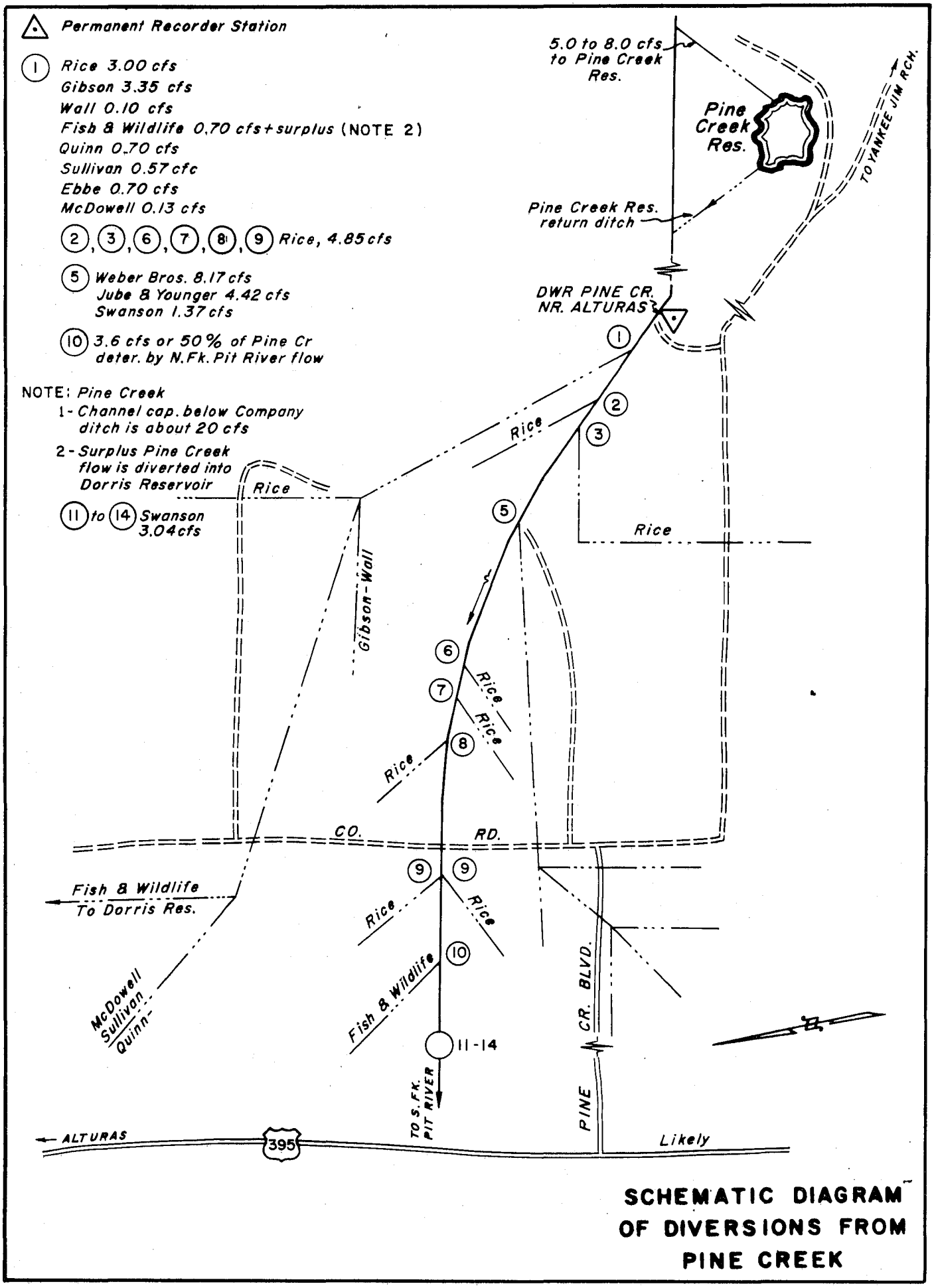
SCHEMATIC DIAGRAM OF DIVERSIONS FROM LITTLE SHASTA RIVER


Watermaster installed Recorder Station
249 Grenada Irrigation District Pumps 40.00 cfs
250 Peters 1.99 cfs
Root 1.98 cfs
DeSoza 1.98 cfs
Brahs 4.50 cfs
Jenkins 1.45 cfs
Plus Undefined Riparian Rights
419 Shasta River Water Users Association Pumps 42.00 cfs
421 Williams 1.10 cfs
494 G. Fiock 0.35 cfs
502 E. Fiock 0.74 cfs
H. Fiock 0.44 cfs
Arouji 2.62 cfs
503 E. Fiock 1.65 cfs
H. Fiock 4.25 cfs
Big Springs Creek
247
1.10 cfs Nelson
248
1.20 cfs
249
250
Huesman ditch
Undefined Riparian Right
Jenkins ditch
Grenada
CO. RD. A-12
SHASTA RIVER
419
421
422
Little Shasta River
1.15 cfs Williams
494
CO.
Montague
RD. TO YREKA
500
498
0.70 cfs Lemos
503
E. Fiock 1.20 cfs
502
507
0.25 cfs H. Fiock
509
1.75 cfs Roberts
SHASTA
TO KLAMATH R.
SCHEMATIC DIAGRAM OF DIVERSIONS FROM LOWER SHASTA RIVER



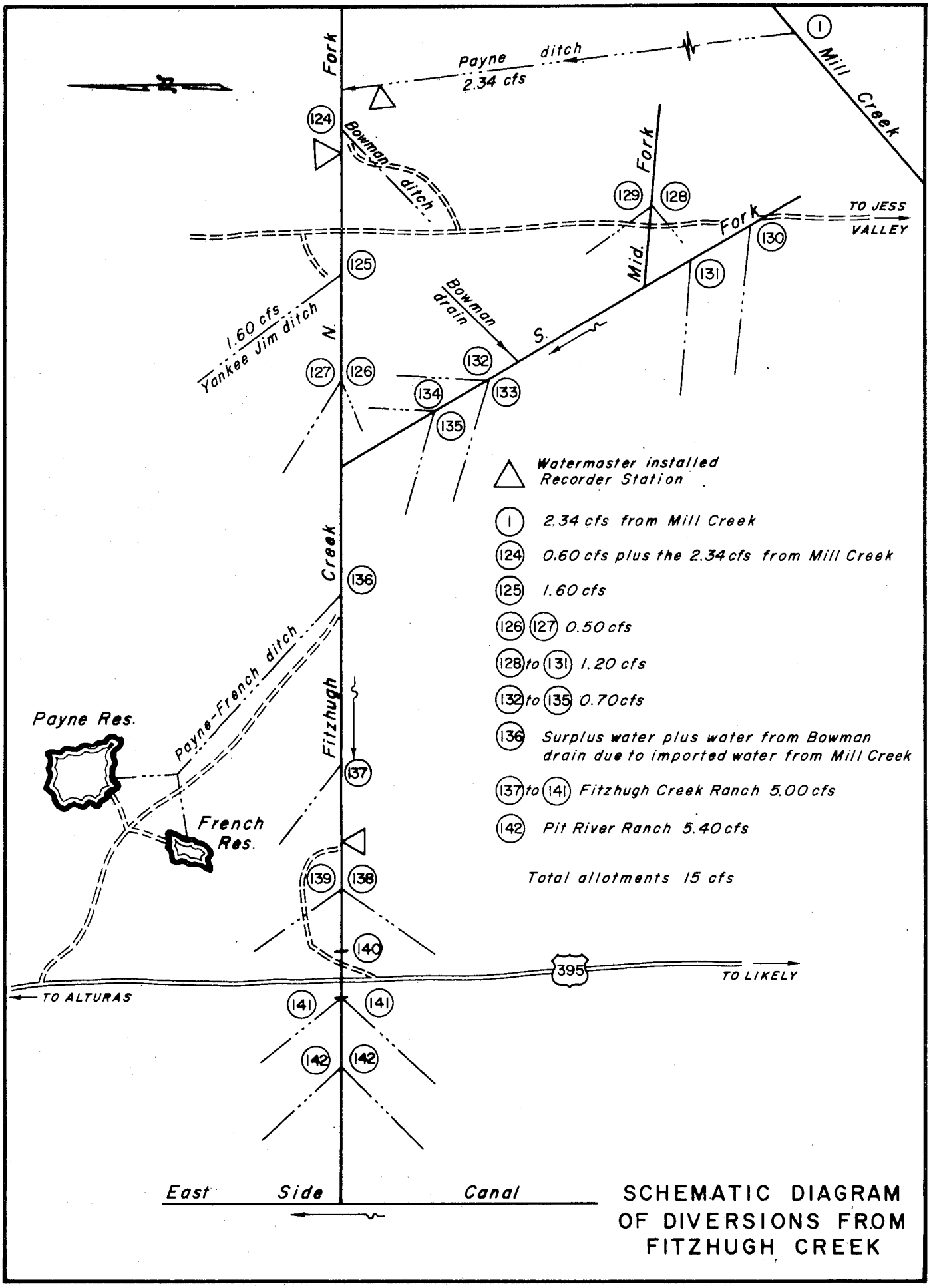
SCHEMATIC DIAGRAM
OF SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA

FIGURE 15

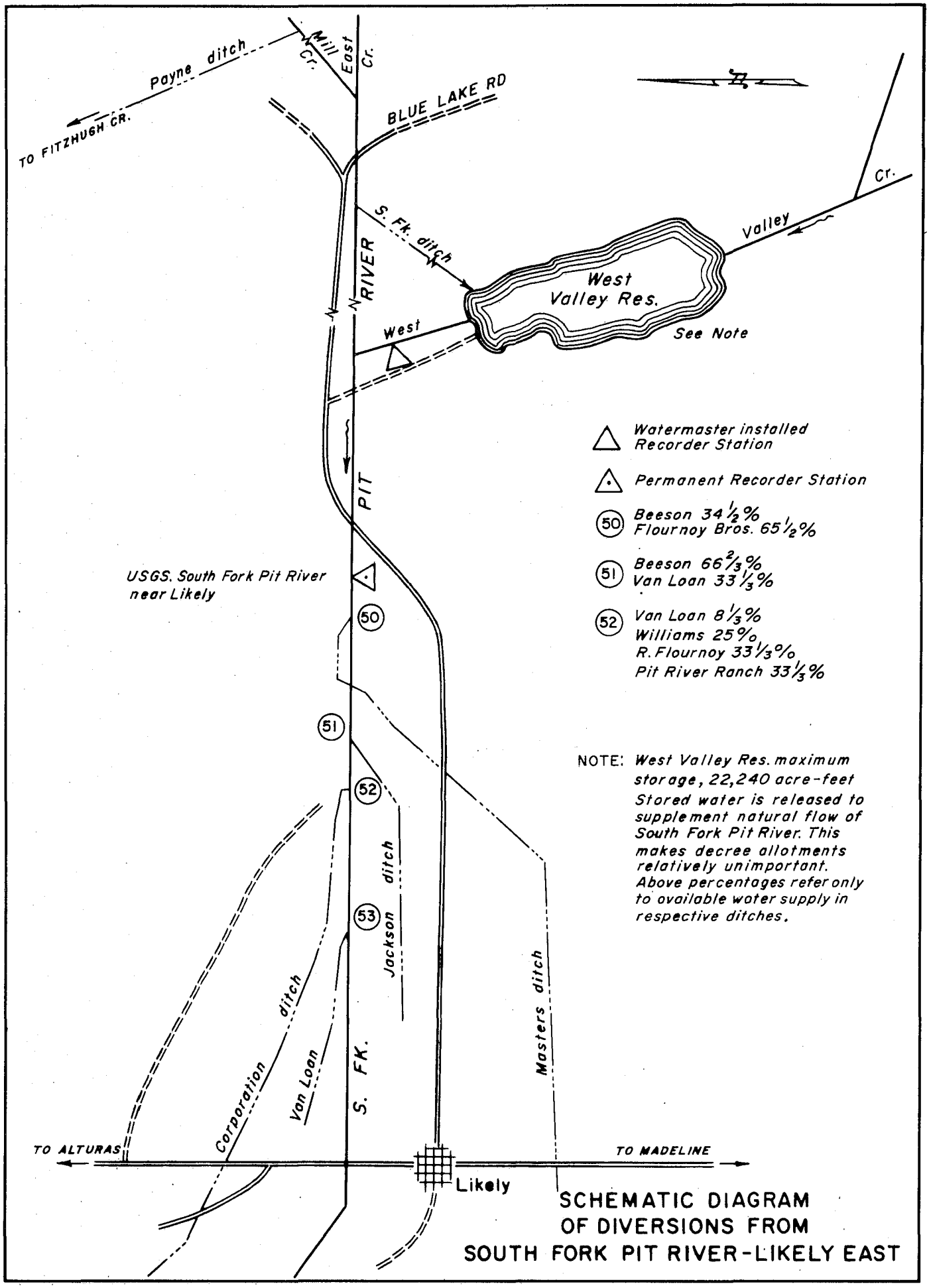


SCHEMATIC DIAGRAM OF DIVERSIONS FROM PINE CREEK

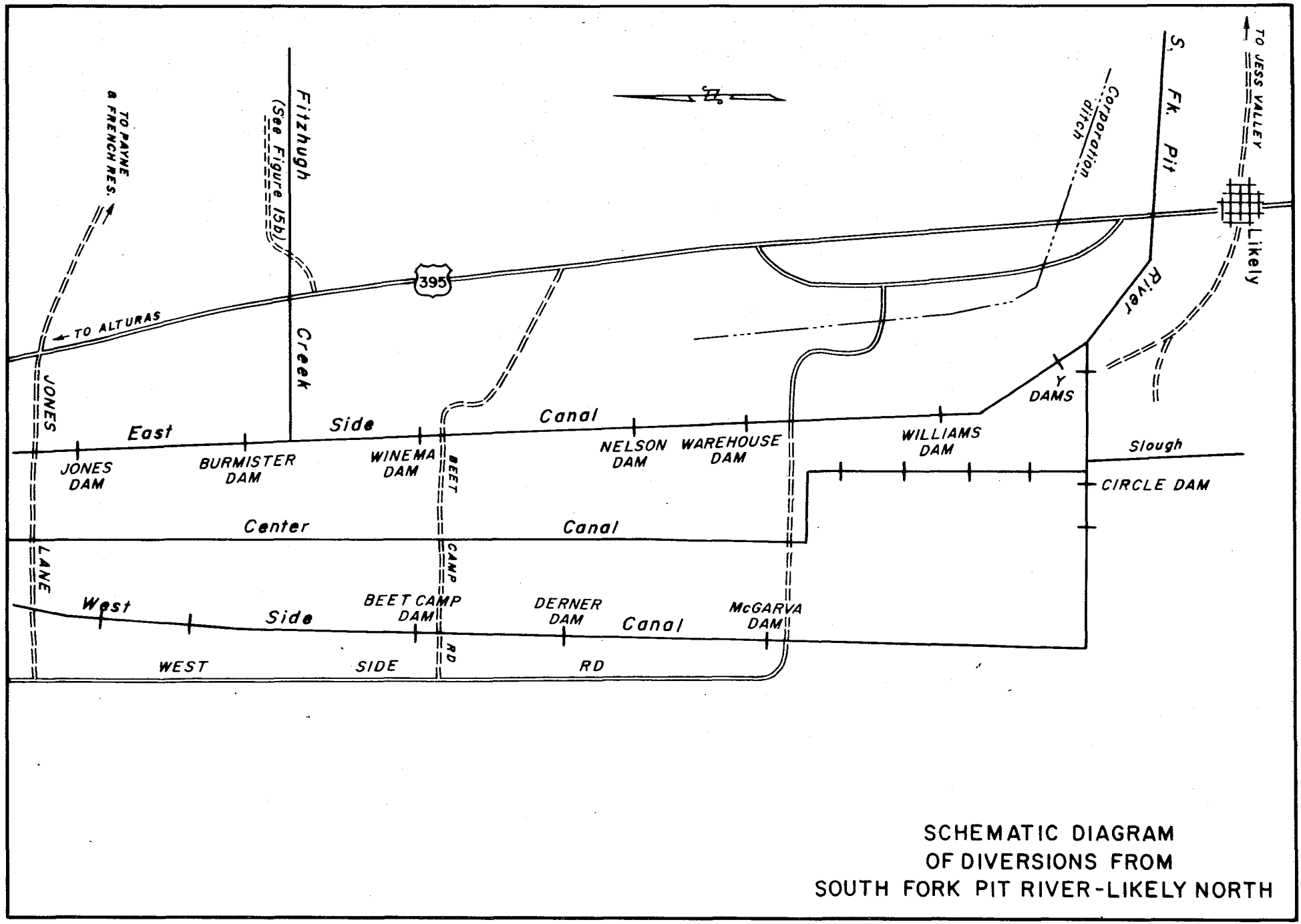
FIGURE 15b



SCHEMATIC DIAGRAM OF DIVERSIONS FROM FITZHUGH CREEK

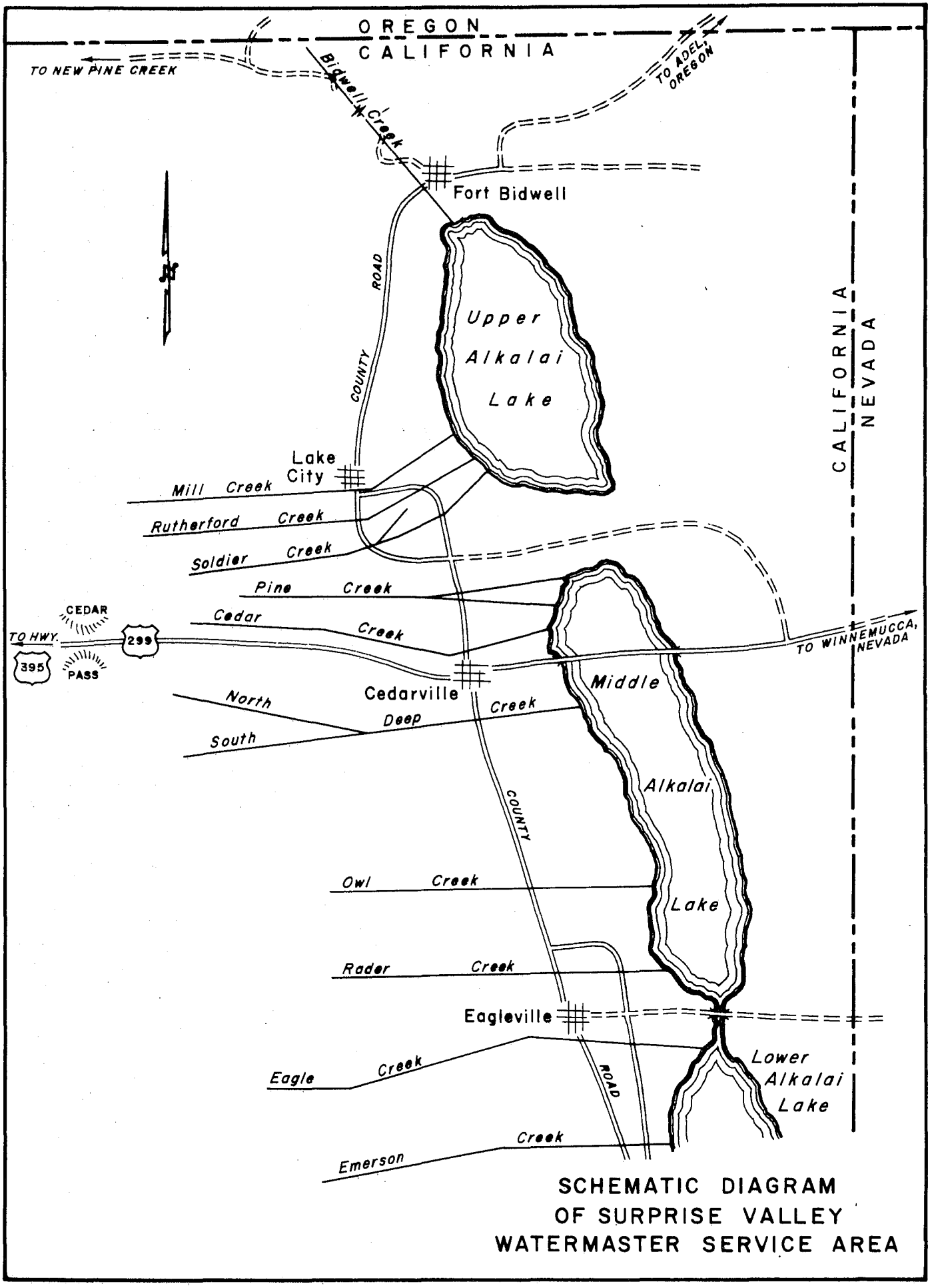


SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
SOUTH FORK PIT RIVER-LIKELY EAST



SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
SOUTH FORK PIT RIVER-LIKELY NORTH

FIGURE 15d



SCHEMATIC DIAGRAM
OF SURPRISE VALLEY
WATERMASTER SERVICE AREA

FIGURE 16a

Permanent Recorder Station

March 15 through July 9
(major season of use)

(5) G. Peterson 0.38 cfs
C. Bucher 0.45 cfs
Sweeney 0.07 cfs

(6) Sweeney 0.18 cfs

(7) G. Peterson 0.50 cfs

(8) McConnaughy 7.24 cfs*
Town Users 0.06 cfs

(9) Conlan 7.63 cfs
Town Users 0.22 cfs

(10) Carey 6.13 cfs
C. Bucher 0.66 cfs
P. Peterson 0.44 cfs
Town Users 0.30 cfs

(11) C. Bucher 0.38 cfs

(12) U.S. Indian Service 0.46 cfs
Green 0.14 cfs
Baty 0.12 cfs

(13) McConnaughy 5.24 cfs*
Town Users 0.44 cfs

(15) Fee 8.94 cfs
Sagehorn 1.34 cfs
O'Callaghan 2.88 cfs
Toney 0.42 cfs

(17) Kober 0.05 cfs

(20) Sagehorn 0.88 cfs

(19A) (20) (20A) Carey 1.43 cfs

(21) Sagehorn 1.39 cfs

(22) O'Callaghan 0.38 cfs

(23) Sagehorn 1.79 cfs

(X) Sagehorn — If flow is less than 3.82 cfs, deficiency is made up by additional diversion through (15) if Fee Ranch allotment is satisfied.

* May be used in either ditch

NOTE: Sagehorn and O'Callaghan waters may be used in any of their ditches at discretion of user and watermaster.

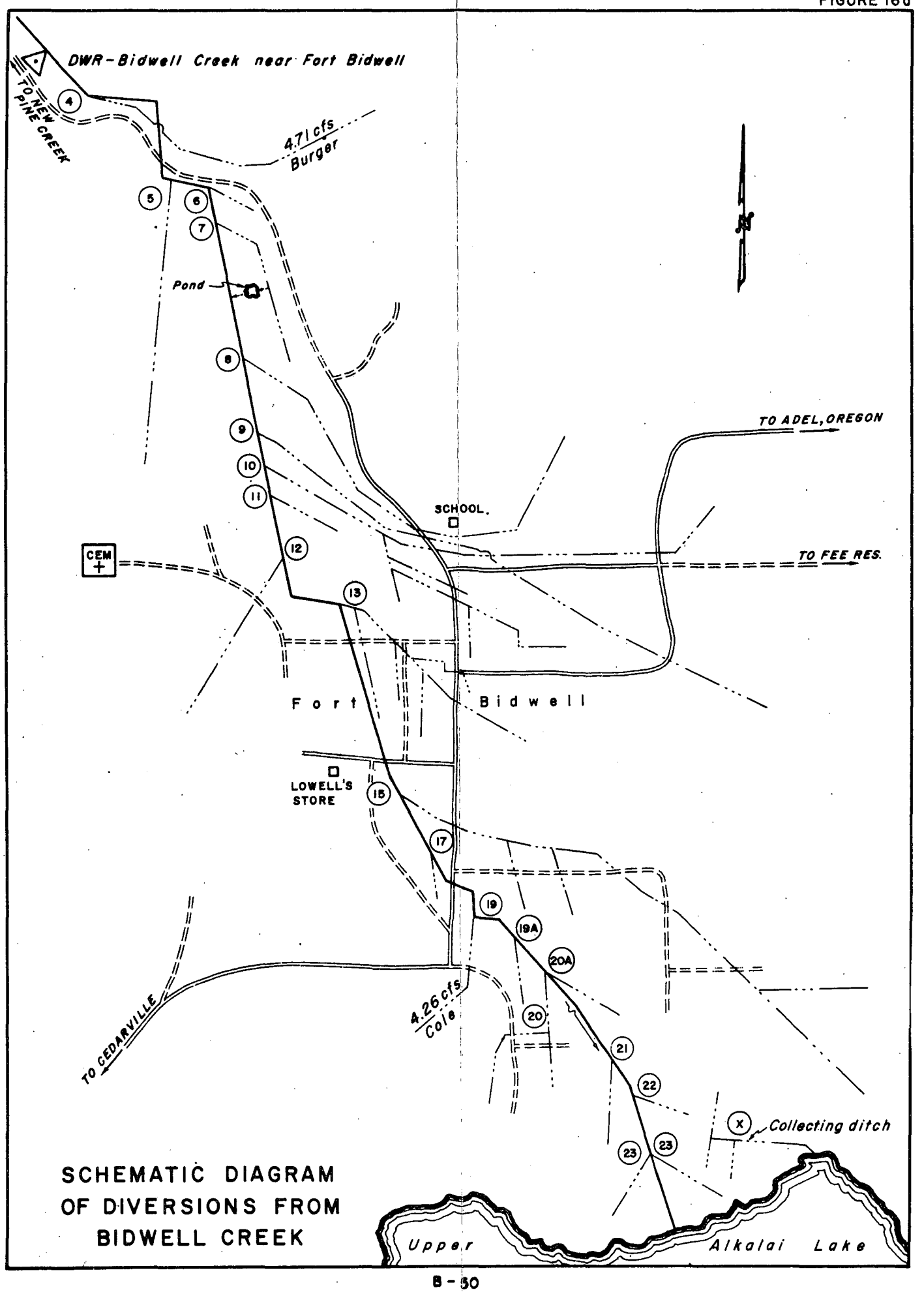


FIGURE 16b

△ **Watermaster Installed**
Recorder Station

(2) *Caldwell 0.38 cfs*
Mellis 0.24 cfs

(3) *Bettandorf 1.38 cfs*
(May be combined with (17) in either ditch)
McDaniel 0.13 cfs

(4) *Mix 0.32 cfs*
Painter 0.26 cfs

(5) *Caldwell 0.18 cfs*

(7) (13) (29A) ***Sevier 0.56 cfs***

(10) *Larson 0.20 cfs*

(11) *M. Wimer 0.56 cfs*
Jones 0.18 cfs

(12) *Belding 0.50 cfs*

(13) *Smith 0.28 cfs*

(15) *Steward 0.21 cfs*

(18) *Slaybaugh 0.25 cfs*
Larson 0.06 cfs

(28) *Coppedge 0.09 cfs*

(30) *McCowin 0.12 cfs*
Hamer 0.12 cfs

(31) *Glassford 0.22 cfs*

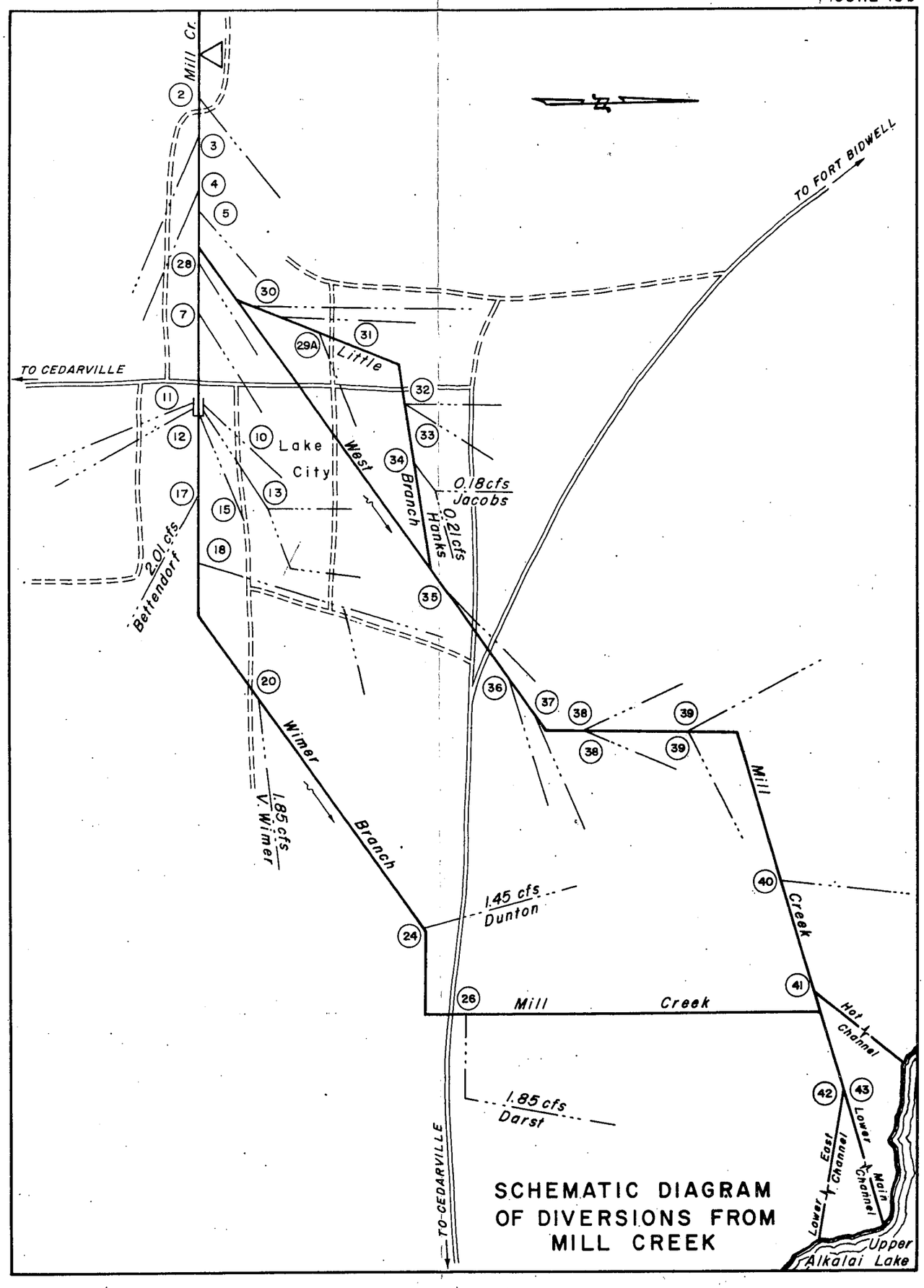
(32) *Streig 0.21 cfs*

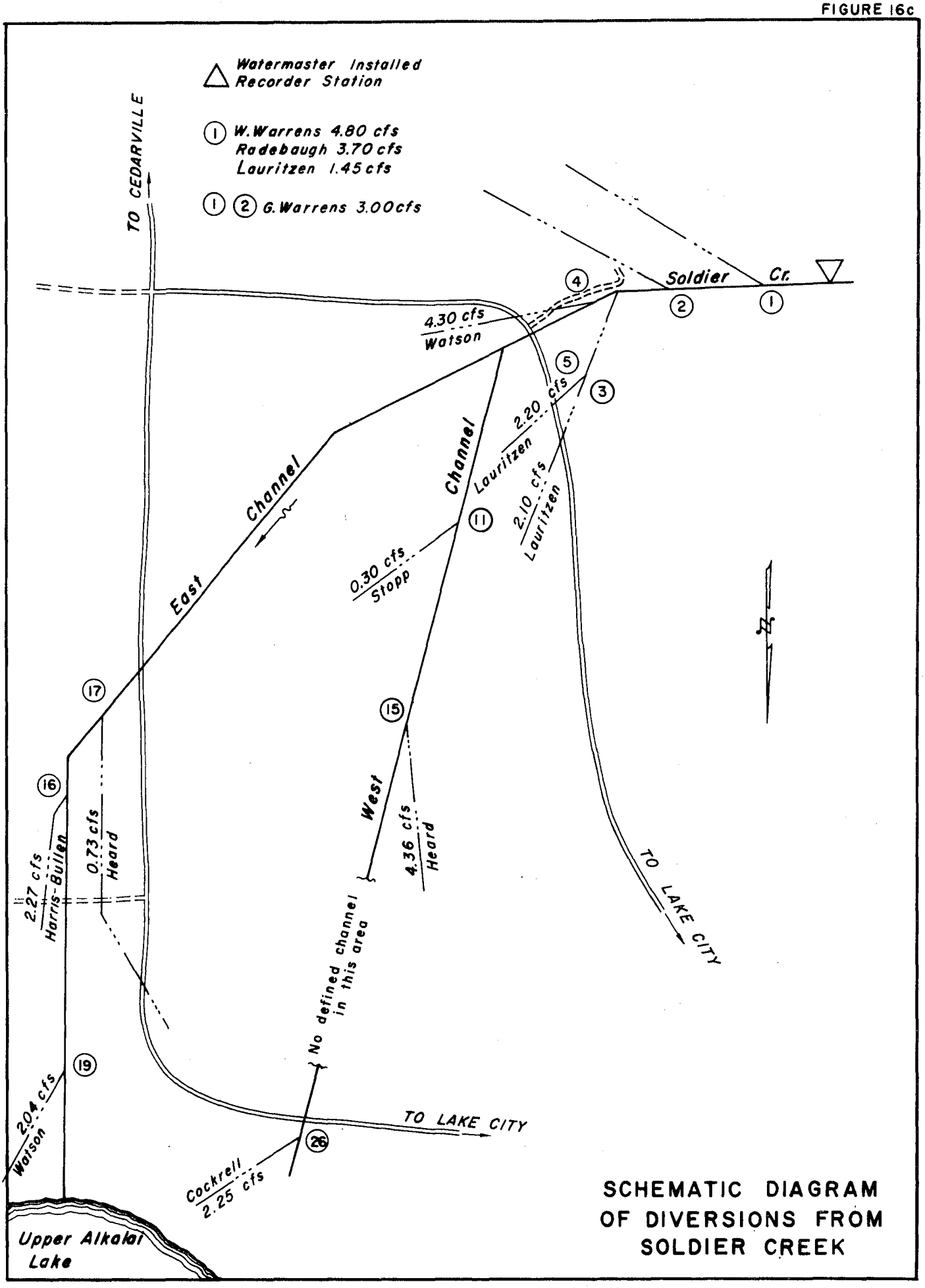
(33) *Slaybaugh 0.16 cfs*

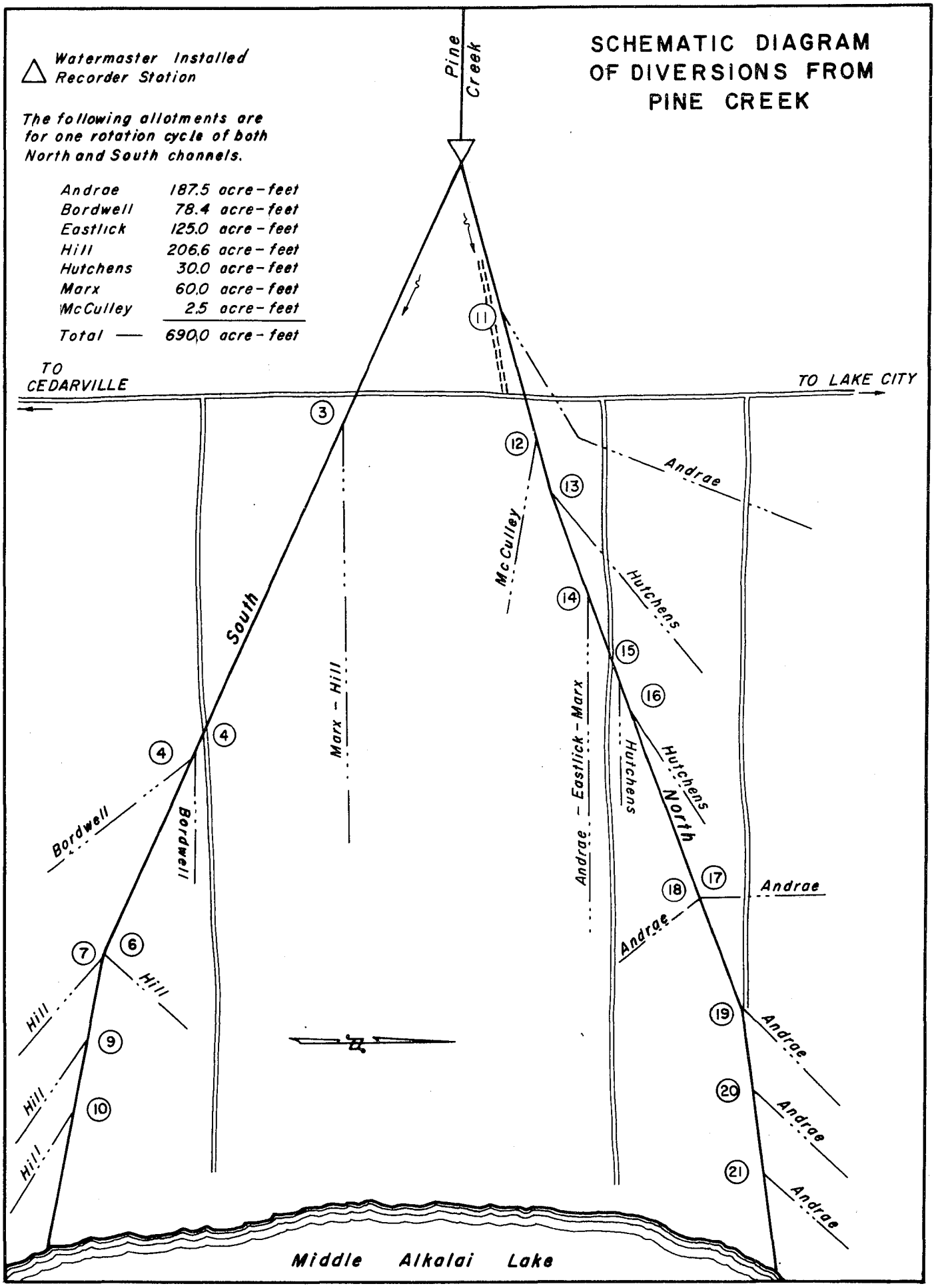
(35) to (38) *Jacobs 1.30 cfs*

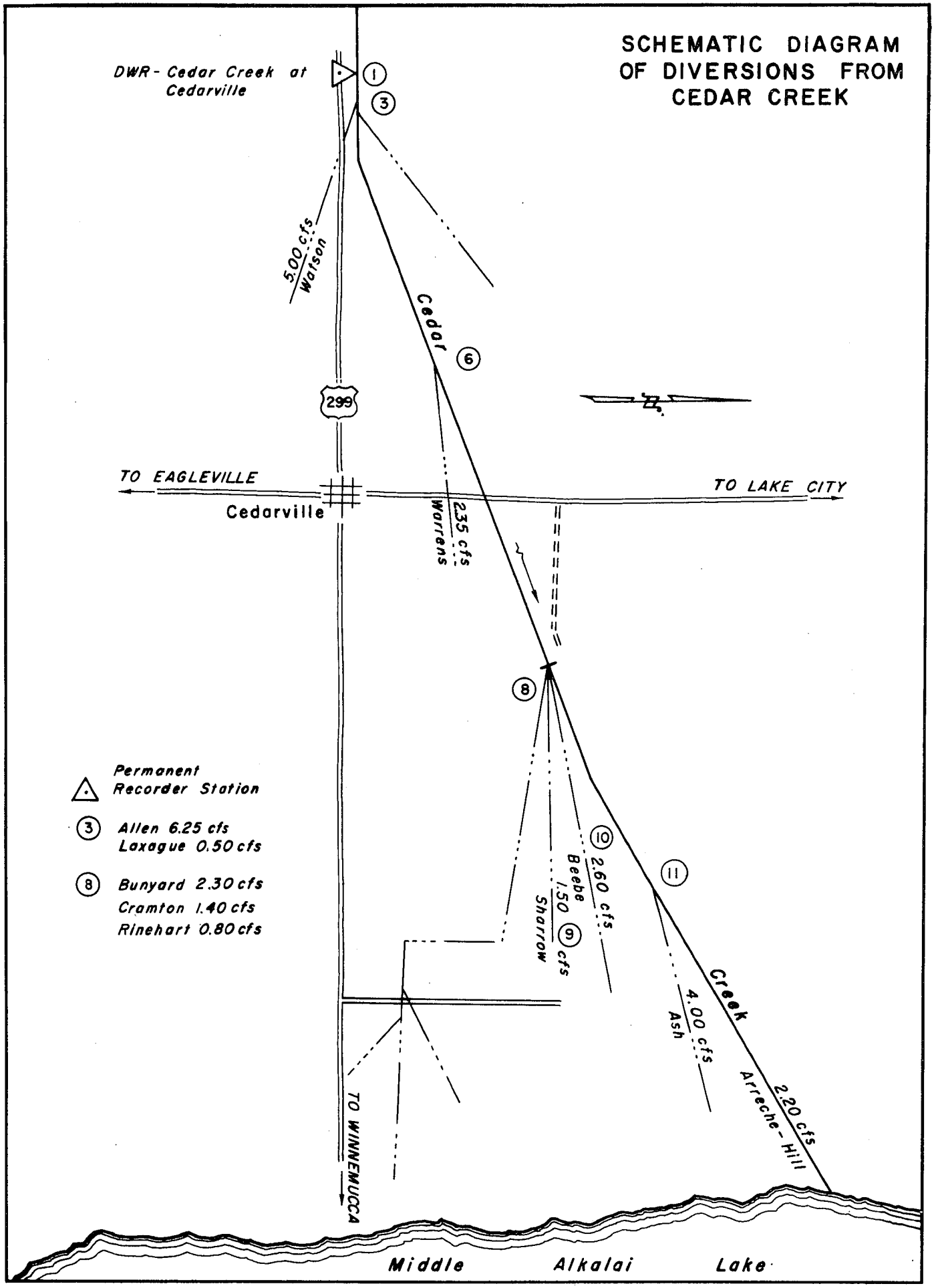
(39) to (43) *Cockrell 10.30 cfs*

(42) *G. Warrens 1.85 cfs*




Watermaster Installed Recorder Station
TO CEDARVILLE
(1) W. Warrens 4.80 cfs
Radebaugh 3.70 cfs
Lauritzen 1.45 cfs
(1) (2) G. Warrens 3.00 cfs
Soldier Cr.
4.30 cfs Watson
2.20 cfs Lauritzen
2.10 cfs Lauritzen
East Channel
Channel
0.30 cfs Stopp
West
4.36 cfs Heard
0.73 cfs Heard
2.27 cfs Harris-Bullen
No defined channel in this area
TO LAKE CITY
TO LAKE CITY
2.04 cfs Watson
Cockrell 2.25 cfs
Upper Alkalai Lake
SCHEMATIC DIAGRAM OF DIVERSIONS FROM SOLDIER CREEK


SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
PINE CREEK
Watermaster Installed
Recorder Station
The following allotments are
for one rotation cycle of both
North and South channels.
Andrae 187.5 acre-feet
Bordwell 78.4 acre-feet
Eastlick 125.0 acre-feet
Hill 206.6 acre-feet
Hutchens 30.0 acre-feet
Marx 60.0 acre-feet
McCulley 2.5 acre-feet
Total — 690.0 acre-feet
Pine Creek
TO CEDARVILLE
TO LAKE CITY
South
North
Andrae
McCulley
Hutchens
Marx - Hill
Andrae - Eastlick - Marx
Bordwell
Hill
Middle Alkalai Lake


SCHEMATIC DIAGRAM OF DIVERSIONS FROM CEDAR CREEK
DWR - Cedar Creek at Cedarville
1
3
500 cfs Watson
Cedar
6
299
TO EAGLEVILLE
TO LAKE CITY
Cedarville
235 cfs Warrens
8
Permanent Recorder Station
3 Allen 6.25 cfs
Laxague 0.50 cfs
8 Bunyard 2.30 cfs
Cramton 1.40 cfs
Rinehart 0.80 cfs
10
2.60 cfs Beebe
1.50 Sharrow
9 cfs
11
4.00 cfs Ash
Creek
2.20 cfs Arreche-Hill
TO WINNEMUCCA
Middle Alkalai Lake

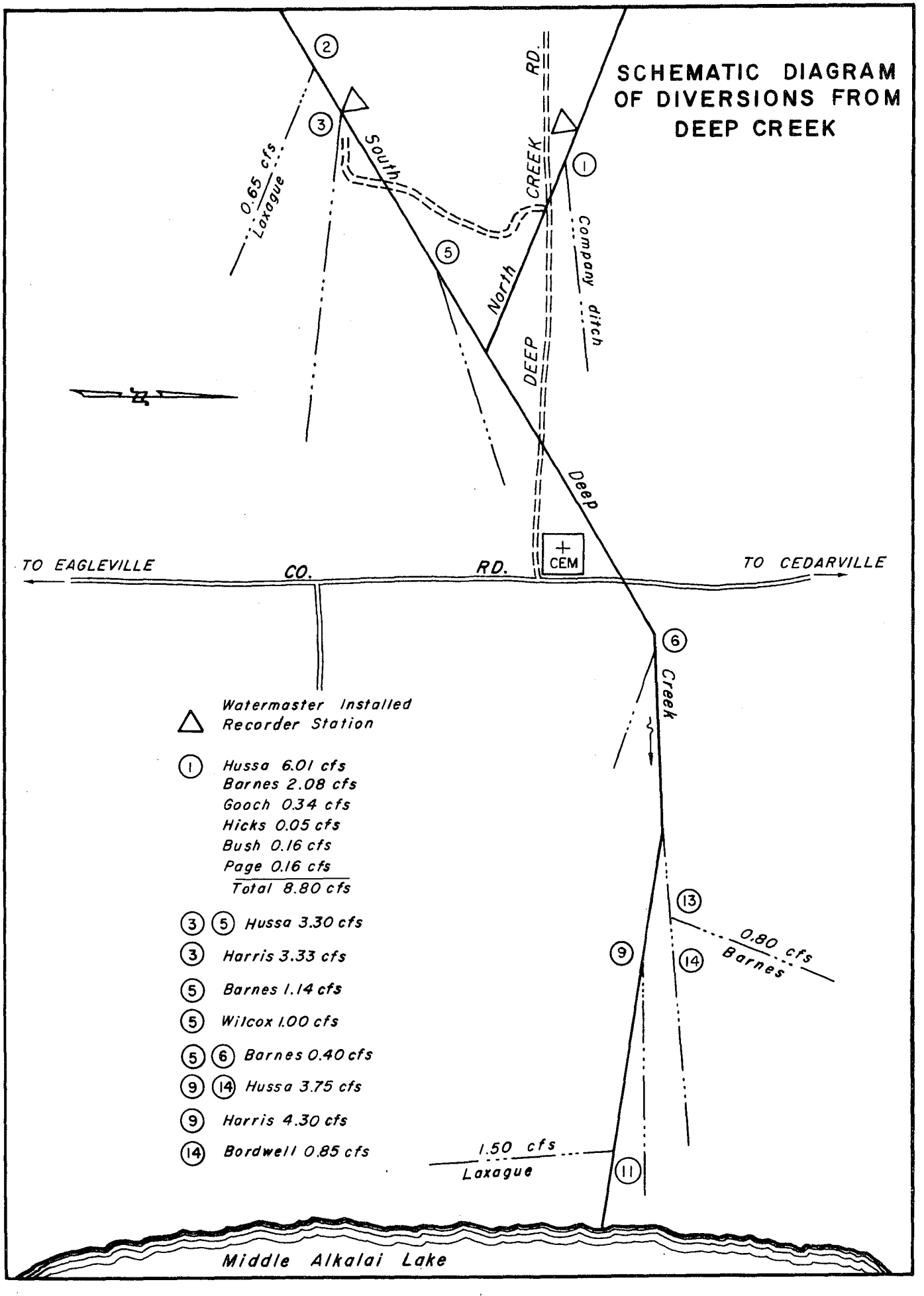

SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
DEEP CREEK
RD.
South
CREEK
Company ditch
North
DEEP
Deep
0.65 cfs
Laxague
TO EAGLEVILLE
CO.
RD.
CEM
TO CEDARVILLE
Creek
0.80 cfs
Barnes
1.50 cfs
Laxague
Middle Alkalai Lake
Watermaster Installed
Recorder Station
(1) Hussa 6.01 cfs
Barnes 2.08 cfs
Gooch 0.34 cfs
Hicks 0.05 cfs
Bush 0.16 cfs
Page 0.16 cfs
Total 8.80 cfs
(3) (5) Hussa 3.30 cfs
(3) Harris 3.33 cfs
(5) Barnes 1.14 cfs
(5) Wilcox 1.00 cfs
(5) (6) Barnes 0.40 cfs
(9) (14) Hussa 3.75 cfs
(9) Harris 4.30 cfs
(14) Bordwell 0.85 cfs

FIGURE 16g

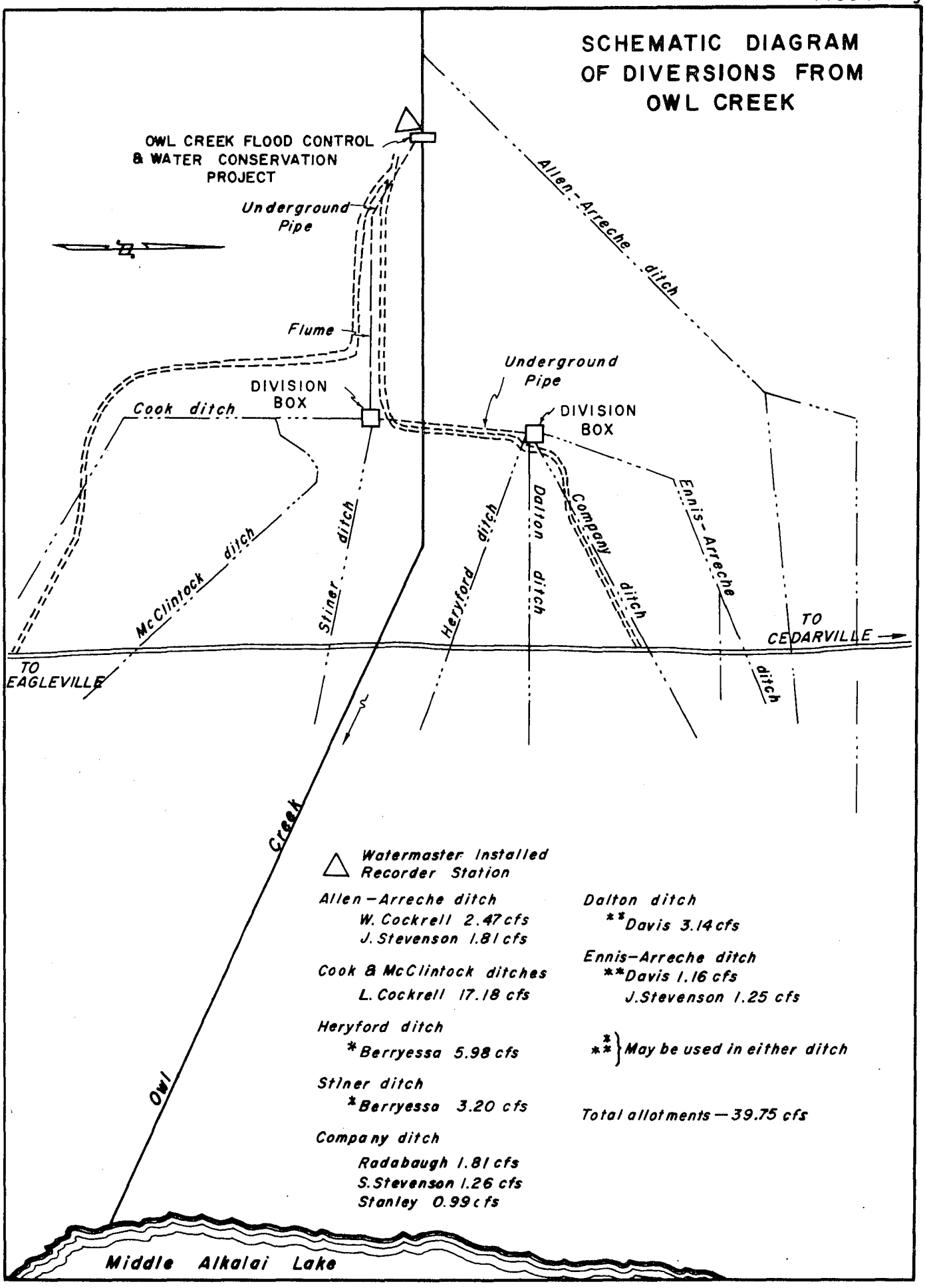
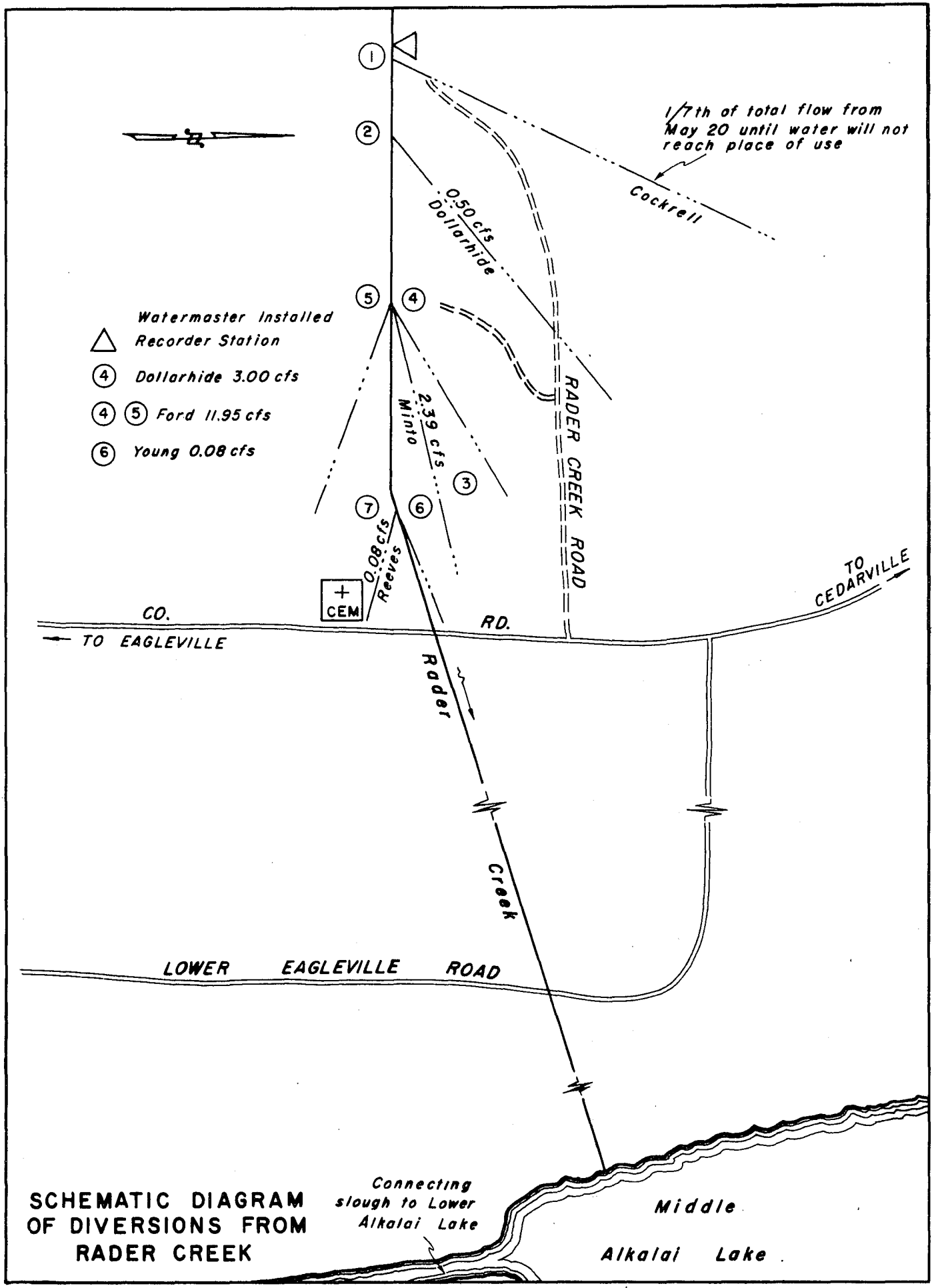

SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
OWL CREEK
OWL CREEK FLOOD CONTROL
& WATER CONSERVATION
PROJECT
Underground
Pipe
Allen-Arreche ditch
Flume
Underground
Pipe
DIVISION
BOX
Cook ditch
DIVISION
BOX
McClintock ditch
Stiner ditch
Heryford ditch
Dalton ditch
Company ditch
Ennis-Arreche
ditch
TO
CEDARVILLE
TO
EAGLEVILLE
Owl Creek
Middle Alkalai Lake
Watermaster Installed
Recorder Station
Allen-Arreche ditch
W. Cockrell 2.47 cfs
J. Stevenson 1.81 cfs
Cook & McClintock ditches
L. Cockrell 17.18 cfs
Heryford ditch
*Berryessa 5.98 cfs
Stiner ditch
*Berryessa 3.20 cfs
Company ditch
Radabaugh 1.81 cfs
S. Stevenson 1.26 cfs
Stanley 0.99 cfs
Dalton ditch
**Davis 3.14 cfs
Ennis-Arreche ditch
**Davis 1.16 cfs
J. Stevenson 1.25 cfs
*, **} May be used in either ditch
Total allotments — 39.75 cfs

FIGURE 16 h



SCHEMATIC DIAGRAM OF DIVERSIONS FROM RADER CREEK

△ *Permanent Recorder Station*

(1) *Harris Bros. 0.31 cfs*
R. Minto 0.51 cfs
Morgan 0.36 cfs

(3) *Ford 5.00 cfs (after July 1, 0.50 cfs)*
Town Users 0.98 cfs

(4) *Ford 0.50 cfs*
Town Users 1.36 cfs

(4) (6) (8) (11) *Ford 3.90 cfs*

(5) *Harris Bros. 0.60 cfs*
(0.10 cfs may be taken through diversion (1))

(8) (9) (11) *Stevens 0.30 cfs*

(11) *Stevens 1.80 cfs*

(8) *to* (10) *M. Stevenson 3.15 cfs*
(Minus any water received from Prior Collecting ditch)

(X) *Harris Bros. 6.70 cfs*
(All diversions below (13))
(1.0 cfs may be taken through diversion (5))

(XX) *Any water over 0.75 cfs at this point must be deducted from (X))*

Total allotments – 29.57 cfs

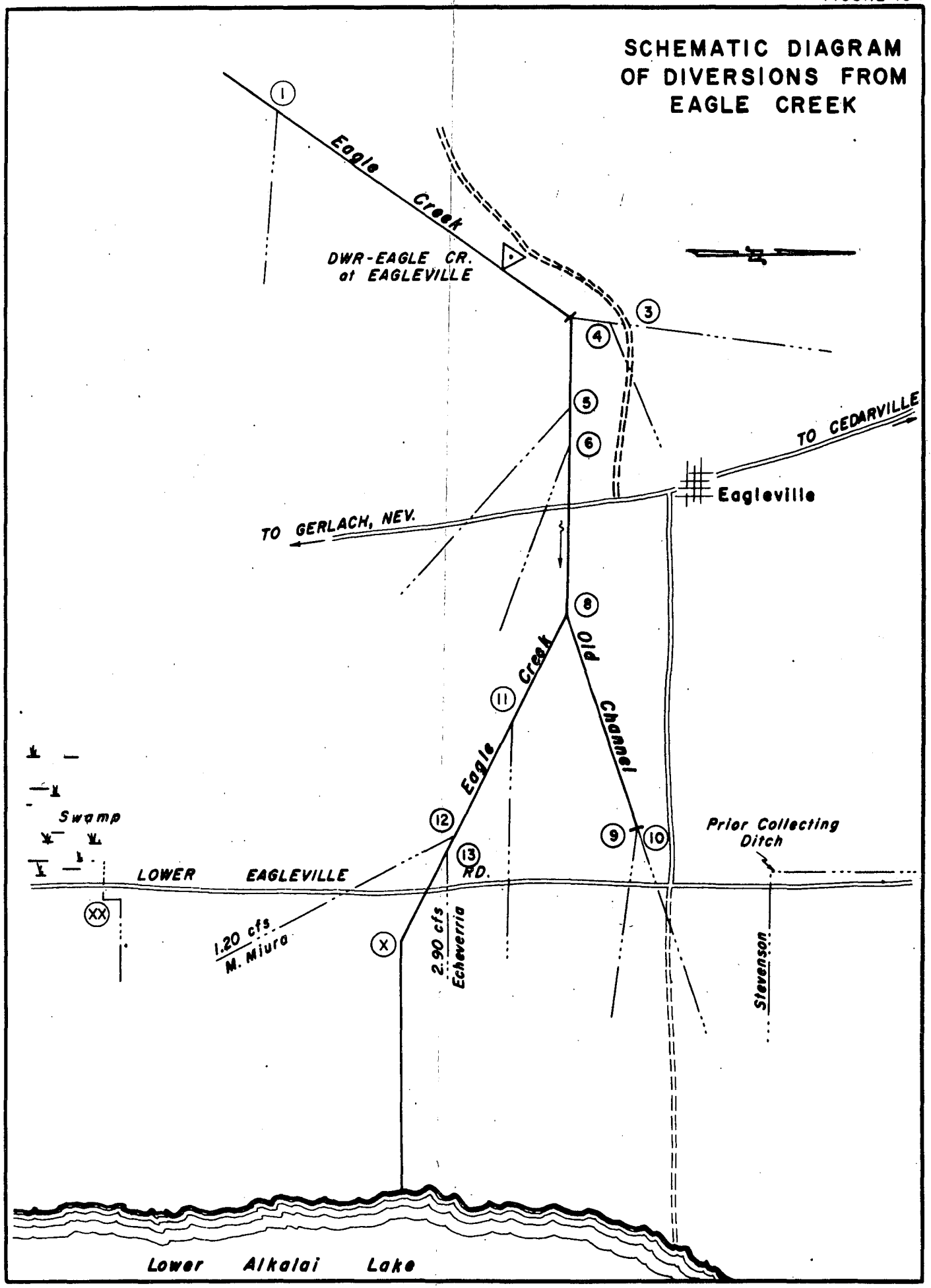
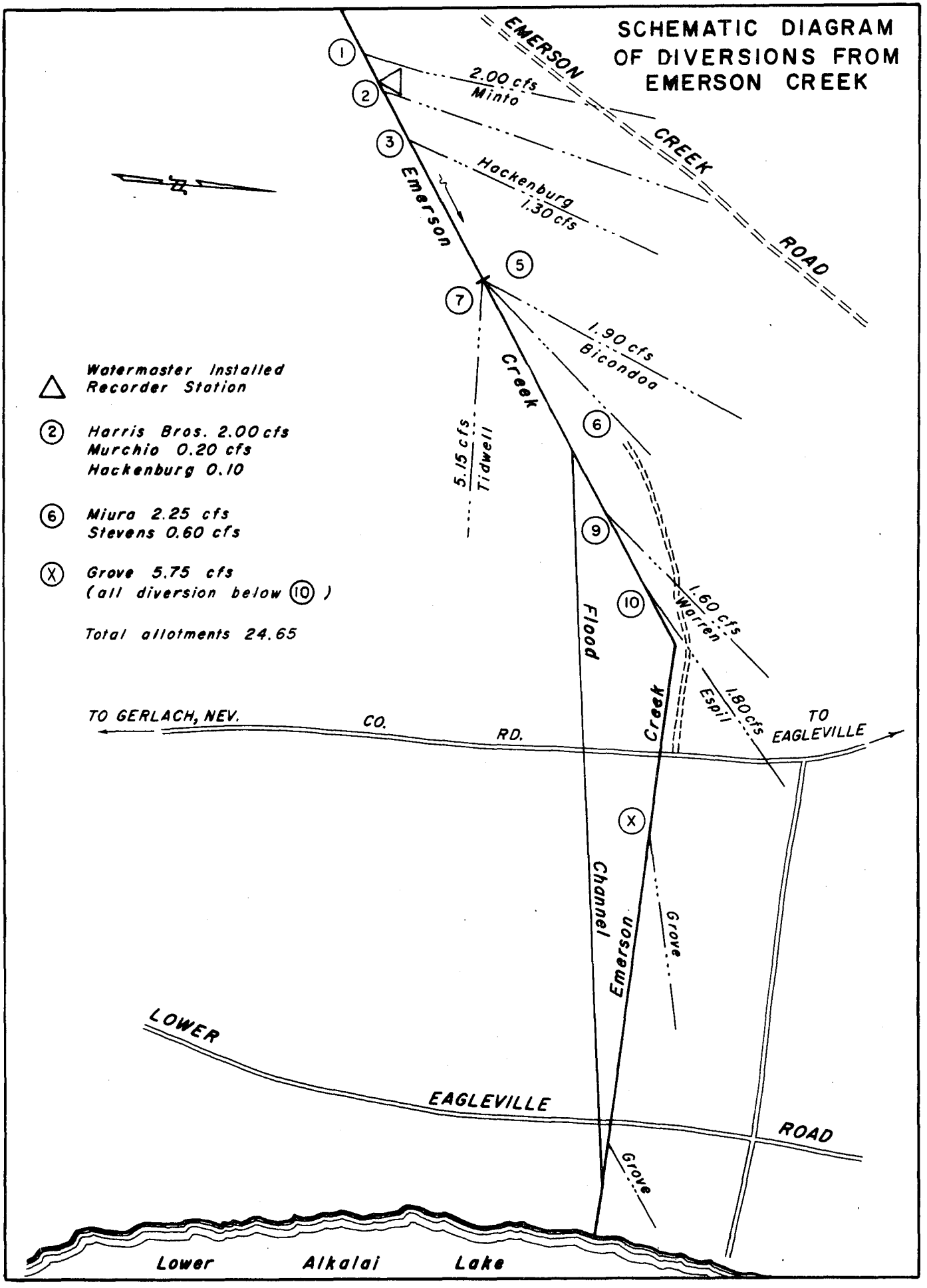
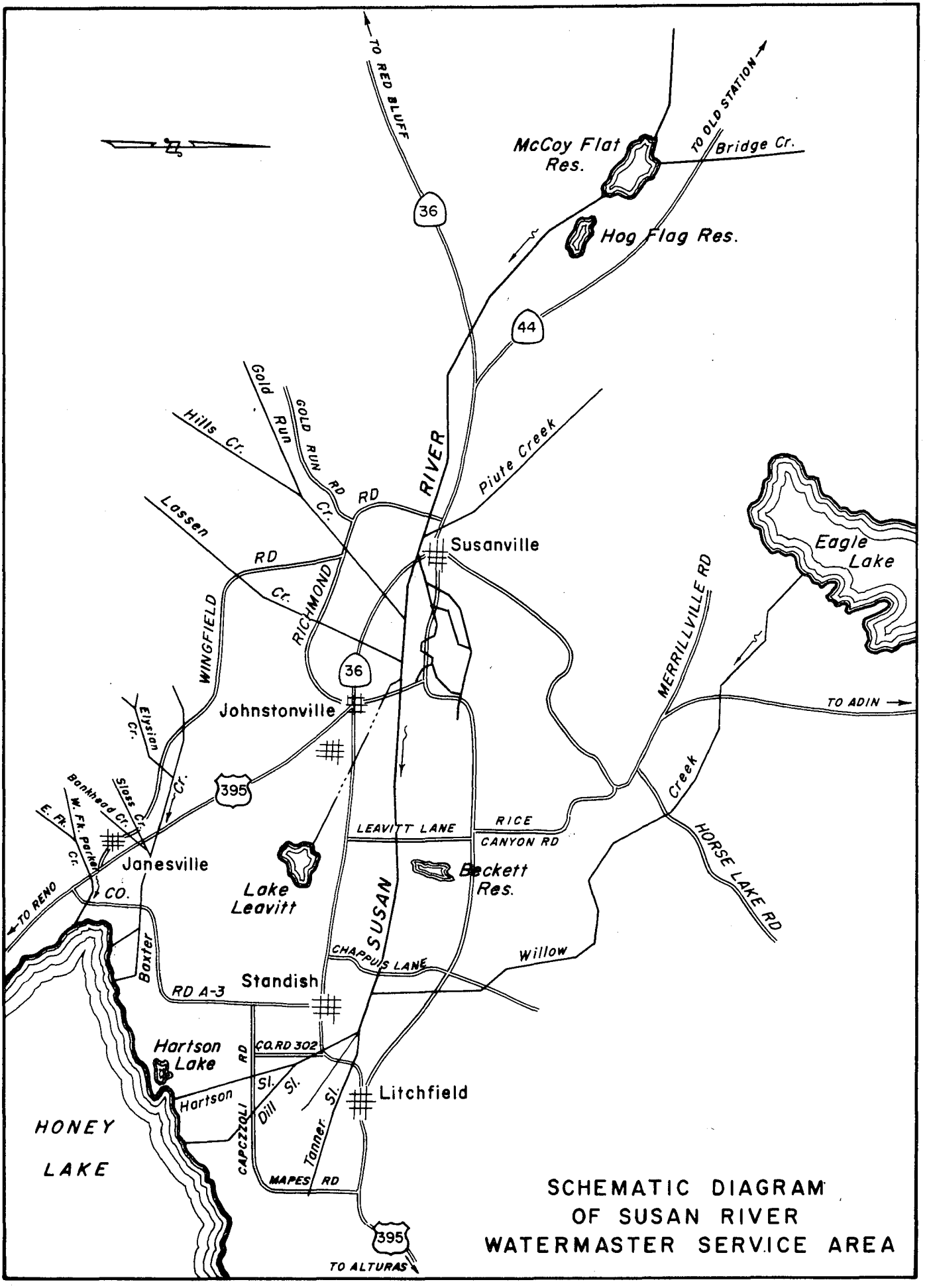
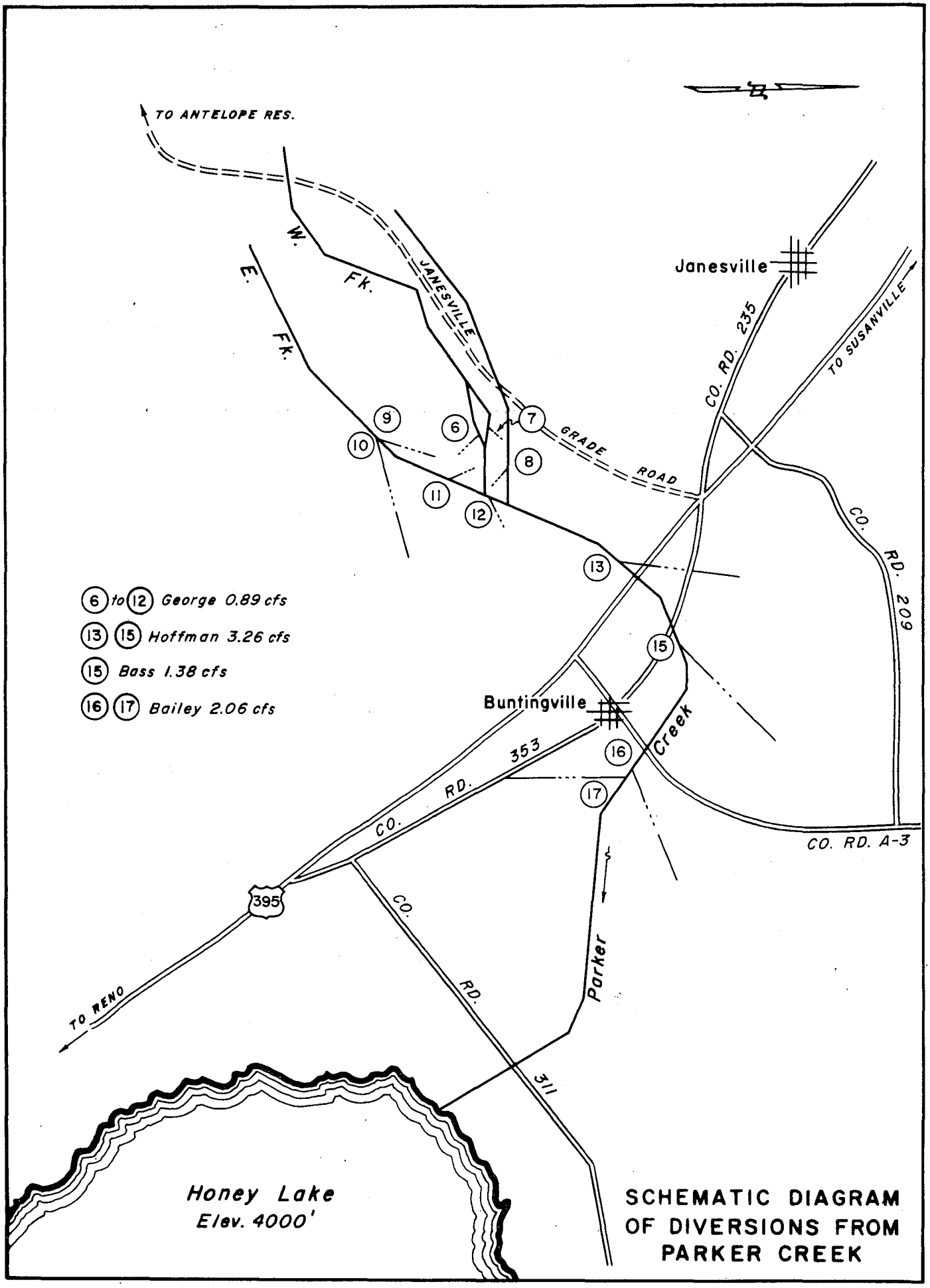


FIGURE 16 j


SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
EMERSON CREEK
EMERSON
CREEK
ROAD
2.00 cfs
Minto
Hackenburg
1.30 cfs
Emerson
Creek
1.90 cfs
Bicondoa
5.15 cfs
Tidwell
Flood
Channel
Emerson
Creek
1.60 cfs
Warren
1.80 cfs
Espil
Grove
Grove
TO GERLACH, NEV.
CO.
RD.
TO
EAGLEVILLE
LOWER
EAGLEVILLE
ROAD
Lower
Alkalai
Lake
Watermaster Installed
Recorder Station
(2) Harris Bros. 2.00 cfs
Murchio 0.20 cfs
Hackenburg 0.10
(6) Miura 2.25 cfs
Stevens 0.60 cfs
(X) Grove 5.75 cfs
(all diversion below (10))
Total allotments 24.65



SCHEMATIC DIAGRAM
OF SUSAN RIVER
WATERMASTER SERVICE AREA


TO ANTELOPE RES.
W. FK.
E. FK.
JANESVILLE
Janesville
CO. RD. 235
TO SUSANVILLE
GRADE ROAD
6
7
8
9
10
11
12
13
15
16
17
CO. RD. 209
6 to 12 George 0.89 cfs
13 15 Hoffman 3.26 cfs
15 Bass 1.38 cfs
16 17 Bailey 2.06 cfs
Buntingville
Creek
CO. RD. 353
CO. RD. A-3
395
TO RENO
CO. RD. 311
Parker
Honey Lake
Elev. 4000'
SCHEMATIC DIAGRAM OF DIVERSIONS FROM PARKER CREEK

ALLOCATIONS FROM SLOSS AND BANKHEAD CREEKS

Diversion Number	Present Owner 1965	cfs Allotments			
		First	Second	Third	Total
42	Bowersox	.02			0.02
44	Thornton	.002			0.002
45	Spears			.08	0.08
46	Grover	.10	1.10		1.20
46,47	Peterson	.10	1.10		1.20
48,49,50	Row	.02	.13		0.15
52,53,55	De Rocher			.48	0.48
56, 62	Ashmore	.25	3.23		3.48
63,65	Thomasson	.05		.30	0.35
66,67	Fritts	.06		.20	0.26

ALLOCATIONS FROM BAXTER AND ELESIAN CREEK

Diversion Number	Present Owner 1965	cfs Allotments		
		First	Second	Third
3,4,5	Ellena	2.50		
6,7,8,10	Gray Eagle Corp.	.68		.20
11	Burnett, Baker			.20
8,9,12,10	Griffin	2.80	.43	
8,12,13,14,15,16	Melton	2.53	.97	
16	Gray Eagle Corp.	.10	.42	
17,18	Jack	.16		
17-21,26,27	Bass	4.10		
17,22-24,28,32,33	Kanavel	2.82		
17,22-24,28,32,33	Kanavel	4.58		
36-39	Peterson			1.42
70	Ahern	.02		
71,72	A & K Company	.02		1.69
81-83	A & K Company			2.88
78	A & K Company			1.05
73,75	Gerza		.89	.28
74,76	Slippey		.98	
74,76	Hemphill		.98	
91-93	Bailey			3.02
75,77	Dieter		1.55	.40
75,77,80	Dieter		.30	
77-79	Mulroney		.90	.90
78	Mulroney			.67
78	Cummings			.15
85-89	Damon, McDonald			1.60
75,77,79,80	A & K Company		.64	
81,83	Blankenship			.50
84,90	Triami Cattle Co.			1.81

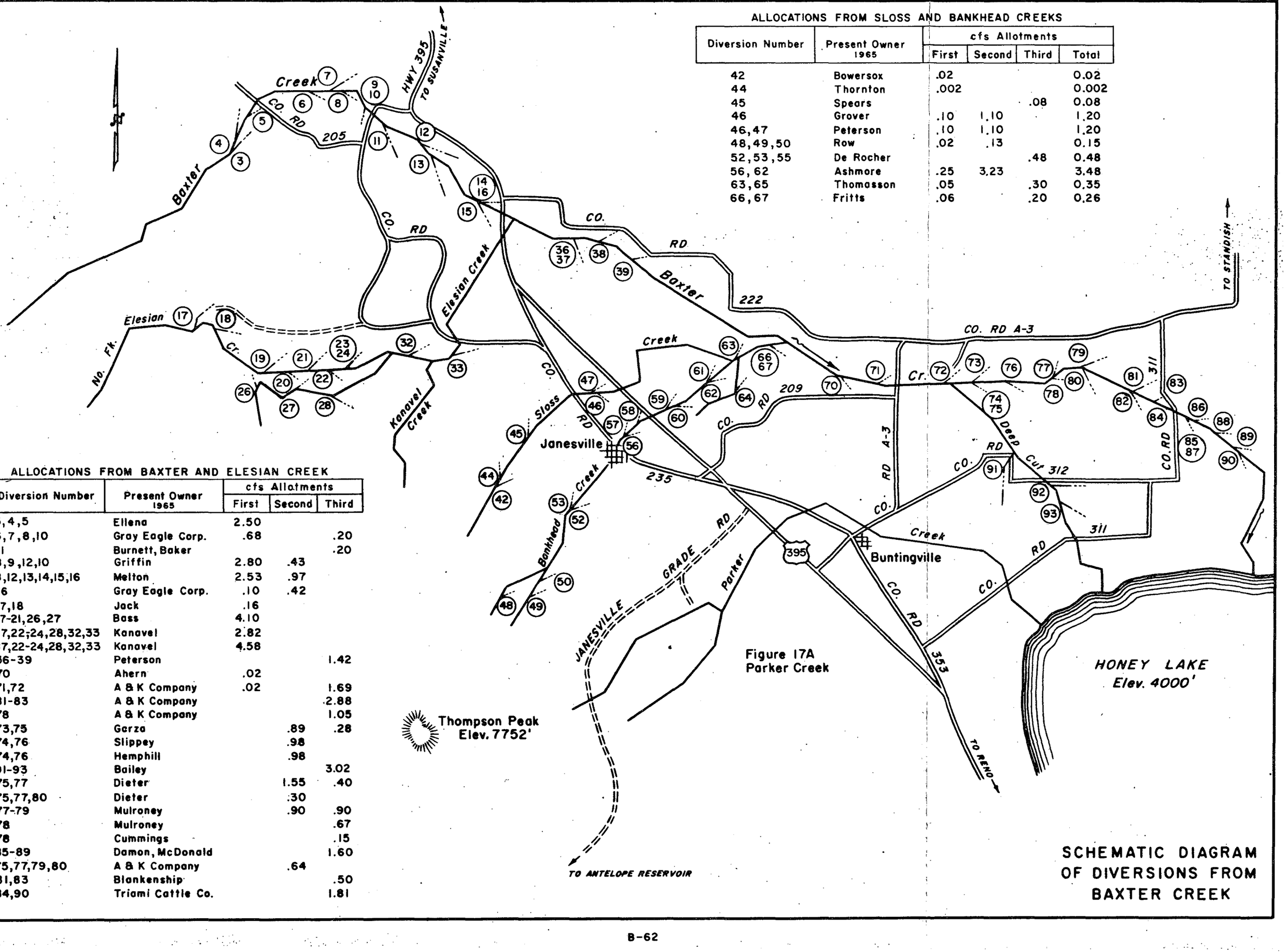
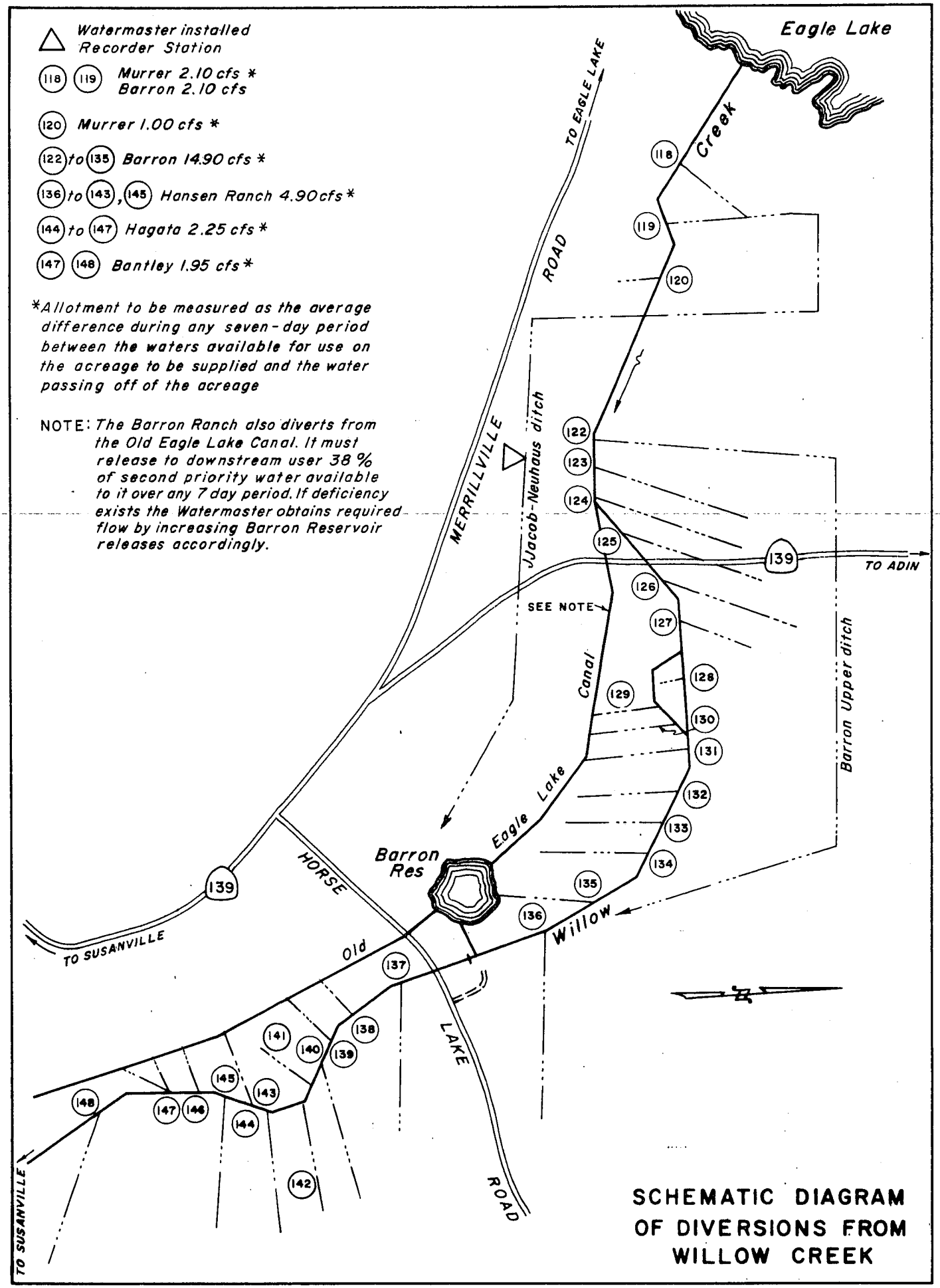


Figure 17A
Parker Creek

SCHEMATIC DIAGRAM
OF DIVERSIONS FROM
BAXTER CREEK



SCHEMATIC DIAGRAM OF DIVERSIONS FROM WILLOW CREEK

FIGURE 17d

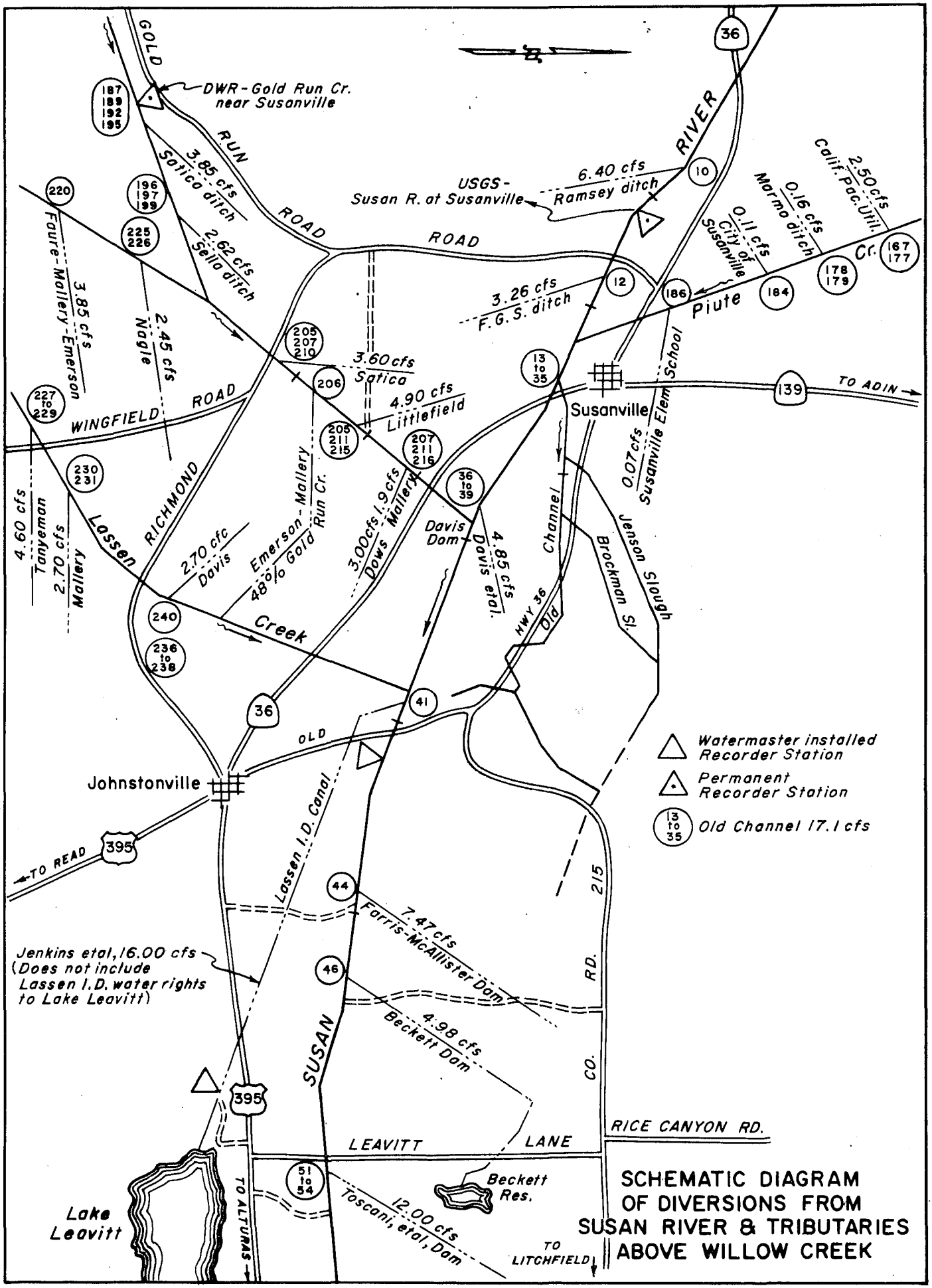

GOLD RUN
DWR - Gold Run Cr. near Susanville
187 189 192 195
3.85 cfs Satica ditch
196 197 199
220
225 226
2.62 cfs Sella ditch
Faure-Mallery-Emerson 3.85 cfs
2.45 cfs Nagle
227 to 229
WINGFIELD ROAD
230 231
4.60 cfs Tanyeman
2.70 cfs Mallery
Lassen
RICHMOND ROAD
2.70 cfs Davis
Emerson-Mallery 48% Gold Run Cr.
240
236 to 238
Creek
205 207 210
3.60 cfs Satica
206
205 211 215
207 211 216
4.90 cfs Littlefield
3.00 cfs 1.9 cfs Dows Mallery
36 to 39
Davis Dam
4.85 cfs Davis etal.
36
41
OLD
Johnstonville
TO READ
395
Lassen I.D. Canal
44
7.47 cfs Farris-McAllister Dam
Jenkins etal, 16.00 cfs (Does not include Lassen I.D. water rights to Lake Leavitt)
46
4.98 cfs Beckett Dam
SUSAN
395
LEAVITT LANE
RICE CANYON RD.
51 to 54
TO ALTURAS
Lake Leavitt
Beckett Res.
12.00 cfs Toscani, etal, Dam
TO LITCHFIELD
USGS - Susan R. at Susanville
6.40 cfs Ramsey ditch
SUSAN RIVER
10
0.11 cfs City of Susanville
0.16 cfs Marmo ditch
2.50 cfs Calif. Pac. Util.
Cr.
167 177
178 179
184
186
12
3.26 cfs F.G.S. ditch
Piute
13 to 35
Susanville
School
0.07 cfs Susanville Elem
139
TO ADIN
Channel
Brockman Sl.
Jenson Slough
HWY 36
Old
215
RD.
CO.
36
Watermaster installed Recorder Station
Permanent Recorder Station
13 to 35 Old Channel 17.1 cfs
SCHEMATIC DIAGRAM OF DIVERSIONS FROM SUSAN RIVER & TRIBUTARIES ABOVE WILLOW CREEK

FIGURE 17e

[3] = Schedule 3
[5] = Schedule 5
[6] = Schedule 6

(56), (94) to (96) Barry, Story, Fraley, Mendibpure, Wagner — 2.00 cfs [3]; 1.95 cfs [6]

(71), (75) to (78) McClelland — 2.67 cfs [3]; 7.33 cfs [5]; 0.75 cfs [6]

(57), (58), (69) Gibson — 2.00 cfs [3]; 5.50 cfs [5]

(58) to (61), (79), (80), (84) Mapes — 2.91 cfs [3]; 8.03 cfs [5]; 2.35 cfs [6]

(81) to (83) DeWitt — 0.33 cfs [3]; 0.92 cfs [5]; 0.50 cfs [6]

Theodore — 0.50 cfs [3]; 1.38 cfs [5]; 2.60 cfs [6]

(85), (86) Calif. Fish & Game — 3.33 cfs [3]; 9.17 cfs [5]; 6.70 cfs [6]

(82), (87) to (89), (91), (92) Capezzoli, DeWitt — 2.00 cfs [3]; 5.50 cfs [5]

(99) (102) Triami — 2.30 cfs [3]; 5.50 cfs [5]; 5.15 cfs [6]

(98), (100), (101) Bailey — 1.33 cfs [3]; 3.67 cfs [5]

(97) Tanner — 1.33 cfs [3]; 3.67 cfs [5]

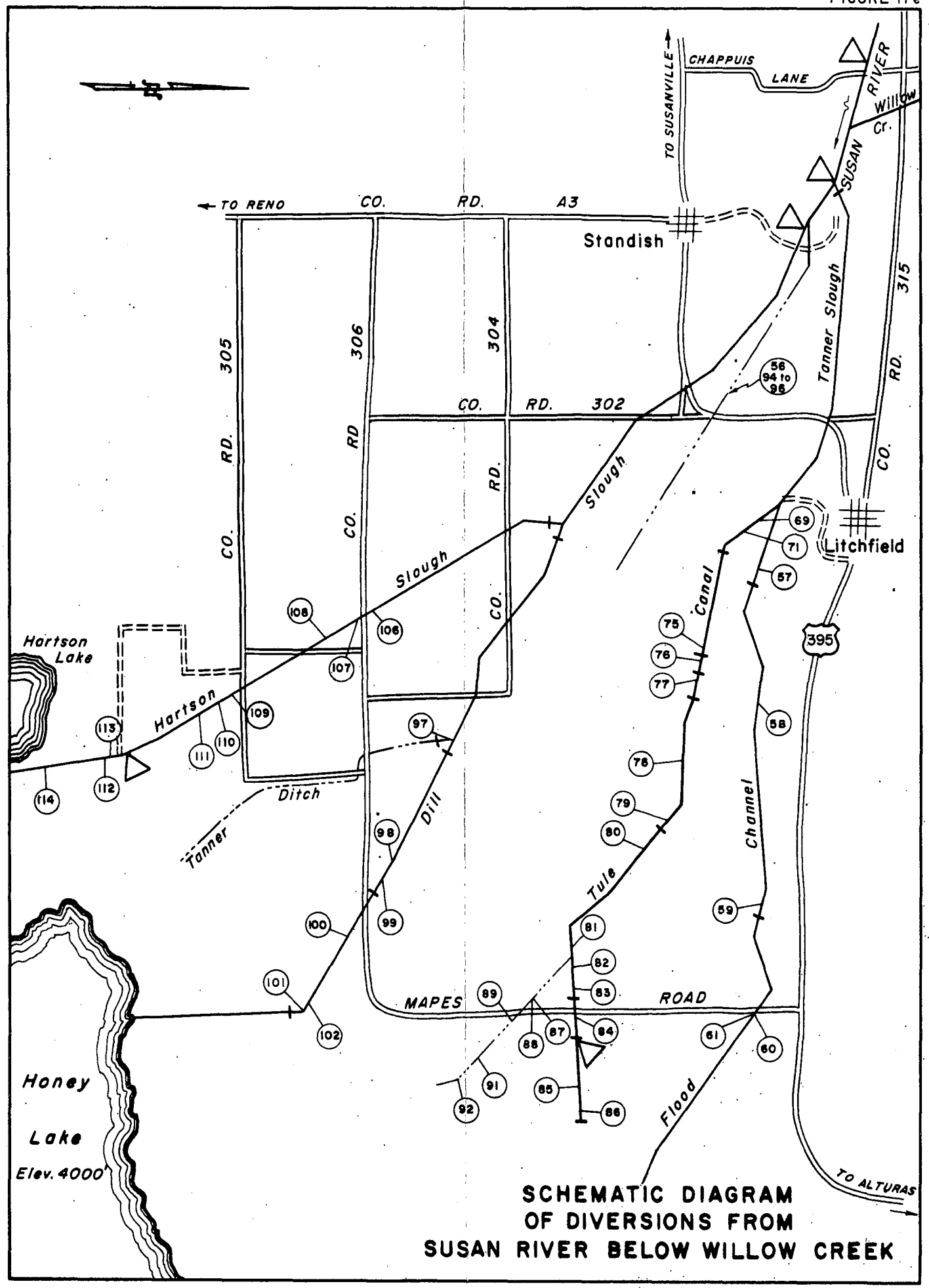
(106), (109) Buckner — 0.25 cfs [3]; 0.85 cfs [6]

(107), (108) Beckett — 0.25 cfs [3]; 0.95 cfs [6]

(110), (111) Anderson — 0.25 cfs [3]; 1.30 cfs [6]

(112) to (114) Calif. Fish & Game 3.10 cfs [6]

△ Watermaster installed Recorder Station



SCHEMATIC DIAGRAM OF DIVERSIONS FROM SUSAN RIVER BELOW WILLOW CREEK