CONSERVATION WORKING PLAN REPORT

APRIL 1, 1935

LEUPP SCHOOL & AGENCY

LEUPP, ARIZONA

LEUPP RESERVATION

LEUPP, ARIZONA

Compiled By

G. J. Baber, S.D.A.

Completed March 31, 1935

WR 2803

I N D E X

WR 2804

CONSERVATION WORKING PLAN REPORT

1 9 3 5

Leupp School & Agency — Agency

Arizona — State

— Compiler

A. Statistical Information:

1.	Gross area of reservation in acres		1,007,360
2.	Alienated lands within reservation		
3.	Net Area of reservation		1,007,360
4.	Area of tribal lands		1,007,360
5.	Area of trust allotted land		55,040
6.	Classification of net area:		
	a. Area Forest Land	50,000	
	b. Area Grazing Land	854,860	
	c. Area Agricultural Land	2,500	
	d. Area Waste Land	100,000	
7.	Value of property:		
	a. Value of Timber, exclusive of land		$ 87,500.00
	b. Value of Timber Land		50,000.00
	c. Value of Grazing Land		1,071,262.00
	d. Value of Agricultural Land		7,500.00
	e. Value of Waste Land		
	f. Total Value of all Lands		1,216,262.00
8.	Total expenditure of ECW funds from March 31, 1933 to March 31, 1935.		360,000.00
9.	Investment of Conservation funds per acre in land improvements based on net area of reservation		.24 plus
10.	Number of Indians on Tribal Roll		1,981
11.	Number of Males on Tribal Roll eligible for work		550

AGENCY COST ANALYSIS

EMERGENCY CONSERVATION WORK

Leupp School & Agency INDIAN RESERVATION

State Arizona Date March 31, 1935.

ANALYSIS OF DISBURSEMENTS

	Dr.	Cr.
Total ECW Funds Allotted		$ 385,000.00
Inventories		
Equipment	$ 32,837.73	
Stores	2,191.33	
Projects	321,823.26	
Cash		
Balance D.O. Cash $31,379.41		
Available Balance of Allotment		
Total Cash $31,379.41		
Totals		
Unpaid obligations (see itemized list other side)		$17,044.49

WR 2806

2. - SUMMARY OF PROJECT COSTS, INCLUDING ESTIMATED PER-CENT COMPLETED AND AMOUNT REQUIRED TO COMPLETE

Classification No. ECW Form 7	Project Number	Name of Project	Size Cu.Yds.	Per-Cent Completed	Total Cost To-Date	Estimated cost to complete
112	G-1	Garage	4,030	100	$3,751.47	None
124	D-1	Dams, Earth fill	1,570	"	1,145.13	"
124	D-2	do , do do	1,195	"	835.56	"
	3	do do do	943	"	943.70	"
	4	do do do	1,140	"	871.19	"
	5	do do do	680	"	683.74	"
	6	do do do	500	"	288.30	"
	7	do do do	1,234	"	611.33	"
	8	do do do	837	"	830.55	"
	9	do do do	1,003	"	2,214.39	"
	10	do do do	1,200	"	783.93	"
	11	do do do	500	"	596.48	"
	12	do do do	910	"	712.71	"
	13	do do do	2,338	"	1,207.06	"
	14	do do do	496	"	400.61	"
	15	do do do	1,518	"	784.35	"
	16	do do do	938	"	595.35	"
	17	do do do	1,518	"	1,384.39	"
	18	do do do	1,518	"	901.59	"
	19	do do do	474	"	326.94	"
	20	do do do	930	"	854.23	"
	21	do do do	2,360	"	1,309.58	"
	22	do do do	1,160	"	870.49	"
	23	do do do	1,200	"	2,131.26	"
	24	do do do	2,470	"	1,678.96	"
	25	do do do	660	"	898.26	"
	26	do do do	1,152	"	1,708.87	"
	27	do do do	980	"	531.89	"
	28	do do do	660	"	1,156.79	"
	29	do do do	1,042	"	1,218.36	"
	30	do do do	1,075	"	365.84	"
	31	do do do	1,453	"	1,225.50	"
	32	do do do	1,270	"	794.73	"
	33	do do do	1,500	"	1,046.08	"
	34	do do do	1,518	"	234.18	"

WR 2807

Classification No. ECW Form 7	Project Number	Name of Project	Size	Per-Cent Com-pleted	Total cost To-Date	Esti-mated Cost to Complete
124	36	Dams, Earth Fill	1,518	100	$ 1,973.30	None
	37	do do do	950	"	294.46	"
	38	do do do	1,344	"	261.94	"
	39	do do do	1,100	"	601.02	"
	40	do do do	1,320	"	1,039.87	"
	41	do do do	1,518	"	902.03	"
	42	do do do	1,360	"	1,104.06	"
	43	do do do	1,336	"	1,815.98	"
	44	do do do	1,250	"	626.27	"
	45	do do do	1,518	"	1,334.21	"
	46	do do do	857	"	2,031.70	"
	47	do do do	1,518	"	983.74	"
	48	do do do	660	"	1,091.99	"
	49	do do do	660	"	600.67	"
	50	do do do	1,250	"	1,241.84	"
	51	do do do	1,474	"	1,552.40	"
	52.	do do do	834	"	817.54	"
	53	do do do	838	"	1,462.34	"
	54	do do do	1,272	"	802.78	"
	55	do do do	1,648	"	1,274.30	"
	56	do do do	1,885	"	1,643.09	"
	57	do do do	1,571	"	900.53	"
	58	do do do	913	"	1,070.24	"
	59	do do do	2,723	"	1,605.46	"
	60	do do do	1,032	"	875.00	"
	61	do do do	665	"	889.06	"
	62	do do do	472	"	465.92	"
	63	do do do	843	"	1,102.18	"
	64	do do do	584	"	587.08	"
	65	do do do	642	"	917.22	"
	66	do do do	1,162	"	1,035.97	"
	67	do do do	1,830	"	868.46	"
	68	do do do	727	"	1,039.55	"
	69	do do do	1,235	"	1,129.78	"
	70	do do do	1,731	"	877.46	"
	71	do do do	2,090	"	981.30	"
	72	do do do	244	"	290.48	"
	73	do do do	685	"	1,693.65	"
	74	do do do	1,345	"	1,364.13	"
	75	do do do	1,210	"	684.20	"

WR 2808

Classification No. ECW Form 7	Project Number		Size Cu Yds	Per-Cent Com-pleted	Total Cost To-date	Esti-mated cost to complete
124	76	Dams, Earth fill	1,390	100	1,833.27	None
	77	do do do	1,398	"	1,492.59	"
	78	do do do	1,100	"	937.49	"
	79	do do do	783	"	2,091.56	"
	80	do do do	941	"	804.26	"
	81	do do do	984	"	1,078.05	"
	82	do do do	4,159	"	994.91	"
	83	do do do	1,518	"	805.20	"
	84	do do do	360	"	1,518.11	"
	85	do do do	1,518	"	1,372.27	"
	90	do do do	500	"	1,347.76	"
	91	do do do	400	"	1,594.72	"
	92	do do do	450	"	500.94	"
	93	do do do	1,518	"	588.28	"
	94	do do do	1,864	"	1,747.96	"
	95	do do do	704	"	695.22	"
	96	do do do	1,256	"	1,053.61	"
131	041	Boundary Fence	91 Mi.	95	39,856.19	$5,100.00
1005	L-1	Experimental Plot	4 Acres	100	202.29	None
	2	do do	4 do	"	189.82	"
	3	do do	4 do	"	126.05	"
	4	do do	4 do	"	101.76	"
	5	do do	4 do	"	165.67	"
	6	do do	4 do	"	101.76	"
	7	do do	4 do	"	148.24	"
	8	do do	4 do	"	184.13	"
	51	do do	4 do	"	230.48	"
	52	do do	4 do	"	243.11	"
	53	do do	4 do	"	125.00	"
	54	do do	4 do	"	141.55	"
	55	do do	4 do	"	253.60	"
	56	do do	4 do	"	194.09	"
	57	do do	4 do	"	198.29	"
	58	do do	4 do	"	117.77	"
	59	do do	4 do	"	225.56	"
	60	do do	4 do	"	220.20	"
131	Q-1	Range Fence	7.5 Mi.	"	5,337.90	"
	C-1	Reserve Pasture	2,560 A	"	3,394.66	"
	C-51	do do	640 A	"	404.18	"
	C-52	do do	640 A	"	5,536.00	"
140	A-1	Telephone Lines	91 Mi.	"	25,151.29	"

WR 2809

Classification No. ECW Form 7	Project Number	Name of Project	Size	Per Cent Completed	Total Cost To-Date	Estimated cost to complete
144	E-1	Spring		100	1,034.60	None
	2	do		"	523.18	"
	3	do		"	1,224.91	"
	4	do		"	1,438.11	"
	51	do		"	831.52	"
	52	do		"	575.97	"
	53	do		"	390.08	"
	54	do		"	855.10	"
	55	do		"	676.78	"
	56	do		"	1,577.16	"
	57	do		"	969.12	"
	58	do		"	583.58	"
	59	do		"	746.06	"
	60	do		"	388.70	"
	61	do		"	860.39	"
	62	do		"	889.85	"
	63	do		"	137.86	"
	64	do	do	"	294.49	"
	80	do		"	186.51	"
146	E-1	Wells, Shallow dug		"	733.41	"
	2	do do		"	86.50	"
	3	do do		"	423.93	"
	4	do do		"	632.57	"
	6	do do		"	392.79	"
	7	do do		"	395.24	"
	8	do do		"	1,248.26	"
	9	do do		"	613.39	"
	10	do do		"	435.71	"
	11	do do		"	569.42	"
	12	do do		"	565.64	"
	13	do do		"	758.38	"
	14	do do		"	886.70	"
	15	do do		"	259.07	"
	16	do do		"	203.11	"
	17	do do		"	725.96	"
	18	do do		"	779.69	"
	19	do do		"	618.11	"
	20	do do		"	1,154.47	"
	21	do do		"	497.01	"
	22	do do		"	692.79	"
	23	do do		"	774.58	"

Classification No. ECW Form 7	Project Number	Name of Project	Size	Per-Cent Com-pleted	Total Cost To- Date	Esti-mated cost to complete
146	E-24	Wells, Shallow dug		100	1,054.37	None
	25	do do		"	1,366.74	"
	26	do do		"	396.62	"
	27	do do		"	766.75	"
	28	do do		"	438.15	"
	29	do do		"	1,200.15	"
	30	do do		"	1,599.33	"
	31	do do		"	244.40	"
	52	do do		"	603.30	"
	53	do do		"	252.35	"
	54	do do		"	622.20	"
	55	do do		"	496.59	"
	56	do do		"	1,359.01	"
	57	do do		"	238.94	"
	58	do do		"	277.49	"
	59	do do		"	1,022.74	"
	60	do do		"	220.12	"
	61	do do		"	612.18	"
	62	do do		"	270.30	"
	63	do do		"	765.14	"
	64	do do		"	674.31	"
	65	do do		"	505.50	"
	66	do do		"	1,140.07	"
	67	do do		"	463.53	"
	68	do do		"	169.37	"
	69	do do		"	1,236.22	"
	70	do do		"	105.47	"
	71	do do		"	2,769.30	"
	72	do do		"	1,529.22	"
	73	do do		"	766.92	"
	74	do do		"	2,479.50	"
	75	do do		"	897.51	"
	76	do do		"	549.33	"
	77	do do		"	425.04	"
	78	do do		"	411.96	"
	79	do do		"	451.42	"
	80	do do		"	627.39	"
	81	do do		"	643.57	"

Classification No. ECW Form 7	Project Number	Name of Project	Size	Per-Cent Com-pleted	Total Cost To-Date	Esti-mated cost to complete
146	P-1	Wells, Deep)		(100	18,893.17	None)
	P-2	do do)		("		")
		do. do)		("		")
149	R-1	Cattle Guard		45	734.39	10.00
	R-2	do do		45	848.11	10.00
	R-3	do do		45	618.61	10.00
150	M-1	Stock Corral		100	698.18	None
	2	do do		"	586.47	"
	3	do do		"	651.64	"
	4	do do		"	661.95	"
	5	do do		"	630.42	"
202	J-7	Truck Trail	16 Mi.	"	6,399.64	"
207	J-1	Horse Trail		"	878.98	"
	2	do do		"	8,455.57	"
	3	do do		"	1,343.74	"
	4	do do		"	1,247.45	"
	5	do do		"	1,344.82	"
	6	do do		"	2,109.95	"
803	I-1	Center stock driveway	75 Mi.	"	474.41	"
1003	Z-3	Temporary bridge over Corn Wash	1	"	250.89	"
1004	E-1	Eradication Poisonous weeds	3,615 A	*	2,109.21	*
1017	F-1	Rodent Control	180182 A	*	22,721.91	*
1020	N-1	Lineal Survey	91 A	*	1,435.51	*
		Total - - - - - - - - - - - - - -			$321,223.23	

WP 2812

2 - Classification No. (as given on New ECW Form No. 7)	Type of Work	Amount & Unit	Total Cost
112	Garage	4,030 Sq. ft.	$ 3,751.47
124	Dams (earthen)	109,914 Cu. yds	94,320.84
124	do do Maintenance	do do do	609.34
131	Fences	91 Miles	57,698.30
140	Telephone Line	125.5 do	25,151.29
144	Springs	19 No.	13,963.97
146	Wells, shallow dug	60 do	43,099.23
146	Wells, deep, drilled	4 No.	18,893.17
149	Cattle Guards	6 do	2,001.11
150	Stock Corrals	5 No.	3,228.66
202	Truck Trails	16 Miles	6,399.64
207	Horse Trails	6 do	14,580.31
803	Stock Driveway	96,575 do	474.41
1004	Eradication of Noxious Weeds	5,616 Acres	2,109.21
1017	Rodent Control	180,188 do	33,791.91
1020	Lineal Survey	125.5 Miles	1,499.51
1003	Temporary Bridge over Corn Wash	1 No.	250.89
			$321,823.26

Classification No. ECW Form 7	Project No.	Name of Project	Description of Project	Man-months Needed to Complete	Estimated Cost of Project
131	13	South boundary fence	5,440 rods to be completed	117	$ 5,100.00
146	6	Pumps & troughs	Installation of pumps and troughs, on 51 shallow wells	75	7,100.00
149	2	Cattle Guards	3 Cattle guards to be completed and 3 more to be installed complete. Authorization by Albuquerque Office as part of work on boundary fence	6	500.00
715	12	Reseeding Experimental Plots	Reseeding of 80 acres of Experimental Plots	18	750.00
		The above listed items were approved for the past period but were not completed and are therefor submitted for approval	to complete in new period.		
			NEW PROGRAM		
111	1	Storage House	Storage for ECW equipment and supplies	12	$4,000.00
123	20A	Concrete Reservoir	Concrete Reservoir	24	2,060.00
	20B	Concrete Reservoir	Concrete Reservoir	24	2,260.00
143	21A	Pipe line	300 Lineal feet at spring	5	330.00
	21B	do do	300 do do do	5	330.00
	21C	do do	300 do do	5	330.00
	21D	do do	300 do do	5	330.00
143	21E	do do	100 do at deep well	4	221.00
	21F	do do	100 do do	4	221.00
	21G	do do	100 do do	4	221.00
	21H	do do	100 do do	4	221.00
	21I	do do	100 do do	4	221.00
	21J	do do	100 do do	4	221.00
	21K	do do	100 do do	4	221.00
	21L	do do	100 do do	4	221.00
144	22A	Spring	Spring Development	9	608.00

WR 2814

Classification No. EUW Form 7	Project No.	Name of Project	Description of Project	Man months needed to complete	Estimated Cost of Project
144	22B	Spring	Spring Development	9	$ 608.00
	22C	do	do do	9	608.00
	22C	do	do do	9	608.00
	22D	do	do do	9	608.00
	22E	do	do do	9	608.00
	22F	do	do do	9	608.00
	22G	do	do do	9	448.00
	22H	do	do do	9	448.00
144	23A	Reservoir	Earth, stock water reservoir	33	2,855.00
	23B	do	do do	36	3,211.00
	23C	do	do do	32	2,779.00
	23D	do	do do	38	3,287.00
	23E	do	do do	37	3,150.00
	23F	do	do do	36	2,918.00
144	24A	Deepening Reservoirs.	Deepening stock water reservoirs as requested and verbally approved by Soil Erosion Service	8	500.00
	24B	do	do do	8	500.00
	24D	do	do do	8	500.00
	24E	do	do do	8	500.00
	24F	do	do do	8	500.00
	24G	do	do do	8	500.00
	24H	do	do do	8	500.00
	24I	do	do do	8	500.00
	24J	do	do do	8	500.00
	24K	do	do do	8	500.00
	24L	do	do do	8	500.00
	24M	do	do do	8	500.00
	24N	do	do do	8	500.00
	24O	do	do do	8	500.00
	24P	do	do do	8	500.00
	24Q	do	do do	8	500.00
	24R	do	do do	8	500.00
	24S	do	do do	8	500.00
	24T	do	do do	8	500.00

This work will be done with tractors in connection with teams; therefore the cost will run approximately the same for each project.

Classification No. ECW Form 7	Project No.	Name of Project	Description of Project	Man-months needed to complete	Estimated cost of Project
145	25A	Storage Tank	50,000 gallons storage tanks at all deep wells	19	2,000.00
	25B	do do	do	19	2,000.00
	25C	do do	do	19	2,000.00
	25D	do do	do	19	2,000.00
	25E	do do	do	19	2,000.00
	25F	do do	do	19	2,000.00
	25G	do do	do	19	2,000.00
	25H	do do	do	19	2,000.00
					16,000.00
146	26	Deep Wells	Drill 3 deep wells	Contract	21,300.00
202	27A	Truck Trails	Grand Falls to Red Lake	75	5,120.25
	27B	do do	Corn Wash to Cedar Spring Rd.	75	5,120.25
	27C	do do	Young Canyon to Cinder Flat	12	819.24
	27D	do do	Cedar Spring to Nah Ah Tee Canyon	44	3,072.15
	27E	do do	Leupp to Hibbard	45	3,072.15
	27F	do do	Red Lake across Polacca Wash	60	4,095.96
					21,300.00
304	28	Silt-traps above reservoirs	Total of 30 silt-traps over deep reservoirs as suggested by Soil Erosion Service.	339	19,484.00
318	29A	Erosion Work	A. General work on 40,000 acres in Canyon Diablo section	888	40,000.00
	29B	do do	B. 36 miles of fence Twp. 21N R-19-20-21 and 7 miles of fence Twp. 21N, R-17E. C. 4-1/2 miles of fence in connection with work on Canyon Diablo Section in para. A above.	40	1,917.00
	29C		D. Clean up of 50,000 acres pinon and juniper.	375	17,750.00
	29E		E. Seed collection, Gramma, sacaton, and galleta	40	2,000.00
	29F		F. General erosion work on 35000 acres under Newberry mesa, as requested by S.E.S	350	15,000.00

Classification No. ECW Form 7	Project No.	Name of Project	Description of Project	Man-months needed to complete	Estimated cost of Project
318	29E	Erosion Work	G. Fencing of drainage areas above 36 deep reservoirs	300	12,000.00
			H. Fence 35 miles along Newberry Mesa as requested by Soil Erosion Service as supplementary to work on Para. f, above. @$1.20 per mile	340	14,697.00
				2,695	122,282.00
1004	30	Weed Eradication	This will apply over widely scattered areas and definite locations cannot be given	65	3,550.00
1017	31	Rodent Control	Rodent Control work on a total of 30,000 acres at 6¢ per acre	38	1,800.00
???	???	Maintenance	On all ECW projects prior to April 1, 1935	150	10,000.00
			GRAND TOTAL OF ALL ITEMS LISTED	4,505	273,318.00

WR 2817

NARRATIVE JUSTIFICATION, LOCATIONS, AND EXPLANATION OF ALL PROJECTS SUBMITTED FOR APPROVAL

131-13 - SOUTH BOUNDARY FENCE:

(a) There is approximately nine (9) miles of fence along the south and southwest section of the reservation which has not been completed to date. This is through a very rocky section of country and is therefor, slow, tedious work. Crew of men are working on this section at present, but it will take considerable time to complete same.

(b) There is approximately nine (9) miles of fence at the southeast corner of the reservation where posts have been set but is has been impossible to string barbwire because certain sections on the reservation have been leased to outsiders. Stringing wire would exclude lessee from use of property. These leases expire in the very near future and will not be renewed, and the fence will be completed at the time leases expire.

146-6 - PUMPS AND TROUGHS:

We have completed excavation and walling up of fifty-one (51) shallow wells. These are located as follows:

Township	Range	Section
24 N	14 E	33
23	14	8
24	14	34
24	14	29
24	13	11
23	14	24
22	14	25
21	14	3
21	15	8
23	12	24
23	12½	34
23	12½	36
22	13	6
23	16	26
23	13	32
24	13	22
21	14	6
21	14	5
22	17	10

WR 2818

146-6 - Pumps and troughs - continued

Township	Range	Section
24 N	12½ E	13
21	15	34
22	14	28
22	13	35
21	15	20
21	16	31
22	14	30
21	19	2
24	19	8
21	21	10
21	19	18
23	21	8
23	18	26
21	18	2
21		12
24		12
24		30
24		8
22		30
21	19	30
22	19	26
24	21	18
24	21	16
22	20	10
21	21	20
22	20	18
22	20	6
22	18	12
21	19	8
21	20	16
24	17	26
23	19	20

The pumps and concrete troughs which are an integral part of these wells are yet to be installed. The pumps have been purchased and are on hand. Installation of pumps and construction of concrete troughs can be started at once. The wells are practically worthless without them and we request permission to proceed with the installation of these pumps and troughs.

149-? - CATTLE GUARDS:

We were instructed by the Albuquerque office to build six (6) cattle guards. These are located at the junction of the boundary fence and the more important roads leaving the reservation. To date, foundation for three have been completed and rails have been ordered, and delivery is expected April 11, 1935. We request permission to complete

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149 - ? - Cattle Guards - Continued

concrete foundations for the remaining three and assembly and installation of rails for all six.

715-12 - RE-SEEDING OF EXPERIMENTAL PLOTS:

This project was approved for approximately 80 acres but for some reason no seed was collected, therefore the project was not carried to completion. We will have sufficient seed available and will collect same provided permission is granted to re-seed these experimental plots.

Note: This completes discussion of projects previously approved but not completed.

THE FOLLOWING PERTAINS TO THE NEW PROPOSED PROGRAM

111-1 - STORAGE HOUSE

We are in need of more storage space for material, supplies, tools and equipment and dead storage for equipment not in use. At the present time we are using garage space for storage which is badly needed for work space and car storage at nights.

We are also using a part of an old frame barn at the present which is a dangerous fire hazard.

123-20 - CONCRETE RESERVOIRS:

We have selected two sites for concrete reservoirs. One in Canyon Diablo, Twp 21N, R 12E, Sec. 15, and one in Young's Canyon, Twp 21N R 11D, Sec. 15. The location of these reservoirs have been thoroughly discussed with Mr. Thomason, the local stockman, and Messrs. Johnson and Danley of the Soil Erosion Service and all three have heartily agreed that these are desirable from the standpoint of grazing, nearest water, accessability, and etc. These reservoirs are just below stock trails which have been constructed into these canyons to permit easy access. From a construction standpoint, they are ideal in that each will impound sufficient water to create a permanent supply. The cost per gallon will be very low. Under present conditions, there is absolutely no water in these sections during certain seasons of the year.

143-21 - PIPE LINES:

Pipe lines at four large springs are necessary as the springs are located in inaccessable rough country. These would make the water accessable at points easy reached by stock and the Indians can be able to drive wagons to these points to obtain water supply for outlying camps.

Eight pipe lines approximately 100 feet long in connection with construction of 50,000 gallon storage tanks located at deep wells will be required to carry water to storage reservoirs and from storage tanks to watering troughs for stock.

144-22 - SPRING DEVELOPMENT:

Eight springs have been located for development. Of these six are large ones for stock water, two are smaller for stock and domestic use. These have been discussed with Mr. Danley and meet with his approval Locations are as follows.

Township	Range	Section	Township	Range	Section
24N	19E	21	22N	20E	8
24N	19E	27	22N	20E	24
23N	20E	1	24N	21E	28
23N	20E	1	23N	21E	14

144- 23 - EARTHEN RESERVOIRS:

Six earthen reservoirs are located as follows:

Township	Range	Section	Township	Range	Section
23N	20E	4	21N	21E	26
24N	19E	12			
23N	17E	8			
23N	17E	22			
21N	20E	22			

These were located after careful consideration as to surrounding grazing conditions, accessibility, types of soil in borrow pits, and cost per gallon and acreage improved. In every case, there is no water nearby , and one of these is near the "duster" just brought in on the east end of the reservation by the well-drilling crew. These location s have been discussed with Mr. Danley of the Soil Erosion Service and he has given his verbal approval of locations.

145-25 - STORAGE TANKS:

Eight 50,000-gallon storage tanks should be installed at the deep wells. The locations for these have been carefully discussed with Mr. Danley of the Soil Erosion Service and he has given his unqualified approval as they are listed herewith:

Township	Range	Section	Township	Range	Section
21N	13E	34	23N	11E	34
21	12½	2	21	11	24
22	11	34	22	12	15
21	21	20	23	17	3

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146-26 - DEEP WELLS:

This subject has been discussed with Mr. Danley of the Soil Erosion Service and Mr. Coad, who is in charge of the well drilling here and at Hopi. There are three locations approved by these gentlemen where they feel water can be obtained by drilling at a reasonable cost. In each of these three instances this is the only possible method of obtaining water. One section in particular, is at the west end of the reservation, comprising approximately 30,000 acres of exceptionally good grazing land. This section is without water due to the type of soil and etc. There are no springs and no possibility of reservoirs or charcos being constructed. From past drilling records, Mr. Coad feels very sure that water could be reached from a depth of eleven hundred to thirteen hundred feet. It would be necessary to use some type of air lift to pump this water due to the depth of the well and Mr. Coad states that complete equipment would cost approximately $12,000. This would mean an initial cost of approximately 35¢ per acre, but over a period of time the cost per acre would be very small. Mr. Danley is familiar with this district, cost and type of equipment required, and he has very earnestly requested that we do everything within our power to get approval of this and the other two wells requested. The other two wells are located in areas where conditions are practically the same. The exact locations are as follows:

Township	Range	Section
23 N	11 E	34
23	17	3
24	18	33

202-27 - TRUCK TRAILS:

Locations as follows: (1) Grand Falls to Red Lake, 25 miles; (2) Corn Wash bridge up Jedito Valley to Coal Mine Road west of Cedar Springs, 25 miles; (3) Point in Twp 22, R 11, Sec. 13 to point west of San Francisco Wash, Twp 21, R 12, Sec. 15, 4 miles; (4) Cedar Springs to Nah Ah Tee Canyon, 15 miles; (5) Colorado River bridge to the Hibbard Stock Yards, 15 miles; (6) Red Lake, north and east across Polacca Wash, tying into Coal Mine Road West of Cedar Springs, 20 miles.

202-27 - TRUCK TRAILS: - Continued

A. Truck trail from Grand Falls to Red Lake will open up a direct route from the Red Lake District to the Coconino National Forest.

At the present time the Red Lake Indians have no source of wood supply for their camp use and they are depleting the range of edible sheep browse by burning it at their camps. This trail would also be very useful for administrative purposes.

B. Truck trail from the Corn Wash bridge up the Jedito Valley connecting with the Cedar Springs Road will open up an accessable district for new work projects and general development work.

At the present time there are no roads in this district and this trail would be useful for administrative purposes.

C. Truck trail from Cinder Flats across San Francisco Wash a distance of 4 miles. For future work and development this trail would be very essential for the reason that this district has some of the best black Gramma range on the reservation and at the present time there are no passable roads into this area.

D Truck trail from Cedar Springs to Nah Ah Tee Canyon a distance of 15 miles would lead directly into the forest area to be worked under project 29 D (Clean-up of Forest Area) and would be essential for the transportation of supplies and equipment to the crews. This trail would offer the Indians in the outlying districts a chance to obtain their wood for this area, and would also be useful for administrative purposes.

E. Truck trail from Little Colorado River bridge to the Hibbard Stockyards, a distance of 15 miles would make a direct passable route over which to haul supplies to herds enroute to the stockyards which is the shipping point for cattle and sheep from the Leupp reservation. This trail would be useful for new work projects in this area as well as administrative purposes in exercising range control over the Canyon Diablo district.

F. Truck trail from Red Lake, north and across the Polacca Wash, a distance of 20 miles would connect with Truck trail 27-A and enable the Indians in the outlying districts to also obtain their wood from the Coconino Forest. This trail would also connect a direct route across the northern part of the reservation and would facilitate administrative affairs in this area.

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304-28 - SILT TRAP ABOVE RESERVOIRS:

We submit for your approval silt traps above thirty (30) deep reservoirs, locations of which are as follows:

Township	Range	Section	Township	Range	Section
24	13	24	23	12	27
21	12½	35	21	12½	2
23	21	36	23	20	28
23	12	31	22	19	14
22	18	36	23	19	36
21	14	13	24	15	2
22	12	23	23	14	22
24	17	30	23	18	8
22	17	34	21	18	26
23	20	16	22	17	2
22	20	20	21	19	20
22	19	4	23	19	8
24	18	30	21	16	6
24	15	30	21	13	16
21	12	16	24	15	36

These were determined and agreed upon after discussion with Messrs. Johnson and Danley of the Soil Erosion Service and they both feel that this work should be done. These will be contructed as directed by Messrs. Danley and Johnson in accordance with types found to be best at the Experimental Station of the Soil Erosion Service at Mexican Springs, New Mexico. Construction of these silt traps will undoubtedly add from fifty to one hundred per-cent to the life of the reservoirs involved.

318-29- EROSION WORK:

A. Mr. E. A. Jonnson has agreed that we have, and will continue to exercise range control in what is locally known as the "Canyon Diablo Section", comprising more than 40,000 acres of land between the Little Colorado River-The Leupp-Winslow Road-The A.T.& S.F. R.R. and Canyon Diablo. With this in mind, he has signified his willingness to do considerable erosion work of various types in this area. In accordance with his verbal suggestion of February 13, 1935, we are submitting his estimate of $1.00 per acre for the 40,000 acres involved. This work will be done under Mr. Johnson's advice, and direction, making use of the many findings of the Soil Erosion Department's Experimental Division at Mexican Springs.

Mr. Thomason, stockman for this district agrees with Mr. Johnson that this is a very good and worthwhile project. See Item "C" under this section for only fence needed in connection with this particular project.

B. Fencing of 50,000 acres of land in east end of reservation. This proposed project is for fencing of forest area in which is a stand of pinon and juniper. This section has been seriously over-grazed and trailing bands of sheep through the forest has hindered and in many cases stopped seedlings from starting. This project is in line with the recent suggestion from the S. E. S. that community forests be established and existing wooded areas be fenced, protected, and given a chance to re-establish themselves by natural seedlings.

C. In connection with the range control and erosion work listed under item 318-29, paragraph (a), it is desired to construct 4½ miles of fence thereby creating a second buck pasture to be used in the future as a pasture for community buck. This will prevent lambing at undesirable times and will also tend to diminishing of lamb crop. By using both pastures alternately we can retain the good derived from project #318-29, paragraph (a), and prevent the denudation of the range which would result from the continued concentration of bucks in one pasture now in use.

D. Clean-up of Forest Area, General clean-up of 25,000 acres of forest west of Nah Ah Tee Canyon. This work consist of removing all dead wood, brush, etc., thereby eliminating fire hazard, and permitting seedlings to have a better opportunity to start and develop. The wood will be used for fuel on E. C. W. Camps and the brush can be utilized in the construction of silt traps and erosion check dams. The excess wood could be hauled by Agency Trucks and used for Agency purposes. The Indians would be encouraged to use this salvaged wood for fuel and urged to discontinue the use of Chamiso brush. It is possible that an Agency project, using I.M.P.L. funds would be worked out in conjunction with project #318-29, paragraph (d), whereby excess fuel wood could be cut up and sold to the Indians at cost, thereby inducing them to discontinue the burning of chamiso as fuel.

318-29 - Erosion Work - continued

E. There is one section, which, due to lack of water has not been grazed and the gramma, sacaton, and galletta grasses have flourished. While we feel that at the present time the range as a whole cannot be reseeded to advantage, it might be feasible to collect sufficient seed to re-seed parts of the portion which we have requested be fenced and it would be possible to obtain seed from the above-mentioned areas.

F. Mr. E. A. Johnson requested fencing of this area as explained under Project 318-29, para. H. As soon as fencing has been completed, we wish to proceed with erosion work exactly similar to and under the same set-up as the work explained for the "Canyon Diablo Section" (Proj. 318-29,a.). The same dondi-tions apply to this area as to others mentioned and we request your consideration of this project.

G. Areas above certain reservoirs should be fenced to exclude live stock thus preventing the rapid silting up of the storage basings. We have discussed this project with Mr. Johnson and Mr. Danley and they recommend that the areas above thirty-six reservoirs (Locations same as para. 304-28 (30), para. 144-33 (6), all deep reservoirs).

H. Mr. E. A. Johnson of the Soil Erosion Service has requested installation of 35 miles of fence along the top edge of the Newberry Mesa and from the west end of the mesa southwest to the Little Colorado River. This will inclose about 35,000 acres of land which is very much in need of range control and erosion work of general nature. (See para. F, above)

1004-30 WEED ERADICATION:

Due to the fact that this work applies to widely scattered areas of various sizes, it is practically impossible to definitely locate the work. If this project is approved, we will use present accepted methods which have been already tried out, and will keep a careful check on unit cost so that same may be studied in the future. It is understood that this will be somewhat of an experimental project in view of the fact that no great volume of this work has been done in the past.

1017-31 - RODENT CONTROL:

We request permission to proceed with rodent-control work on a total of 30,000 acres which we feel from past records will cost about 6¢ per acre.

???-??? - MAINTENANCE:

The question of maintenance has been discussed very thoroughly with supervisors in charge of all types of work under ECW and it is the consensus of opinion that while there is no definite set-up for this work, it is of the utmost importance to maintain and protect all ECW work that has been done prior to April 1, 1935. There are many completed projects that need maintenance and unless a certain sum of money is set aside for this purpose, we will be unable to care for them.

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SUPERVISING AND FACILITATING PERSONNEL

As of March 31, 1935.

	Name of Position	Salary	Present Incumbent
1.	Project Manager	$2900 P. A.	Robert B. Hazard
2.	Assistant Clerk	$1620 P. A.	Charles H. Conour
3.	Assistant (Clerk)	$ 120 per Mo.	Martin M. Johnson
4.	Instrument-Man	$2300 P.A.	Elmond L. Draper
5.	Group Foreman	$ 150 per Mo.	Albert L. Draper
6.	Group Foreman	$1680 P. A.	Marcus Kanuho
7.	*Machine Operator	$ 78 per Mo.	Mike Brodie
8.	Mechanic	$ 78 per Mo.	Joseph A. Francis
9.	Blacksmith	$ 78 per Mo.	Ambrose Howard

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ADDITIONAL SUPERVISING AND FACILITATING PERSONNEL

Required for 1935-1936 Program

10.	*Group Foreman	$140	per Mo.	Mike Brodie
11.	Group Foreman	$150	per Mo.	
12.	Sub-Foreman	$ 90	per Mo.	William Ruskin
13.	Sub-Foreman	$ 90	per Mo.	Henry Stewart
14.	Junior Foreman	$125	per Mo.	
15.	Junior Foreman	$125	per Mo.	

Above position 10 to 15 inclusive should be filled by April 15,1935.

Position #9 (Supervising and Facilitating Personnel as of March 31,'3
to be abolished on new progra

* Change of position