Dept. Water Resources

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Area II
Boise, Idaho
July 29, 1974

DESIGN REPORT

Job : Box Lake Dam

Project : CO-01 - BLV-1974

Location : McCall, Idaho

Authority: PL-46

Phase : Design

SUMMARY: This report outlines basic data, assumptions and criteria used to design and prepare drawings for dam repair at Box Lake. Design computations are attached to this report.

DESCRIPTION OF JOB: The proposed work consists of replacing a 70 foot section of dam with earth fill and impermeable membrane on Box Lake dam, and providing an additional emergency spillway for safety purposes in case existing emergency spillways are plugged with snow. Box Lake is located in Sections 32, 33, T20N, RA4, and Section 4, T19N, R4E., approximately 10 miles northwest of McCall, Idaho on the Payette National Forest.

The existing dam washed out in 1972, apparently from overtopping caused from snow plugged spillways (see USFS report attached). This caused loss of irrigation water and considerable damage to one half mile of Box Creek and also deposited sediment in Sisters Lake.

Lake Reservoir Company has four reservoirs for irrigation storage. Box Lake has decreed right of 1395 acre feet of water by Reclamation Permit R 448 and has Forest Service special use permit No. 2720 dated September 1, 1935. Actual storage is estimated to be 650 acre feet. All water goes from Cascade Reservoir into the Payette River and is distributed to the following areas:

Enterprise Irrigation District	100 Shares
Coop Irrigation Company	1241 Shares
Emmett Irrigation District	1688 Shares
Letha Irrigation District	1095 Shares
Lower Payette Irrigation District	876 Shares

GRANITE LAKE 2900 AC-FEET 195 ACRES 14.87 OF ACRE

ID NUMBER / INSP DATE	NAME / PURPOSE	RISK	DAM SIZE	DAM TYPE	NAME OF OWNER / STORAGE AC-FT	HEIGHT FT	DRAINAGE SQ-MI	RES-AREA ACRES	COUNTY / YEAR COMP	STREAM / CREST LEN-FT	SPILLWAY TYPE	SPILLWAY DEPTH-FT	SPILLWAY DISC-CFS	IDF / IDF CFS	LOCATION SEC-T-R / COND	CERT EXP
D63-XX13E	TITCOMB NO 7				HILLTOP LAND AND CATTLE CO				PAYETTE	TR-SNAKE RIVER				Q100	03-06N-05W	
0592 O		2	3	EARTH	7	14.0	0.1	1	1981	300	ERCHAN	2.0	0	0	GD	0000
D65-0784	TRIPOD				IDAHO DEPARTMENT OF LANDS				VALLEY	TRIPOD CREEK				Q50	16-11N-03E	
0694 IR		3	3	EARTH	40	16.5	8.4	6	1940	200	RKCHAN	7.9	333	300	GD	1196
D65-10520	BOX LAKE				LAKE RESERVOIR CO				VALLEY	BOX CREEK				Q100	33-20N-04E	
0992 I		3	2	EARTH	1295	9.3	0.8	145	1935	250	RPCHAN	4.2	109	62	GD	1195
D65-10780	TERRACE LAKES				TERRACE LAKES REC RANCH INC				BOISE	EASLEY CREEK				Q50	33-10N-04E	
0692 K		3	3	EARTH	4	14.0	2.5	1	1967	250	PIPE	5.0	110	0	FR	0000
D65-12202	TOM J				TOM J DAVIS				VALLEY	BEAVER CREEK				PMF	17-14N-04E	
0893 I		1	1	EARTH	3360	68.0	7.2	137	1994	2000	RKCHAN	6.5	1100	5150	UF	1194
D65-12382	BISSELL CREEK				DAVE LITTLE FARMS				GEM	BISSELL CREEK				Q100	35-08N-02W	
0594 EI		3	2	EARTH	20	26.5	17.2	3	1975	300	OVFL	5.5	894	845	GD	1196
D65-12868	YANKE				RONALD C YANKE				VALLEY	TR-CASCADE RESERVOIR				Q100	13-15N-03E	
0894 H		3	2	EARTH	65	25.0	0.7	5	1988	560	GLHOLE	2.8	22	60	GD	1196
D65-12897	SKOW				U S BUREAU OF LAND MGMT				WASHINGTON	HOLLAND GULCH				Q50	23-10N-03W	
0793 SG		3	3	EARTH	10	17.0	1.9	2	1987	113	RPCHAN	3.5	59	150	GD	0000
D65-13257	HUNTER				U S BUREAU OF LAND MGMT				WASHINGTON	TR-BIG WILLOW CREEK				Q50	23-10N-01W	
0794 SG		3	3	EARTH	27	19.8	0.5	3	1990	450	RPCHAN	3.1	43	56	GD	1199

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D65-13267	INDIAN CREEK				INDIAN CREEK RANCH				PAYETTE	INDIAN CREEK				Q100	07-09N-02W	
1094	I	2	3	EARTH	97	18.8	22.0	16	1990	125	RPCHAN	8.7	1356	1000	GD	1195
D65-13410	MUNDAY-HANEY				BUD L MUNDAY AND ROBERT HANEY				VALLEY	TR-ROUND VALLEY CREEK				Q100	21-12N-04E	
0892	SR	3	2	EARTH	9	23.0	0.1	1	1992	175	ERCHAN	2.0	0	17	FR	0000
D65-2149	PADDOCK VALLEY				LITTLE WILLOW IRRIGATION DIST				WASHINGTON	LITTLE WILLOW CREEK				PMF	17-10N-02W	
0794	I	1	1	EARTH	36400	43.0	35.0	1340	1949	300	RKCHAN	7.0	360	21500	GD	1196
D65-2255	WARREN DIVERSION				WARREN DITCH CO				VALLEY	BIG CREEK				Q500	03-13N-04E	
0893	I	2	2	EARTH	100	13.0	56.0	25	1924	100	RKCHAN	7.0	908	1560	GD	1195
D65-2278	PAYETTE LAKE				LAKE RESERVOIR CO				VALLEY	N FK PAYETTE RIVER				0.5 PMF	08-18N-03E	
0894	IR	2	1	CNGRV	41000	8.2	144.0	5337	1944	168	OVFL	12.0	7330	11000	GD	1196
D65-2288	BLACK CANYON				U S BUREAU OF RECLAMATION				GEM	PAYETTE RIVER				PMF	22-07N-01W	
0891	IPR	1	1	CNGRV	29822	111.0	2712.0	1100	1924	1039	CNOVFL	17.5	39060	192500	GD	1193
D65-2316	SHAW TWINS UPPER				JOHN SHAW				VALLEY	TR-LAKE FORK CREEK				Q100	22-18N-04E	
0890	J	3	2	ROCK	188	15.0	0.1	20	1930	75	RKCHAN	2.0	48	19	GD	1195
D65-2916	LOUIE LAKE				BOULDER IRRIGATION CO				VALLEY	LOUIE CREEK				Q100	33-18N-04E	
0893	I	3	2	EARTH	361	15.0	0.5	35	1928	110	RPCHAN	2.7	7	42	GD	1195
D65-2917	DEADWOOD				U S BUREAU OF RECLAMATION				VALLEY	DEADWOOD RIVER				PMF	08-11N-07E	
0792	IPR	1	1	CNAR	161900	137.0	112.0	3000	1931	749	CNOVFL	6.0	11300	52200	GD	1193

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D65-2918	PAYETTE LAKE UPPER				LAKE RESERVOIR CO				VALLEY	N FK PAYETTE RIVER				Q500	36-21N-03E	
0893	I	2	2	CNGRV	3000	12.0	42.0	315	1953	70	SCHAN	3.0	106	1240	GD	1195
D65-2919	GRANITE LAKE				LAKE RESERVOIR CO				VALLEY	LAKE CREEK				Q500	03-20N-03E	
0893	I	2	2	EARTH	2900	20.5	2.2	195	1932	1460	CNOVFL	4.3	73	160	GD	1195
D65-2923	BLACKWELL (FALL CREEK)				J B SCOTT				VALLEY	FALL CREEK				Q100	20-19N-04E	
0893	L	3	2	RKMAS	178	6.0	2.3	37	1925	50	OVFL	0.0	150	0	FR	0000
D65-2925	SAGE HEN				SQUAW CREEK IRRIGATION CO				GEM	SAGE HEN CREEK				0.5 PMF	34-12N-02E	
0594	L	2	1	EARTH	5210	38.0	10.5	238	1938	500	CNCHAN	8.5	1670	3725	GD	1196
D65-2926A1	KNOX MEADOW				JAMES CRUICKSHANK				VALLEY	LAKE FORK CREEK (OS)				Q500	13-18N-03E	
0893	I	2	2	EARTH	1073	13.0	1.4	156	1941	600	CHNAFD	5.6	59	150	GD	1195
D65-2926A2	KNOX MEADOW DIKE				JAMES CRUICKSHANK									Q500	13-18N-03E	
0893	AUX	2	0	EARTH	0	2.0	1.4	156		310	CHNAFD	2.8	0	150	GD	1195
D65-2927	CASCADE				U S BUREAU OF RECLAMATION				VALLEY	N FK PAYETTE RIVER				PMF	26-14N-03E	
0792	IFP	1	1	EARTH	703200	78.0	620.0	28300	1948	785	CNCHAN	32.0	12500	119100	GD	1193
D65-2931	CALLENDER				TOM J DAVIS				VALLEY	BEAVER CREEK				Q100	17-14N-04E	
0893	I	3	2	EARTH	210	27.0	6.8	50	1946	300	RKCHAN	4.7	166	323	NA	1194
D65-2936	KOSKELLA				AUGUST AND MATT KOSKELLA				VALLEY	TR-GOLD FORK RIVER				Q100	06-15N-04E	
0894	I	3	2	EARTH	74	21.0	0.4	12	1947	310	ERCHAN	2.6	14	53	GD	1196

Sight survey — Dam Plans