

UNITED STATES GOVERNMENT

*Memorandum*U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

TO : Wilson T. Moon, State Conservationist

Fort Dodge, Iowa
DATE: April 14, 1969

FROM : Alan J. Moen, Area Conservationist

SUBJECT: WATERSHED - Annual Inspection - Beaver Watershed

April 14, 1969 a party composed of Paul Hade, Supervisor, Leon Skogland, Commissioner, Jens Rugaard, Ass't. Commissioner, Dilman Moothart, Gene Wolter and myself conducted an inspection of Beaver Watershed. In general, the works of improvement are in excellent condition and functioning as planned. However, there are several washouts around old intakes connected to the original DD # 47 outlet.

There are two washouts at approximate Sta. 74 +00 of the Upper Main Relief, one each at Sta. 61+50, 32+ 00, 21+80 and 8+30. There is also a washout at approximately 100 feet above the outlet of the original main, and a washout around an intake at approximate Sta. 55 + 85 of original Lateral 3.

Mr. Hade has been furnished a map showing the location of these problems, and will have them repaired this summer.

cc: Paul Hade
Gene Wolter

BEAVER WATERSHED

Beaver Watershed, first in Webster County, second in the State of Iowa, was organized under the Watershed Protection and Flood Prevention Act of 1954 (P.L. 566), in April of this year.

The Commissioners held several interest and information meetings at Dayton, Iowa. Personnel from the County Board of Supervisors, the Soil Conservation Service Watershed Planning Party, the State Soil Conservation Committee and the Soil Conservation Service Area and Work Unit Offices took part.

The application for assistance was completed and submitted to the State Soil Conservation Committee in April. Approval for assistance was received in June.

WATERSHED DIRECTORS:

Fred Dahlin, Boone-----Chairman
John Peterson, Harcourt-----Member
Leonard Swanson, Dayton-----Member

PROGRESS REPORT:

<u>ITEM</u>	<u>UNIT</u>	<u>NEED</u>	<u>1963</u>	<u>TO DATE</u>
Basic Farm Plans	No.	24	7	21
SCD Cooperators	No.	24	1	24
Drainage	Ac.	2100	0	1000

BACKGROUND:

Beaver Watershed is located in the southwest corner of Dayton township. It consists of 2385 acres and includes all or parts of 24 farms. The average farm size is 150 acres. There are 8 owner-operated farms. This watershed includes all lands within the boundary of County Drainage District #47. The tile outlets into an open ditch, located on the Webster-Boone County line.

PROBLEM:

The existing county mains in the watershed are inadequate due to size and depth. This problem will be solved with the addition of a relief main. When completed this will provide adequate drainage outlets for all lands in the district.

PROJECT COST:

The approximate cost of the project to the landowners in the watershed will be \$101,000. Federal cost-sharing will pay for 40% of the project up to a 30" tile main.

SPONSORS:

Co-sponsors of the watershed are the Webster County Board of Supervisors and the Webster County Soil Conservation District.

ENGINEERING

Filed Dec 28 1907

assessment Notice June 27 - 1908

Final Acceptance of Work.

May 23, 1911

SE & Survey Request March 13 - 1945

Construction started in summer
of 1909?

(3)
20
11800
\$ 7
18990 work

455.201 - Portion of Federal
Flood Control Act requiring no petition
or bond needed.

1963

BILL OF MATERIAL & COST ESTIMATES
FOR
DD # 47 TILE RELIEF - WEBSTER COUNTY

MATERIAL

LABOR

LOWER MAIN - SEC. 2

Length	Size & Type	Cost Per Ft.	Total	Av. Cut	Cost Per Ft.	Total
52'	42" CMP	7.05	366.60	8.8	2.00	104.00
3948'	36" E.Q.	4.50	17,766.00	8.4	1.28	5053.44
1852'	34" E.Q.	4.10	7,593.20	9.8	1.47	2722.44
2 - Type B5 Equalizers		165.00	330.00			
2 - 24" Intakes		75.00	150.00			
			<u>\$26,205.80</u>			<u>\$7879.88</u>

Total Material & Labor

\$34,085.68

UPPER MAIN RELIEF SEC. 2

70'	32" E.Q.	3.60	252.00	8.0	1.18	82.60
52'	36" C.P. 2000 D	8.84	459.68	9.4	2.00	104.00
708'	32" E.Q.	3.60	2548.80	8.2	1.21	856.68
48'	36" C.P. 2000 D	8.84	424.32	11.0	2.00	96.00
1122'	32" E.Q.	3.60	4039.20	10.0	1.48	1660.56
140'	22" E.Q.	1.40	196.00	9.8	1.27	177.80
52'	24" C.P. 2000 D	4.24	220.48	9.4	2.00	104.00
3958'	22" E.Q.	1.40	5541.20	8.5	1.11	4393.38
40'	24" C.P. 2000 D	4.24	169.60	10.7	2.00	80.00
710'	22" E.Q.	1.40	994.00	6.1	.80	568.00
1900'	18" E.Q.	0.88	1672.00	6.1	.73	1387.00
180'	12" E.Q.	0.44	123.20	4.8	.50	140.00
60'	12" C.P. 2000 D	1.58	94.80	6.5	2.00	120.00

Pipe Line
Equalizer # 1

Length	Size & Type	Cost Per Ft.	Total	Av. Cut	Cost Per Ft.	Total	
68'	12" C.P. 2000 D	1.58	107.44	6.7	2.00	136.00	Pipe Line #2 Equalizer
34'	8" E.Q.	0.215	7.31	4.0	.40	13.60	#3
1	- B5 Type Equalizer		165.00				
11	12" Intakes @ 30.00		330.00				
			17345.03			9919.62	
			Total Material & Labor				27,264.65
<u>SEC. 4 LAT. A NEW LINE</u>							
1138'	16" E.Q.	0.82	933.16	7.0	0.80	910.40	
52'	18" C.P. 2000 D	2.69	139.88	6.5	2.00	104.00	
110'	16" E.Q.	0.82	90.20	6.4	0.73	80.30	
662'	14" E.Q.	0.60	397.20	5.2	0.57	377.34	
3	12" Intake	30.00	90.00				
			1650.44			11472.04	
			Total Lat. A.				3,122.48
<u>SEC. 5 LAT 1 RELIEF</u>							
2208'	26" E.Q.	1.95	4305.60	9.3	1.29	2848.32	
48'	30" C.P. 2000 D	6.14	294.72	9.5	2.00	96.00	
44'	26" E.Q.	1.95	85.80	6.5	.91	40.04	
1300'	24" E.Q.	1.70	2210.00	8.7	1.18	1534.00	
1400'	18" E.Q.	0.88	1232.00	6.3	.75	1050.00	
40'	8" E.Q.	0.215	8.60	5.1	.47	18.80	Pipe Line Equalizer #4
102'	8" E.Q.	0.215	21.93	4.4	.40	40.80	#5
4	- 12" Intakes	30.00	120.00				

MATERIAL			LABOR				
Length	Size & Type	Cost Per Ft.	Total	Av. Cut	Cost Per Ft.	Total	
<u>LAT 1 A</u>							
60'	8" E.Q.	0.215	12.90	5.4	.50	30.00	
<u>LAT 1 B</u>							
60'	6" E.Q.	0.13	7.80	4.6	.40	24.00	
<u>LAT 1 C</u>							
400'	12" E.Q.	.44	176.00	4.6	0.48	192.00	
400'	10" E.Q.	.33	132.00	4.6	0.46	184.00	
1476'	8" E.Q.	.215	317.34	5.1	0.49	723.34	
48'	12" C.P. 2000 D	1.58	75.84	7.8	2.00	96.00	
10'	8" E.Q.	.215	2.15	5.4	0.52	5.20	
3 - 12" Intakes		30.00	90.00				
			\$9092.68			\$6882.50	
				Total			\$15,975.18
<u>LAT. 2 - Sec. 6</u>							
122'	18" E.Q.	0.88	107.36	7.7	0.92	112.24	
52'	18" C.P. 2000 D	2.69	139.88	9.4	2.00	104.00	
4400'	16" E.Q.	0.82	3608.00	7.0	0.80	3520.00	
936'	12" E.Q.	0.44	411.84	5.4	0.56	524.16	
48'	12" C.P. 2000 D	1.58	75.84	6.4	2.00	96.00	
12'	12" E.Q.	0.44	5.28	5.5	0.57	6.84	
200'	10" E.Q.	0.33	66.00	5.9	0.59	118.00	Pipe Line Equalizer # 6
44'	8" E.Q.	.215	9.46	4.6	0.44	19.36	# 7
4 - 12" Intakes		30.00	120.00				
1 Type B4 Equalizer			140.00				
			\$4683.66			\$4500.60	
			Total				\$9,184.26

MATERIAL				LABOR			
Length	Size & Type	Cost Per Ft.	Total	Av. Cut	Cost Per Ft.	Total	
LAT 3 - SEC. 7							
1200'	24" E.Q.	1.70	2040.00	7.3	0.99	1188.00	
1000'	20" E.Q.	1.10	1100.00	6.7	0.84	840.00	
950'	18" E.Q.	.88	836.00	7.9	0.94	893.00	
1550'	20" E.Q.	1.10	1705.00	7.4	0.93	1441.50	
884'	10" E.Q.	.33	291.72	5.8	0.58	512.72	
40'	12" C.P. 2000 D	1.58	63.20	8.5	2.00	80.00	
176'	10" E.Q.	.33	58.08	5.3	0.53	93.28	
456'	8" E.Q.	.215	98.04	4.8	0.46	209.76	
20'	8" E.Q.	.215	4.30	4.4	0.42	8.40	Pipe Line Equalizer # 8
72'	8" E.Q.	.215	15.48	4.4	0.42	30.24	# 9
1 Type B-3 Equalizer			125.00				
2 -12" Intakes		30.00	60.00				
			\$6396.82			\$5296.90	
		Total Material & Labor					\$11,693.72
			GRAND TOTAL				\$101,325.97

WEBSTER COUNTY DRAINAGE DISTRICT NO. 47
OPEN ~~OLD~~ DRAIN

Revised
3-18-52

Sec. 2 - LOWER MAIN

46,150 cu.yds. @ .25 includes bank leveling				Cost	
				11,537.50	
	per ft.		Ave Cut	per ft.	
80'	30" G.I.P. @ 4.42	353.60	1.00	1.00	80.00
200'	15" G.I.P. @ 1.87	374.00	.80	.80	160.00
2 -	30" Band @ 4.30	8.60			
5 -	15" Bands @ 1.90	9.50			
		745.70			
35 cu.yd.	Concrete Headwall @ 60.00				2,100.00
16 ac.	Farm Land Usurped @ 400.00				6,400.00
1 Farm Bridge	@ 600.00				600.00
				20,877.50	

21,623.20

Sec. 3 - UPPER MAIN RELIEF

As itemized on Plan B	18,892.24	13,587.44
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32,479.68

Sec. 4 - LATERAL "A" - NEW LINE

1300'	14" @ .62	806.00	7.6 @ 1.10	1,430.00
662'	12" @ .46	304.52	5.3 @ .75	496.50
3 -	12" Intakes @ 30.00			90.00
		1,110.52		2,016.50

3,127.02

Sec. 5 - LATERAL 1 - RELIEF

20'	30" G.I.P. @ 4.42	88.40	9.3 @ 2.00	40.00
2280'	24" D.T. @ 2.20	5,016.00	9.3 @ 1.73	3,944.40
1300'	22" @ 1.86	2,418.00	8.7 @ 1.55	2,015.00
1400'	18" @ 1.07	1,498.00	6.3 @ 1.03	1,442.00
40'	8" @ .22	8.80	5.1 @ .30	12.00
102'	8" @ .22	22.44	4.4 @ .22	22.44
4 -	12" Intakes @ 30.00			120.00

LATERAL 1-A

60'	8" @ .22	13.20	5.4 @ .33	19.80
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LATERAL 1-B

60'	6" @ .14	8.40	4.6 @ .20	12.00
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LATERAL 1-C

500'	10" @ .35	175.00	4.6 @ .47	185.00
1834'	8" @ .22	403.48	5.1 @ .30	550.20
3 -	12" Intakes @ 30.00			90.00
		9,651.72		8,452.84

78,104.56

LATERAL 2 - RELIEF

Sec. 6 as Itemized on Plan B	3,420.70	5,659.70	9,080.40
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LATERAL 3 - RELIEF

Sec. 7 Same as Plan B

6,032.56

6,583.68

12,616.24

Sec. 2MaterialLabor

Estimated G.I.P. needs for incoming tile:

	<u>per ft.</u>	<u>Cost</u>	<u>per ft.</u>	<u>Cost</u>	<u>Total</u>
180' 8" G.I.P. @ 1.05		189.00	@ .50	90.00	
60' 10" G.I.P. @ 1.30		78.00	@ .50	30.00	
120' 12" G.I.P. @ 1.52		182.40	@ .50	60.00	
20' 15" G.I.P. @ 1.87		37.40	@ .60	12.00	
20' 18" G.I.P. @ 2.21		44.20	@ .65	13.00	
		<u>531.00</u>		<u>205.00</u>	
					736.00

TOTAL MATERIAL

40,384.44

TOTAL LABOR

57,382.66

Sub Total

97,777.10

Engineer

9,700.00

GRAND TOTAL

- - -

\$107,467.10

WEBSTER COUNTY DRAINAGE DISTRICT NO. 47
Plan B - Tile Relief

Revised
3-18-52

LOWER MAIN

Sec. 2	Material Per ft.	Cost	Ave. Cut	Labor Per ft.	Cost	Total
52'	42" G.I.P. @ 8.50	442.00	8.8	@ 2.00	104.00	
1'	42" BAND " 12.65	12.65				
5800'	36" D.T. " 5.00	29,000.00	8.8	@ 1.87	10,846.00	
		<u>29,454.65</u>				
2	Type B - 5 Equalizers @ \$165.00				330.00	
2	24" Intakes installed @ 75.00				150.00	
					<u>11,430.00</u>	

40,884.65

UPPER MAIN RELIEF

Sec. 3

2000'	32" D T @ 4.00	8,000.00	9.4	@ 1.93	3,860.00	
4900'	20" D.T. @ 1.60	7,840.00	8.2	@ 1.47	7,203.00	
1800'	16" D.T. @ .89	2,880.00	6.1	@ .96	1,728.00	
280'	12" D.T. @ .46	128.80	4.8	@ .68	190.40	
60'	10" D.T. @ .35	21.00	6.5	@ .74	44.40	
68'	8" D.T. @ .22	14.96	6.7	@ .78	53.04	
34'	8" D.T. @ .22	7.48	4.0	@ .40	13.60	
		<u>18,892.24</u>				
1	Type B - 5 Equalizers @ \$165.00				165.00	165.00
11	12" Intakes @ 30.00				330.00	330.00
					<u>13,587.44</u>	

32,479.68

LATERAL "A" - New Line

Sec. 4

1300'	16" @ .89	1,157.00	7.0	@ 1.10	1,430.00	
662'	14" @ .62	410.44	5.2	@ .77	509.74	
		<u>1,567.44</u>				
3 -	12" Intakes @ 30.00				90.00	
					<u>2,029.74</u>	

3,597.18

LATERAL I - RELIEF

Sec. 5	per ft.	Cost	Ave. Cut	per ft.	Cost	Total
2300'	24" @ 2.20	5,060.00	9.3	@ 1.72	3,956.00	
1300'	22" @ 1.86	2,418.00	8.7	@ 1.55	2,015.00	
1400'	18" @ 1.07	1,498.00	6.3	@ 1.03	1,442.00	
40'	8" @ .22	8.80	5.1	@ .30	12.00	
102'	8" @ .22	22.44	4.4	@ .22	22.44	
4	- 12" Intakes @ 30.00				120.00	

LATERAL I - A

60'	8" @ .22	13.20	5.4	@ .33	19.80
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LATERAL I - B

60'	6" @ .14	8.40	4.6	@ .20	12.00
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LATERAL I - C

500'	10" @ .35	175.00	4.6	@ .37	185.00
1834'	8" @ .22	403.48	5.1	@ .30	550.20
		<u>9,607.32</u>			<u>8,424.44</u>
3	- 12" Intakes @ 30.00				90.00
					<u>8,424.44</u>

18,031.76

LATERAL 2Sec. 6

174'	16" @ .89	154.86	7.7	@ 1.21	210.54
4400'	14" @ .62	2,728.00	7.0	@ 1.05	4,620.00
996'	12" @ .46	458.16	5.4	@ .46	458.16
200'	10" @ .35	70.00	5.9	@ .50	100.00
44'	8" @ .22	9.68	4.6	@ .25	11.00
		<u>3,420.70</u>			
4	- 12" Intakes @ 30.00				120.00
1	Type B - 4 Equalizer @ 140.00				140.00
					<u>5,659.70</u>

9,080.40

LATERAL 3Sec. 7

1200'	22" @ 1.86	2,232.00	7.3	@ 1.32	1,584.00
1000'	18" @ 1.07	1,070.00	6.7	@ 1.10	1,100.00
2500'	16" @ .89	2,225.00	7.8	@ 1.21	3,025.00
1100'	10" @ .35	385.00	5.8	@ .49	539.00
456'	8" @ .22	100.32	4.8	@ .28	127.68
20'	8" @ .22	4.40	4.4	@ .25	5.00
72'	8" @ .22	15.84	4.4	@ .25	18.00
		<u>6,032.56</u>			
1	- Type B - 3 Equalizers @ \$125.00				125.00
2	- 12" Intakes @ \$30.00				60.00
					<u>6,583.68</u>

Total Materials 68,974.91
 Engineer 11,500.00
 GRAND TOTAL \$ 128,189.91

Total Labor 47,715.00

12,616.24

PRELIMINARY APPLICATION FOR WATERSHED LOAN

1. NAME OF APPLICANT (If not organized, give proposed name and write "Proposed" after name)

2. ADDRESS (City, County, State)

3. AMOUNT OF LOAN (Estimated)

\$

4. DESCRIBE BRIEFLY THE PROPOSED PROJECT (Including the number of members and others to be served)

5. IF APPLICANT PRESENTLY OPERATES ANY FACILITIES OR UTILITIES, LIST AND BRIEFLY DESCRIBE THOSE WHICH WILL BE OPERATED IN CONJUNCTION WITH, BE A PART OF, OR AFFECT THE PROJECT DESCRIBED ABOVE.

6. IF APPLICANT IS ORGANIZED, GIVE STATUTE UNDER WHICH INCORPORATED

IF APPLICANT IS NOT ORGANIZED, GIVE CITATION TO STATUTE UNDER WHICH IT WILL BE ORGANIZED (If not known, indicate if Organization will be a Corporation or a Public Organization).

7. GIVE NAME OF WATERSHED:

We understand this application is preliminary only. Will you furnish us forms, instructions, and other assistance available in processing our request in building and financing this project. We will furnish additional information and meet with FHA representatives as desired.

DATE

SIGNATURE(S)

(Name of presiding officer or authorized representatives. If none, the members of the organizing committee may sign.)

TO BE COMPLETED BY COUNTY SUPERVISOR AFTER VISITING SITE OF PROPOSED PROJECT
AND PRIOR TO FORWARDING APPLICATION TO STATE OFFICE

1. BRIEFLY DESCRIBE THE NEIGHBORHOOD TO BE SERVED GIVING SUCH INFORMATION AS DISTANCE TO NEARBY CITIES AND SUB-DIVISIONS, SANITATION PROBLEMS, WATER SUPPLY, INDUSTRIES, ETC. SUPPLEMENT WITH SKETCH MAP INCLUDING LOCATION WITH REFERENCE TO NEARBY CITIES OF 2,500 POPULATION OR MORE.

2. IF THE LOAN WOULD RESULT IN A SHIFT ON THE USE OF LAND, INDICATE THE AMOUNT AND PRESENT USE OF LAND TO BE SHIFTED, WHO WILL BENEFIT FROM THE NEW USE, AND WHERE MAJOR PORTION OF THE BENEFICIARIES RESIDE.

3. OBTAIN THE FOLLOWING INFORMATION FROM THE SOIL CONSERVATION SERVICE:

WATERSHED IS APPROVED FOR PLANNING. ☐ YES ☐ NO

WATERSHED WORK PLAN IS APPROVED FOR OPERATIONS. ☐ YES ☐ NO

WATERSHED PROJECT IS UNDER CONSTRUCTION. ☐ YES ☐ NO

4. OBTAIN AND ATTACH AS AVAILABLE THE FOLLOWING:

A. LATEST AUDIT AND FINANCIAL REPORTS.

B. SPECIFIC CITATION OF STATUTE AUTHORIZING PROPOSED METHOD OF ORGANIZATION.

C. COPIES OF ORGANIZATIONAL DOCUMENTS SUCH AS CHARTER, ARTICLES OF INCORPORATION, BYLAWS, AND RULES AND REGULATIONS.

D. ALL ENGINEERING PLANS, SURVEYS, REPORTS, COST ESTIMATES, MAPS, ETC. RELATING TO THE PROPOSED PROJECT.

5. OBSERVATIONS AND REMARKS.

(Date)

(County Supervisor)

BEAVER WATERSHED AGENDA

Dayton High School

September 28, 1964

Meeting called to order

Jens Rugaard, Chairman
Presiding

Minutes of last meeting

Jack Peterson, Secretary
Beaver W/S Director

Old Business:

New Business:

Discussion---Question and Answer Session On:

1. Re-classification
2. Assesment - When spread - Number of years
3. Damage claims - When to submit
4. Construction procedure

Other:

Discussion by group

Closing remarks by:

Fred Dahlin - President of Beaver Watershed Directors

Leonard Swanson - Vice President of Beaver Watershed Directors

Jack Peterson - Secretary - Treasurer of Beaver Watershed Directors

WEBSTER SOIL CONSERVATION DISTRICT
Room 233-Federal Bldg.
Fort Dodge, Iowa
September 21, 1964

Dear

A meeting for Beaver Watershed landowners, agents and operators will be held ~~Tuesday~~ *Monday*, September 28th, 1964 at 7:30 P.M. at the Dayton High School.

The purpose of this meeting will be to bring you up to date and to discuss the information presented at a meeting of watershed directors, commissioners and local state SCS officials, with the County Board of Supervisors on September 16th.

Circle the date and plan to attend.

Thank you.

Sincerely yours,

Jens Rugaard, Chr.
Commissioners

JR/ja

Bill Ludwig, Contracting Officer
405 Iowa Bldg. Des Moines, Iowa

September 18, 1964

Larry D. Heaton, WUC
Fort Dodge, Iowa

Beaver Watershed

Areas as described in Part 2, Chapter 2, Section 2278.1 of Watershed
Protection Handbook dated, 4-1-64, do not exist in the Beaver
Watershed, Webster County Iowa.

238 Federal Bldg.
Fort Dodge, Iowa

August 21, 1964

Mr. Jens Rugaard
Dayton
Iowa

Dear Jens:

There will be a meeting of district commissioners, assistant commissioners, watershed directors, county extension director, local soil conservation service personnel, and state soil conservation authorities, with the county board of supervisors on Wednesday, September 16, 1964, at 1:30 P.M. in the court house, to discuss further steps to be taken in Beaver Watershed.

Thank you.

Sincerely yours,

Larry D. Heaton, WUC

LDH/ja

Leon Skoglund
Edgar Licht
Eldon Hovey
Jack Black
Bob Mc Carville
Jim Almqvist
Leonard Swanson - Harcourt
Jack Peterson - Harcourt
Fred Mahlin - Boone

WEBSTER SOIL CONSERVATION DISTRICT 34
Room 238-Federal Bldg.
Fort Dodge, Iowa
August 5, 1964

Dear

You may or may not of read the article which appeared in the newspaper on August 1st, concerning approval of federal assistance for Beaver Watershed.

I would like to clarify the \$190,000 project cost and the \$120,000 local cost. As was mentioned in a former letter the estimated local cost for the project is approximately \$80,000. This is still true. The additional \$40,000 is for land treatment cost which is felt will be installed during the project period, under normal conditions. This assumes that during the project period, 450 acres of cropland would receive additional laterials as the new main is installed. In other words, this says that you have to pay for any laterials and sub mains that you put on your own land, which you are well aware of and have always done. When money is available ACP cost-sharing can be used. This estimated figure is included in the project cost, since it is a direct result of the new main, and is needed to justify the project.

As the article mentioned the funds for your project have been set aside. We will keep you informed as best possible as things develop.

If you have further questions feel free to contact me or the Soil Conservation Service Office, Room 238, Federal Building.

Thank you.

Sincerely yours,

Jens Rugaard, Chr.
Commissioners

JR/ja

LETTER TO OWNERS & AGENTS ON BEAVER WATERSHED

June 22, 1964

Dear ***-----:

You may or may not have read that Beaver Watershed has been authorized for planning by the Soil Conservation Service. This has been expected and means that Washinton⁹ has approved the work plan that was discussed at the meeting at Dayton in April.

The next step is a meeting of the Watershed Planning Party Personnel from Des Moines, with the watershed directors, district commissioners, county board of supervisors and other SCS personnel.

After this the commissioners and directors will hold a meeting with the land-owners and agents in the watershed to explain the results of the meeting and future procedures.

If you have further questions please feel free to contact the district office, Room 238 Federal Bldg.

Sincerely yours,

Jens Rugaard, Chr.
Commissioners

JR/ja

Webster Soil Conservation District
238 Federal Bldg.
Fort Dodge, Iowa
April 1, 1964

Dear

The following information was presented at the Beaver Watershed Meeting on Tuesday, March 24, 1964, at the Dayton High School. It is being forwarded to you for your information and record.

Estimated Cost of Beaver Watershed Project:

	<u>P.L. 566 Funds</u>	<u>Landowners Est. Cost</u>
Construction Cost (Tile and labor)	\$ 43,820	\$ 69,660
Engineering and Other Costs (Furnished by SCS)	22,290	-----
Administration of Contracts for Construction	-----	1,010
Damage to Crops, etc. during construction	-----	3,980
Legal Fees, Benefit Commission, & Interest	----- \$ 66,110	5,000 \$ 79,650

Federal cost-sharing under P.L. 566 on the estimated cost for total project is approximately 45%.

Federal cost-sharing under P.L. 566 on the estimated cost for construction only is approximately 38.6%.

It was suggested at the meeting that each landowner check the cost that was assessed to the land he now owns when DD #47 was originally established.

Enclosed for your information is a copy of the original assessment which you can use to obtain a rough estimate of your assessment for the proposed project. This can be figured on a percentage basis. This would be assuming that there is not a reclassification of the lands in the watershed. It is not known at this time whether a reclassification will take place.

The Watershed status of now is:

The proposed work plan has been submitted to Milwaukee and Washington for review and approval. This will take from 30 to 60 days. You will be kept informed of events as they progress.

For additional information contact the Soil Conservation Service Office, Room 238, Federal Building, Fort Dodge, Iowa.

Sincerely Yours,

Jens Rugaard, Chairman
Webster County Soil
Conservation District
Commissioners

JR/ja

Encl. 1

ASSESSMENT ROLL OF DRAINAGE DISTRICT NO. 4 OF
WEBSTER COUNTY, IOWA.
TOWNSHIP 26 NORTH, RANGE 28 WEST OF THE 5TH P M
TO THE HONORABLE BOARD OF SUPERVISORS OF
WEBSTER COUNTY, IOWA:-
GENTLEMEN:-

The undersigned, your commissioners and engineer appointed to inspect and classify the lands benefited by the location and construction of the drainage ditches known as district Number 47 of Webster County, Iowa, beg to report that we have inspected the lands contained in said district, and do hereby submit the following classification and assessments, to-wit:

Township 86, Range 28

821854 (8)

You are further notified that Thursday, July 30, 1936, at 1:30 p. m. is the day set for hearing before a session of the Board of Supervisors of Webster County, Iowa, to be held in the Supervisor's room in the Court House, Fort Dodge, Iowa; and that all objections to the above classification and assessment must be made in writing and filed with the undersigned at Fort Dodge, Iowa, on or before noon of said day of hearing.

Witness my hand this 27th day of June, 1902

WEBSTER SOIL CONSERVATION DISTRICT
238 FEDERAL BLDG.
FORT DODGE, IOWA

March 18, 1964

Dear

This concerns the meeting to be held Tuesday, March 24, 1964 at 7:30 in the Dayton High School, for landowners, operators and agents in Beaver Watershed.

Since you received the first notice sent by Jens Rugaad, we have received notice from the State Office that Mr. Larson, Head of the Watershed Planning Party will be at this meeting. He will present the work plan proposals, cost estimates and cost-sharing amounts so that the people in Beaver Watershed can then decide whether or not they wish to proceed.

This meeting is important, please try to be there.

Thank you.

Sincerely Yours,

Larry D. Heaton
Work Unit Conservationist

LDH/ja

UNITED STATES GOVERNMENT

Memorandum

TO : Alan J. Moen, A.C., SCS,
Fort Dodge, Iowa

DATE: March 17, 1964

FROM : L. J. Larson, Head, Watershed Planning Party,
SCS, Des Moines, Iowa

SUBJECT: WATERSHED PROTECTION (P.L. 566) - Watershed Meeting,
March 24th

I have recently been hoping to soon be able to write you for a date to hold a meeting in the Beaver Watershed to discuss our work plan proposals and the date of March 24th that you have suggested will be fine for that purpose.

We will propose to bring the maps showing the locations of relief lines, etc. as were determined, along with cost estimates and the cost sharing amounts so that the local people then decide whether or not they wish to proceed.

If the local people were to wish to proceed then we will send this draft of the work plan to the Washington and Milwaukee Offices for review and comment. As soon as these comments are received we can offer the work plan agreements for signature by the local sponsor; then hold a meeting to discuss the plan with other local Federal and State agencies. The plan soon thereafter can be approved by the State Conservationist for installation of the improvements.

A handwritten signature in blue ink, appearing to read "L. J. Larson", is written below the typed text.

WEBSTER SOIL CONSERVATION DISTRICT
238 FEDERAL BLDG.
FORT DODGE, IOWA

March 16, 1964

Dear

A meeting for Beaver Watershed landowners and operators will be held Tuesday, March 24, 1964 at 7:30 P.M. in the Dayton High School.

The purpose of this meeting will be to discuss the Federal cost-sharing, as it concerns Beaver Watershed, under P.L. 566. The status of the watershed will also be discussed at this time.

Please plan to be there.

Sincerely,

Jens Rugaard, Chmn.
Webster County
SCD Commissioners

JR/ja

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WORK PLAN FOR FORESTRY PROGRAM
ON
BEAVER WATERSHED
WEBSTER COUNTY, IOWA
MARCH, 1964

I. General Information

Beaver Watershed is located in the southern part of Webster County and its southern border adjoins Boone County. The watershed is about three miles long and two miles wide. It comprises 2,385 acres.

Land classification has been determined as follows:

Use	Present		Future	
	Acres	Percent	Acres	Percent
Cropland	2,240	94	2,240	94
Other (Roads 53A) (Bldgs. 92A)	145	6	145	6
Total	2,385	100	2,385	100

Of the 24 farms all or partly in the watershed, eight are owner-operated. Farms average 150 acres in size. The economy is predominantly cash grain farming with hog and cattle production. The present cropping pattern on cropland is corn, 40 percent; soybeans, 40 percent; oats, 10 percent; hay, 5 percent; and rotation pasture, 5 percent.

There is no State or Federal owned land in the watershed.

Beaver Watershed is flat farmland of high production value when adequately drained. The area is organized as Webster County Drainage District No. 47. Major soil types are Webster, Nicollet, Okoboji, Harpster, Glencoe and Clarion.

The principal problem in this watershed is a lack of adequate tile outlet facilities which cause heavy crop losses due to flooding of low land. Through the PL-566 program, drainage would be improved by sub-surface means.

II. Woodland Possibilities

There are no woodland areas on Beaver Watershed. Tree planting for timber production on this high value level cropland cannot be recommended. Technical assistance for windbreak planting around farmsteads is supplied by the Iowa Extension Service. Technical assistance for field shelterbelt planting will be provided by the Soil Conservation Service.

Ninety-four percent of the watershed area is presently classified as cropland and the remaining six percent is land used for roads and buildings. The present land use pattern presumably will remain unchanged.

This watershed area is prairie type flat land. No serious erosion problem occurs where tree planting would be needed to help stabilize the soil. Landowners favor growing corn, soybeans, and other similar crops because of their high financial returns.

Webster County is outside the boundaries of an established Cooperative Forest Management project. Forestry technical assistance service to landowners, nevertheless, will be provided if required by a District Forester under the direction of State Forester, Section of Forestry, Iowa Conservation Commission. The work will be accomplished under the Cooperative Forest Management Program in cooperation with the U. S. Forest Service.

There is no fire control problem in the watershed owing to an absence of woodland.

No forestry program is recommended for Beaver Watershed during the installation period; consequently, no Table 1 is included. No forestry measures have been applied to this area; therefore, no Table 1a is attached.

III. Recommendations

The Forest Service suggests that the following statement be included in appropriate sections of the Beaver Work Plan:

Forestry technical assistance service to landowners will be provided by the State Forester, Section of Forestry, Iowa Conservation Commission, through the Cooperative Forest Management Program with the U. S. Forest Service.

T. F. Kouba
Assistant Head
Cooperative Watershed Management
Branch

M. WAYNE CASEY, CHAIRMAN
PETERSON

FRED CHERRY
ROWLEY

DONALD JOHNSON
FAIRFIELD

WENDELL PELLETT
ATLANTIC

BRYAN WEBERG
KIRON

DR. FLOYD ANDRE, AMES
DIRECTOR OF EXTENSION

L. B. LIDDY, DES MOINES
SECRETARY OF AGRICULTURE

FRANK H. MENDELL, DES MOINES
U. S. SOIL CONSERVATION SERVICE

WILLIAM H. GREINER, DIRECTOR
STATE HOUSE, DES MOINES

State Soil Conservation Committee

STATE HOUSE
DES MOINES 19, IOWA

January 10, 1964

*File
W.S. Book*

*Fred Dahlberg
Boone, Iowa
GE2-3484
Chairman
Des Moines*

JAN 13 1964

Mr. Eldon Hovey, Chairman
Webster County Soil Conservation District
238 Federal Building
Fort Dodge, Iowa

Dear Eldon:

The State Soil Conservation Committee has recommended the Beaver Watershed to the Soil Conservation Service for watershed planning.

We have just been advised by the state office of the Soil Conservation Service that they are about ready to initiate planning party activities in the Beaver Watershed and will, in a short time, start gathering information leading to the development of a complete watershed work plan. They will be working very closely with the farmers in the area, watershed leaders, with you and your fellow commissioners, the work unit personnel in the Webster District and others concerned with the watershed.

I would suggest you discuss with the Webster District work unit personnel the advisability of notifying farmers, and others concerned with this watershed, that planning is about to begin so they will be aware of what is happening and will be in a position to offer assistance to the personnel of the watershed planning party.

I know this is information you have long awaited and it is most welcome news. If this office can be of any assistance to you, please let me know. Keep up the good work!

Sincerely yours,

William H. Greiner

William H. Greiner, Director
State Soil Conservation Committee

WHG:fc
c:c Frank Mendell

July 11, 1963

Webster Co. Board of Supervisors
Court House
Fort Dodge, Iowa

Gentlemen:

An information meeting has been called by the Beaver Watershed Committee to bring members up to date on progress so far. We have personnel from Des Moines attending this meeting to explain how the priorities are established for planing and construction and to answer questions that might arise. Also the committee expressed the desire to have someone from your Board explain the legal procedures involved as far as the drainage district is concerned as to hearings, when assessments are made, etc.

The meeting is to be held at the Dayton High School, Thursday July 18th, at 8:00 P.M.

If you have any questions in regards to this meeting let me know.

Sincerely,

Richard Pehrson, WUC

RP/ja

file - Beaver watershed

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Washington 25, D. C.

JUL 3 1963

Mr. Eldon Hovey
Chairman
Webster County Soil
Conservation District
Fort Dodge, Iowa

Dear Mr. Hovey:

We received on June 24, 1963, the application to the Secretary of Agriculture for assistance on the Beaver Watershed, submitted under provisions of the Watershed Protection and Flood Prevention Act, as amended.

Planning assistance will be provided for additional watersheds when technical facilities are available. The additional watersheds will be selected for planning in consideration of an appraisal of the proposed project's feasibility, and in consideration of watershed priorities recommended by the State Soil Conservation Committee for the applications received and approved in your State. You will be notified in writing by the State Conservationist of the Soil Conservation Service when further action is taken on the application.

It will be appreciated if you will advise other interests in the watershed of this acknowledgment.

Sincerely yours,



Administrator

June 25, 1963

Mr. William H. Greiner, Director
State Soil Conservation Committee
State House
Des Moines 19, Iowa

Dear Bill:

Thanks for your letter of June 10, and for the interest that you and the State Committee are taking in this Watershed.

I am a little puzzled regarding your reference to the assurance of local financial responsibility in connection with constructing this Watershed. As indicated on the application, the watershed is also organized as Webster Co. Drainage District # 47, and as such, is under the jurisdiction and authority of the County Board of Supervisors. The Board has certain responsibility and authority under State Statutes including the levy of taxes against the land in the District to pay the cost of repairs and or improvements.

The land owners in the Watershed have met with the Board, and both groups are on record as regarding this improvement as necessary and desireable. With this situation in mind, plus the fact that a drainage tax represents a high priority lien against any lands in the watershed, I am somewhat at a loss to know what further assurance could be given.

If you regard it as necessary, we could get written statements from the Chairman of the Board of Supervisors and the County Drainage Attorney relative to local funds and responsibility.

Again, thanks for your interest in this project, and let me assure you that all local parties are hoping for an early planning and construction priority.

Sincerely,

Eldon Hovey, Director

EH/ja

238-Federal Bldg.

Fort Dodge, Iowa

June 13, 1963

Mr. Fred E. Dahline, Chr.
Beaver Watershed
403 So. Greene St.
Boone, Iowa

Dear Mr. Dahline,

This is to inform you that Beaver Watershed has been approved for assistance under the provisions of the Watershed Protection and Flood Prevention Act, Public Law 566, at the June meeting of the State Soil Conservation Committee.

Details as to bid letting and time of construction have not been worked out. This will have to be decided with the Board of Supervisors, Soil Conservation Service and members of the watershed in the near future.

Any questions that you might have at this time I will be glad to answer or try and find the answers. As you know we are breaking into a new field of endeavor and do not have all the problems solved.

Sincerely,

Richard P. Fahrson, WUC
Webster Co. Soil Conservation

RPF/ja

cc:

John Peterson
Harcourt, Iowa

Leonard Swanson
Harcourt, Iowa

Board of Supervisors
Fort Dodge, Iowa

Beaver Watershed, located in Dayton Township, Webster County Soil Conservation District, has been approved for planning by the State Soil Conservation Committee.

The Soil Conservation Service will initiate planning activities in the near future. Information will be gathered throughout the area, leading to the development of a complete watershed work plan. They will be working very closely with the farmers in the area, watershed leaders, district commissioners, work unit personnel and others concerned with the watershed in the Webster District.

Beaver Watershed also known as Webster County Drainage Ditch #47 was formally organized in April of 1963, with application for assistance being submitted to the State Soil Conservation Committee at that time. The watershed was organized for the purpose of obtaining engineering and financial assistance, to provide tile drainage relief on the existing county main. This will provide adequate drainage outlets for all the land in the watershed.

The watershed contains 2385 acres with all or parts of 24 farms. One hundred percent of the landowners in the area are cooperators with the Webster County Soil Conservation District. Basic conservation farm plans have been developed on 21 of the farms in the watershed. Directors of the watershed are Fred E. Dahline, Chairman, John Peterson and Leonard Swanson.

Sponsoring agencies are the Webster County Board of Supervisors and the Webster County Soil Conservation District.

BRYAN WEBERG, CHAIRMAN
KIRON

M. WAYNE CASEY
PETERSON

FRED CHERRY
ROWLEY

DONALD JOHNSON
FAIRFIELD

WENDELL PELLETT
ATLANTIC

DR. FLOYD ANDRE, AMES
DIRECTOR OF EXTENSION

L. B. LIDDY, DES MOINES
SECRETARY OF AGRICULTURE

FRANK H. MENDELL, DES MOINES
U. S. SOIL CONSERVATION SERVICE

WILLIAM H. GREINER, DIRECTOR
STATE HOUSE, DES MOINES

State Soil Conservation Committee

STATE HOUSE
DES MOINES 19, IOWA

June 10, 1963

Mr. Eldon Hovey, Chairman
Webster County Soil Conservation District
238 Federal Building
Fort Dodge, Iowa

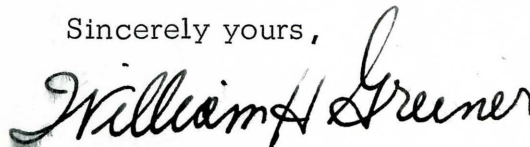
Dear Eldon:

The State Soil Conservation Committee held their regular monthly meeting on June 7, at which time the application for planning assistance under Public Law 566 received from the Beaver Watershed was discussed.

I am happy to inform you the State Soil Conservation Committee has approved this application for planning assistance. The Committee wanted me to point out several things to you which we felt you should be aware of with regard to this application. The approving of this application at this date merely places it on the list with other watersheds which have been approved and are awaiting planning priority for the watershed planning party to plan the area. Before these priorities are given to a watershed, the local people must show an interest in the program, they also must complete the necessary conservation measures and other items necessary in a watershed program. In this particular watershed where drainage is the predominant problem, and since the watershed act states that drainage is an eligible item under Public Law 566 but must be cost shared with the local people, it will then be necessary for the landowners in this particular watershed to accept their financial responsibility if the application advances that far. In other words, before a priority is given for planning this watershed, it will be necessary to have this assurance that the local people will accept their responsibility.

We are enclosing a copy of the application for your district files which has been signed by the Chairman of the State Committee, Bryan Weberg. If this office can be of any assistance to you in your program, please do not hesitate to let us know.

Sincerely yours,



William H. Greiner, Director

WHG:fc
Enc.

BRYAN WEBERG, CHAIRMAN
KIRON

M. WAYNE CASEY
PETERSON

FRED CHERRY
ROWLEY

DONALD JOHNSON
FAIRFIELD

WENDELL PELLETT
ATLANTIC

DR. FLOYD ANDRE, AMES
DIRECTOR OF EXTENSION

L. B. LIDDY, DES MOINES
SECRETARY OF AGRICULTURE

FRANK H. MENDELL, DES MOINES
U. S. SOIL CONSERVATION SERVICE

WILLIAM H. GREINER, DIRECTOR
STATE HOUSE, DES MOINES

State Soil Conservation Committee

STATE HOUSE
DES MOINES 19, IOWA

June 3, 1963

Mr. Eldon H. Hovey, Chairman
Webster Co. Soil Conservation District
238 Federal Building
Fort Dodge, Iowa

Dear Eldon:

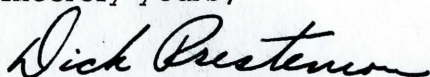
Have discussed your request to meet with the sub-committee on establishment of a criteria for watershed projects.

They have asked me to inform you that since this committee has been established by the State Committee, they do not feel they have the authority to invite additional people to serve or attend. They are of the opinion also that since this is simply a committee to make recommendations to the State Committee it would not serve any useful purpose for you to be present. No action is to be taken on the application for assistance received from Webster District at this meeting.

Also discussed your request with Bryan Weberg, chairman of the State Committee, and he said to tell you that you would be welcome to sit in on the Committee meeting on June 7th if you desired to do so. However, this would be entirely up to you, and I believe they would appreciate it if you would not bring a delegation of local people with you. Action on the Beaver watershed application will not be influenced by a show of interest on the part of the farmers in the area because we are aware the interest in the project is very good. If you desire to attend for your own information, we will be meeting in the Speaker's Room, State House, Des Moines on June 7th.

If for some reason the sub-committee is unable to reach a decision on the criteria to be used, no action would be taken by the State Committee at their June meeting. In this event, I will call you on the 6th to save you an unnecessary trip to Des Moines.

Sincerely yours,



Richard G. Prestemon, Assistant Director
State Soil Conservation Committee

kb

JUN 4 1963

BRYAN WEBERG, CHAIRMAN
KIRON

M. WAYNE CASEY
PETERSON

FRED CHERRY
ROWLEY

DONALD JOHNSON
FAIRFIELD

WENDELL PELLETT
ATLANTIC

DR. FLOYD ANDRE, AMES
DIRECTOR OF EXTENSION

L. B. LIDDY, DES MOINES
SECRETARY OF AGRICULTURE

FRANK H. MENDELL, DES MOINES
U. S. SOIL CONSERVATION SERVICE

WILLIAM H. GREINER, DIRECTOR
STATE HOUSE, DES MOINES

State Soil Conservation Committee

STATE HOUSE
DES MOINES 19, IOWA

May 2, 1963



Mr. Eldon Hovey, Chairman
Webster County Soil Conservation District
238 Federal Building
Fort Dodge, Iowa

Dear Eldon:

The State Watershed Advisory Board held a meeting earlier this week to discuss watershed applications received to date. The Beaver Watershed application received sometime ago from the Webster District was discussed at some length.

Action on this application is being postponed for the present time until the State Watershed Advisory Board and the State Soil Conservation Committee can develop some criteria for watersheds such as this which deal almost entirely with drainage problems. As you are aware, criteria established some time ago were for watersheds that dealt mostly with erosion and flood control problems, and the two areas are not the same.

You have a good application with a good number of cooperators and farm plans written, and I want to point out that the application is certainly not being disapproved but the two groups do want to wait until a better set of criteria is established for watersheds with drainage problems. This will probably be done within the next few weeks.

We will keep you advised.

Sincerely yours,

WHG:fc
c:c Frank Mendell

William H. Greiner, Director
State Soil Conservation Committee

April 25, 1963

Mr. Fred E. Dahline
403 So. Greene St.
Boone, Iowa

Dear Mr. Dahline,

Just a note to inform you that your application for assistance under Public Law 566 for the Beaver Watershed has been submitted to the State Soil Conservation Committee for consideration. Both the County Board of Supervisors and Soil Conservation District Commissioners signed as co-sponsors on the application.

As you know, they have 45 days in which to act on the application. However, we should know the outcome by the first of next month.

You can inform the other members of the group as to the status of their efforts when you see them. So far everything looks quite favorable.

If you have any questions at any time contact our office here in the Federal Building at Fort Dodge.

Sincerely,

Richard P. Pehrson, WUC
Webster Co. Soil Conservation

RPP/ja

cc:

John Peterson
Harcourt, Iowa

Leonard Swanson
Harcourt, Iowa

XXXXXX
573-4411

April 23, 1963

State Soil Conservation Committee
State House
Des Moines, Iowa

Gentlemen:

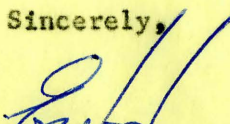
Three copies of the official application for assistance in the Beaver Watershed under Public Law 566 have been submitted for your consideration.

This watershed covered by this application is also organized as Webster County Drainage District #47. The original installation of works of improvement in this watershed was accomplished approximately 50 years ago. The main tile and major laterals provide about 1/4 of the capacity recognized as adequate by today's standards, and in several large, low areas are too shallow to provide for the removal of anything except surface water. The result is that several hundred acres in the watershed are subject to severe damage from flooding each year, and crop production in other areas is hindered by lack of adequate sub surface drainage.

Several attempts have been made by individuals in the watershed to promote additional facilities, but have been unsuccessful, due primarily to cost involved. The people in the watershed are particularly enthusiastic about possibilities in this program. This is evident from the 100% District Co-Operator record, and from the fact that people are developing Basic plans as rapidly as possible.

We feel that approval of this application and subsequent construction of the improvement will be a real benefit to agriculture, and a start in the direction of solving the most pressing conservation problem in this area of the state.

Sincerely,



Eldon Hovey
Chairman

EH/ja

WEBSTER SOIL CONSERVATION DISTRICT
ROOM 238-FEDERAL BLDG.
FORT DODGE, IOWA

April 2, 1963

Dear

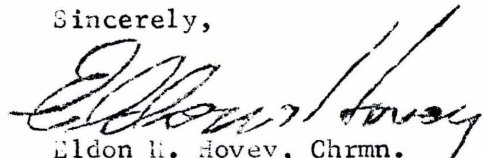
An interest meeting for Drainage District No. 47 which you either own land and/or farm in, will be held April 8th, 1963, at 8:00 P.M. in the English Room of the Dayton High School.

At this meeting a program will be explained to you that allows the government to share up to 50% of the cost of construction and furnishes free of charge all engineering expenses to improve the all-over drainage in the district.

This program, known as the Watershed and Flood Prevention Act has been used in Southern Iowa for sometime on gully control projects. Now we think that there is a chance to get this type of assistance in drainage areas needing tile main relief work.

We feel that it is important that you be present at this meeting so that you can become acquainted with what is available, and if you decide to go ahead as a group to take advantage of the program, we will then be able to start the wheels rolling.

Sincerely,


Eldon H. Hovey, Chrmn.
Web. Co. SCD Commissioners

EHH/mjj

Adel, Iowa
July 7, 1961

Dear Member of Beaver Creek Watershed Committee:

I recently wrote to E. M. Fry, Colonel, Corps of Engineers, District Engineer, and asked him how the survey was progressing on the Beaver Creek Watershed Area. This is the response that I received:

"Dear Mr. Geneser:

Your letter of 29 June 1961 requests a progress report on the study to be made for the Beaver Creek watershed.

As you know, the Beaver Creek study will be cooperative between the SCS and the Corps of Engineers. A meeting was held with SCS representatives on 1 February 1961 to discuss the proposed studies. In a letter dated 22 March 1961, Mr. Mendell reported that SCS engineers would not be available until the fall of 1961 to cooperate on the study. The Beaver Creek watershed studies will be incorporated into the Des Moines River flood control report. The Des Moines River report is scheduled for completion in several years, so the delay in starting the Beaver Creek study will not cause a delay in completion of the overall report.

We anticipate meeting with SCS representatives this summer and will start the collection of basic data and initial engineering studies after that meeting. When progress has been made on the study, we anticipate having a joint meeting with your watershed committee and the SCS.

Sincerely yours,

E. M. FRY
Colonel, Corps of Engineers
District Engineer "

If you fellows have any further questions you can drop me a line.

Sincerely,

Jack Geneser, Adel

Local people in Dallas County organized a drainage district and installed a channel improvement of 9 miles to carry the flood flows and provide drainage outlets in 1909 and 1910. This channel provided benefits in this area when it was first installed, but sediment has deposited in the channel due to inadequate outlets in Polk County. The benefits have gradually declined until at the present time it is doubtful if any benefits are being obtained.

The technicians in the Soil Conservation Service indicated a potential flood water retarding structure site at the Dallas-Boone County line. They indicated that such a structure at the site would greatly reduce flood flows in Dallas and Polk counties. This would perhaps make feasible the installation of an improved outlet channel from the structure to the Des Moines River. Flood damage would be reduced and proper drainage outlets would be provided.

If it is determined that a feasible project for Dallas and Polk can be developed through assistance from your office, then it may be desirable to seek assistance from the Soil Conservation Service under Public Law 566. We feel that there are many laterals in Boone, Greene, and Webster counties that are in need of both flood prevention and improved drainage outlets.

It may well be that you may wish to make joint studies of the Beaver Creek Watershed with technicians of the Soil Conservation Service.

We hope that you will give favorable consideration to this request for assistance.

We, the members of the committee, will be very willing to lend any assistance we can in making these studies.

Sincerely,

Jack Geneser, Chairman
Beaver Creek Watershed Committee

Committee Members:

Jack Geneser, Granger, Dallas Co., Chm.
Fayette Meek, Granger, Dallas Co.
Lyle Marlow, Ogden, Boone Co.
Don Hill, Perry, Boone Co.
Charles Harding, Sr., Grimes, Polk Co.
J. Herbert Harmon, Granger, Polk Co.
Laurence Huber, Rippey, Greene Co.
Jens Rugaard, Dayton, Webster Co.
Jack Black, Barnum, Webster Co.

Office Memorandum • UNITED STATES GOVERNMENT

TO : Harrison, Behn, Beyer, Pehrson
Work Unit Conservationists

FROM : J.I.Fredregill, Work Unit Conservationist
Dallas District.

SUBJECT: Watershed- Beaver Creek Area

DATE: 7/22/60

J.I.Fredregill

Each of you will probably be contacted soon by your Extension Director regarding Beaver Creek and the possibility of organizing a watershed.

J.D.Brown, the Extension Director here, is writing each of your Extension Directors and suggesting they contact the County Board of Supervisors, the District Commissioners, SCS, ASC, FHA and other interested representatives regarding a meeting August 22, 1960.

The purpose of this meeting is to discuss the possibility of organizing a watershed so that adequate drainage can be secured for the land adjoining Beaver Creek.

The acres in each district are as follows:

Webster	-----	2,585
Greene	-----	31,872
Boone	-----	99,839
Dallas	-----	72,064
Polk	-----	<u>30,720</u>
Total		237,080

The above is furnished for your information so that each of you will have some advance notice on the subject.

Please bring all interested parties with you August 22.

cc: Kenneth E. King

Office Memorandum • UNITED STATES GOVERNMENT

TO : Earl A. Iliff, Acting Area Conservationist

Fort Dodge, Iowa
DATE: Sept. 21, 1954FROM : Floyd L. Peters W.U.C. *F. L. P.*

SUBJECT: Watershed Protection and Flood Prevention Act

Considerable interest is developing in the #47 drainage area in Webster County. I am wondering if the new Watershed Protection and Flood Prevention Act would apply in the case of a drainage area such as #47. If it would, there are several other drainage areas in the county which could also be improved under this act.

I have read most of the literature pertaining to the law and am still not sure as to how much help we could get on drainage.

Any group of any size (up to specified limits) is eligible for funds under Watershed Improvement once they have qualified as

- a. At least 50% of area involved under a Con. farm plan.*
- b. So organized*
 - 1. To assume groups share of all costs (usually 50%+)*
 - 2. Obtain all necessary easements & agreements etc*
- c. Assume a guaranteed maintenance of improvements*

Do we know of an area, when completed to Watershed Improvement, that could comply particularly under (a) above.

I can not see wherein an organized DD within a W.D. could or would have any bearing on its consideration. Drainage in some nature will likely appear in any W.D. throughout the upland drainage belt.

Earl.

Iowa, October 9, 1956



H - II

APPLICATION FOR PLANNING ASSISTANCE
Under The
WATERSHED PROTECTION AND FLOOD PREVENTION ACT
PUBLIC LAW 566, 83rd CONGRESS, AS AMENDED BY 84th CONGRESS

The local organization(s) signing this application requests the United States Department of Agriculture to provide assistance in developing a work plan for the Beaver Watershed. In accordance with Public Law 566, 83rd Congress, this application is being submitted to the Iowa State Soil Conservation Committee, State House, Des Moines, Iowa, for their review and action before submittal to the U.S. Secretary of Agriculture.

The following information is submitted in support of the application:

I. Soil Conservation District(s) in which Watershed is located Webster
Ia, SCD # 37

A. Age(s) of District(s) 19 years

B. District policy on watershed treatment District policy is to work with groups of farmers wherever possible, particularly watershed groups.

II. Name of Watershed Beaver

A. Size in sq. miles 4 Acres ~~2285~~ 2385

B. Name of Major Drainage Basin Beaver Creek Basin

C. Location in District (Attach map showing location) South central (see map)

D. Farmer organization: Ass'n. _____ Committee 3 man committee

1. Date organization completed April 8, 1963

2. Objectives of watershed group and sponsors To secure adequate drainage outlets for all lands in the district.

E. Number of farms all or partly in Watershed 24

F. Farms owner-operated - No. 8 % 35

G. Average size of farms 150 acres.

III. Description of Watershed Problems

A. Land Use in Watershed (Approx.)

	<u>PRESENT</u>	<u>RECOMMENDED</u>	<u>CONVERSION</u>
1. Crop land - acres	<u>2240</u>	<u>2240</u>	<u>0</u>
2. Pasture - acres	<u>.</u>	<u>.</u>	<u>.</u>
3. Woodland - acres	<u>.</u>	<u>.</u>	<u>.</u>
4. Other - acres	<u>145</u>	<u>145</u>	<u></u>
<i>(53 acres roads, 92 acres buildings)</i>			

B. Areas subject to flooding:

	<u>FLOODED WITHIN WATERSHED</u>		<u>FLOODED BELOW BY RUN-OFF FROM WATERSHED</u>	
	<u>NORMAL</u>	<u>MAXIMUM</u>	<u>NORMAL</u>	<u>MAXIMUM</u>
1. Farm lands				
Cropland - acres	<u>360</u>	<u>745</u>	<u>0</u>	<u>0</u>
Pasture - acres				
Woodland - acres				
2. Other land - acres	<u>0</u>	<u>4 road</u>	<u>0</u>	<u>0</u>
3. Farm building sites - No.				
4. Urban areas - acres				
Residential dwellings - No.				
Businesses - No. Stores				
Industrial Plants - No.				
5. Drainage Improvements - Open ditch - Miles <u>1 (in Boone County)</u>				
Clean-out required average of once each <u>20</u> years.				
6. Municipal water supply <u>None</u> city				

C. State or Federal lands within the Watershed or affected by waters from the Watershed:

1. State Lands

Type None Acres _____
 State Dept. involved _____

2. Federal Lands

Type None Acres _____
 Federal Agency involved _____

D. Transportation Facilities Affected:

1. Highways, Total Miles 6.6 Farm 6.6 Secondary -
 Primary - Bridges, No. None
 2. Railroads, Miles None Bridges No. None

IV. Progress of Soil Conservation Work

A. Soil Conservation District Cooperators.

All or partly in Watershed No. 23 Acres 2385 ¹

B. Active farm conservation plans.

(all farms in watershed)

All or partly in Watershed No. 14 Acres 1919 ¹

C. Soil surveys completed

(includes parts of farms outside watershed area) Acres 2385 Standard survey

D. Major Conservation Practices

	NEEDED	PLANNED	APPLIED	APPLIED ² (END OF ONE YEAR)	APPLIED ² (END OF THREE YEARS)
1. Contouring (Acres) ³	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
2. Strip Cropping (Acres)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
3. Terraces (Miles)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
4. Diversions (Miles)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
5. Waterways (Acres)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
6. Farm Ponds (No.)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
7. Gully Control ⁴ Structures (No.)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
8. Woodland Mgt. (Acres)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
9. Drainage (Acres)	<u>2265</u>	<u>1665</u>	<u>600</u>	<u>0</u>	<u>0</u>
10. Other Treatments					

Note: Drainage accomplishment severely restricted by lack of adequate outlet.

¹ Areas covered by district agreements should be cross-hatched and areas covered by farm conservation plans should be shaded solidly on the location map referred to in item II-C-

² These figures should include the estimated total accomplishments at the end of the respective periods.

³ Report that portion of rotation cropland in the watershed needing contouring that is to be in cultivated row crops each year. Also include areas of rotation cropland needing terraces that will be in row crops each year. Do not include areas reported under the contour strip cropping practice.

⁴ Report here the number of gully control structures needed to stabilize gullies where only one farm is involved. (Do not include here structures expected to be installed with P.L. #566 funds)

V. Progress of Soil Conservation Work in Sub-Watersheds (If data on more than one Sub-Watershed is included, use separate sheet for each. Additional sheets such as this may be obtained from the State Soil Conservation Committee).

- A. Farms all or partly in Sub-Watershed No. _____ Acres _____
- B. Soil Conservation District Cooperators.
All or partly in Sub-Watershed. No. _____ Acres _____ 1
- C. Active farm conservation plans.
All or partly in Sub-Watershed. No. _____ Acres _____ 1

D. Major Conservation Practices	NEEDED	PLANNED	APPLIED	APPLIED ²	APPLIED ²
				(END OF ONE YEAR)	(END OF THREE YEARS)
1. Contouring (Acres) ³	_____	_____	_____	_____	_____
2. Strip Cropping (Acres)	_____	_____	_____	_____	_____
3. Terraces (Miles)	_____	_____	_____	_____	_____
4. Diversions (Miles)	_____	_____	_____	_____	_____
5. Waterways (Acres)	_____	_____	_____	_____	_____
6. Farm Ponds (No.)	_____	_____	_____	_____	_____
7. Gully Control ⁴ Structures (No.)	_____	_____	_____	_____	_____
8. Woodland Mgt. (Acres)	_____	_____	_____	_____	_____
9. Drainage (Acres)	_____	_____	_____	_____	_____
10. Other Treatments)	_____	_____	_____	_____	_____

No Sub watersheds.

¹ Areas covered by district agreements should be cross-hatched and areas covered by farm conservation plans should be shaded solidly on the location map referred to in Item II-C.

² These figures should include the estimated total accomplishments at the end of the respective periods.

³ Report that portion of rotation cropland in the watershed needing contouring that is to be in cultivated row crops each year. Also include areas of rotation cropland needing terraces that will be in row crops each year. Do not include areas reported under the contour strip cropping practice.

⁴ Report here the number of gully control structures needed to stabilize gullies where only one farm is involved. (Do not include here structures expected to be installed with P.L. #586 funds)

VI. Physical Data available on Watershed

Watershed Base Map: Type Plane table : Scale 1" = 350

Farm Planning Progress shown Per instructions

Conservation Survey Progress shown Completed - standard survey

Other Information shown See remarks.

VII. Major Problems in Watershed (such as gully control, sheet erosion, flood prevention, drainage, etc.)

Major problem is lack of adequate tile outlet facilities, causing serious crop loss due to flooding in low areas.

VIII. Interest of Local People.

100% of people contacted and people at organizational meeting definitely in favor of project. No opposition apparent to date.

IX. General Productive Capacity of the Land Highly productive with adequate drainage

List Major Soil Types:

Webster, Nicollet, Okoboji, Harpster, Glencoe, Clarion

X. Other Pertinent Information *This watershed area is also organized as Webster County Drainage District # 47. Various people in this group have been trying to improve this outlet for the past 15 years, however, excessive costs have defeated these efforts. A complete plan and cost estimate for work of improvement for this area has been developed by SCS Engineering and has the approval of the group and the Webster County Board of Supervisors.*

XI. Estimated Time to Complete the Project 1 year
(Land Treatment and Structures)

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XI. Estimated Time to Complete the Project 1 year
(Land Treatment and Structures)

It is the belief of the undersigned local organizations that Federal Assistance under the Watershed Protection and Flood Prevention Act is needed. Witness the signatures of the undersigned local organization(s)--Legal sponsoring organization(s) on the dates show below. (Type or print all information except signatures).

(It is desirable that one of these be the soil conservation district or districts in which the Watershed is located)

Webster County Board of Supervisors
(NAME OF LOCAL ORGANIZATION)

By: (Sig.) Leonard Shuler
Title Chairman
4-16-63
(DATE)

This action authorized at an official meeting of Webster County Board of Supervisors
(NAME OF LOCAL ORGANIZATION)

on 4-16 19 63, at Fort Dodge, Iowa
State of Iowa
Attest: (Sig.) C. F. Beers
(SECRETARY)

Elmer L. Gray
(NAME OF LOCAL ORGANIZATION)
By: (Sig.) _____
Title Chairman, Webster County SCD
4-15-63
(DATE)

This action authorized at an official meeting of Webster County Soil Conservation District
(NAME OF LOCAL ORGANIZATION)

on 4-15 19 63, at Fort Dodge
State of Iowa
Attest: (Sig.) Paul E. Hammond
(SECRETARY)

(NAME OF LOCAL ORGANIZATION)
By: (Sig.) _____
Title _____
(DATE)

This action authorized at an official meeting of _____
(NAME OF LOCAL ORGANIZATION)
on _____ 19 _____, at _____
State of _____
Attest: (Sig.) _____
(SECRETARY)

The above local organization(s) request that all correspondence or contacts pertaining to this application be directed to Webster County Soil Conservation District

This application is hereby _____ Approved _____ by the State Soil Conservation Committee, acting on behalf of the State of Iowa, and by designation of the Governor in accordance with the provisions of Public Law No. 566, 83rd Congress, and as amended.

Bryan Heberg
CHAIRMAN, STATE SOIL CONSERVATION COMMITTEE

June 7, 1963

DATE

The signatures of the undersigned local organization(s) appear as supporting groups only and are not sponsoring organization(s). Type or print all information except signatures. (Additional copies may be obtained from the State Soil Conservation Committee).

Beaver Watershed Association

(NAME OF LOCAL ORGANIZATION)

By: (Sig.)

Title

Fred E. Washlin

Chairman

4-15-63

(DATE)

(NAME OF LOCAL ORGANIZATION)

By: (Sig.)

Title

(DATE)

(NAME OF LOCAL ORGANIZATION)

By: (Sig.)

Title

(DATE)

(NAME OF LOCAL ORGANIZATION)

By: (Sig.)

Title

(DATE)

(NAME OF LOCAL ORGANIZATION)

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Title

(DATE)

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By: (Sig.)

Title

(DATE)

(NAME OF LOCAL ORGANIZATION)

By: (Sig.)

Title

(DATE)

(NAME OF LOCAL ORGANIZATION)

By: (Sig.)

Title

(DATE)

*RESOLUTION TO CO-SPONSOR AN APPLICATION FOR
PLANNING ASSISTANCE AND AID ON TO THE WATER
SHED PROTECTION AND FLOOD PREVENTION ACT,
PUBLIC LAW NO. 566.*

WHEREAS, the land owners in Webster County Drainage District No. 47 have made an oral request for the Webster County Board of Supervisors to become co-sponsors of an application for said drainage district for planning assistance under the Watershed Protection and Flood Prevention Act, Public Law No. 566.

WHEREAS, it is necessary that the Board of Supervisors approve the act of said drainage district and assist said drainage district by becoming co-sponsors of said application.

NOW, THEREFORE, BE IT RESOLVED: That the Webster County Board of Supervisors authorize drainage district No. 47 Webster County, Iowa, to make application to the Iowa State Soil Conservation Committee, State House, Des Moines, Iowa, and the U. S. Secretary of Agriculture for assistance under Public Law No. 566, 83rd Congress, as amended by the 84th Congress, and that the Chairman of the Webster County Board of Supervisors is authorized to execute an application for said aid and benefit under the aforementioned law as a legal co-sponsoring organization.

all
Aye

Nay

Moved by

Russell

Seconded by

Hannahan

April 16, 1963

Land Treatment Certification

Al Moen, Area Conservationist

September 18, 1964

Larry D. Heaton, WUC

Beaver Watershed

Attached, for forwarding, are 2 copies of the statement concerning
land treatment measures in Beaver Watershed.

Bill Ludwig, Contracting Officer
405 Iowa Bldg. Des Moines, Iowa

September 18, 1964

Larry D. Heaton, WUC
Fort Dodge, Iowa

Beaver Watershed

Areas as described in Part 2, Chapter 2, Section 2278.1 of Watershed
Protection Handbook dated, 4-1-64, do not exist in the Beaver
Watershed, Webster County Iowa.

1. Operation & Maintenance Agreement
2. Agreement for Engr. Serv. Performed by Contributing Local Organization (includes attach. entitled Engr. Proc. # 15 Re: Cooperative Roaming Project P.L. 566.
3. Letter appointing a Contributing Off. for Agreement for Engr. Serv.
4. SCS - 78 Land Rights Certificate
5. Proj. Agree. for Cont. of Struct. Measures by Control.
6. Letter appointing a Cont. Off. for Proj. Agreement
7. Invitation For Bids a - b
8. Contracts a - b

Meeting 9-16-64
Beaver Watershed
Webster County, Iowa

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
405 Iowa Building
Des Moines, Iowa

PL-566 WATERSHED OPERATIONS

Prior to approval of a Watershed Work Plan, we are in the Planning phase. Many meetings are held, information for the work plan is gathered, and upland treatment and basic planning is accelerated. As soon as the work plan for a given watershed is approved, we are in the Operations phase. Federal assistance is available to carry out the work plan. (Money (08 funds) is available for installation services and technical assistance and for construction contracts and vegetative work.

I. Programming (Watershed Memo IA-8 - 6/2/61)

- A. SCS-207 - Field Cost Estimate.
- B. 1. 1701.2 Watershed Protection Handbook.
2. Sets up yearly budget.
- B. Iowa-21 - Monthly Schedule of Progress.

II. Work Plan

- A. Study especially the sections entitled: Project Installation, Financing Project Installation, Provisions for Operation and Maintenance and Summary of Requirements (pages 11 through 15).
- B. Land Rights to be obtained in accordance with Iowa drainage district laws (page 12).

III. Needed Actions and/or Documents

Letter

A. Land Treatment.

1. See Watershed Protection Handbook Section 2278 for definitions of 50% and 75% requirements.
 - a. WS Memo IA-7 (Rev.) sets forth Iowa Policy.
2. 75% requirement - will apply to all structural works of improvement. Follow (1) and (2) on page 2 in Memo IA-7 (Rev.).
 - a. Document on Iowa-78 (Rev.). Will be a negative statement.
 - b. Include all present and potentially critical areas and work already accomplished on them when these areas, if uncontrolled, would materially increase costs of construction or maintenance.
 - c. Basic plans must be prepared for those farms with critical sediment source areas.
3. 50% requirement - does not apply.
4. Certification to State Office by memo from work unit (WP Handbook 2278.21).

B. Land, Easements and Rights-of-Way

1. Obtain in accordance with Chapter 455 - Levee and Drainage Districts (Code of Iowa).
2. SCS-78.
 - a. This is certification by local sponsoring local organization(s) that they have obtained adequate land rights, permits, etc.

C. Operation and Maintenance Agreement (State Conservationist signs it for SS).

1. Between SCS, County and SCD.
2. Include all planned structural measures in one agreement.
 - a. Developed and prepared by State Office.

3. Plan to sign Operation and Maintenance Agreement at same time initial Project Agreement is signed. (Optional - can be signed separately but Operation and Maintenance Agreement must be signed before initial Project Agreement.)

a. Set up meeting with Commissioners and Supervisors - to discuss and sign Operation and Maintenance Agreement. State Office will have representative at this meeting.

D. Project Agreement (fund-obligating document between SCS and SCD and County - also spells out duties and responsibilities of parties thereto.

1. Prior to signing -

a. All necessary land rights and easements obtained and checked by State Office (and then recorded, if necessary).

b. SCS-78 signed (can be done at meeting when initial Project Agreement is signed).

c. Optional - letter from County requesting SCS assistance with bid invitation (See WP Handbook Section 2603).

2. Hold meeting with County Board and SCD to discuss fully the initial Project Agreement (can be done jointly with Operation and Maintenance meeting).

a. State office will have representative present at this meeting when initial Project Agreement is discussed.

b. Letter of appointment of Contracting Officer by County Board.

c. Form letter developed by SCS - available for use in appointing Contracting Officer.

3. On-site inspection by County Board and SCS representative, prior to release of Invitation for Bids (WP Handbook 2203.9).

4. Prior to State Administrative Officer signing Project Agreement, drawings and specifications and invitation for bids will be prepared and ready for issuance.
 - a. 30 days from signing to issue invitation for bids; 90 days from signing to make award.
 - b. State Administrative Officer has prime responsibility to see that all terms of the Project Agreement are carried out.
5. Sample copy of Project Agreement - County is Contracting Local Organization. (Dollar amounts in P. A. are confidential figures) SCD also signs Project Agreement.
- E. Engineering Services Agreement (Executed before Engineer starts any engineering work for which reimbursement will be claimed).
 1. Can cover any or all phases of engineering work.
 2. SCS will provide construction inspection services unless qualified SCS inspectors are not available.
 3. Legal engineering functions will be performed by engineer appointed by County Board.

IV. Review

- A. Sequence of action by SCS and SCD and County.
 1. Watershed Organization.
 2. Work Plan Preparation and Approval.
 3. Land Rights and Easements and Upland Treatment.
 - a. Land Rights obtained through creation of a Drainage District.
 4. Engineering Services Agreement if SCS does not do ^{all} engineering work.
 - a. Providing County Board wishes to be reimbursed for engineering work.

5. Project Agreement.

- a. To cover costs of construction.

6. Operation and Maintenance.

B. All but item 6 above are of relatively short duration, as regards time involved.

1. Therefore, do not forget that Operation and Maintenance will be with you forever -- start the SCD, County, and yourselves off with the right philosophy.
2. Be sure the SCD and County responsibilities are fully understood and carried out. (Sec. 455.135, 455.138 and 455.148 of Chapter 455 Code of Iowa)

V. Contract Administration

A. Contract Folder Check Sheet - used by State Office to keep track of all needed documents and/or actions until a contract is completed.

1. Pre-bid and pre-award meetings held with contractors.

B. Administration of actual contract handled by local Contracting Officer with very close guidance and assistance from Government Representative, Project Engineer, inspectors, State Conservation Engineer, and State Administrative Officer.

1. Work Unit Conservationist and his staff ordinarily not concerned with work once contract is awarded, except to supply information to local people, press, radio and TV.
2. Work of contractor must progress in accordance with the terms, conditions, technical specifications and drawings of the contract.
 - a. Proposed changes in the work by local people or landowners cannot be made without modifying the contract.

C. Contents of actual contract - Service requirements as to contents must be complied with.

1. Bid Bond - 20% of amount bid.
2. Performance and Payment Bonds - 100% and 50%, respectively.
3. State Laws regarding state contracts will apply unless there is a conflict between Chapter 573 and drainage laws in which case drainage laws will govern.

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PLANNING ASSISTANCE AND AID ON TO THE WATER
SHED PROTECTION AND FLOOD PREVENTION ACT,
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all
Aye

Nay

Moved by Russell

Seconded by Hannohon

April 16, 1963

BEAVER WATERSHED AGENDA

Dayton High School

September 28, 1964

Meeting called to order

Jens Rugaard, Chairman
Presiding

Minutes of last meeting

Jack Peterson, Secretary
Beaver W/S Director

Old Business:

New Business:

Discussion---Question and Answer Session On:

1. Re-classification
2. Assesment - When spread - Number of years
3. Damage claims - When to submit
4. Construction procedure

Other:

Discussion by group

Closing remarks by:

Fred Dahlin - President of Beaver Watershed Directors

Leonard Swanson - Vice President of Beaver Watershed Directors

Jack Peterson - Secretary - Treasurer of Beaver Watershed Directors

Attendance: @ meeting held September 28, 1964
Dayton High School
7:30

Charles R Lundberg

Cuffman Realty (agt L. H. Anderson) 1

Phil Fridolfson

Wendell Palmquist 2

J. Elger Strand 3

Thos Peterson 4

Leonard Swanson 5

Robert E Carlson 6

Olinor Larson 7

Fred E. Dahlin 8

J. Wesley Swanson 9

Oscar J. Swanson 10

E. L. Newhouse, agt Chas. Hestekens

Jacob Peterson 11

Chas. Hestekens 12

Rennis (over) for Donald Hestekens 13

H. L. Bass 14

Arntin Lundgren

Jens Riegaard
Larry Heaton
Andy Schill

(Genda on back
(over))

Meeting at Dayton High School

March 29, 1964.

Soren & Knutson, present

Information in letter dated April 1, 1964 Presented

Name

Address

Reuben Peterson ✓

Harcourt

Oliver Carlson

Harcourt Ia

Thos F Peterson ✓

Harcourt Ia

Leonard Swanson ✓

Harcourt Ia

C. H. Muehse - Nordeen

Pippy Iowa

Everett Erickson ✓

Harcourt Iowa

Don Kinnelick ✓

Harcourt Iowa

Oliver Anderson ✓ - Fred Dahlin

Paton Iowa

Wendell Palmquist -

Harcourt, Iowa

Charles R Lundberg

Harcourt, Ia

Oscar J. Swanson ✓

Harcourt Ia

Clarence B. Johnson ✓

Harcourt Ia

Robert E Carlson ✓

Dayton Iowa

J. Olger Strand ✓

Dayton Iowa

Clarence W Carlson

Gowrie Iowa

Donald Sliter

Dayton Iowa

Alfred Schell

Ford, Ia

Jack Peterson ✓

Harcourt, Iowa

Russell Knutson

Des Moines, Ia

Arvid Lundquist

Harcourt Iowa

Ed Shoultz

Larry D. Heston

Fred Dahlin - Boone, Iowa

Leonard Soren

Sor Beaver Watershed Meeting

Watershed ^{Protection} & Flood Prevention Act - P.L. 566

Act enables the secretary of Ag to cooperate with state & local agencies in soil and water cons. problems on a group basis

~~I. Watershed Protection~~

~~A.~~

I. Act applies where significant watershed problems exist and cannot be solved under other available programs, but can and act. watershed limit is 250,000 acres

- Significant ^{watershed} problems - floodwater retarding structures, levees, floodways, irrigation, and drainage improvement
- The soil conservation limits financial assistance ~~to~~ to those measures which are for: (1) flood prevention, drainage, irrigation; or other water management features:
 - (2) produce substantial benefits to groups of landowners, communities and to the general public.
 - (3) cannot generally be installed by individual landowners or small group of landowners with the aid of AEP programs.

~~II. Watershed Protection~~

II Three main parts of the Act

A. Watershed protection

1. Land treat measures - installed under going programs

B. Flood prevention -

- water retaining structures

- channel works

= levees

- govt pay > 100% of the cost.

C. Water management

- drainage ^{improvement} - up to 50% of the cost

III ~~What~~ What is needed to qualify for Ass.

A. Significant watershed problem

B. Agreement of 50% of the land with Soil Cons. District

C. 75% of treatment measures needed installed ~~above~~ ^{above} structures dams.
~~to achieve reduction~~

IV Requirements at Local level

A. submit an application for ~~Assistance~~ assistance
to state soil cons. ~~committee~~ committee.

14

Name

Address

Garland C. Hanson	Callender
Clarence W. Carlson -s	Howrie
Leonard Shaker -s	Callendar
William Schiel -s	Ft Dodge
Justin B. Dozant	Ft Dodge
Robert E. Carlson -m	Dayton Iowa
Wendell Palmquist -m	Harcourt
J. Elger Strand -m	Dayton Ia
Edson Hovey -c	BADGER Town
Oscar T. Swanson	Harcourt Ia
Glenn D. Hanson -s	Ft Dodge
Phil Ascher -s	Nuncombe
J. Wesley Swanson -m	Harcourt Ia
Theo. F. Peterson -m	Harcourt Ia
Arthur H. Peterson -m	Harcourt Ia
Leonard H. Swanson -m	Harcourt Ia
Merwin Lundquist -m	Harcourt Iowa
John A. Peterson -m	Harcourt, Iowa.
Wm. Carlson -m	Harcourt Iowa
Gene Rugaard -c	Dayton Iowa
Edgar A. Fitch -c	Clare Iowa

Name

address

Bob McCarroll - c	Snoverland
Charles R. Lundberg - m	Harrount
Leon B. Skoglund - c	Lamrie.
J. L. Bass - m	Ogden Ia
Floyd W. Anderson - m	Boholm Ia
Oliver Anderson - m	Paton Ia
Fred E. Dahlin - m	Boone, Iowa.

- ~~A.~~ 1. must have co-sponsors.
- B. Provide necessary land, easements, and rights-of-way.
 - Agree on the plan for works of improvement
 - assume a share of the ~~entire~~ ^{cost}
- C. Provide ^{assurance} ~~a means~~ that the works of improvement will be adequately maintained.

IV Action by state cons. committee

- 1. act on the within 45 days.
- 2. ~~yes or no~~ ^{If approved} is set up for planning
- 3. Planning jointly looks over the ~~cost~~ ^{cost benefit} analysis

V - Things to do if interest is o.k.

- A. elect committee - 3 or 5 members
- C. ~~set~~ Name the watershed
- D. sign petition of Board of supervisors
- C. Get balance of land under agreement

Beaver Watershed Meeting 2/18/63

- I. L. Larson & Bill Grier present to explain program - 40-60 cost share split was pointed out.
- II Study sheet - brought out how the board could expedite the proceedings under the Iowa Code
- III When the next call for quarters comes up the Beaver committee a Commissioner and Members of the Board of Supervisors will go down.
- IV petition will not be submitted at this time.

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
405 Iowa Building
Des Moines, Iowa 50309

Released by
Frank H. Mendell
State Conservationist

For release Saturday,
June 6, 1964

BEAVER CREEK WATERSHED APPROVED FOR PLANNING

The Beaver Creek Watershed Protection Project in Webster County, Iowa, has been authorized for planning assistance by the U. S. Soil Conservation Service, announced State Conservationist Frank H. Mendell today.

The watershed project covers 2,385 acres in Dayton Township, Webster County, and is sponsored by the Webster County Soil Conservation District and the Webster County Board of Supervisors.

Major problem in the watershed is lack of adequate tile outlet capacity causing serious crop loss from flooding in the low areas. The farm land in the 24 farms in the watershed is highly productive with adequate drainage. Webster County Drainage District #47 is located in the watershed project.

The Watershed Planning Party of the U. S. Soil Conservation Service, under the leadership of Leonard J. Larson, will begin preparation of the work plan for the Beaver watershed immediately. The Party will work with the local sponsors of the watershed and with the farmers and others in the watershed area to develop a work plan covering the works of improvement needed to control the drainage problem.

####

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
405 Iowa Building
Des Moines, Iowa

Released by
Frank H. Mendell
State Conservationist

For release Saturday,
August 8, 1964

SH
Fisher
Beaver Falls

BEAVER WATERSHED PROJECT APPROVED

Approval for Federal assistance for carrying out the Beaver Watershed Project in Webster County was announced today by Frank H. Mendell, State Conservationist of the U. S. Soil Conservation Service.

The project, to be carried out in three years, is designed to provide watershed protection and drainage in the 2,385-acre watershed. It is a local undertaking with Federal assistance under the provisions of the Watershed Protection and Flood Prevention Act, Public Law 566, Mendell said. Project sponsors are the Webster County Soil Conservation District and the Webster County Board of Supervisors in Iowa. Federal participation for carrying out the locally developed plan was approved on July 30, 1964, by Mendell.

With Federal funds available, assistance can be provided immediately for accelerating the installation of land treatment measures and preparing final designs and specifications for project improvements. Some of the land treatment measures already are being applied.

In addition to the conservation land treatment measures necessary to protect and improve the land and water resources of the watershed, the project includes about seven miles of public tile drains.

Total cost of the project is estimated at \$190,000, of which the Federal contribution will be about \$70,000. Local interests will provide about \$120,000, including land, easements, and rights-of-way, and will operate and maintain the project when it is completed, Mendell said. The project will return \$7.70 in benefits for every dollar of project cost, he added. Federal assistance will be provided by the Soil Conservation Service of the U. S. Department of Agriculture.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Washington, D. C. 20250

May 18, 1964

AUTHORIZATION FOR PLANNING ASSISTANCE OF WATERSHED APPLICATIONS

Authorization is granted to the concerned State Conservationists to provide planning assistance to the following Local Organizations, on the specified watersheds, for making investigations and surveys as may be necessary to develop Watershed Work Plans under the authority of the Watershed Protection and Flood Prevention Act:

<u>State</u>	<u>Watershed</u>	<u>Area - Acres</u>	<u>County</u>	<u>Local Organizations</u>
Arkansas	White River Backwater	150,000	Phillips Monroe Desha	White River Drainage District of Phillips and Desha Counties Phillips County SWCD
Colorado	Black Wolf Creek	23,168	Yuma	Hale SCD Yuma County Commis- sioners
Iowa	Beaver	2,385	Webster	Webster County SCD Webster County Board of Supervisors
Michigan	Jo Drain	12,970	Midland	Midland County Drain Commissioner Midland SCD
Nebraska	Spring Creek	175,000	Dawson Custer	Dawson County SWCD Custer County SWCD Dawson County City of Lexington
South Dakota	Upper East Fork of Vermillion River	112,600	McCook Lake Miner	McCook County SWCD Lake County SWCD Miner County SWCD

STC
EWP
FIU
BR
WD

<u>State</u>	<u>Watershed</u>	<u>Area - Acres</u>	<u>County</u>	<u>Local Organizations</u>
Tennessee	Lewis-Hunsacker Creek	42,000	Dyer	Dyer County SCD
Texas	Rush Creek	240,000	Brown Comanche Eastland	Brown-Mills SCD Upper Leon SCD Brown County Comanche County Eastland County
	Williamson Creek	19,700	Blanco Gillespie Kendall	Gillespie County Water Control and Improvement District Gillespie County SCD Gillespie County Com- missioners Court Pedernales SCD Blanco County Com- missioners Court

Assistance on additional watersheds will be authorized as rapidly as planning facilities will permit.

William
Administrator

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Washington, D. C. 20250

May 18, 1964

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Administrator

STC
EWP
FPU
HR
WD

Fam Plan Example - Leonard Swanson

Al Moen, A.C., SCS, Fort Dodge,
Iowa

January 22, 1964

L. J. Larson, Head, Watershed Planning Party,
SCS, Des Moines, Iowa

WATERSHED PROTECTION (P.L. 566) - Beaver Watershed

It would appear from the soil photos that the three predominant soil types in the watershed are Okoboji silt loam (90), Webster silty clay loam (107), and Nicollet loam (55) with minor amounts of Shallow muck (21), Clarion loam (138), Glencoe silty clay loam (6), Waconia silt loam (506), and Harpster loam (107a). The crop yields for these soils as found in Special Report #25, "Estimated Crop Yields on Iowa Soils", are as follows:

	<u>Corn</u>	<u>Soybeans</u>	<u>Oats</u>	<u>Hay</u>
90 Okoboji	0-85 bu	0-32 bu	0-56 bu	1.2-2.9T
107 Webster	70-77	29-32	50-56	3.0-3.5
55 Nicollet	78-85	29-32	50-56	3.0-3.5
6 Glencoe	0-69	0-32	0-56	1.2-2.9
21 Shallow Muck	0-77	0-32	0-56	1.2-2.9
107a Harpster	54-61	19-24	33-40	2.4-2.9

The ranges in yield reflect management and drainage levels.

Based on our discussions yesterday and the above tabular yield data, we are thinking of using yields without project and with project respectively as follows: Corn 55 - 80 bu.; soybeans 20 - 30 bu.; oats 30 - 50 bu.; and hay 1.8 - 3.0 tons. Does the larger figure seem O.K. for the watershed when treated?

I believe you indicated that all pastures were rotation pastures. Would yields of 80 - 120 pasture days per year without and with project seem reasonable? It is intended that all "with project" figures include adequate treatment as accomplished by the better farmers.

We will need the crop distribution on the 2,240 acres of cropland with and without the project. There may be a shift from extensive use of soybeans to more corn when adequate drainage becomes available. A table giving information as follows would be desired:

	% Cropland Without Project	% Cropland With Project
Corn	40	50
Soybeans	40	30
Oats	10	10
Hay	5	5
Rotation Pasture	5	5
Total	100%	100%

We will also need estimates of lateral tile that have been installed and that will be installed. This could be shown as follows:

	Acres Involved	Miles of Tile
Present	1000	80
3-Year Period	450	36
1st 5-Years	200	16
2nd 5-Years	200	16
3rd 5-Years	150	12
4th 5-Years (if significant)	0	0
Remaining Needs	0	0
Totals	2100	160

The "acres involved" column would include those being benefited. In the case of inadequate depth of existing tile but that are

functioning you will need to credit some acres to the old and some to the new, I expect. What is the present average cost of installing the lateral tile? *\$100/acre 6.4 miles*

We should also have data of the miles and cost and date of installing the existing public tile. I presume the original engineer's report would give such estimates. We will convert these to present day prices by use of the price index method.

We have assumed that no erosion control practices are needed in the watershed. If any are needed, please inform us of amounts. It may be well that you provide us with a description or P. C. O. of a farm plan (typical) so that we could adequately cover land treatments in the narrative of the work plan. We should also have a table of land treatment measures (reportable practices) on land, if any, present and at end of project period such as conservation cropping systems, wildlife practices, and so forth.

I note that all farmers are District Cooperators. ²⁰ ~~Fourteen~~ have farm plans. How many acres of these farm plans are in the watershed?

3 - 203/ acres of 20

How many farm plans and acres in the watershed will be added in project period?

3 Farm Plans

Conservation Cropping System

Ac

$$\begin{array}{r} 2240 \\ -360 \\ \hline 1880 \\ 20188 \end{array}$$

Without

-10% to wet year
of on year.

1692

With

Drainage completed
w/ adequate outlet

2240

Crop Residue Use

Ac

$$\begin{array}{r} 1692 \\ -169 \\ \hline 1523 \end{array}$$

-10% cut for
Silage

1523

$$\begin{array}{r} 2240 \\ -229 \\ \hline 2011 \end{array}$$

-10% for Silage

2016

Farmstead & Feedlot Windbreak

Ac

5

5

Grass Legume Rotation

Ac

100

10%

224

15%

Wildlife Habitat Reserve

Ac

2 connection w/ wet
windbreaks

1.5

2 connection with
2.5 windbreaks

Tile System Structures

No.

24

60

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
405 Iowa Building
Des Moines, Iowa

Webster
Work Unit

August 22, 1963

To: Area Conservationists

George Lamp Kenneth King
Al Moen Arlon Hanson
Dale Shadle Joe Colgan
Water Weiss Lyall Mitchell

From: Frank H. Mendell, State Conservationist

Subject: WATERSHED PROTECTION (PL 566) - Special Progress Report

The attached forms are for use in submitting up-to-date progress information on the watershed projects listed below. The completed reports should be in the State Office by September 15, 1963, or before if possible.

<u>WATERSHED NAME</u>	<u>DISTRICT(s)</u>	<u>AREA</u>
Troublesome	Audubon, Cass, Guthrie	7 and 8
West Douglas	Adams	9
Dane Ridge	Crawford	7
Simon Run	West Pottawattamie	7
Twin Ponies	West Pott. & Mills	7 and 9
Twelve-Mile	Adair, Union	8 and 9
North Pigeon	West Pottawattamie	7
Caleb Creek	Wayne, Decatur	10
South Soap Creek	Appanoose	10
Waubonsie	Mills, Fremont	9
English Creek	Lucas, Marion	10
Bacon	Woodbury-Plymouth	1
Leutzinger-Lowe	Muscatine	6
West Sunnyside	Plymouth	1
Beaver	Webster	5
Crow Creek	Jefferson	11
Carter Creek	Davis, Appanoose	10 and 11

Most of the items to be reported are self-explanatory. Please note the following explanatory statements.

1. Where the watershed is located in more than one soil conservation district, the Area Conservationist may want to obtain information from each work unit involved and prepare a summary report for the project.
2. Where watersheds are located in two or more Soil Conservation Service areas, information from each work unit involved should be sent to the Area Office in which the principal part of the project is located. Troublesome, Twin Ponies, Twelve-Mile, and Carter Creek are located in two areas. Troublesome and Twin Ponies are to be summarized by Area 7, Twelve-Mile Creek by Area 9, and Carter Creek by Area 11.

(Over)

UNITED STATES DEPARTMENT OF AGRICULTURE
2-Watershed Progress Report-August 22, 1963

3. Information for columns 4 and 8 may be obtained from the watershed application or from a previous progress report. Up-to-date progress figures should be used for columns 6 and 10. Show the total needs for the practice - not just what remains to be done. Also show the total on the land to date.
4. Structures should include only those that farmers will install with possible cost-share assistance from the ACP. Do not include structures that would be built with PL 566 funds.
5. You will note that we have included an item "Crop Rotations" under Conservation Practices to be reported in acres. We assume that the acres of cropland as shown in the application for the project would represent the needed acres of crop rotation. The Work Unit Conservationist should use his best judgment in arriving at an estimate of the number of acres of cropland in the project that now are under an adequate crop rotation. We assume that the information shown in the watershed application for land use, present and needed, will be usable in this report.
6. It is not desired that any field surveys be made to assemble the information requested above. Review of SCS-196 records should provide the information needed.

We will need one copy of the watershed progress report for each of the watersheds listed in this memorandum. Sufficient copies of the form are enclosed to permit work units keeping a copy of the report submitted.

Please include a narrative statement from the Work Unit Conservationist concerning current status of activities in the watershed. Brief statement covering actions of watershed organization, interest shown by other organizations such as County Conservation Boards, cities and towns, County Boards of Supervisors and others should be covered. Report any developments relating to municipal water supply, fish and wildlife development and recreation, and any other items in the watershed that you feel are significant. We would also appreciate a statement from the Area Conservationist on items of significance concerning the watersheds in your area.

Copies for the following Work Units: Aubudon, Cass, Guthrie, Adams, Crawford, West Pottawattamie, Mills, Adair, Union, Wayne, Decatur, Appanoose, Fremont, Marion, Lucas, Woodbury, Plymouth, Muscatine, Webster, Jefferson, Davis.

Attachment

Frank B. Wendell

Office Memorandum • UNITED STATES GOVERNMENT

TO : Al Moen Area Conservationist

DATE: Sept. 11, 1963

FROM : Richard P. Pehrson W.U.C. Webster Co.

SUBJECT: Progress report---Beaver Watershed

As indicated in the application the Beaver Watershed is concurrent with the legally organized drainage district # 47 thus directly involving the County Board of Supervisors. The County Board and the County Drainage Attorney are very interested in this project and are willing to do whatever is necessary within their authorized limitations to see this work of improvement to its conclusion.

Two local information meetings have been held and the farmers within the Beaver Watershed appear to be ready and willing to do what ever is necessary to receive Federal assistance for the project. This is clearly indicated by the 100% sign-up with the Soil Conservation District for farm plans. Development of these plans is taking place as fast as technical time permits.

To date no opposition has been voiced from people within the watershed or any other organization. Surrounding County Boards are looking on with keen interest to see just how the local and Federal Governments can co-operate on a project such as this.

WATERSHED PROGRESS REPORT

Date Compiled Sept. 11, 1963

[illegible]

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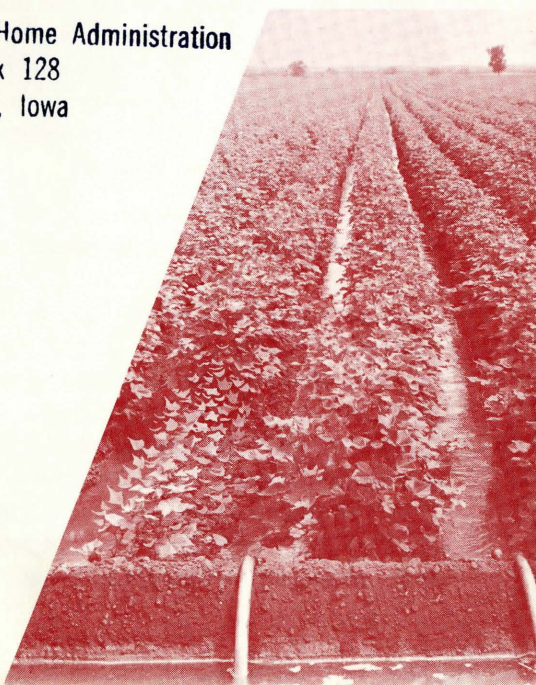
WATERSHED NAME		Beaver					SUB-WS				SUB-WS				COMBINED RATING
SCD		Webster													
Size - Acres		2385													
(1) FARMER PARTICIPATION		Unit (2)	Fac. (3)	NEED		NOW HAVE		NEED		NOW HAVE		NEED		NOW HAVE	
				Amt. (4)	Pts. (5)	Amt. (6)	Pts (7)	Amt. (8)	Pts. (9)	Amt. (10)	Pts. (11)	Amt. (12)	Pts. (13)	Amt. (14)	Pts (15)
SCD Coop.		No.		24		24									
Basic Plans		No.		24		21									
CONSERVATION PRACTICES															
Contour Farming		Ac.		None		----									
Strip Cropping		Ac.		None		----									
Terraces		Mi.		None		----									
Diversions		Mi.		None		----									
Waterways (const)		Ac.		None		----									
Farm Ponds		No.		None		----									
Structures		No.		None		----									
Crop Rotations		Ac.		2233		1949									
LAND USE															
Rotation Crop.		Ac.		2233		1949									
Perm. Pasture		Ac.		7		7									
Woodland		Ac.		None		----									
Wildlife		Ac.		None		----									
Idle		Ac.		None		-----									
TOTAL POINTS				xxxx		xxx		xxx		xxx		xxx		xxx	

U.S. DEPARTMENT OF AGRICULTURE • FARMERS HOME ADMINISTRATION • MARCH 1963

LOANS for Water Development and Soil Conservation

Farmers Home Administration
P. O. Box 128
Humboldt, Iowa

PA - 554



Loans for Water Development and Soil Conservation

- Irrigation
- Farmstead Water
- Drainage
- Soil and Water Conservation
- Forestry
- Fish Farming

The Farmers Home Administration makes soil and water loans accompanied by technical management assistance to owners or operators of farms and ranches including partnerships and corporations to assist them in developing, conserving, and making proper use of their land and water resources.

Soil and water loans are made only to applicants who are unable to obtain the credit they need from private and cooperative sources at reasonable rates and terms.

Applications of eligible veterans are given preference. Both veterans and non-veterans must meet the same requirements and qualifications for loans.

How may loan funds be used?

Loans may be used to drill wells and otherwise improve water supply systems for irrigation, home use, and livestock; purchase pumps, sprinkler systems, and other irrigation equipment; acquire a water supply or water right; purchase water stock or membership in an incorporated water users' association; construct and repair ponds and tanks, ditches, and canals

for irrigation; dig ditches and install tile to drain farmland; develop ponds and water control structures for the production of fish under controlled conditions.

These loans may also be used to level land; carry out basic land treatment practices including liming, fertilizing, and seeding; subsoil or sod land; establish permanent pastures and farm forests; establish approved forestry practices on a farm such as pest control, thinning, and fire protection.

Funds may also be used to build dikes, terraces, waterways, and other erosion control structures.

In addition, loan funds may be used to obtain plans and pay fees for legal, engineering, and other technical services.

What are the terms and interest rate?

The interest rate is 5 percent per year on the unpaid principal, except that the rate on loan funds used for approved forestry purposes is 3 percent. Each loan is scheduled for repayment within a period consistent with the borrower's ability to repay. The maximum term is 40 years.

A borrower has the privilege of making large payments in years of high income to build up a reserve that may keep the loan in good standing during years of low income.

When justified, the first payment of interest and principal on loan funds used for approved forestry purposes may be deferred for up to 15 years. Payments may be deferred only when the borrower's total income will be insufficient to make a payment on the loan.

Who may borrow?

To be eligible, an applicant must:

- (1) Be a farm operator or farmowner, a partnership that owns and operates

a farm, or a domestic corporation engaged in farming.

- (2) Be unable to obtain the necessary credit on reasonable terms and conditions from private or cooperative lenders.
- (3) Be of legal age.
- (4) Possess the character, industry, and ability to carry out the proposed operations, and honestly endeavor to carry out the undertakings and obligations required of him in connection with the loan.
- (5) Plan to improve a farm which is of such size and productive capacity that it (a) will produce agricultural commodities in sufficient quantities that the proceeds from their sale will be a substantial portion of the operator's total cash income, and (b) is recognized in the community as a farm rather than a rural residence.
- (6) If the applicant is a tenant, have a satisfactory written lease for a sufficient period of time and under terms that will enable him to obtain reasonable returns on the improvements made with the loan.

Who determines eligibility?

The county or area committee of the Farmers Home Administration determines the eligibility of applicants. The committee consists of three farmers who know local farming and credit conditions and what it takes for a farmer to succeed.

If the applicant is eligible, what is the next step?

The Farmers Home Administration county supervisor will assist the applicant in working out a farm and home plan to determine the soundness of the loan and the applicant's debt-paying ability.

If the applicant operates the farm himself, the plan will show the best use of land, labor, livestock, and equipment. This plan will be a guide for him and his family to follow in operating the farm. It will show the crops and livestock the borrower expects to produce for sale and home use; practices to follow in caring for land, crops, and livestock; proposed expenditures for livestock and equipment for running the farm and home; and the expected income and how it will be used. Before a loan is made it must be clear that he will have enough income to meet farm operating and family living expenses and to repay the loan and other debts.

What additional management assistance may the borrower receive after the loan is made?

Soil and water loans are accompanied by advice in sound farm and home management to help farmers and ranchers make profitable use of land, labor, capital, and other resources that will be available to them. The county supervisor furnishes advice and assistance in keeping accurate records of expense and income and in budgeting and otherwise making wise use of income and credit. He also provides on-the-farm assistance with farm and money management problems during the first few years of the loan.

What security is required?

Each loan will be adequately secured to protect the interest of the Government.

Usually, a loan will be secured by a real estate mortgage. In certain cases, a loan may be secured by a lien on chattels.

What are the loan limits?

The loan may not exceed the normal value of the farm and other security minus any debts against this property and may not exceed the amount certified by the county committee. An appraisal is made of the security property to determine its normal value.

In no case may the Farmers Home Administration loan plus other debts against the security property exceed \$60,000.

Does it cost anything to apply for a loan?

No. If a loan is made, however, the borrower pays for legal services necessary to establish a satisfactory title to the farm and pays the fees charged by local county governments for filing and recording the real estate mortgage held by the Farmers Home Administration.

What about soil and water loans to small towns and associations?

Nonprofit organizations including small rural towns may obtain loans to conserve, use, develop, and control water, including the installation of community irrigation or domestic water systems; to apply or establish soil conservation practices; for drainage; and for shifts in land use including the development of recreational facilities.

The improvements installed with such loans must primarily serve farmers and rural residents through direct use of the facility or by economic benefit.

An association's total indebtedness cannot exceed \$500,000 when the loan is made from appropriated funds and \$1 million when made from insured funds.

The pamphlet entitled "Loans to Rural Groups" contains additional details on association loans.

What other loans are made by the Farmers Home Administration?

Loans may also be made to buy livestock and equipment and pay farm and home operating expenses; build and improve rural homes and essential farm service buildings; purchase and develop farms and refinance debts; develop income producing recreational facilities; build housing for senior citizens and farm laborers; develop watersheds; and to meet emergency credit needs of farmers suffering from a natural disaster such as hail, flood, or drought.

How do soil and water loans aid in rural areas development?

These loans help farm families acquire the resources and skills they need to improve their operations, raise their standards of living, increase their incomes, and participate in new agricultural enterprises. This assistance in turn stimulates business activity in neighboring towns and, in general, helps the farm families and the communities of which they are a part make an important contribution to the strength of the Nation's economy.

If a farmer is not eligible for a loan from the Farmers Home Administration, may he obtain financial advice?

Yes. The county supervisor will do all that he can to help a farmer find a solution to his financial problems. Sometimes this may mean helping the farmer and his creditors work out a repayment schedule that is more in line with the farmer's repayment ability. Sometimes it may mean a close analysis of just how much a farmer can afford to borrow.

Where to apply for a loan.

An applicant applies at the county Farmers Home Administration office serving his area. There he will be given an application blank, and the supervisor will be glad to answer any questions he may have.

Anyone unable to locate the local office may write to the Farmers Home Administration, U.S. Department of Agriculture, Washington 25, D.C.

This publication supersedes PA-496, Loans to Individuals for Water Development and Soil Conservation.

Washington, D.C.
March 1963

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No. If a loan is made, however, the borrower pays for legal services necessary to establish a satisfactory title to the farm and pays the fees charged by local county governments for filing and recording the real estate mortgage held by the Farmers Home Administration.

What about soil and water loans to small towns and associations?

Nonprofit organizations including small rural towns may obtain loans to conserve, use, develop, and control water, including the installation of community irrigation or domestic water systems; to apply or establish soil conservation practices; for drainage; and for shifts in land use including the development of recreational facilities.

The improvements installed with such loans must primarily serve farmers and rural residents through direct use of the facility or by economic benefit.

An association's total indebtedness cannot exceed \$500,000 when the loan is made from appropriated funds and \$1 million when made from insured funds.

The pamphlet entitled "Loans to Rural Groups" contains additional details on association loans.

What other loans are made by the Farmers Home Administration?

Loans may also be made to buy livestock and equipment and pay farm and home operating expenses; build and improve rural homes and essential farm service buildings; purchase and develop farms and refinance debts; develop income producing recreational facilities; build housing for senior citizens and farm laborers; develop watersheds; and to meet emergency credit needs of farmers suffering from a natural disaster such as hail, flood, or drought.

How do soil and water loans aid in rural areas development?

These loans help farm families acquire the resources and skills they need to improve their operations, raise their standards of living, increase their incomes, and participate in new agricultural enterprises. This assistance in turn stimulates business activity in neighboring towns and, in general, helps the farm families and the communities of which they are a part make an important contribution to the strength of the Nation's economy.

If a farmer is not eligible for a loan from the Farmers Home Administration, may he obtain financial advice?

Yes. The county supervisor will do all that he can to help a farmer find a solution to his financial problems. Sometimes this may mean helping the farmer and his creditors work out a repayment schedule that is more in line with the farmer's repayment ability. Sometimes it may mean a close analysis of just how much a farmer can afford to borrow.

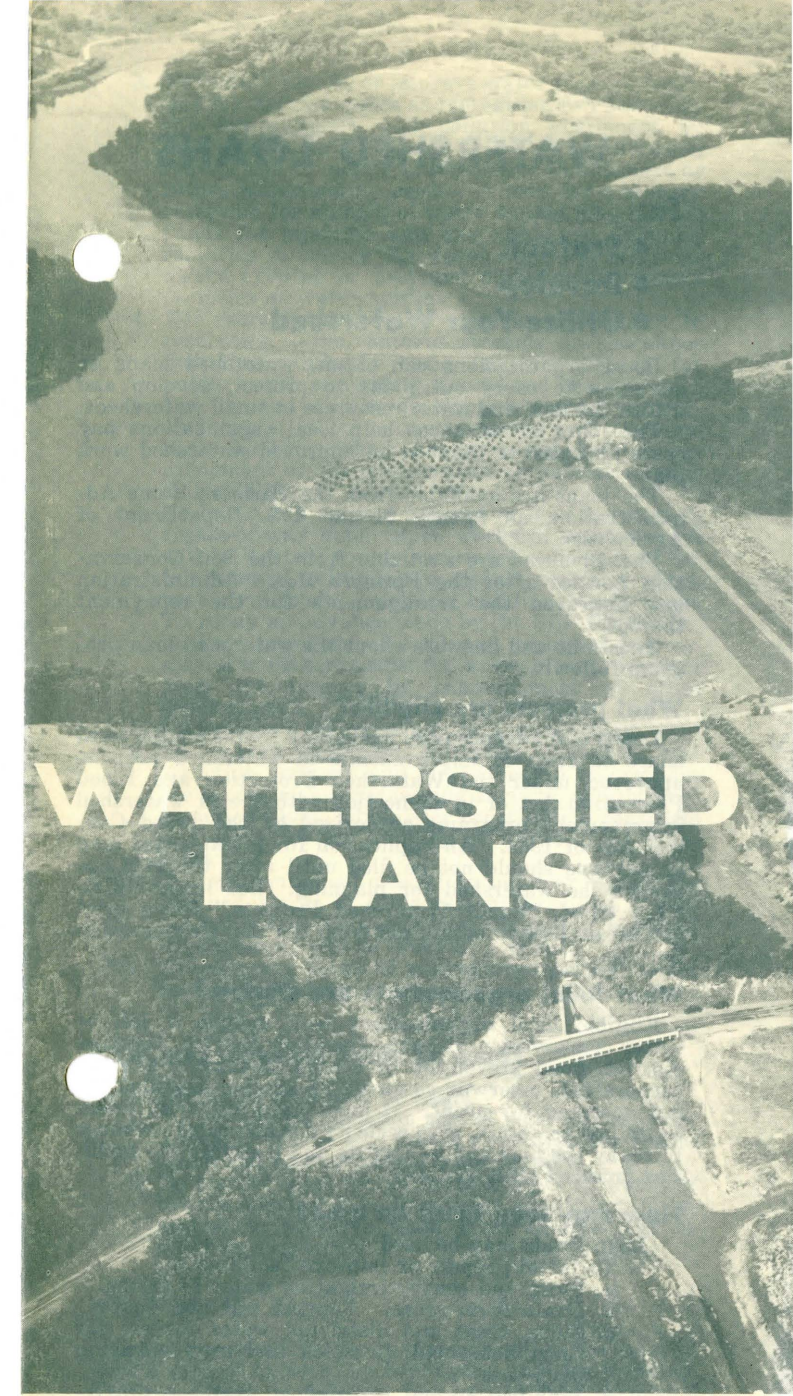
Where to apply for a loan.

An applicant applies at the county Farmers Home Administration office serving his area. There he will be given an application blank, and the supervisor will be glad to answer any questions he may have.

Anyone unable to locate the local office may write to the Farmers Home Administration, U.S. Department of Agriculture, Washington 25, D.C.

This publication supersedes PA-496, Loans to Individuals for Water Development and Soil Conservation.

Washington, D.C.
March 1963

An aerial photograph of a rural landscape. In the upper half, a large body of water, possibly a reservoir or lake, is visible. A dam or levee structure extends from the right side into the water. The surrounding land is a mix of forested areas and open fields. In the lower half, a bridge crosses a smaller body of water or a dry riverbed. The overall scene depicts a managed agricultural or natural area.

WATERSHED LOANS

**U. S. DEPARTMENT OF AGRICULTURE
FARMERS HOME ADMINISTRATION**

Revised September 1963 PA-406

WATERSHED LOANS

To:

- **Protect**
- **Develop**
- **Utilize Your Watershed**

Local organizations can obtain watershed loans or advances to carry out plans to protect, develop and utilize the land and water resources in small watersheds.

The loans or advances help local organizations pay costs allocated to them in an approved watershed work plan.

The loans are available from the Farmers Home Administration, an agency of the U.S. Department of Agriculture.

The advances are available from the Soil Conservation Service after the Farmers Home Administration has approved the arrangements for the repayment thereof.

Questions and answers about the watershed loan program follow:

What projects are eligible?

Loans and advances are made only to finance the local share of costs of improvements in watershed projects approved under the Watershed Protection and Flood Prevention Act or in connection with the 11 watershed improvement programs authorized by the Flood Control Act of 1944. An application for a watershed loan or advance should not be filed until after the SCS approves the watershed for planning. See leaflet SCS-C1-4 titled, "Small Watershed Projects," for a brief outline on how to obtain aid from the Soil Conservation Service.

What local organizations are eligible?

Eligible local organizations may include a soil or water conservation district, irrigation district, drainage district, flood prevention or control district, municipal corporation, reservoir company or similar organization not operated for profit. It must have authority under State law to obtain, give security for and raise revenues to repay the loan and to operate and maintain the facilities financed with the loan.

How may loan funds be used?

Loan funds may be used:

1. To install, repair or improve facilities to:
 - a. Store and convey irrigation water to farms.
 - b. Drain farm areas.
 - c. Store, treat and distribute water mainly for farm household, livestock and crop spraying purposes.
 - d. Stabilize annual streamflow, increase the recharge of ground water reservoirs and conserve present water supplies.
2. For special land treatment measures, structures or equipment installed or used by the local organization primarily, but not entirely, for flood prevention and which produce community benefits sufficient to justify use of taxes or other local revenues for their installation.

3. To install, repair, or improve water storage facilities for such purposes as recreation, fish and wildlife improvement, and pollution abatement by streamflow regulation and saline water intrusion control and to meet a municipality's immediate or future water supply needs. A loan for a storage reservoir for municipal water supply may include funds for pipelines and any necessary pumping facilities to convey the water from the reservoir to the existing or proposed municipal treatment facilities or water system.
4. For recreational developments in or adjacent to reservoirs, lakes, natural streams or shorelines including minimum basic facilities needed for public health and safety, access and use.
5. For fish and wildlife developments which may include water resource improvements and minimum basic facilities which are primarily for the improvement of the environment or habitat for fish and wildlife.
6. To buy a full or part interest in land for sites or rights-of-way upon which works of improvement will be located; to pay associated costs such as for the removal, relocation or replacement of bridges, roads, railroads, pipelines, buildings and fences.
7. To repay an advance made by the SCS for the immediate purchase of land and rights-of-way essential to preserve sites for works of improvement from interference by encroachment of other developments.
8. To acquire a water supply or a water right.
9. To employ engineers, attorneys, auditors, construction foremen and clerks needed to organize the group, make engineering surveys, develop construction plans, administer construction contracts and supervise the building of works of improvement.
10. To buy equipment needed to build or install the planned works of improvement provided it cannot be rented cheaper or that the cost of works of improvement will be lower as a result.
11. To refinance debts of a local organization under certain conditions.

How may advance funds be used?

Advances by SCS may be used:

1. To pay the construction cost of reservoir capacity including intake and outlet structures for future municipal and industrial water supply.
2. To acquire sites for authorized types of works of improvements where immediate acquisition is essential to preserve them from interference by other developments.

What are the terms?

Loans are scheduled for repayment within the shortest period consistent with the borrowers' abilities to repay. The repayment period may not exceed that permitted by the applicable State law and in no event will exceed 50 years from when the principal benefits of the facilities become available. There must be adequate evidence that income will be sufficient to meet all scheduled repayments.

Advance terms:

1. Advances to preserve sites must be fully repaid with interest prior to beginning construction of works of improvement on the sites thus acquired.

2. If permitted by State law, principal repayments on advances for future water supply may be deferred until 1 year after water is first used from the storage capacity installed with the advance or until the end of 10 years from the scheduled completion date of the structure, whichever occurs first.

No interest will be charged on advances for future water supply until water is first used or the end of 10 years from the date of the advance, whichever occurs first. Thereafter interest payments, at the interest rate established for loans on the date of the advance, will be scheduled at least annually. To be eligible for these terms, there must be evidence that the local organization will use the water and can meet scheduled installments of principal and interest.

The interest rate is set at the beginning of each fiscal year and applies to all watershed loans made during the year. For example, the rate for the fiscal year beginning July 1, 1963, as set by the formula in the law is 3.046 percent. Once the interest rate is set on a loan, it will not change during the life of that loan.

Each borrower may make prepayments in any amount at any time.

How much can be borrowed or advanced?

The total amount of indebtedness for all watershed loans for any one watershed project, whether made to one or more borrowers, shall not exceed \$5 million.

The maximum amount of any advance for reservoir capacity for future water supply will be 30 percent of the estimated total installation cost of the structure in which capacity for future water supply is to be provided.

The amount of an advance to acquire and preserve sites for works of improvement may not exceed the amount determined by the SCS to be necessary.

What security is required?

Watershed loans and advances will be secured in a manner which will adequately protect the interests of the Government. Usually, security that can be offered includes general obligation bonds supported by ad valorem taxes, revenue bonds secured by pledges of revenue, other evidences of debt secured by special assessments or by liens on facilities and pledges of income.

How to apply?

Each local organization desiring a watershed loan will make application to the local county supervisor or the Farmers Home Administration. Organizations desiring an advance will contact the local Soil Conservation Service representative.

How do watershed loans aid in rural areas development?

These loans help local organizations carry out multiple purpose watershed projects in their communities for flood prevention, and adequate water supplies for irrigation and municipal use, recreation, fish and wildlife improvement and pollution abatement. Such communities are more desirable areas for new industries to establish plants which in turn provide employment for local people. Farmers and businessmen in the area are able to stabilize their incomes because they no longer suffer heavy production losses in certain years because of floods or inadequate water for irrigation, livestock, household use and industry.

LOANS

TO RURAL GROUPS

- WATER SYSTEMS
- IRRIGATION SYSTEMS
- SOIL CONSERVATION
- DRAINAGE

Farmers Home Administration
P. O. Box 128
Humboldt, Iowa

grassland
forestry
recreation



United States Department of Agriculture
Farmers Home Administration PA-560

LOANS TO RURAL GROUPS

THE FARMERS HOME ADMINISTRATION makes loans to groups of farmers, ranchers, and rural residents to develop water supply systems for irrigation, household, and livestock use; to drain farmland; and to carry out soil conservation measures. Loans may also be made for shifts in land use to develop recreational facilities, grazing areas, and forest lands. These loans are made under the provisions of the Consolidated Farmers Home Administration Act of 1961, as amended by the Food and Agriculture Act of 1962.

Loans are made only to groups who are unable to obtain the credit they need from other sources at reasonable rates and terms.

Questions and answers follow:

WHO MAY BORROW?

Organizations operating on a nonprofit basis, such as nonprofit corporations; irrigation, water supply, or soil conservation districts; grazing or recreation associations; and small country towns and other rural political subdivisions are eligible for loans when:

1. They are unable to obtain needed credit elsewhere.
2. The proposed improvements primarily serve farmers, ranchers, farm tenants, farm laborers, and rural residents either by direct use or by economic benefits. Control of the borrower organization must remain with local rural residents and farmers, however, others may use the facility.
3. They have legal capacity to borrow and repay money, to pledge security for loans, and to operate the facilities or services to be installed with the loan funds.
4. They are financially sound and will be effectively organized and managed.

WHO IS A RURAL RESIDENT?

He is a permanent resident of a rural area or small country town of not more than 2,500 population which is not part of an urban area.



HOW MAY LOAN FUNDS BE USED?

water systems • irrigation and drainage systems • soil conservation measures • shifts in land use to: grazing, forestry, recreation

Loan funds may be used to:

- Install or improve rural water supply and distribution systems that furnish water for household, livestock, garden irrigation, orchard and crop spraying purposes, and fire protection. A system may include capacity for commercial and industrial use when the cost of such capacity will be less than the cost of the capacity for other purposes.
- Install or improve open and closed drainage facilities in farm areas otherwise too wet for sustained agricultural production.
- Install, repair, or expand irrigation facilities including water supply reservoirs, diversion dams, wells, pumping plants, canals, canal lining, and pipelines.
- Help soil conservation districts and other groups buy special equipment to establish water development and soil conservation measures, such as terraces, farm ponds, land leveling, tree planting, brush removal, subsoiling, and seeding.
- Refinance debts when the creditors are unwilling to give needed terms and the debts have been incurred for the facility or service to be completed or improved with the water development and soil conservation loan.
- Pay engineers, attorneys, construction foremen, and laborers needed in the planning and installation of facilities.
- Purchase a water supply or a water right.



- Pay other costs related to the improvements, including the acquisition of rights-of-way and easements, relocation of roads and utilities, and construction of service lines.

- Loan funds may also be used to finance shifts in land use including:

- a. The conversion of cropland to grazing areas and forests and the conversion of land to uses that promote better conservation of soil and water resources.
- b. Reorganization of farm management units, grazing areas or districts, or irrigation areas.
- c. Development of wildlife areas.
- d. Development of recreational areas, including the development of:

1. Ponds, lakes, picnic areas, and parks.
2. Sports areas including athletic fields and facilities, golf courses, target ranges, and ski slopes.
3. Camping facilities, such as tent platforms, dining halls, cabins, electric and water connections for trailers, sanitation facilities, and roadways.
4. Forest trails and natural scenic attractions.
5. Fishing waters together with docks and other related facilities.
6. Hunting areas and preserves.
7. Access roads necessary to connect recreational areas with public roadways.
8. Parking areas in connection with recreational facilities.

WHERE AND HOW ARE APPLICATIONS MADE?

Applications for loans are made at the local county offices of the Farmers Home Administration. The county supervisor in charge of the office will be glad to discuss services available from the agency and explain how to prepare a written application.

WHAT ARE THE DOLLAR LIMITS?

A borrower's total indebtedness for these loans cannot exceed \$500,000 when the loan is made from appropriated funds and \$1 million when made from insured funds.

WHAT ARE THE TIME LIMITS?

Loans are scheduled for repayment within the shortest time consistent with the borrower's ability to pay. The maximum term on all loans is 40 years. However, no repayment period will exceed any statutory limitation on the organization's borrowing authority nor the useful life of the improvement or facility to be financed.

WHAT IS THE INTEREST RATE?

The interest rate on a direct loan is 4½ percent. The interest rate on insured loans varies but may not exceed 5 percent.

WHAT SECURITY IS REQUIRED?

All loans will be secured in a manner which adequately protects the interest of the Government. Bonds or notes pledging taxes, assessments, or revenues will be accepted as security if they meet statutory requirements. A mortgage will also be taken on the organization's facilities when State laws permit.

WHERE WILL APPLICANTS OBTAIN TECHNICAL HELP?

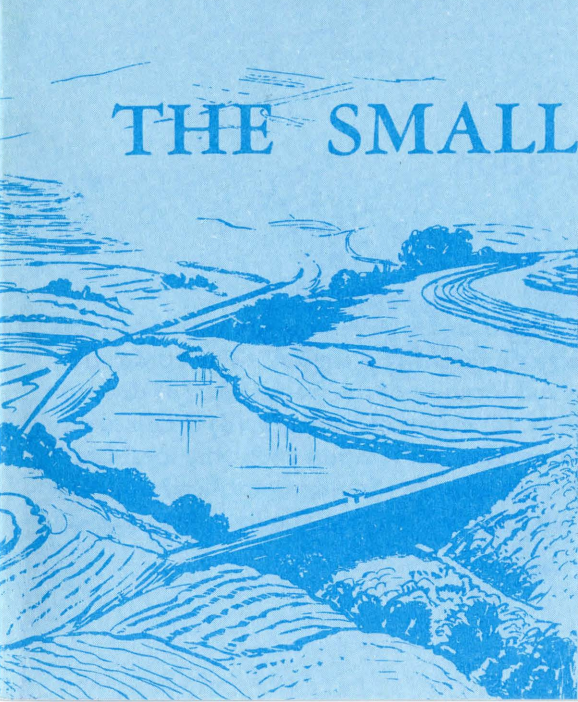
The Farmers Home Administration will assist the applicant in making the first determinations regarding the engineering feasibility, economic soundness, cost estimates, organization, financing, and management matters in connection with the proposed improvements.

After preliminary determinations have been made, applicants will be expected to provide the technical

services necessary to design the improvements, prepare estimates of costs, and complete arrangements for organization and financing. However, if the applicant lacks the resources to carry out this work, the Farmers Home Administration may provide additional technical assistance.

If a loan is made, the Farmers Home Administration will make periodic inspections to see that funds are used as agreed upon and that construction meets approved standards.

April 1963

A blue-toned illustration of a river flowing through a landscape with hills and a dam. The river is in the foreground, flowing from the left towards the center. In the middle ground, there is a dam or a bridge structure crossing the river. The background shows rolling hills and more of the river winding through the landscape. The entire illustration is in a monochromatic blue color.

THE SMALL

WATERSHED PROJECT

✓ Local people start it

✓ Local people make it work

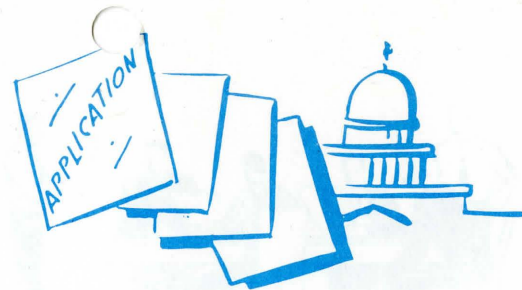
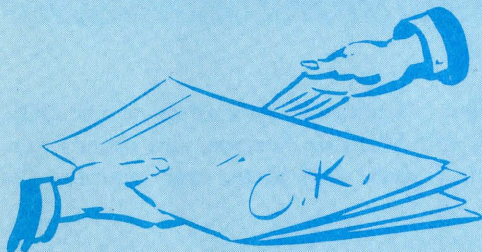
PA 561 • SOIL CONSERVATION SERVICE • U.S. DEPARTMENT OF AGRICULTURE

THE Watershed Protection and Flood Prevention Act (Public Law 566) authorizes the Secretary of Agriculture to give technical and financial help to local organizations in planning and carrying out watershed projects. The watershed projects are for flood prevention, agricultural water management, recreation, municipal and industrial water supply (both present and future), and fish and wildlife development. The program is administered by the Soil Conservation Service (SCS).

The Application

1 *Preparing the application.* Any legally qualified local organization may submit an application. The application includes (a) size and location of the watershed, (b) description of the problem, (c) extent of damages, (d) details about the work needed, and (e) information about the local organization and source of funds. Standard application forms are available at the local SCS office. The local organization

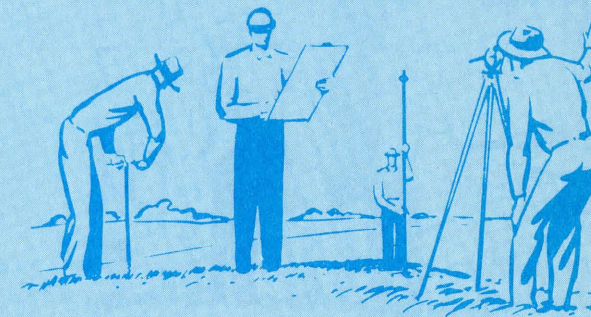
3 State action. If the State agency disapproves the application it notifies the local organization. If it approves, it sends the application to the SCS State Conservationist. He sends it to Washington for review by the SCS Administrator.



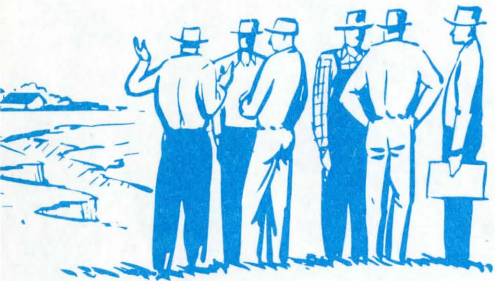
4 Planning authorization. Meanwhile, the State agency recommends planning priorities. The SCS State Conservationist makes preliminary investigations, reconfirms the local organization's desire to go ahead with preparing a work plan, and recommends to the SCS Administrator that he authorize planning help. The State Conservationist notifies the local organization when the Administrator has done so.

The Work Plan

5 Detailed field studies. The SCS, Forest Service, Fish and Wildlife Service, and other interested Federal and State agencies assist the local organization by making detailed field studies to determine what can be done, the cost, and the benefits. Benefits must exceed costs.



Work-plan preparation. The local organization prepares a work plan with SCS assistance. The plan describes proposed measures, how they will be financed, and when they will be installed. The local organization and the SCS indicate their agreement by signing this watershed work plan.

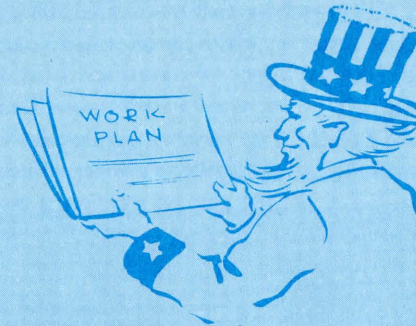


7 Work-plan approval. If funds are available, the SCS State Conservationist can authorize operations to begin at once provided:

- a. The estimated Federal contribution to construction costs does not exceed \$250,000; and
- b. The work plan does not contain any single structure having a total capacity of more than 2,500 acre-feet.

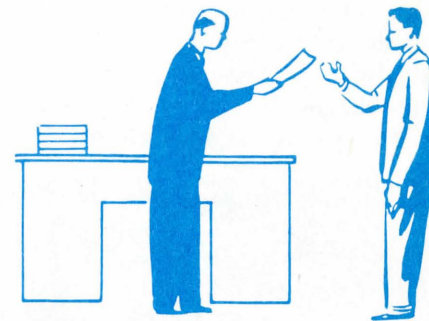
If the estimated Federal contribution to construction costs exceeds \$250,000 or if the work plan contains a single structure having a total capacity of more than 2,500 acre-feet, the procedure is:

- a. Other interested Federal agencies review the plan within 30 days.
- b. The plan is sent to the Director of the Bureau of the Budget, who transmits it to the Congress.



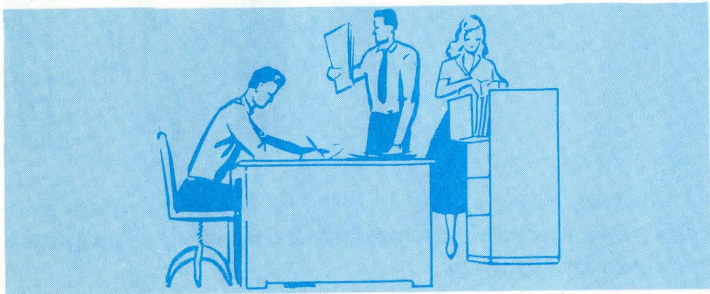
- c. Committees of the United States Senate and House of Representatives approve the plan before further Federal assistance is made available.

The Financing



8 Making funds available. The SCS Administrator allocates funds for watershed projects from money appropriated each year by Congress.

9 *Cost-sharing.* The Federal Government pays the cost of engineering services, such as surveying sites, designing structures, and inspecting work in progress. It also pays all the construction cost for flood prevention and up to 50 percent of construction costs for irrigation, drainage, recreation, and fish and wildlife development. Under certain circumstances, it will pay up to 50 percent of the cost of

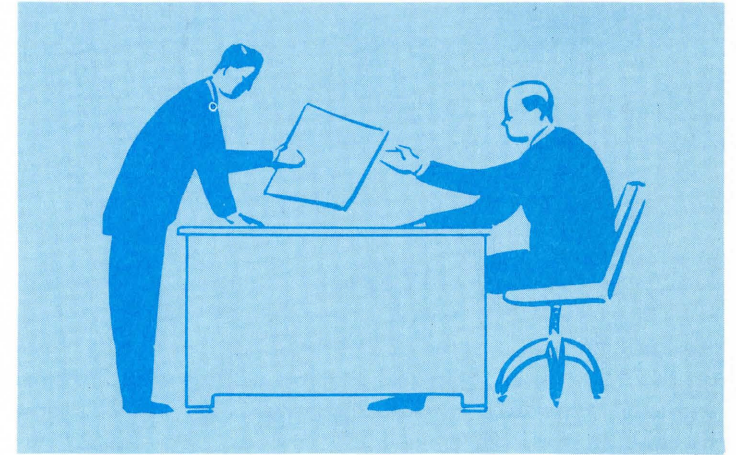


land rights and minimum basic facilities for public recreation or public fish and wildlife development. All other costs must be paid by the local organization.

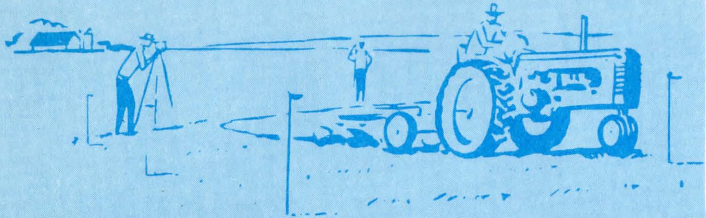
10 *Land.* The local organization must obtain all land and land rights needed for a watershed project.



11 *Loans.* To help a local organization pay its share of the project cost, the Federal Government, through the Farmers Home Administration, can make loans. The loans can be made for periods of up to 50 years at the Federal long-term borrowing rate, with a limit of \$5 million for one project. The Federal Government, through the SCS, can also loan money to preserve sites for future construction, once the work plan has been approved. This money must be repaid with interest prior to construction. Also through the SCS, the Federal Government can loan money for the extra cost of developing water supply for future municipal or industrial use. Repayment of this money can be deferred up to 10 years without interest.



The Operation



12 Local responsibility. The local organization is responsible for installation work. Needed soil and water conservation treatment must be applied before or during work on the structures. SCS and others can provide additional technical assistance to accomplish this during the time specified in the work plan.

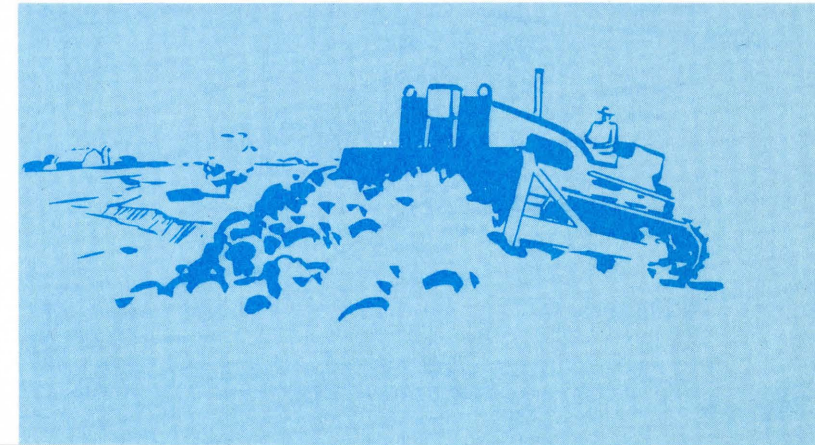
13 Engineering services. Engineers make field surveys and prepare designs and specifications for construction. The local organization may employ its own engineers or request the SCS to provide them. Engineers inspect the work in progress.



14 Project agreements. The SCS and the local organization enter into an agreement covering each potential contract for the construction of works of improvement. This agreement is the basis for obligating Federal funds.



15 Construction. The local organization issues bids and lets contracts for construction. Contractors build the structures and other works of improvement.



16 *Operation and maintenance.* Once works of improvement are installed, the local organization is responsible for operation and maintenance. The organization and the SCS sign a statement to that effect.



Washington, D.C.

Issued February 1963

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MULTIPLE-PURPOSE WATERSHED PROJECTS

Under Public Law 566

- **LAND TREATMENT**
- **FLOOD PREVENTION**
- **AGRICULTURAL WATER MANAGEMENT**
- **MUNICIPAL AND INDUSTRIAL WATER SUPPLY**
- **RECREATION**
- **FISH AND WILDLIFE**
- **RURAL AREAS DEVELOPMENT**

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service

PA-575
May 1963

MULTIPLE-PURPOSE WATERSHED PROJECTS

Under Public Law 566

- LAND TREATMENT
- FLOOD PREVENTION
- AGRICULTURAL WATER MANAGEMENT
- MUNICIPAL AND INDUSTRIAL WATER SUPPLY
- RECREATION
- FISH AND WILDLIFE
- RURAL AREAS DEVELOPMENT

Issued May 1963. Supersedes PA-392 "Small Watershed Projects Under the Watershed Protection and Flood Prevention Act."

MULTIPLE-PURPOSE WATERSHED PROJECTS

Under Public Law 566

By Watershed Planning Division, Soil Conservation Service

Experience in hundreds of localities demonstrates that multiple-purpose small watershed projects are an effective means for rural and urban communities to deal with land use and water problems.

Since 1954, when the Watershed Protection and Flood Prevention Act (Public Law 566) was enacted, many rural and urban communities have shown that they can halt unchecked soil erosion and excessive water runoff on rural land, stop destructive floods, improve drainage conditions on land in agricultural production, provide for more efficient irrigation, supply water for growing municipal needs, attract new industries, enhance fish and wildlife resources, and provide developments for recreation.

Small watershed projects have come to mean protecting, managing, improving, and developing the water and related land resources of a watershed up to 250,000 acres in size through a project-type undertaking.

- A project is planned and carried out jointly by local, State, and Federal agencies with the full understanding and support of a large majority of the landowners and citizens of the community.
- It can include many purposes: Flood prevention; agricultural water management; municipal and industrial water supply, both for present and future use; recreation and fish and wildlife development.
- It is based on (1) local initiative and responsibility, (2) Federal technical, cost-sharing, and credit assistance, and (3) State review and approval of local proposals and opportunity for State financial and other assistance.
- It is a combination of soil and water conservation measures on farm and ranch land, other rural land, and public land (land treatment) and structural measures (dams, levees, channels).
- It bridges the resource-development gap between the soil and water conservation work of indi-

vidual landowners and large Federal and State public-works projects for water resource development in major river valleys.

The U.S. Department of Agriculture's Soil Conservation Service (SCS) has the primary responsibility for carrying out the small watershed program.

Facts about multiple-purpose watershed projects—how they get started; how they are constructed, financed, operated, and maintained; what the Federal Government does; and what the local people do—are on the following pages.

GETTING STARTED

An application for Federal help in developing and carrying out a watershed project can be submitted by any local organization having authority for such activities under State law. The law requires that the project be limited to a watershed area no larger than 250,000 acres.

State agencies and qualified local organizations can *sponsor* or *co-sponsor* an application. They include soil and water conservation districts; municipalities; counties; watershed, flood-control, conservancy, drainage, irrigation, or other special-purpose districts; and irrigation and reservoir companies, water users' associations, or similar organizations not operated for profit. Other organizations can *endorse* project applications.

The application includes (1) facts about the size and location of the watershed, (2) description of the land and water problems, (3) details about the work needed, and (4) information about the sponsoring organizations and their source of funds.

Application forms can be obtained from the State agency designated to approve applications for assistance (see list, p. 13), or from the Soil Conservation Service. Completed applications are sent to the designated State agency.

Technical specialists of the Soil Conservation Service, Forest Service, Fish and Wildlife Service, and other agencies may make a field examination of the watershed in company with representatives of the local organizations prior to approval of the application.

If the State agency disapproves the application, there is no further action. If it approves, it sends the application to the SCS State Conservationist. If he determines that it is legally valid, he sends it to the Washington office of the SCS. Receipt of the application is acknowledged by the Administrator of SCS. Further action is dependent upon the availability of planning help and the priority recommendations of the State agency.

When the SCS is able to furnish planning assistance, the State agency is requested to consider all

unserved applications in the State and to recommend those next in line for help. Each State agency has established criteria that must be met before an application is awarded a high priority rating. If an application meets the following conditions, it will satisfy the criteria of most States:

1. Sponsoring local organizations have the legal authority and will use it to meet their commitments for carrying out and maintaining the project.

2. Help is desired to achieve full multiple-purpose development of the water and related land resources of the watershed.

3. Material progress has been or is being made in applying soil and water conservation measures on individual farms and ranches.

4. The proposed project will benefit a substantial number of people.

5. Interest in and understanding and support of the project is prevalent throughout the watershed.

Certain States, however, may have special criteria. By working closely with their State agency, local organizations can find out what they must do to obtain a high priority rating.

When the State agency gives an application a high priority rating, the SCS conducts a preliminary investigation of the watershed to determine the physical and economic

feasibility of developing a plan to meet the objectives of the sponsoring local organizations. If its findings are unfavorable, no further action is taken.

If favorable, the SCS State Conservationist prepares a work outline for planning the watershed. Sixty days prior to the time he will be able to furnish planning assistance, he requests the SCS Administrator to authorize such help. Ordinarily, planning help is authorized for a number of watersheds at 45-day intervals. Upon authorization, the SCS State Conservationist will make help available to start preparing a watershed work plan.

MAKING THE WORK PLAN

An SCS watershed planning staff composed of engineers, hydrologists, geologists, economists, and other needed specialists is assigned to work with the local SCS representative to help the sponsoring organization develop a watershed work plan. The Forest Service also assists. The Farmers Home Administration works with the local organization when it wishes to obtain a watershed loan. The Fish and Wildlife Service makes studies relating to the impact of the proposed project on fish and wildlife resources. The Bureau of Outdoor Recreation may help in connection with recreation developments. Other Federal and State agencies

are notified by the SCS of initiation of the studies and are invited to participate.

Findings are reviewed with the local organizations at progressive stages of planning. Then a draft plan is prepared that sets forth (1) the proposed land and water resource protection and development measures, (2) the cost of the proposed measures, (3) the benefits, and (4) the cost-sharing and other arrangements for installing and maintaining the measures in the plan.

What the Plan Can Include

Land Treatment

Land-treatment measures are basic to any watershed project. Structural measures cannot be fully effective unless these soil and water conservation measures are applied on individual farms and ranches, other rural land, and the public land of the watershed.

For this reason, either the law or Department of Agriculture policy requires as a condition to providing assistance for structural measures that:

1. One-half of the land above floodwater retarding dams and retention reservoirs *must* be under basic conservation plans.
2. Not less than 75 percent of the effective land-treatment measures must be installed or their installation provided for on those sediment-

source areas that are a serious hazard to the design, operation, or maintenance of any structural measure.

3. Installation is assured of on-farm practices needed to realize benefits from any structural measure for drainage or irrigation.

The basic conservation plans are the same kind that farmers and ranchers make with technical help through soil and water conservation districts.

Flood Prevention

Flood prevention measures in watershed projects include land-stabilization measures to prevent the destruction of land and thereby to reduce the movement of damaging amounts of sediment to stream channels and lower land. Large gullies and severely eroding land may be brought under control with vegetation or structures. Road banks and fills may be protected. Waterways crossing two or more farms may be improved by shaping and planting. Trees and other vegetation needed to keep the soil tied down may be protected from fire.

Flood prevention also includes waterflow and sediment control to prevent flood damage to groups of landowners, communities, and the general public.

When exceptionally heavy rainstorms sweep across a watershed, runoff may be great even from con-

servation-treated farm and ranch land. This is especially true if the soil is already saturated or is frozen. The damage from this surplus water can be controlled by dams to retard floodwater; stream-channel clearing, straightening, and enlarging; levees and dikes; desilting basins; floodways; floodwater diversions; and special water-holding or water-diverting terraces and dikes.

Structures for flood prevention are located and planned to—

1. Protect the largest possible area of land subject to flooding.
2. Encroach as little as possible on highly productive land.
3. Provide enough protection to land now subject to overflow so that owners can make full and continuous agricultural use of it, although they may have occasional damage from major storms.
4. Provide greater protection from major storms where human life or high nonfarm investments are subject to flood hazards.

Agricultural Water Management

Agricultural water-management measures that can be included in watershed projects are those for (1) irrigation, (2) drainage, and (3) supply and distribution of water for other agricultural uses.

The irrigation measures may include water-supply reservoirs, diversion dams, pumping plants, sluiceways, canal headworks, canal

laterals, and main distribution pipelines to carry water to the farm boundary. They also may include lining canals and sealing storage reservoirs, and measures needed to conserve and use water supplies efficiently and to carry water to individual farms with the least practical loss.

The drainage measures must provide for more efficient land use on existing farms and ranches. Present drainage systems may be improved. Or new drainage systems may be provided for areas now used for crops or grazing. The measures include all parts of a group drainage system, such as open ditch or tile, drops, checks, flumes, control gates, manholes, and pumping plants.

Drainage or irrigation of land not previously or currently used for agricultural production must be incidental to, not a primary purpose of, the measures for which help is provided.

Help may be given to provide a more uniform supply and distribution of water for agricultural use to two or more landowners if the measures are part of the watershed plan. These measures will be designed to make annual streamflow more stable, to increase the recharge of ground-water reservoirs, to distribute on a community-wide basis water for livestock and other agricultural purposes.

Public Recreation Development

Developments that create or improve facilities for the enjoyment of outdoor recreation based on the use of or proximity to water in reservoirs, lakes, natural streams, or along shorelines may be included in watershed projects. Such recreation uses include fishing, hunting, swimming, boating, water skiing, picnicking, camping, and related activities.

A watershed recreational development can include (1) a single reservoir, a single lake, a single reach of shoreline, or a well-defined reach of a single perennial stream (but not the entire stream system of the watershed); (2) land required for public access and public use; and (3) minimum basic facilities such as roads and trails, parking lots, public water supply, sanitary facilities, power facilities, beach development, boat docks and ramps, plantings and other shoreline or area improvements, and picnic tables and fireplaces.

Public Fish and Wildlife Development

Water-based developments to improve the fish and wildlife habitat can also be included in watershed projects. These may involve added storage capacity in reservoirs to regulate streamflow, modification of reservoir structures for releasing

cold water, stream-channel improvement, and marshes and pits to provide breeding and nesting areas for migratory waterfowl and aquatic mammals.

Municipal or Industrial Water Supply

Developments to supply water for municipal or industrial use can be included in watershed projects. Storage capacity in reservoirs may be planned for present or future use. Pipelines conveying water from a reservoir or stream to a filter plant or distribution system may be included.

Other Measures

Watershed projects occasionally include other nonagricultural water-management measures such as storage in reservoirs for pollution abatement by streamflow regulation or saline-water-intrusion control.

WORK PLAN APPROVAL

The draft work plan (p. 14) is reviewed by the SCS Engineering and Watershed Planning Unit and the SCS Washington office. When it is approved, the sponsoring local organizations and SCS jointly conduct an informal field review with representatives of the field offices of interested Federal and State agencies. The final plan is then prepared and signed by all the sponsoring local organizations.

If the plan does not include any single structure exceeding 2,500 acre-feet of capacity and does not involve a Federal contribution to construction costs in excess of \$250,000, the SCS State Conservationist approves the plan for the SCS. If funds are available, the Federal assistance proposed may be furnished immediately.

If, however, the plan contains provisions that exceed either of the above limitations, it must be submitted to the SCS Washington office for the following action:

1. Submittal to the Governor of the State and to the U.S. Department of the Army, Department of the Interior, and Department of Health, Education, and Welfare, for review and comment during a 30-day review period.
2. Approval of the SCS Administrator.
3. Transmittal to the Bureau of the Budget by the Secretary of Agriculture.
4. Transmittal to the Congress by the Bureau of the Budget.
5. Approval by the Committee on Agriculture and Forestry of the U.S. Senate and by the Committee on Agriculture of the House of Representatives or by the Committees on Public Works in both the Senate and House of Representatives. These committees may hold hearings on the plan and may request

testimony from representatives of the local organizations.

6. Authorization by the SCS Administrator to furnish the Federal assistance specified in the plan when funds are available.

FINANCING THE PROJECT

The SCS Administrator allocates funds for watershed projects from money appropriated each year by the Congress. Priority is given to the allocation of funds for technical assistance and engineering services. Funds for construction are allocated according to the readiness of local organizations to contract for construction.

Cost Sharing

Non-Federal Costs

Non-Federal costs include:

1. Installing land treatment measures on non-Federal land.
2. Acquiring all land rights except for public recreation or fish and wildlife development. These costs include removal, relocation, or replacement of bridges, roads, pipelines, buildings, fences or wells, whether done by the local organization or by the owners.
3. At least 50 percent of acquiring land rights for public recreation or fish and wildlife development.
4. Acquiring water rights.
5. Administering contracts on non-Federal land.

6. All construction not allocated to (a) flood prevention (b) agricultural water management, and (c) public recreation or fish and wildlife development.

7. At least 50 percent of construction allocated to (a) agricultural water management, and (b) public recreation or fish and wildlife development.

8. Engineering and other installation services not allocated to (a) flood prevention, (b) agricultural water management, and (c) public recreation or fish and wildlife development.

9. At least 50 percent of the engineering and other installation services required for minimum basic facilities for public recreation or for fish and wildlife development.

10. Operating and maintaining works of improvement on non-Federal land.

11. An equitable share of operating and maintaining works of improvement on Federal land in consideration of the benefits that accrue to non-Federal land.

Federal Costs

The Federal Government pays the following costs:

1. Technical assistance for planning and applying land treatment measures on non-Federal land.

2. A part of the cost, not to exceed the rate provided under other agricultural programs, for certain land-

treatment measures when specifically authorized by the SCS Administrator.

3. Installation of land-treatment measures on Federal land.

4. All construction allocated to flood prevention.

5. Engineering and other services (including engineering services associated with the administration of contracts) allocated to (a) flood prevention, (b) agricultural water management, and (c) public recreation or fish and wildlife development.

6. Not more than 50 percent of the construction allocated to (a) agricultural water management, and (b) public recreation or fish and wildlife development.

7. Not more than 50 percent of the engineering and other installation services required for minimum basic facilities for public recreation or fish and wildlife development.

8. Not more than 50 percent of land rights required for public recreation or fish and wildlife development.

9. Administering contracts on Federal land when awarded by a Federal agency for works of improvement for flood prevention.

Recreation Development Limitations

Recreation developments eligible for cost sharing must be open to the public. They are limited to one in

a project of less than 75,000 acres, to two in a project of 75,000 to 150,000 acres, and to three in a project larger than 150,000 acres.

Advances

After a work plan is approved, the SCS may "advance" funds to the sponsoring organizations to preserve sites for future construction. Such advances must be repaid with interest before construction. They will be processed by FHA, obligated and disbursed by SCS, and repaid to FHA.

The SCS may also advance funds to develop water supply for future municipal or industrial use up to 30 percent of the cost of any multiple-purpose reservoir. Repayment may be deferred up to 10 years without interest. Local organizations must furnish assurance that such water supply will be used and must agree to a schedule of repayment before construction.

Loans

To help the local organization pay its share of the project cost the Farmers Home Administration may make loans to the sponsoring local organization. A maximum loan of \$5 million may be made to one project for a period up to 50 years at the Federal long-term borrowing rate.

CARRYING OUT THE PROJECT

There's a job for everyone in carrying out a watershed project—the sponsoring local organizations; individual landowners; citizens of the community; local, State, and Federal agencies; and community public and private organizations and groups.

Responsibilities of the Local Organizations

The major responsibilities of the local organizations are to:

1. Acquire land, easements, and rights-of-way needed for structures or other improvements on private land. The local organization may acquire them by purchase or gift. Included are removal, relocation, or replacement of bridges, roads, railroads, pipelines, buildings, fences, or wells, whether done by the local organization or by the owners.

2. Construct, or let contracts for construction, on private property.

The local organization and the SCS enter into an agreement covering each contract for construction (or for land rights for recreation or fish and wildlife development). This agreement is the basis for obligating Federal funds.

3. Obtain agreements from farmers and ranchers to plan and apply soil and water conservation measures and provide assurance of the application of a high percentage of these land-treatment measures.

4. Comply with State laws governing watershed improvements, water rights, or specifications for structures.

Information and Education

To carry out the project, all people in the watershed must be fully informed about what is being done and why and what each group's responsibilities are. This calls for a continuing program of information and education.

Technical Assistance for Land Treatment

The Soil Conservation Service gives technical assistance to landowners who plan and apply soil and water conservation measures on their farms and ranches or other rural land. Landowners receive this assistance through soil and water conservation districts. Additional technical assistance may be given from funds appropriated under Public Law 566 only as they are required to complete land-treatment measures within the agreed-upon period for project installation.

SCS technical assistance includes:

1. Making a soil survey from which the land can be classified according to its capability for use and needs for treatment.
2. Helping landowners to plan the use and treatment of their land

in accordance with this classification.

3. Aiding landowners to plan and apply soil and water conservation practices such as:

- Terraces, dams, diversions, waterways, contour farming, strip-cropping, and the growing of green-manure cover crops and other vegetation needed to protect the soil from wind and water erosion and to restore, improve, and maintain soil productivity.
- Irrigation, chiseling, subsoiling and pitting, contour furrowing, water spreading, drainage, wells, ponds, and other improvements to provide and conserve water for crops, livestock, fish and wildlife, and forage production.
- Stocking rates, reseeding, erosion control, and other practices necessary to restore and improve range and permanent pastures not in national forests or managed in conjunction with national forests.
- Woodland-conservation practices that can be applied with general technical help.

The Forest Service provides the specialized technical assistance that landowners need to apply the more difficult forestry practices. This assistance usually will be made available through the State forestry agency. It includes forest protection, distribution of planting stock,

and other specialized technical aid in forest management.

The Forest Service gives necessary technical help with conservation measures needed to restore or improve privately owned rangeland within national forests. The Forest Service also gives this assistance on rangeland adjoining national forests and administered in conjunction with the forests under formal agreement with the owners or lessees.

Engineering Help With Structures

The local organization has the option of using non-Federal professional engineers or Soil Conservation Service engineers.

If the local organization requests, SCS can provide the engineering services for structural measures. These services include surveys, site investigations, layout, design, preparation of specifications, and supervision of construction of structures.

If the local organization uses non-Federal engineers satisfactory to SCS, it may be reimbursed by SCS for the cost allocated to flood prevention, agricultural water management, and recreation or fish and wildlife development. SCS may require the local organization to provide or employ professional engineers for municipal or industrial water-supply development.

Other Available Help

In addition to assistance under Public Law 566, aid is available from other Federal, Federal-State, and State programs dealing with land, water, plants, recreation, and fish and wildlife.

The Soil Conservation Service uses, and encourages other agencies to use, all help available under other Federal legislation to speed the completion of watershed projects.

This help includes—

1. Educational assistance from the cooperative Federal-State Extension Service.
2. Agricultural Conservation Program cost sharing.
3. Credit from the Farmers Home Administration.
4. Farm-forestry assistance under the Cooperative Forest Management Act.
5. Protection of forest areas from fire, insects, and diseases under cooperative programs authorized by the Clarke-McNary Act, Forest Pest Control Act, and White Pine Blister Rust Protection Act.
6. Cost sharing under the Great Plains Conservation Program (Public Law 1021).
7. Assistance in recreation and fish and wildlife development from the Fish and Wildlife Service, the Bureau of Outdoor Recreation, and State recreation and fish and game agencies.

8. Technical, cost-sharing, and credit assistance from the U.S. Department of Agriculture authorized by the Agricultural Act of 1962 for income-producing recreation developments on rural land, the Cropland Retirement Program, Resource Conservation and Development projects, and the Rural Renewal Program.

9. Protection and treatment of Federal land in the watershed by land-managing agencies.

10. Collection of basic data by research agencies.

Public Land Improvements

The agency administering Federal land within the watershed is responsible for installing on this land the land-treatment and structural measures provided for in the watershed plan.

The State is responsible for structures and other improvements that may be needed on State-owned land within the watershed.

MAINTAINING THE PROJECT

Sponsoring local organizations are responsible for operating and maintaining all structures and developments on private land. A written agreement on maintenance

is required before Federal funds are made available for any part of the construction cost.

Structures and soil and water conservation measures on Federal land are maintained by the agency administering the land.

Soil and water conservation measures on individual farms and ranches or other rural land are maintained by the owners and operators under agreements with their local soil and water conservation district. If the watershed is outside a soil and water conservation district, the local organization must make maintenance arrangements satisfactory to SCS for fulfilling this responsibility.

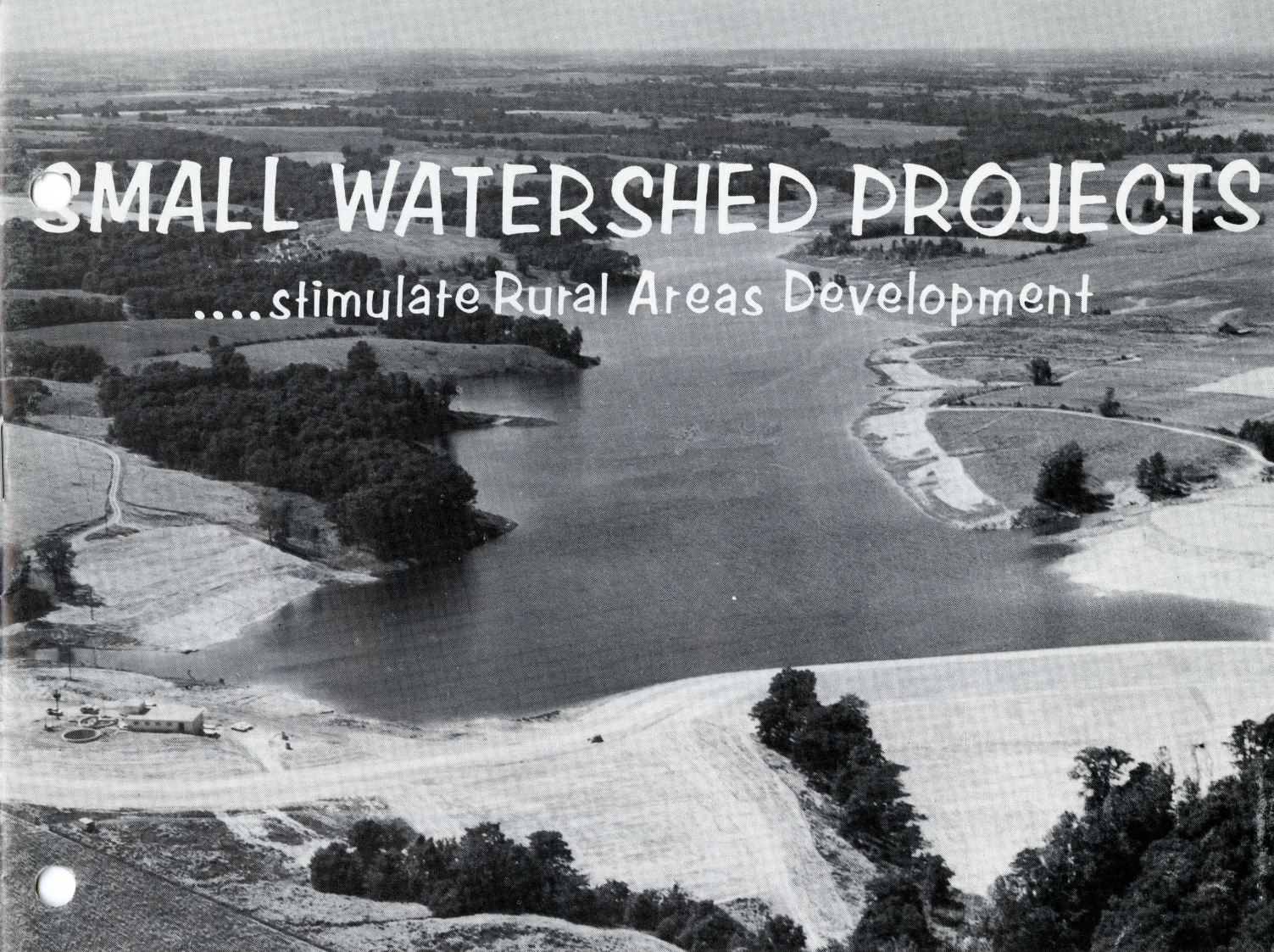
Recreation Fees

The local organization may charge fees for public recreation provided such fees do not produce revenues in excess of the local organization's requirements to amortize its initial investment and provide adequate operation and maintenance.

The local organization is required to establish a schedule of maximum admission or use fees that may be charged by private concessionaires.

State Agencies Designated To Approve Applications for Assistance Under Public Law 566

ALABAMA	State Soil Conservation Committee
ALASKA	The Governor
ARIZONA	The Governor
ARKANSAS	State Geological and Conservation Commission
CALIFORNIA	State Soil Conservation Commission
COLORADO	State Soil Conservation Board
CONNECTICUT	State Soil Conservation Advisory Committee
DELAWARE	The Governor
FLORIDA	State Soil Conservation Board
GEORGIA	State Soil and Water Conservation Committee
HAWAII	The Board of Land and Natural Resources
IDAHO	State Department of Reclamation
ILLINOIS	The Governor
INDIANA	State Flood Control and Water Resources Commission
IOWA	State Soil Conservation Committee
KANSAS	Watershed Review Committee
KENTUCKY	Division of Flood Control and Water Usage
LOUISIANA	State Soil Conservation Committee
MAINE	State Soil Conservation Committee
MARYLAND	State Soil Conservation Committee
MASSACHUSETTS	Water Resources Commission
MICHIGAN	State Soil Conservation Committee
MINNESOTA	State Soil Conservation Committee
MISSISSIPPI	State Soil Conservation Committee
MISSOURI	The Governor
MONTANA	State Soil Conservation Committee
NEBRASKA	State Soil and Water Conservation Commission
NEVADA	State Department of Conservation and Natural Resources
NEW HAMPSHIRE	State Soil Conservation Committee
NEW JERSEY	State Department of Conservation and Economic Development
NEW MEXICO	State Engineer
NEW YORK	Water Resources Commission
NORTH CAROLINA	State Soil and Water Conservation Committee
NORTH DAKOTA	State Soil Conservation Committee
OHIO	State Department of Natural Resources
OKLAHOMA	State Soil Conservation Board
OREGON	State Engineer
PENNSYLVANIA	State Soil Conservation Commission
RHODE ISLAND	State Development Council
SOUTH CAROLINA	State Department of Agriculture
SOUTH DAKOTA	State Water Resources Commission
TENNESSEE	State Soil Conservation Committee
TEXAS	State Soil Conservation Board
UTAH	State Department of Agriculture
VERMONT	State Water Resources Department
VIRGINIA	State Soil Conservation Committee
WASHINGTON	State Department of Conservation
WEST VIRGINIA	State Soil Conservation Committee
WISCONSIN	State Soil Conservation Committee
WYOMING	State Soil and Water Conservation Committee
PUERTO RICO	Commonwealth Department of Agriculture

An aerial photograph showing a large, winding reservoir or dam project. The water is dark and calm, reflecting the sky. The surrounding landscape is a mix of open fields, some with trees, and a few small buildings or structures near the water's edge. The overall scene depicts a rural area undergoing development or conservation.

SMALL WATERSHED PROJECTS

....stimulate Rural Areas Development

strengthening the rural economy

ILL - 2078

Small watershed projects offer opportunities to small cities, town, and rural areas throughout the Nation in stimulating economic growth. Where projects have been developed for multipurposes, both urban and rural areas have benefited.

Freedom from floods, erosion, and siltation have reduced the risks in farming, lowered maintenance costs on roads and bridges, and freed urban communities from the threat of costly damages.

Water impounded in upstream reservoirs offers opportunities to develop fishing, boating, hunting, swimming, picnicking, camping, and other recreation facilities.

The same reservoirs can supply water for irrigation and for municipal and industrial uses to meet the growing needs for water to attract new industries and

allow for future expansion of existing industries and municipal and residential areas.

Hundreds of communities are already taking advantage of the small watershed program and are benefiting by it. Thousands of other areas are in need of this type of watershed development, made possible through the Watershed Protection and Flood Protection Act (Public Law 566) of 1954 and its amendments. The program is administered by the Department of Agriculture's Soil Conservation Service.

The small watershed program is a self-help program. Local people initiate and help plan the projects, build them, help pay for them, and operate and maintain them. They own all the structures that may be built.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

PICTURE STORY 162
MARCH 1964



ENCOURAGE COMMUNITY DEVELOPMENT

The purposes of the watershed act--flood prevention, family farm improvement, soil and water conservation, recreation, municipal and industrial water supply and agricultural water management--often form a springboard to new economic growth and community development. Watershed projects have helped stem low income, underemployment, rural poverty, and declining small town populations.

For example the adequate water supply and protection from floods brought about through the Mountain Run Watershed project have attracted three new industries to Culpeper, Virginia, employing 500 local people. A community hospital, held up due to lack of sufficient water supply, has since been completed. Income of workers at the three industries and hospital is \$1,750,000 annually. In addition, land that was once idle because of periodic flooding now supports a shopping center and new homes.

The mayor of Pennsboro, West Virginia, said, "The Bond's Creek Watershed project is like a new quarter of a million dollar industry to us in the number of people and resources it will bring into our economy." The project will not only put an end to \$18,000 in annual flood damages to farmland, but will also provide the area with a 375 acre public park and 12 acre lake for recreational purposes. The protected watershed has already been credited with attracting five small industries to the community.

In Georgia's Little Tallapoosa River Watershed a new industry, employing 400 local people, has been at-

Key elements in upstream watershed projects are the conservation measures on the land coupled with small flood retarding dams. The contour farming, strip cropping, and terraces allow for maximum penetration of rainfall and keep water from running off the sloping land too fast. The dam holds back the excess runoff and discharges it at a safe rate down creeks and streams. The average watershed project of about 60,000 acres of land has six dams. Minn-1731

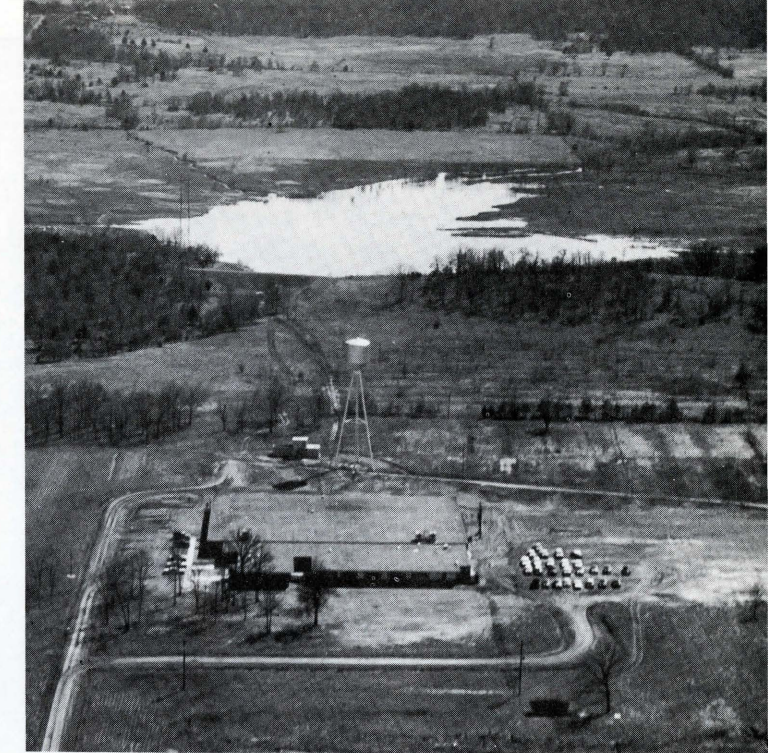
tracted to the town of Temple because of a guaranteed water supply from a watershed reservoir. Ninety percent of the work force is drawn from small farms in the area. Nearby Villa Rica, which developed another of the watershed's reservoirs to store 445 acre feet of water for its municipal and industrial needs, has attracted a plant that will eventually employ 200 people. Carrollton--the largest community in the area--is developing one watershed reservoir to store 1,954 acre feet of water for future municipal and industrial uses.

Other towns in the area have joined with the supervisors of the West Georgia Soil and Water Conservation District to petition for an expansion of the watershed project to include another 139,000 acres so that they too might have flood protection and develop much needed water supplies.

Meanwhile on the farmland in the watershed, acreage of cultivated land has been reduced by one-third and cotton and corn acreage has decreased by more than 75 percent by farmers desiring to convert their land to crops the soil is more capable of producing. Most of this conversion has been to pasture and trees with some being used for truck crops.

New recreation opportunities have also resulted from the watershed project. Local people have built a community clubhouse and recreation area adjacent to one of the flood detention dams. A duck gate has been installed in another structure and the area is being developed as a wildlife habitat.

In Kentucky's Mud River Watershed project, recreation is a major development. Here one of the 26 flood detention reservoirs was enlarged to create a 900 acre lake. The Kentucky Department of Fish and Wildlife Resources, one of the project sponsors, helped finance and will manage the lake for recreation purposes for use by several hundred thousand people annually. The watershed project has also enhanced the area's industrial climate. One floodwater retarding structure, located above Lewisburg, was developed to include 30 million gallons of water for the town's municipal and industrial needs. Prior to the project, this rural community had no municipal water system. Already a small industry which manufactures hog feeders has located in Lewisburg. A wood products plant will expand and



Ninety percent of the 400 people employed at this new plant in Temple, Georgia, are drawn from small farms in the area, giving rural people an opportunity to supplement their income. The plant was located here because of adequate water from a reservoir in the Little Tallapoosa River Watershed project. Ga-D7-77

3

Industry plus soil and water conservation mean rural areas development in Arkansas' Six Mile Creek Watershed project. The watershed project reservoir protects downstream land from floods and provides a dependable water supply for the factory. In turn, this hosiery plant in Logan County stimulates the economy by offering employment to area people. Ark-62225





another wood working industry plans to locate in the community. A new nursing home is in the planning stages. In all, 170 new jobs are expected in the community as the result of an adequate water supply and the desire of local people to move ahead.

Another example of how a watershed project can stimulate rural areas development is illustrated on the Six Mile Creek Watershed project in Arkansas where four industries have come into the watershed area since the project was established. The four companies employ more than 650 local people and have a combined payroll of more than a million dollars a year. Three of the firms depend on water from one or more of the project's 24 flood retarding dams for its present needs and future development.

REDUCE FLOOD DAMAGES

Towns and cities face multi-million dollar flood damages each year. Farmers and ranchers suffer crop and irreplaceable soil losses when land is overrun by water or buried under silt and debris.

Small watershed projects have repeatedly proved their effectiveness in curbing floods.

In the spring of 1963 a heavy rain, measuring 3.4 inches, fell in south-central Ohio on land frozen to depths of 26 inches. In areas adjacent to the Upper Hocking Watershed project, flood damage was severe, amounting to \$500,000 in one community alone. In the protected watershed, eight upstream dams held back 1,000 acre feet (325 million gallons) of floodwater thus

Floods cost the Nation \$1 billion annually, with more than one-half of the damage occurring in the small upstream areas. Floods of this nature are being greatly reduced through small watershed projects. Ida-25035



Silt carried by runoff water chokes streams and rivers and accelerates pollution. Erosion resulting from poor upland management has destroyed many small lakes and reservoirs. Md-30201

providing protection to the farmland and the community of Lancaster. Had it not been for the watershed project, the resulting two to three feet of floodwater would have caused several hundred thousand dollars' damage in Lancaster alone.

A continuing study by USDA's Economic Research Service on the Six Mile Creek Watershed in Arkansas shows that since 1955 reduction in flood and sediment damage in the watershed has averaged nearly \$45,000 a year.

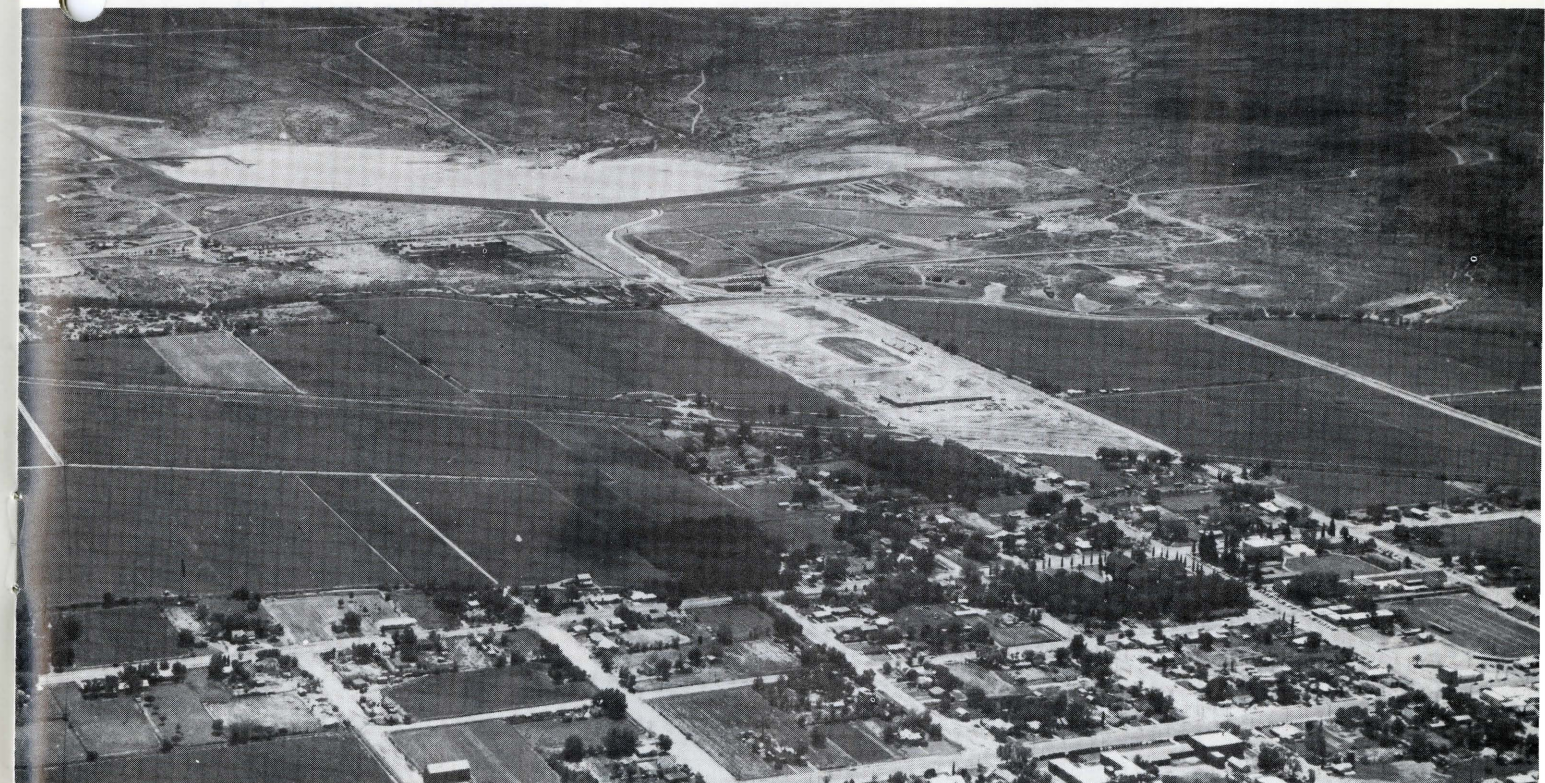
L.L. Males, Cheyenne, Oklahoma, banker, said the Washita River Watershed project stimulates the land treatment program and pulls together all the interests in the community, rural and urban, into one force. "Instead of repeatedly losing a year's work to floods with

The Frye Creek Watershed project in Arizona prevented flood damage estimated in excess of \$200,000 when the dam pictured below held back 195 million gallons of water from agricultural land and the city of Thatcher following a cloudburst in September 1962. Prior to the watershed project, land between the dam and city was subjected to yearly floods. Damage at Eastern Arizona Junior College alone ran \$8,000 to \$10,000 a year. Now the college has a \$1½ million expansion program underway. New classrooms, stadium, and gymnasium are under construction (right of photo center) on land that couldn't be developed prior to project protection. Ninety new homes and apartments have been built in Thatcher since the start of the project which is scheduled for completion in 1964. Ariz-5446



5

Erosion remains the number one problem on the Nation's farmland. Rapid runoff on this neglected field has cut deep gullies, making the land practically worthless. Ia-2770



the disastrous effect they had on our economy we now harvest our crops ourselves. Our improvements, our livestock, our irrigation systems, our roads and bridges, and our school bus routes are all safe. In our district we haven't lost a crop or a bridge on a treated creek since the program began."

Prior to the establishment of the Sandy Creek Watershed project in northwest Pennsylvania, repeated flooding had not only discouraged new industries but several established firms had planned to move. Today, only three years after the project was started, an electronics firm which had planned to leave because of high annual flood damage has decided to stay on and expand. A lumber firm that had fought flood waters annually has also expanded because of the protection provided by the project.

IMPROVE LAND USE

Land conservation treatment measures are basic to any watershed project. The flood retarding dams would be far less effective if soil and water conservation measures were not applied on the upland farms, ranches, other rural and public land of the watershed.

For this reason the Department of Agriculture requires at least one half the land above floodwater retarding dams to be under basic conservation plans and no less than 75 percent of the land treatment measures must be installed on extremely erosive areas before the dams will be constructed.



Beach developments along watershed reservoir shorelines are one of the most popular recreation features. Such developments are among those now available to project sponsors on a cost sharing basis. Va-W-83

Camping is one of the fastest growing outdoor activities and a special treat for children. Here boys and their dads enjoy a weekend camping trip along a flood detention reservoir developed for recreation in the Green Creek Watershed project. Tex-49850

On weekends both rural and urban people are attracted to this reservoir developed for recreation in Cummins Creek Watershed project in Texas. The small lake offers fishing, swimming, boating, water-skiing, and picnicking facilities. Tex-49845



Fishermen try their luck in a well stocked reservoir in Nebraska's Brownell Creek Watershed project. State and Federal agencies will often help local sponsoring groups in stocking watershed project lakes. Neb-2073





The Yonah Girl Scout Council developed this area in Georgia's Sautee River Watershed project to serve as a summer camp for 1,300 girls and 400 adults in a five county area. The camp has been developed for swimming, canoeing, hiking, and other sports. Boat docks, cabins, a recreation hall, and dining hall have been constructed. Ga-W-2

Farmers are encouraged to use land within its capabilities as determined by a scientific soil survey made by the Soil Conservation Service. On certain land this may mean converting from row crop production to pasture or trees.

A study of 361 watershed project work plans by the Economic Research Service shows that cropland previous to the projects totaled 7,042,000 acres and that cropland after installation of the projects would total 6,876,000 acres--a decrease in cropland acreage of nearly 167,000 acres.

A 1963 study of 66 watershed project work plans in Texas showed a projected reduction of 13 percent in cropland acreage when planned measures are installed. This shift will be primarily to grass, although a relatively small amount will go into non-crop uses such as reservoir areas, rights-of-way, and urban areas.

ENHANCE RECREATION OPPORTUNITIES

Of the various purposes included in watershed development, recreation is rapidly becoming one of the most popular. People have more time, more spendable income and greater mobility than ever before. They are seeking the out-of-doors in ever increasing numbers.

Watershed projects offer a new opportunity for the development of water-based recreation facilities. Through the Food and Agriculture Act of 1962, Con-

gress made provisions for the Department to give technical and financial assistance for public recreational developments in watershed projects.

Watershed project sponsors in many areas are already offering recreational opportunities to both urban and rural people.

Thousands of people around Weatherford, Oklahoma, have been using a 158-acre watershed lake in the Cobb Creek Watershed project for swimming, fishing, boating, water skiing and picnicking. In cooperation with the Deer Creek Soil and Water Conservation District, the County Commissioners of Washita County have provided access roads and trails into and around the lake. Boat docks and sanitary facilities have been built. People from a 50 mile radius make intensive use of the lake facilities.

The Indiana State Fish and Game Division is developing a public recreation area in and around a 46 acre lake in the Elk Creek Watershed project. The State has also purchased 250 acres adjoining the lake for public use.

The City of Plain Dealing, Louisiana, has developed two lakes in the Upper West Fork Cypress Bayou Watershed project for swimming, boating, water skiing,

fishing, and picnicking. Sixty acres of municipal property adjoin the lakes. Although the city has a population of only 1,300, as many as 3,000 people have been attracted to the lakes in a single day.

The watershed project has effectively curbed flooding of the city and farm land. It also provides 750,000 gallons of water daily from one of the project reservoirs for use of Plain Dealing residents and industries.

In West Virginia approximately 100,000 visitors are expected annually to the new recreational area in the Big Ditch Run Watershed project. The West Virginia Department of Natural Resources, with Federal assistance, is enlarging one flood prevention reservoir from 10 to 65 surface acres and acquiring 105 acres adjoining the lake. It has purchased at its own expense an additional 491 acres around the lake for a park. The area will be developed for swimming, boating, camping, ice skating, and picnicking.

Besides providing much needed flood prevention, some watershed projects will also considerably enhance the tourist industry in the areas.

In Arkansas' Flat Creek Watershed project, one of the reservoirs is being developed into a 700 acre lake, called Lake Charles, for recreation by the Arkansas Game and Fish Commission. This new lake, plus an adjoining 2,700 acre state game and fish area, will combine to attract thousands of people seeking recreation from a 100 mile radius that includes Memphis, Little Rock, and many other communities.

Many church and private organizations are developing recreational sites in watershed projects.

For example the Waynesboro, Virginia, Kiwanis Club bought 235 acres of land in the South River Watershed project which included one of the flood retarding dams. The club developed the area around the seven acre lake to provide camping facilities for under-privileged children of the Waynesboro area. During the two week camping periods, children enjoy boating, swimming, and campfire programs on the lake's waterfront.

The Tennessee-Arkansas-Mississippi Council of Girl Scouts is financing the recreation development around one of the watershed lakes in the Tennessee Porters Creek project. Miss Virginia Jones, council director, said "Our 9,000 girls and the tens of thousands who will follow owe a debt of gratitude to everyone who cooperated in making this lake possible." The camp, which will house more than 500 girls and their counselors at one time, is being financed by the girls themselves. Miss Jones said, "We don't figure in dollars. We figure in cookies. The camp has cost us about 300,000 boxes of cookies, dutifully sold by Girl Scouts in the three States."

In Illinois the Mennonite Church found the ideal summer campsite for church members in the Tiskilwa Watershed project. The church purchased 280 acres on which a dam and 12 acre lake were located. Two cabins to house the staff and five cabins for children have been erected. There are dining facilities for 40 people.

9

This multiple purpose flood retarding dam protects the community of Cameron City, West Virginia, from flood threat and stores water for municipal uses. WV-a-896



SUPPLY MUNICIPAL WATER

Industrial, municipal, and residential expansion depends on water, which is in short supply in many areas. Since the demands for water are growing far faster than our population is increasing, this problem is expected to become more serious in coming years.

Many communities are meeting the challenge of adequate water supply for present and future needs through the Watershed Protection and Flood Prevention Act.

The community of Pittsfield, Illinois, had a long history of severe spring floods and summer water shortages. In the drought years of 1953 and 1954, water was hauled from the Mississippi River and monthly water bills of \$30 were not unusual. Rural and urban people got together to sponsor the Blue Creek Watershed project to prevent seasonal floods and provide water for municipal uses. As a result, there is now a 250 acre lake and a new water treatment plant to send pure water to local homes and industries. The watershed reservoir holds almost a billion gallons of water for municipal use. In addition, the city bought 500 acres around the lake on which it is developing a

10 recreation area for fishing, boating, camping, and picnicking. Two new housing projects have started as a result of extended water and sewage lines, and a \$500,000 nursing home is going up. Local people have formed an industrial association and purchased 132 acres for an industrial park.

In Oklahoma during the drought of 1955, the three city wells at Duncan went dry. Temporary pumps and pipelines from a distant lake could not meet the demand when the chief water source, Lake Duncan, became a mud flat. Water rationing made baths a luxury and threatened to close the city's main industries, oil refineries, and operations. The city joined forces with the Stephens County Soil Conservation District in sponsoring the Wildhorse Watershed project. One of the proposed 25 flood detention dams was enlarged at city cost to provide for 13,000 acre-feet of water for municipal use. The resulting 950 acre reservoir has been developed for recreation purposes by the city. Duncan is again moving ahead. The city's primary employer, an oilfield service firm, has announced a \$6,800,000 expansion program. The city's refineries have already spend \$2,500,000 for expansion and modernization.

IMPROVE WATER MANAGEMENT

Agricultural water management is another purpose of watershed projects. It includes irrigation, drainage, and supply and distribution of water for other agricultural uses.

The North St. Lucie River Watershed project in Florida was developed primarily for flood protection and at the same time to maintain an adequate water table to facilitate irrigation of the extremely valuable and highly productive citrus land. Since the project was completed, at least 1,000 acres of land formerly considered too hazardous for citrus is now planted to fruit trees. Farmers in the district have installed 50 new sprinkler irrigation systems. Due to adequate drainage, fruit production has increased. This has created a demand for additional picking labor, trucking, processing, packaging, and distribution services. A new \$300,000 packing house--which will employ 50 people--is now under construction.

In Texas' Green Creek Watershed project, water from the sediment pools of 11 of the flood retarding dams is being used for supplemental irrigation on 408 acres of farmland. As a result of the irrigation, it is estimated that \$25.83 additional net income per acre is obtained. The major irrigated crop is peanuts where average yields has been raised from 22 bushels per acre under

dryland conditions to 62 bushels per acre irrigated. Other crops include tame pasture and crops for forage. The total net benefit from irrigation with reservoir water is estimated to be \$10,538 annually.

A million dollar shopping plaza is going up in Keene, New Hampshire, on land considered unsuitable for this purpose until the Ash Swamp Watershed project was developed to improve drainage and give flood protection. Additional tax revenue from the shopping center alone will in just three years more than pay the \$75,000 which the city invested in the entire watershed project.

The recently completed Lower Willow Creek Watershed project in Montana will furnish supplemental water for 3,100 acres of irrigated land which is devoted to alfalfa, small grain and hay. Benefits are expected to reach \$26,800 annually.

In Indiana's Elk Creek Watershed project, one farmer paid the entire cost of enlarging a small dam built on his property so he could have water for irrigation. Sixty acres of land which once produced corn now produces two vegetable crops a year--early cabbage followed by canning beans.

PROJECTS SERVE MANY NEEDS

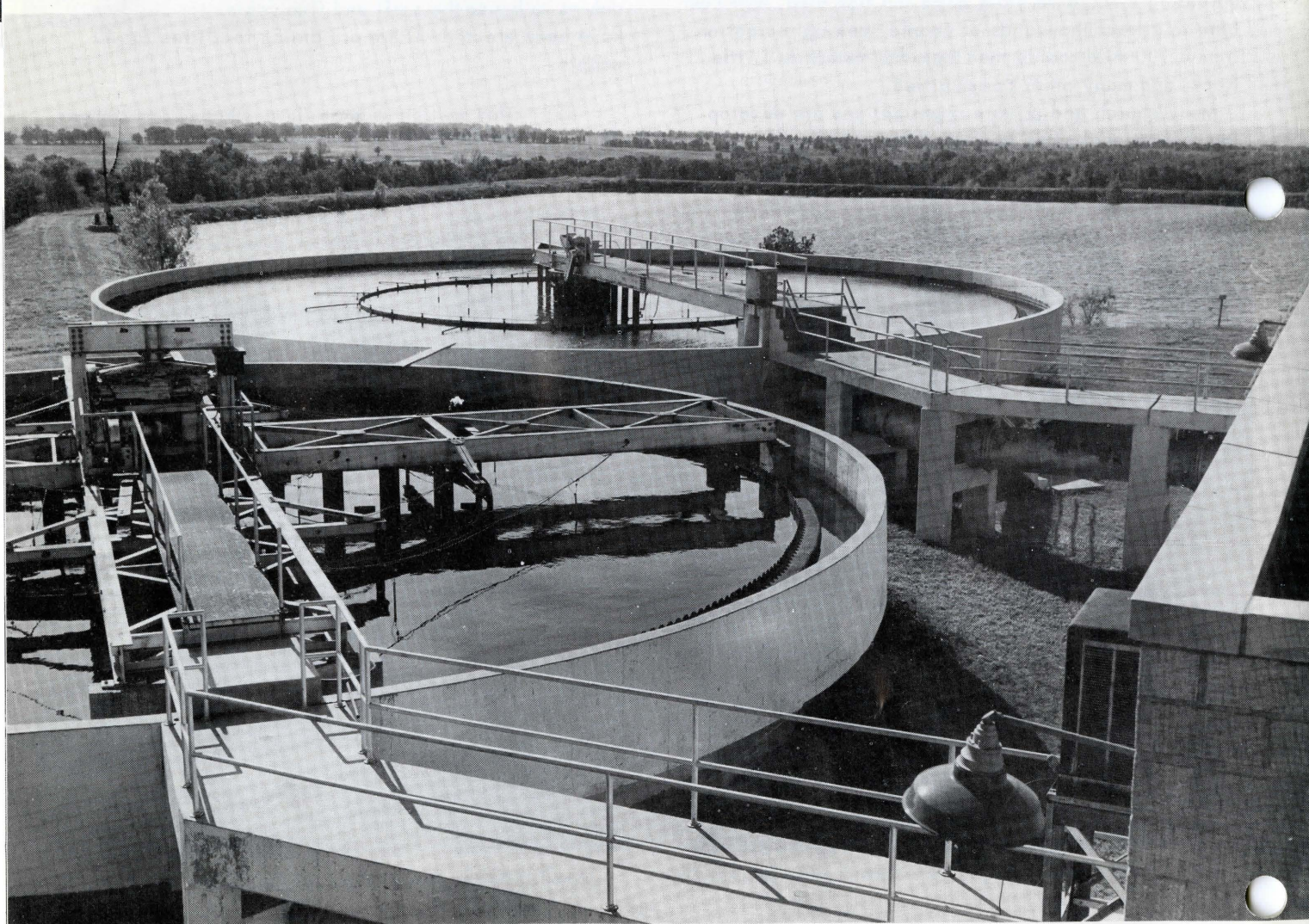
The multiple use principle--a basic aim of the watershed program--is not only becoming increasingly popular, but is also highly advantageous in most project areas. Although the examples given here highlight a single use, most of these watershed projects have been developed for a combination of purposes.

Almost 60 percent of the projects approved for operation during the 1963 fiscal year were multiple purpose projects.

Rural and urban groups, communities and local governments have found watershed projects a vehicle through which they can plan and develop their natural resources to meet immediate and future needs for flood protection, water supply, recreation, fish and wildlife, irrigation, and drainage.

The small watershed program is an integral part of the Department of Agriculture's Rural Areas Development effort to move economic opportunities into rural areas, and to develop resources that conserve and serve the needs of all the people.

Detailed information of the USDA's watershed program--how projects are organized, developed, and financed--may be found in the publication, "Multiple-Purpose Watershed Projects," PA-575, which is available from the Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250.



A water purification system was constructed adjacent to the multi-purpose watershed project reservoir in Duncan, Oklahoma. The reservoir can deliver 8 million gallons of water daily for municipal, residential, and industrial uses. Okla-11882

Cover picture--This small lake was designed as part of the Big Blue Creek Watershed project to halt floods on agricultural land and furnish the community of Pittsfield, Illinois, with an adequate water supply. The city water treatment plant and pumping station can be seen in the lower left corner of the photo. The lake is also being developed as a community recreation area. Ill-2078



This Montana watershed project dam, designed for flood protection and irrigation, stores more than 1½ billion gallons of water. A portion of the water will be used as pictured below -- to furnish supplemental water for 3,100 acres of irrigated land growing alfalfa, small grains, and hay in the Lower Willow Creek Watershed project area. Mont-311 and 309 (left).

Magazines and newspapers may obtain glossy prints of these photographs in any size up to 8 x 10 from the Photography Division, Office of Information, U. S. Department of Agriculture, Washington, D. C. 20250. Others may purchase prints in any size from the same address. Prints in 8x10 size are \$1.15 each. Specify title and number of this publication.

Jobs -- some 8500 man-days of labor annually over the next eight years -- represent the immediate returns that the people of Holmes County, Miss., will realize from small watershed projects on Tackett, Black, and Chicopa Creeks. Jobs are the heart of a rural areas development program to bring new vitality to the Holmes County economy.

The big share of the jobs -- 6,000 man-days per year -- will be in the construction of 38 floodwater retarding structures. But there will be opportunities for unskilled workers in the 2500 man-days of labor needed in tree planting, mulching, and other work required to treat critically eroding areas.

The watershed development, which brings a Federal investment of more than \$6.5 million to Holmes County, will give local RAD leaders a persuasive new argument to industries interested in locating in the delta fringe and bluff hills areas. It means an adequate supply of high quality water and resources for industry, agriculture and water-based recreation.

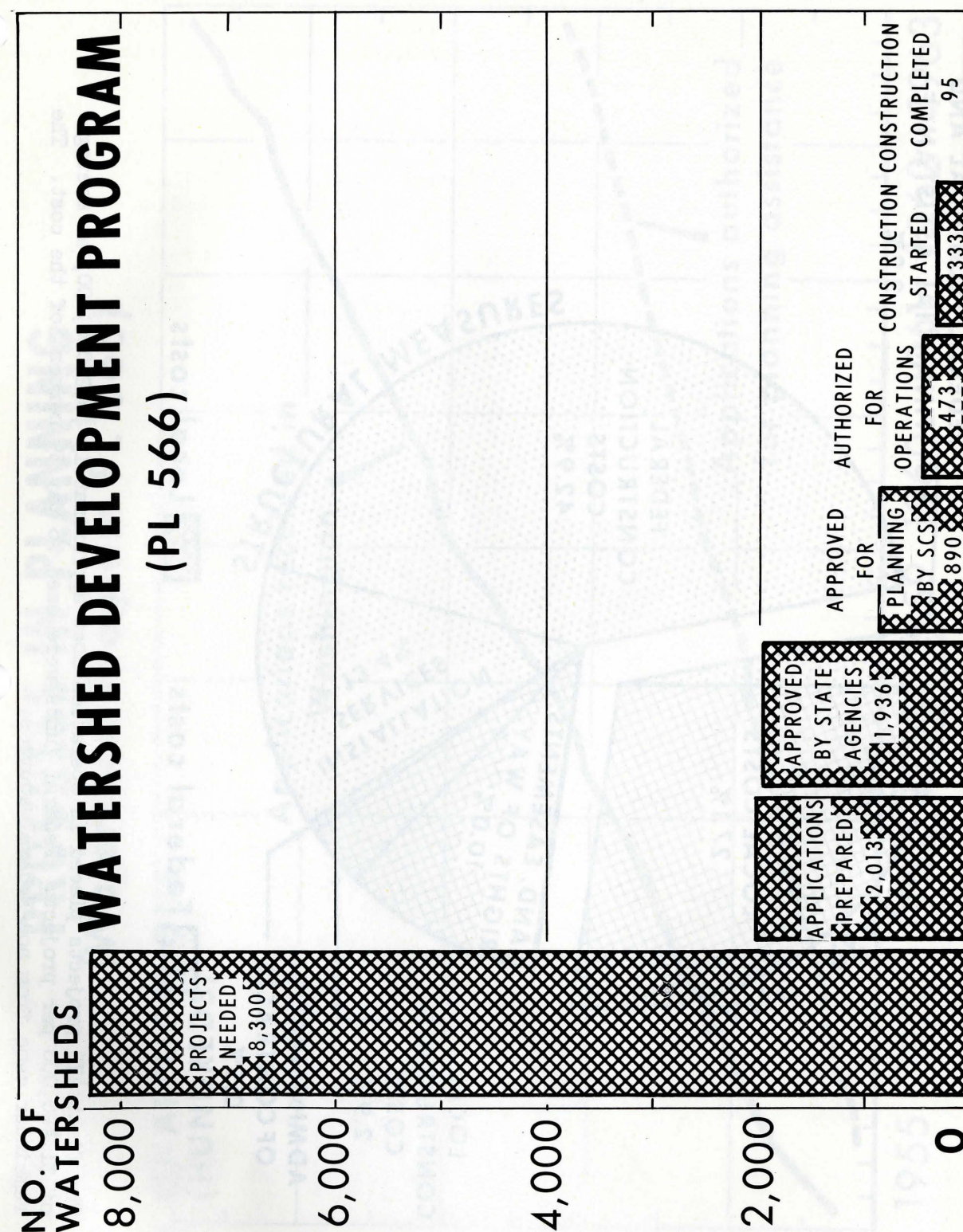
The long-range returns will be in flood prevention and the reduction of flood-water damage to crops and pastures, balanced land use, and a stimulant for industrial, commercial and recreation developments which save and bring new jobs to rural areas. The Holmes County Soil Conservation District emphasizes the improvement of pastures and timber stands as the base of a growing economy. Within the past few months, a \$10,000 livestock show barn and a new farm service company -- to custom mix and distribute fertilizer -- have provided small farmers with up-to-date facilities and services that will reduce costs of production and increase sales of livestock. A charcoal company, in business since 1960, uses scrub hardwoods from lands now planted to higher grade timber and provides seasonal employment for 200 people from four counties.

The Tackett Creek Project, covering 8,800 acres, was the first watershed in Mississippi planned under the Small Watershed Act. It is among nearly 2,000 projects across the Nation now in the planning or construction stage. Structures of 95 watersheds involving 2.5 million acres have been completed and are in use.

The Small Watershed Program operates on the multiple-use principle for water and related land resources and includes the development of outdoor recreational opportunities in the overall rural areas development activity. As of June 30, 1963, 17 watershed projects approved for operations included storage for recreation. Planning assistance was provided for the development of public recreational areas in 35 additional projects.

Watershed projects in operation in fiscal '64 will help 1600 local organizations fully develop the water and related land resources on some 32 million acres with a population of 3.6 million. The protection of 2.6 million acres of flood plain will pay returns estimated at \$25 million annually, and bring new business and other enterprises to 135 communities with population totaling 130,000 people.

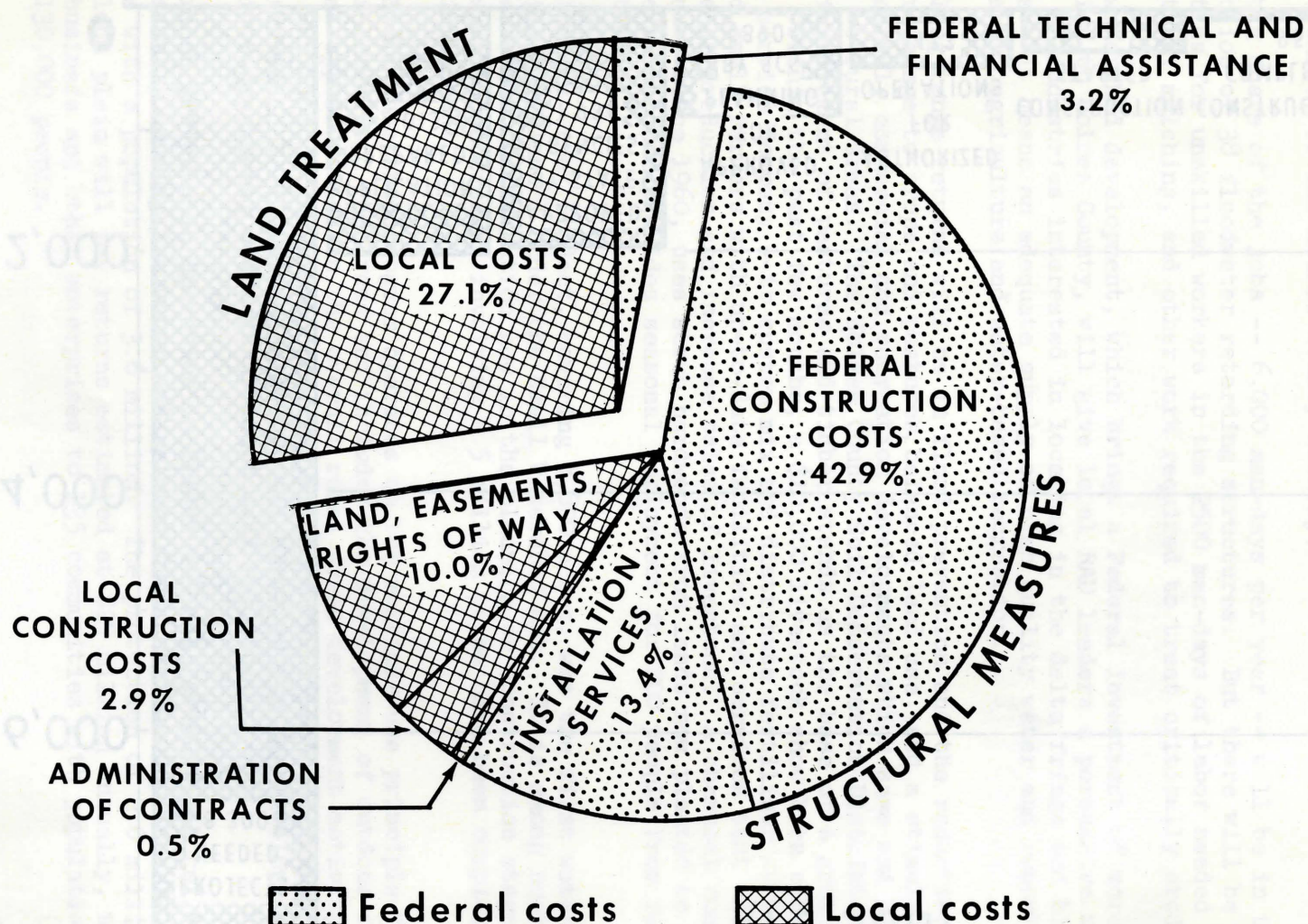
The following charts indicate the growth of watershed activities and the trend toward multiple-purpose projects that contribute in a most important way to the rural areas development program.



A good start has been made in meeting the Nation's needs for watershed development. Almost one-fourth of the 8300 watersheds that will need to be developed are now in some stage of planning or construction. Structures of 95 watersheds involving 2.5 million acres have been completed and are in use.

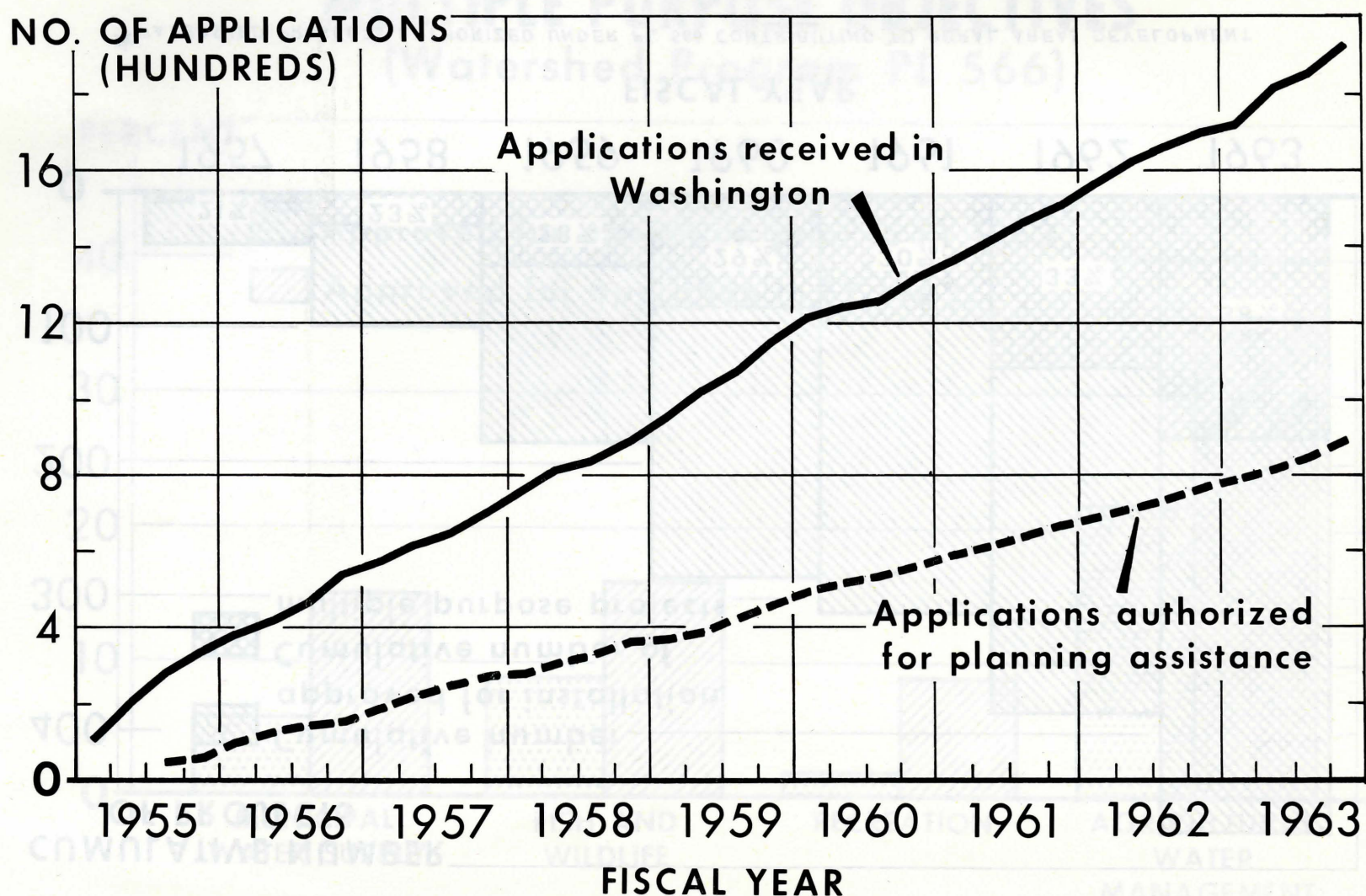
COST DISTRIBUTION - 473 PROJECTS

(Watershed Program PL 566)



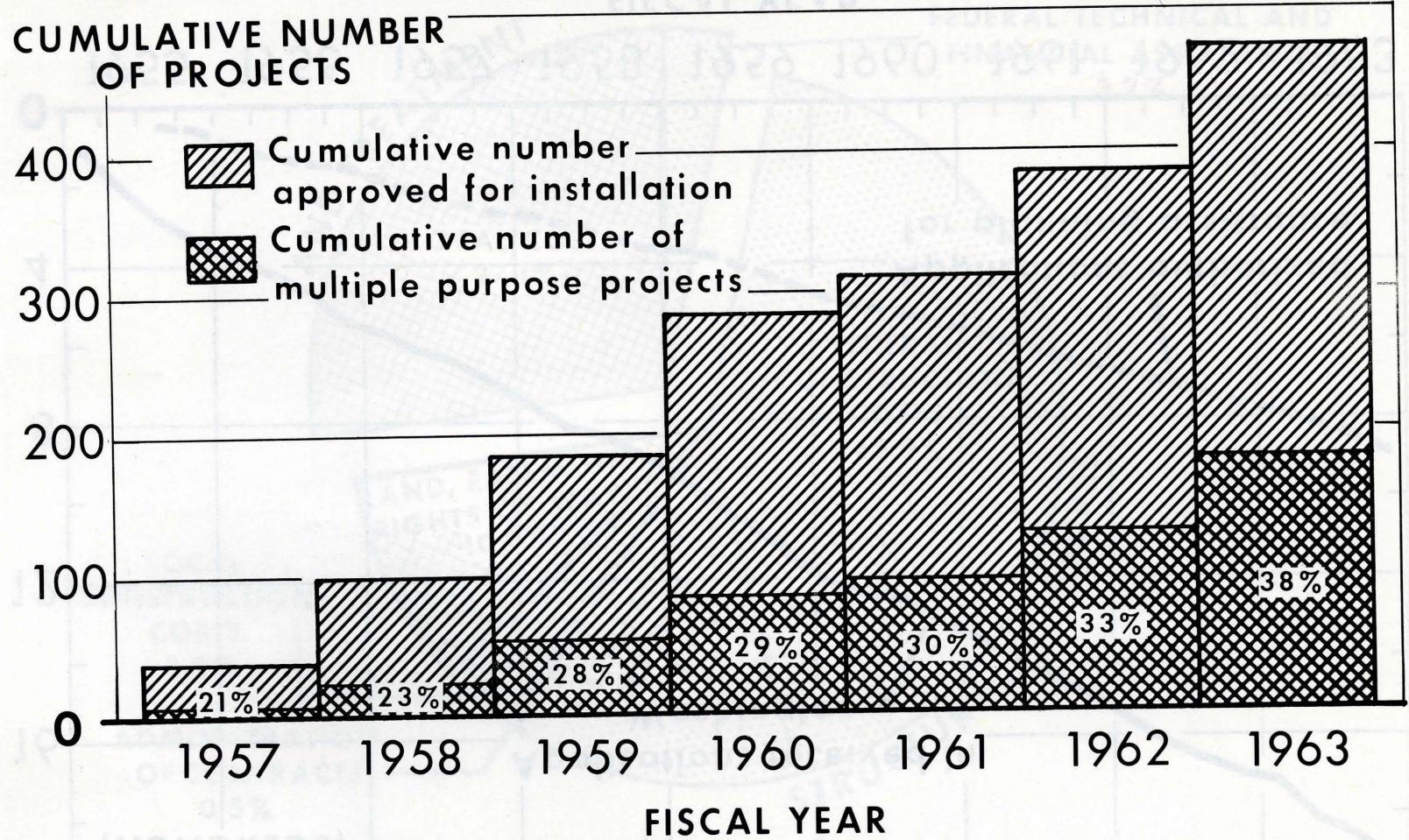
The first 473 projects placed in operation cost approximately \$672,000,000, an average of \$1,420,000 per project. Federal funds were used to pay 59 percent of the cost. The remainder came from non-Federal sources.

PROGRESS IN PLANNING (Watershed Program PL 566)



During the past nine years applications for assistance and those authorized for planning assistance trended firmly upward.

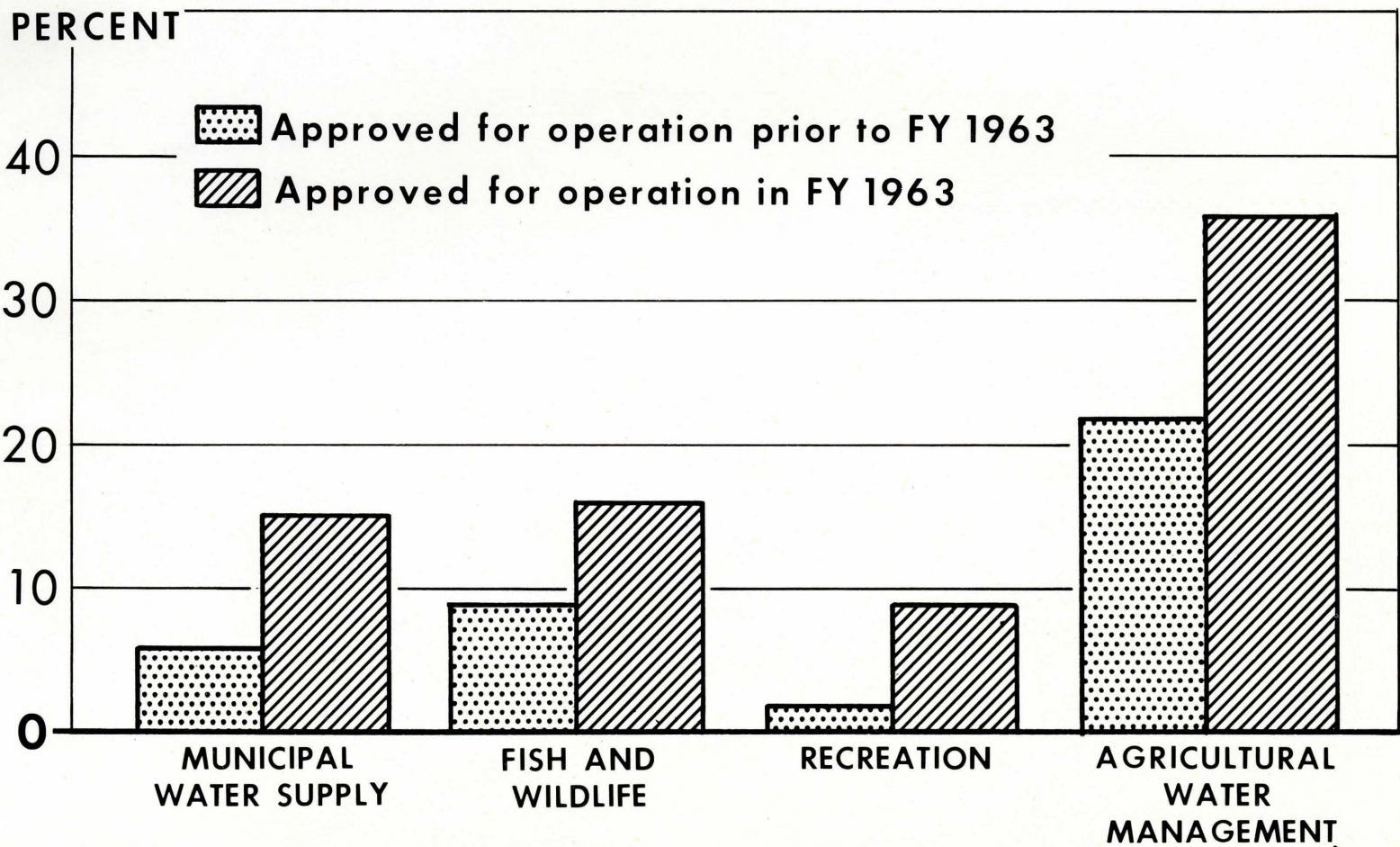
THE TREND IS TO MORE MULTIPLE PURPOSE WATERSHED PROJECTS*



* WATERSHED PROJECTS AUTHORIZED UNDER PL 566 CONTRIBUTING TO RURAL AREAS DEVELOPMENT

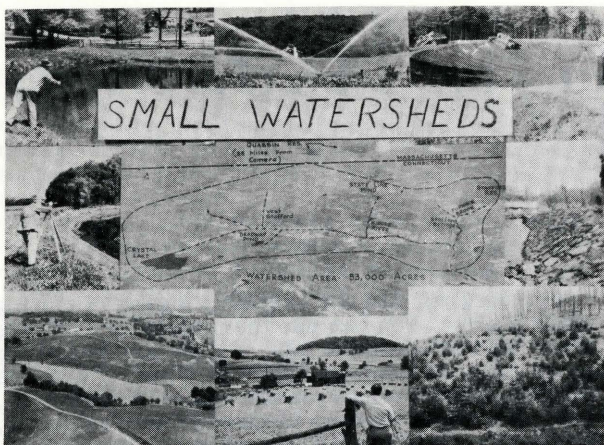
In 1957 only one in five watershed projects was designed for more than one use. Last year nearly two in five projects were multiple-purpose projects.

PERCENTAGE OF PROJECTS HAVING MULTIPLE PURPOSE OBJECTIVES (Watershed Program PL 566)



The chart shows a substantial increase in multiple-use watershed projects which include municipal water supply, fish and wildlife, recreation, and agricultural water management. Almost 60 per-cent of the projects approved in fiscal year 1963 have multiple-purpose objectives in contrast to 37 percent of the older projects.

Photolayouts



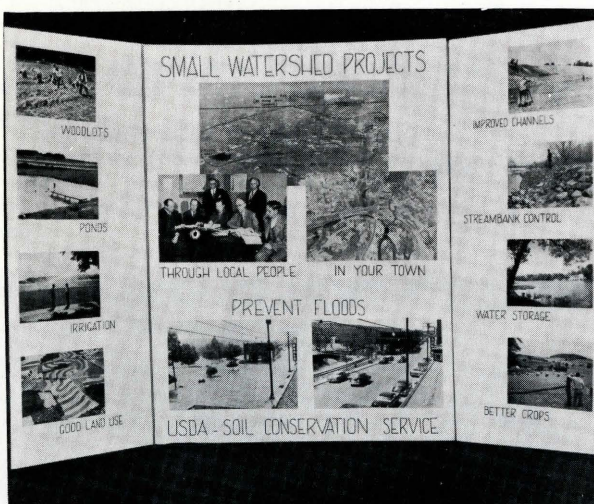
Interesting photos can be pieced together to tell a watershed picture-story.

Materials needed are: 4x5 contact prints or 5x7 enlargements, an 8x10 "feature" photo, a piece of mounting board, and rubber cement. Make a pencil-layout pattern first. Cut the prints to fit the layout. Razor blade and ruler make good straight cuts. Check to see that each print fits. Cement each surface. Let them dry. Position each print starting in the center. Weight it down overnight. Hand-lettered captions are adequate and convincing.

If you want extra prints, the layout can be copied by your Cartographic Unit. Enlargements make good office wall, store window, or bank displays. They are handy props for TV, too.

Nonglossy prints are best for displays. They also are better for "touching up" and adding artwork.

Folding Exhibit Piece



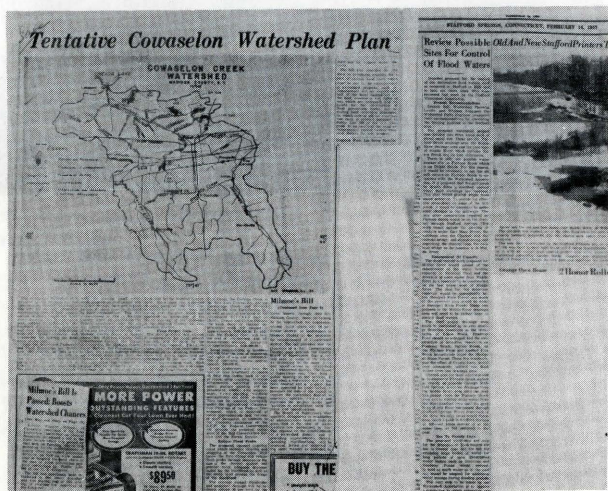
A visual watershed story can be presented in a 3-piece, folding exhibit. This is more work but the results are worth the effort.

Materials needed are: Two sheets of mounting board about 24x30 inches, 1/16 inch thick, white, dull finish on one side; rubber cement, stickup or freehand lettering, and some nonglossy prints.

First, make a small scale rough layout for your own use. Then position each photo and caption on the layout. Order the size prints you need from your Cartographic Unit. Cut one mounting board in half. Tape each half to the sides of the big piece. Fit the finished prints to the layout and cement both surfaces as in the photolayout. Add the captions with india ink.

This display can be used in store windows, banks, and at fairs. Two pieces of framing wood fastened to your office wall can hold the display when not in use. That gives it double duty--on display while in storage. It also is handy as a TV prop.

Visuals for Newspapers

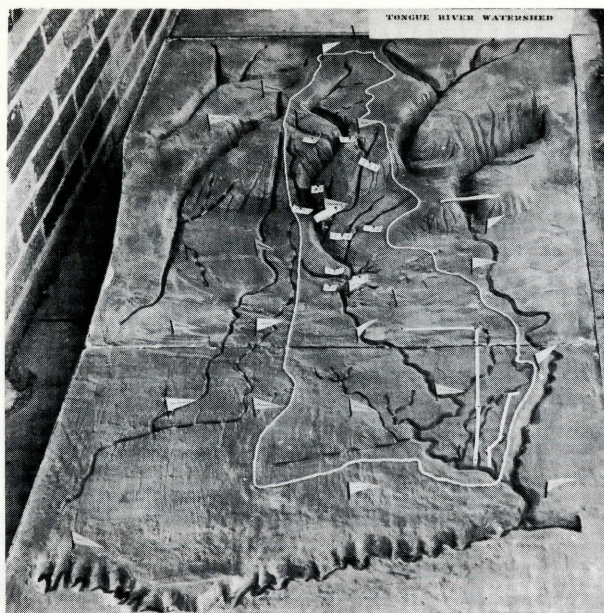


Illustrated news items are many times more effective than ones not illustrated. News visuals don't have to be photographs. Line drawings often are useful. Plain maps showing the watershed area, with points of interest marked in, are good. You can show proposed dam sites and channel improvement. A cross-section drawing of the watershed is also a possibility. It would show elevations of the mainstreams and proposed improvements.

The editor welcomes photographs if they are "newsy." Pictures of people doing things, close-ups, large subject size are what editors look for. Show a watershed problem or practice in the photo. Take several views. Give yourself a choice of pictures.

Large daily papers like 8x10 glossy prints. Small town papers might want prints made to size if they make plastic plates. Check with your local editor. Find out what he likes.

3-Dimension Models



One way to build 3-D models is with wet news-paper pulp. Paper mixed with water, glue, and plaster of paris mashed into a pulp can be molded to simulate a watershed area. A cardboard box will contain it. Lay out contoured fields, roads, and other land features before the pulp dries. Evergreen twigs make good trees. Color the land with watercolors to represent crops. Make build-ings with matchboxes or cardboard.

Some prefer using topsoil, fine gravel, sand, clay, moss, and evergreen twigs instead of paper pulp. Soils of various colors make fields and roads. Moss makes good grass. There are gadgets on the market to simulate running streams.

Building a 3-D model makes a good project for a school class.

The models are topnotch as TV props and for store window and bank displays.

Watershed Booklets



Many watershed groups have used informative booklets to increase local interest and backing. SCS men can assist by building up a good file of illustrations.

Aerial photos are always in demand. A photo-lay-out can be used for a complete page. Flood photos, during and after, will be needed. You can take pictures showing fishing, boating, swim-ming, and hunting in or near watershed streams or ponds. Such recreation shots are always popular. Conservation-practice photos are vital. Always have people in the pictures, doing things. This adds local appeal. Line drawings, such as maps and graphs, may help illustrate the booklet.

Pictures add to the cost of printing but they are worth it. In fact, it's best to have more pictures than text.

Where financing is good, don't overlook color photoillustrations. Good ones really "sell."

Watershed Advertising



Manufacturers of farm and construction ma-chinery and other commercial companies have been featuring watershed projects in their na-tional advertisements. They create interest.

The same idea can work locally. A small water-shed project increases business for local equip-ment dealers, contractors, and others. They can be interested in watershed ads in local papers.

These people can use SCS photos so long as no implied endorsement by SCS is involved. Good SCS photos and technical information help to design advertisements. Area and State Offices now have collections of samples of this kind of advertising.

Low-altitude aerial photos often are best to show structural work and frequently make a good centerpiece for an advertisement.

Black and White or Color Slides

Perhaps you have overlooked some good slide visuals. Slides of watershed maps, charts, and other line drawings add interest.

Copying a color chart or map is a simple job. The original should be bigger than 8x10 inches. That's because most 35 mm. cameras won't focus closer than 3 feet. Small subjects won't fill the frame.

Shoot the slide outdoors on a cloudy, bright day. Glaring sunlight makes hard shadows. Use a tripod. Take 2 or 3 different exposures.

Many illustrations are not available in color. Black-and-white line drawings and older photos, make good slides. Your Cartographic Unit can copy them and make slides.

Don't forget the aerial 35 mm. color slides. They make good additions to your slide sets.

Slides can be used in a continuous projector, light-boxes, and on TV shows as well as to illustrate talks.



Low-Altitude Aerial Photos

Aerial photos are always interesting. They show the land from an angle that many people never see.

If you don't mind flying in circles at 1,000 feet, it's an easy job to shoot a lot of pictures from a 2-place plane with 2 or 3 Tri-X film packs and a 4/5 Graphic. Plane cost is about \$10 an hour.

Standard exposure for aerial photos would be 1/400 second at f8 with a K2 filter. Don't go flying for photos if the sun is in the clouds. Pictures will lack contrast.

Fill up the finder with the subject. Don't show a bunch of sky or far off land in the haze. Tell the pilot what you want. He'll put you in the right place. Aerial photos illustrate large subjects better than small details. Concentrate on subjects such as ponds, detention dams, farm woodlands, windbreaks, irrigation ditches, gully erosion, stream-channel work, and stripcropping or contour patterns.



Charts and Graphs

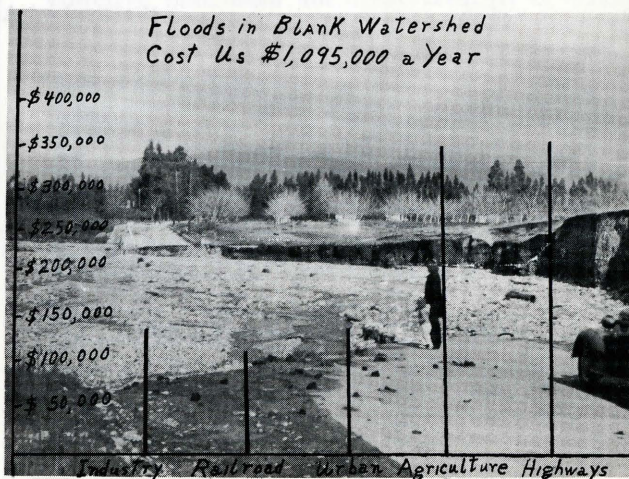
Charts and graphs can be "tricked up" with photography. It's a good way to improve dull bar charts and pie graphs.

Ink the graph on any size paper, the larger the better. An 8x10 is satisfactory. The area you use should have the same proportions as the photo you use as a background. Make the lines sharp and black.

Send the finished graph and the photo (or negative, if you have it) to your Cartographic Unit. Give detailed instructions with the order. A negative of the chart is made to the same size as the photonegative. They are each printed on one sheet of photopaper--sort of a double-exposure.

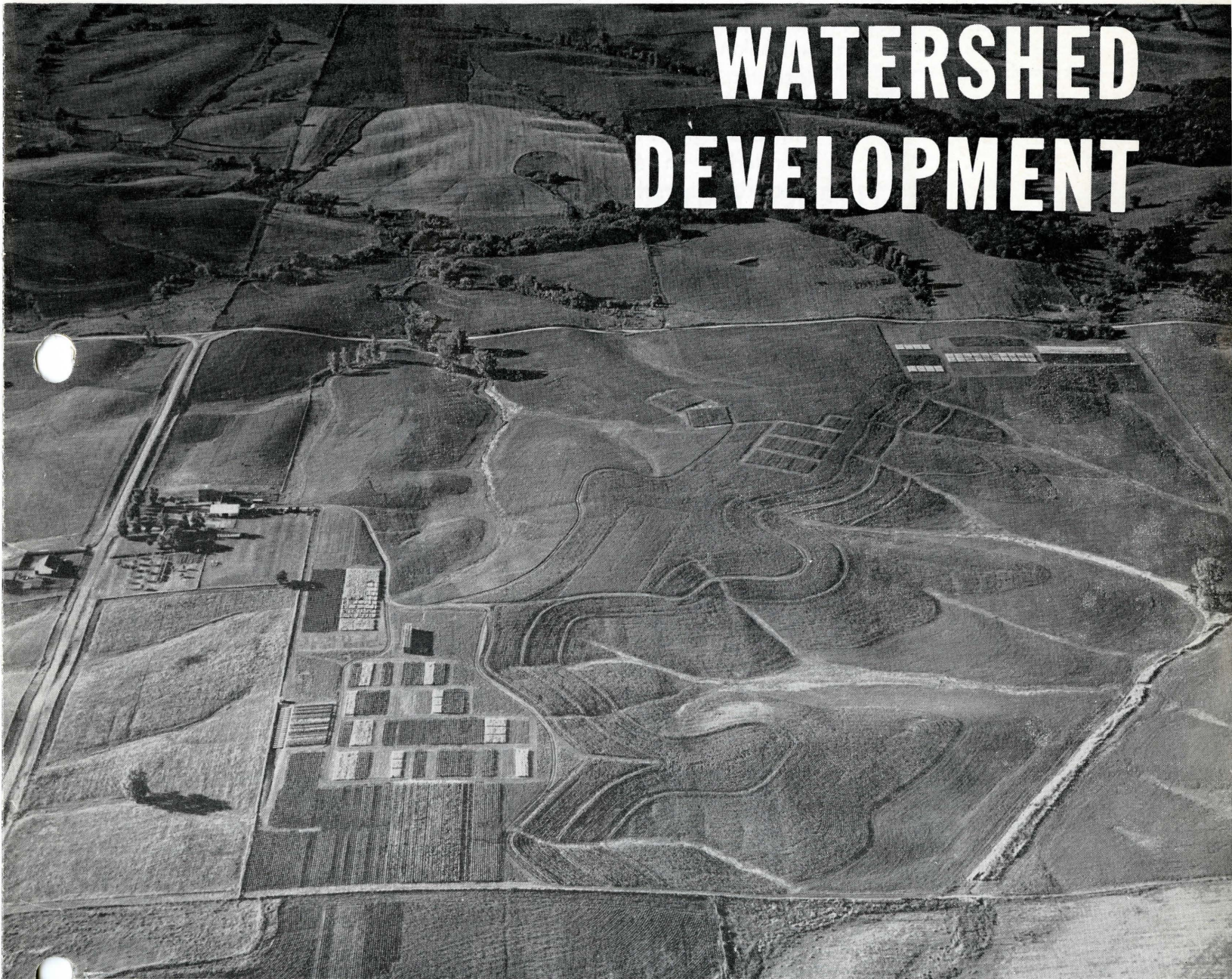
Another method is to do the lettering and linework directly on a nonglossy enlargement.

These visuals can be made into 35 mm. slides or enlarged for displays or TV props. Publications may use them, too.



a guide to a
step-by-step
approach in

WATERSHED DEVELOPMENT



Problems related to soil and water management are an ever-present concern of most Iowa farmers. On the rolling areas, the basic problem for the individual farmer may be controlling the loss of soil and plant nutrients by erosion. On more level areas, inadequate drainage may be an equally difficult problem from the standpoint of crop production. In some years there is too little rainfall for good crop yields, and water management becomes the task of conserving as much rainfall as possible for growing crops.

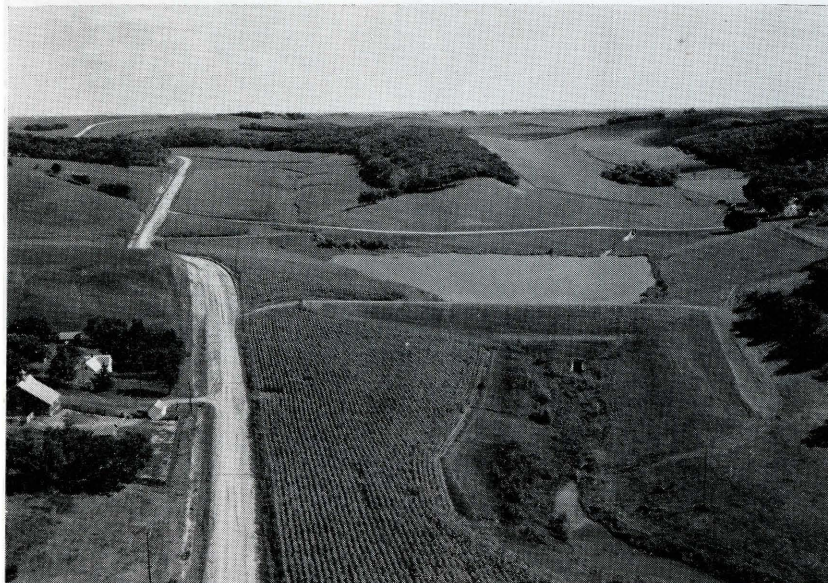
Whether the problem is soil erosion, inadequate drainage, maintaining fertility, or conserving water, any program for the management of these resources must start on individual farms.

Many times the efforts of individual farmers are not enough. Bottomlands are flooded by runoff water from farms farther upstream. Deep gullies may be caused by water from the farms of several neighbors. An individual farmer may be helpless to deal with problems which are created by forces beyond his farm boundaries. In larger watersheds whole communities may be affected. When this happens it is time for the community to plan and work together in solving these problems. The watershed approach may be the answer.

WHAT IS A WATERSHED?

A watershed is the entire area which contributes runoff water to a given location on a stream below. We all live and work within a watershed—whether we live on a farm or in a small town or have a business on Main Street. Our travels from day to day repeatedly take us across the drainage divides which separate one small watershed from another. Individual watersheds range in size from only a few acres to nearly 40 percent of the United States—like the watershed of the Mississippi River and its tributaries.

A watershed is the entire area which contributes runoff water to a given location on a stream below.



Watershed Programs

The basic idea of attacking these problems on a watershed or valley-wide basis is not new. However, until the growth and development of soil conservation districts (since 1940 in Iowa), local people were not generally organized for group action.

Eleven Authorized Watersheds

The first federal effort at watershed protection as a means of preventing floods was the Flood Control Act of 1936. Under this act upstream planning and treatment to reduce flood and sediment damage was authorized on 11 watersheds in the United States. One is the Little Sioux River Watershed in northwest Iowa.

Pilot Watersheds

In 1953 Congress authorized 60 pilot watershed projects to demonstrate the value of the watershed approach in combining conservation practices with upstream flood prevention structures. Four pilot watersheds have been developed in Iowa. These are Mule Creek in Mills County,

Prepared by Charles R. Ballantyne, extension soil conservationist; and R. A. Wilcox, assistant state conservationist, U. S. Soil Conservation Service, Des Moines, Iowa.

Honey Creek in Lucas County, and two tributary watersheds to the Floyd River in northwest Iowa—the Upper Plymouth in Plymouth County and the Nassau in Sioux County.

Public Law 566

Finally, in 1954, the Watershed Protection and Flood Prevention Act (known as Public Law 566) was passed, providing for land protection and flood prevention on a small watershed basis. Under this act an important new concept was born. Each project under the act is a **local undertaking with federal help**, not a federal project with local help.

To fulfill the purposes of Public Law 566, a watershed must be no larger than 250,000 acres.

OBJECTIVES OF WATERSHED DEVELOPMENT

Some of the main objectives of watershed development are:

1. To improve and develop the natural resources of the watershed so that everyone residing in it will have a safer and more rewarding place in which to live, work and play.
2. To obtain optimum upland treatment (conservation practices) consistent with efficient land use and high income.
3. To make a substantial contribution toward flood prevention.
4. To provide economical upstream water impoundments not only to meet the needs of the community for flood prevention but to provide for industrial, agricultural, domestic, recreational and other needs for water.
5. To plan and carry out an integrated watershed development program as a locally organized group of citizens, with local, state and federal agencies cooperating.

Interest Develops

Under the Watershed Protection and Flood Prevention Act, full responsibility for starting small watershed projects is placed on local people. One or more persons will usually inquire concerning the benefits from watershed development programs and the requirements under the law itself. The inquiry may come to Soil Conservation district commissioners, employees of the soil district, Soil Conservation Service, Extension

On the other hand, it must take in land owned by a group or community of people. This provision serves to emphasize group and community effort in approaching land and water problems.

The group or community approach is sound. The watershed in which you live and work probably has a greater effect on you than you realize. Directly or indirectly you share in both the advantages and the disadvantages of your watershed as it now exists. You share with your neighbors the tragedy of floods, eroded fields, mud-filled lakes and streams, water shortages and the like. You share with them also the beauties of nature, fertile fields, wholesome recreation and the many other benefits of watershed development, protection and flood prevention, depending on the state of development.



Watershed development can make a substantial contribution toward flood prevention.

Some watersheds need only the soil and water conservation measures that can be applied with program helps already available.



Service, Agricultural Conservation Program, or perhaps others who are in a position to furnish information. The people who make such inquiries often serve as a voluntary or informal committee to carry information back to the community and determine local interest. They often help set up meetings where qualified individuals can tell the "watershed story" to groups of people who live in the watershed itself.

Determine Your Watershed Needs

Your watershed may not need the special measures featured in the P.L. 566 Watershed Act. Some watersheds need only the soil and water conservation measures that can be applied with program helps already available. Your decision as to whether your watershed needs the type of help available under the act must be based on facts and information about the watershed, the nature and extent of problems that exist and the resources available for solving those problems.

Get the Facts

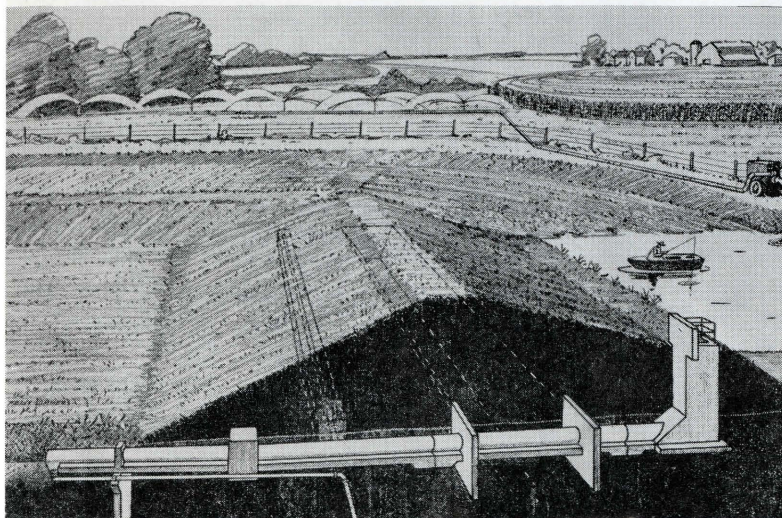
You will probably need help in gathering the necessary data and information. Your Soil Con-

servation District may already have much factual data available for the area. You may also get help from your local Extension and Soil Conservation Service offices, as well as local organizations, in bringing together adequate information upon which to base decisions.

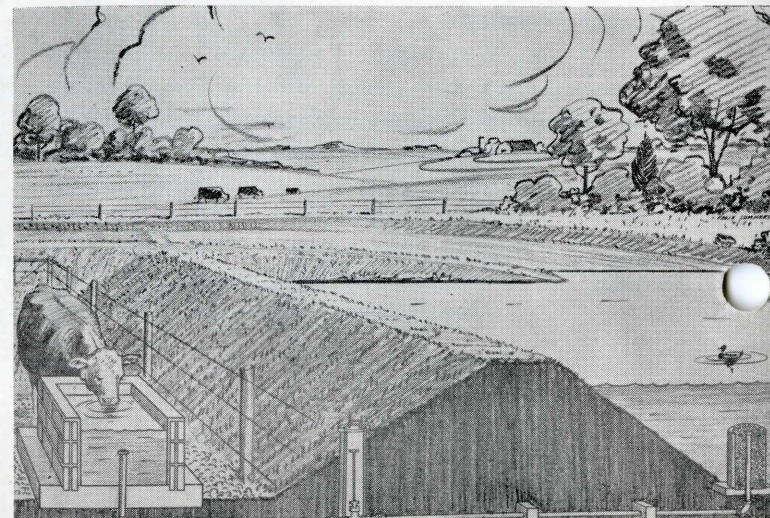
Get facts regarding the history of the area. Gather economic and physical data on such things as per capita income, type of farming enterprise, soil resources, industrial and business needs, erosion and flood damage, damage to roads and bridges, population trends, job opportunities and perhaps other factors. Analyze the area's potential for growth in business, industry, agriculture, etc. Get answers to any of the following questions which apply to your local situation:

1. What has been the damage to life and property including land, roads, railroads and bridges because of floods during the past year? 10 years? 20 years?
2. Have water shortages developed in recent years? To what extent?
3. To what extent is siltation of streams, drainage ditches, roads, etc., a problem?

Have water shortages developed in recent years?



Are farm and domestic water supplies adequate?



To what extent is major gully development a problem?

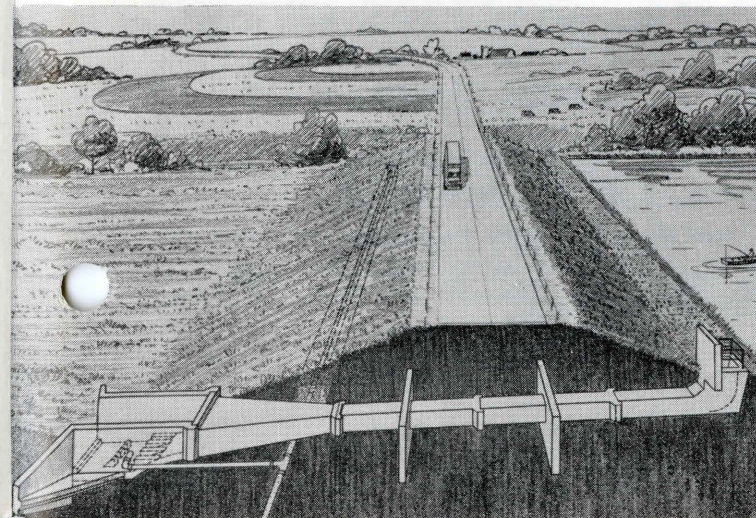


4. Are farm and domestic water supplies adequate?
5. Are there idle or marginal acres? What use can be made of them? How many acres are involved?
6. What are the needs for soil and water conservation practices as shown by the conservation needs inventory?
7. What progress has been made in the soil district program toward meeting these needs?
8. What is the remaining job in soil and water conservation?
9. How fast can the local people complete this job?
10. How many acres are in well-managed grassland?
11. With regard to woodland areas: What species are grown? What are the conditions of growth—the economic value and the needs?
12. With regard to woodlots: What species are grown? What are the conditions of growth—the economic value and the needs?
13. To what extent is new industry passing up

the area because of floods or inadequate supplies of good water?

14. To what extent is major gully development a problem?
15. Are structural measures beyond those found in small individual farm watersheds needed for gully stabilization?
16. Is gully stabilization prerequisite to adequate terrace outlets? If so, to what extent?
17. Is pollution of streams a problem? If so, to what extent?
18. What does an inventory of fish and wildlife resources show regarding species, food and cover conditions?
19. What does an inventory of recreational needs show regarding desirable developments such as parks, lakes, stream improvements, hunting and fishing areas, wildlife refuges, community forests and other needs?
20. What do engineering and hydrologic studies show regarding water sources, availability for various uses, desirable structures and impoundments, dikes, levees, drainage, diversions, flood-retarding structures and other needs?

Entire communities may benefit from watershed development programs.



Summarize and Analyze

The above information, properly summarized, should furnish a sound basis for making a decision as to whether the people in your watershed need the kind of help available under the Watershed Protection and Flood Prevention Act. By carefully analyzing the data now available, the committee should be able to sort out the physical and economic benefits to the community that may come with complete watershed development and weigh them against the damages that have occurred during previous years.



An integrated watershed development program may also provide for recreational needs for water.

Organize

Up to this point the leadership in your watershed has probably been voluntary and strictly on a temporary basis. When a decision has been made to move ahead with full watershed development, the time has come to set up a permanent organization. You will need a chairman, possibly a vice-chairman and a secretary. If your watershed is small, this number may give adequate

representation. However, if your watershed is large, representatives should be elected who are well-distributed geographically and who represent varied interests and communities. This group then becomes your committee or board of directors. The formation of this local organization is a significant step in your watershed timetable. It converts your initial discussion and promotion into action and clears the way for serious work.

GETTING TO WORK - MOVING AHEAD

You now have sufficient factual information upon which to develop realistic education and publicity programs.

The following steps are suggested:

1. Set Up an Education Committee

- Have all important agencies and groups represented on the committee—agencies such as Extension Service, Soil Conservation Service, Agricultural Stabilization and Conservation Committee, Forest Service, Conservation Commission, county superintendent of schools, county board of supervisors, county conservation boards, chambers of commerce, service clubs, sportsmen's groups, farm organizations, others.
- Make definite plans to reach every citizen in the watershed with the need for, the benefits from, and his or her part in the watershed development program.
- Provide films, slides, charts and other visual helps for speakers.

- Develop radio and TV programs where applicable.
- Develop a list of available speakers and see that they are fully informed and well trained for the job of telling the watershed story at meetings of all kinds.
- Work out a directory of all organizations and agencies that can help and call on them for assistance. (See page 8 of this pamphlet.)
- Provide a means for keeping up to date regarding information on progress, new developments and changing conditions.
- Use watershed tours, conservation tours, air tours, printed tour guides, fact sheets and other means to keep people informed and interested in the program.
- Provide information to everyone in the watershed at all stages of development.

2. Set Up a Publicity Committee

- Decide who must be reached, when, with what and by whom.

- Be sure this committee includes a newspaperman, an extension representative, and where applicable, radio and TV representatives as well as others.
- Have a flow of accurate news stories on watershed progress going to all news media.
- Consider a periodic newsletter for all citizens of the watershed.
- Where possible consider cooperating with a regularly scheduled radio and/or TV program where watershed news can be included.
- Periodically do a feature story on the watershed, a cooperating farmer or some phase of the work.
- Fully inform the people of the nature and extent of problems to be dealt with in the program. Be sure that they understand their responsibilities with regard to furnishing of land, easements, rights-of-way and long-time maintenance of structural improvements that may be installed under the program.

3. Establish Goals

Watershed development is a long-range program and usually involves many people. Progress toward the final objectives of the program requires a schedule or timetable and a well-organized plan of attack. Annual goals are often effective in moving the upland treatment (conservation practices) phase of the program along. They should be goals determined by the people themselves, together with their elected leaders.

4. Meet the Minimum Requirements

Many times people become impatient with the apparently slow progress of watershed development programs. People often are not well informed and become too hasty in applying for watershed assistance under the law. Sometimes when applications for assistance are made prematurely and are rejected because of inadequate progress with upland treatments, people become discouraged and it is difficult to stimulate the group to further progress.

Be sure that citizens in the watershed are well informed regarding the minimum requirements in the law. Some of the more important requirements are:

- That your watershed does not exceed 250,000 acres.
- That at least 50 percent of the land is under cooperative agreement with the local soil conservation district.
- That a major portion of the needed conservation practices (75 percent above watershed

structures) is on the land or scheduled for application prior to any construction under the Watershed Protection and Flood Prevention Act.

- That benefits of the proposed work are greater than the cost.

- That your local organization is prepared to share the costs of structural measures installed for purposes other than flood prevention.
- That your local organization can make acceptable arrangements for lands, easements, rights-of-way, water rights, and maintenance of structural improvements.
- That your local organization and the USDA agree on a watershed work plan.

(For more complete information, see references, page 8.)

5. Apply for Assistance

Apply for (P. L. 566) watershed assistance when the following situation exists:

- You have worked closely with the local Soil Conservation District and its governing body in planning and applying sound soil and water conservation measures on lands in the watershed, and it has been determined that the type of assistance available under the Watershed Protection and Flood Prevention Act is needed.
- The watershed meets the minimum requirements stated in P.L. 566—has made and is making substantial progress on the land treatment phase, has excellent local leadership and support and has need for the type of assistance available under the Watershed Protection and Flood Prevention Act.
- The local soil district commissioners look with favor on your application for assistance under the law and are willing to sponsor the watershed development project.

6. Subwatershed Approach

- Consider dividing the watershed into smaller subwatersheds if this has not already been done during the earlier development stages. This will allow the program to move faster in some smaller areas than the over-all watershed program is moving. There is also an advantage in working with small groups of people.
- Intensify efforts to get the upland treatment phase completed, subwatershed by subwatershed. Your planning priority for the structural improvements depends primarily on the problem in the watershed, your rate of progress with needed upland treatments, the interest the local organization maintains, the support of other organizations

and groups in the area, the economic feasibility of the structural measures and the over-all need for the assistance available under P.L. 566.

7. Final Stage of Development

a. You will look to the Soil Conservation Service for information and guidance in the planning

and application of the structural phases of the program.

b. Keep landowners and others fully informed about local responsibilities concerning the furnishing of land, easements, rights-of-way and maintenance of structural improvements installed under P.L. 566 programs.

IT'S UP TO YOU

Floods and drouths don't wait. We must be better prepared for them when they come. A well-planned and applied watershed development program is the best preparation.

The upland treatment part of the program emphasizes soil and water conservation practices. It stresses holding as much of the rainfall as possible where it falls. That which must run off is allowed to move slowly, with a minimum of soil movement and depositing of sediment on areas below.

The structural improvements designed for watershed development programs are helpful in stabilizing major gullies, minimizing the destruction caused by floods and providing a means for managing and distributing water in the community for all major interests, including recreation. It's up to you.

Look to these organizations and agencies for help:

Public Agencies

State Soil Conservation Committee

State, Area and Local Extension Service Personnel

State, Area and Local Soil Conservation Service Personnel

State University Experiment Station

State Conservation Commission

State, Area and Local ASC Personnel

State Highway Commission

State Natural Resources Council

State, Area and Local Farmers Home Administration Personnel

Soil Conservation District Governing Bodies

County Boards of Supervisors

Organizations and Associations

Farm Organizations

Chambers of Commerce

Civic and Service Clubs and Organizations

Sportsmen's Organizations

Youth Groups

Bankers' Associations

Ministerial Groups

Manufacturing and Retail Associations

— and many others

Other published material which is readily available for reference on watershed development:

What About Watersheds?—FS-728

The Role of Small Watershed Programs—Pamphlet 231

These two publications deal with the Watershed Protection and Flood Prevention Act, the requirements under the law and how it operates. Obtain copies from your local County Extension Service or Soil Conservation District offices.

Small Watershed Projects Under the Watershed Protection and Flood Prevention Act—PA-392

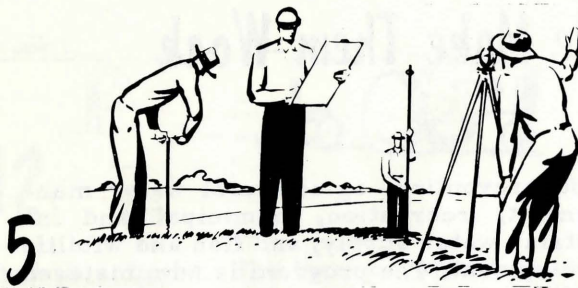
Local-State-Federal Watershed Projects—SCS CI-4

These two items deal with the Watershed Protection and Flood Prevention Act mainly from the time of application for assistance under the act through the installation of needed structural improvements and up to the operation and maintenance stage. Obtain copies from your local Soil Conservation Service or from the Superintendent of Documents, Washington 25, D. C.

Photos on pages 2, 3, 4 and 5—
Soil Conservation Service.

Photo on page 6—Iowa Chapter, Soil
Conservation Society of America.

Work Plan



Detailed Field Studies. The SCS, Forest Service, Fish and Wildlife Service, and other interested Federal and State agencies assist the local organization by making detailed field studies to determine what can be done, the cost, and the benefits. Benefits must exceed costs.



Work-Plan Preparation. The local organization prepares a work plan with SCS assistance. The plan describes the benefits, the proposed measures, how they will be financed, and when they will be installed. Both the local organization and the SCS sign the watershed work plan agreement.



Work-Plan Approval. If funds are available, the SCS State Conservationist can authorize operations to begin at once provided:

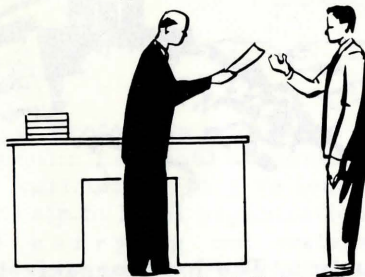
- a. The estimated Federal contribution to construction costs does not exceed \$250,000; and
- b. The work plan does not contain any single structure having a total capacity of more than 2,500 acre-feet.

If the estimated Federal contribution to construction costs exceeds \$250,000, or if the work plan contains a single structure having a total capacity of more than 2,500 acre-feet, the procedure is:

- a. Other interested Federal agencies review the plan within 30 days.
- b. The plan is sent to the Director of the Bureau of the Budget, who transmits it to the Congress.
- c. Committees of the U.S. Senate and House of Representatives approve the plan before further Federal assistance is made available.

Financing

8



Making Funds Available. The SCS Administrator allocates funds for watershed projects from money appropriated each year by Congress.

9



Cost Sharing. For flood prevention, the Federal Government pays for all engineering and construction costs. For irrigation and drainage and for public recreation and fish and wildlife development, it pays for all engineering service and up to 50 percent of the construction.

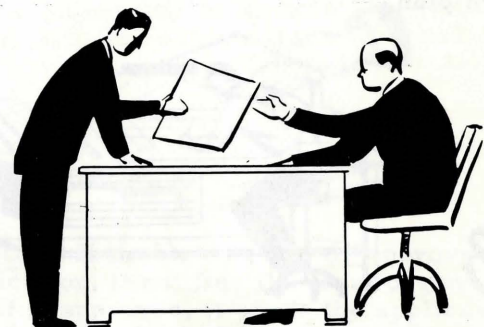
In certain circumstances, it pays up to 50 percent of the cost of the land rights and of the minimum basic facilities for public recreation or for public fish and wildlife development. All other costs--including all costs for industrial and municipal water supply--must be paid by the local organization.

10



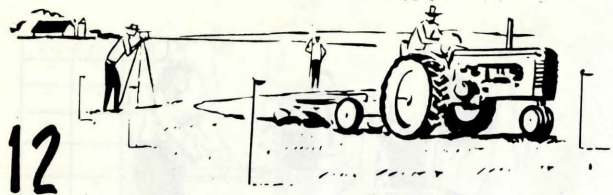
Land Rights. The local organization must obtain all land and land rights needed for a watershed project.

11



Loans and Advances. To help a local organization pay its share of the project cost, the Federal Government, through the Farmers Home Administration, can make loans. The loans can be for periods of up to 50 years at the Federal long-term borrowing rate, with a limit of \$5 million for one project. The Federal Government can also advance money to preserve sites for future construction, once the work plan has been approved. This money must be repaid with interest before construction. Also, the Federal Government can make money available for the extra cost of developing water-supply storage for future municipal or industrial use. No interest is charged and no repayments of the principal is required until water is first used--except that interest can be deferred for only 10 years after completion of the storage facilities.

Operation



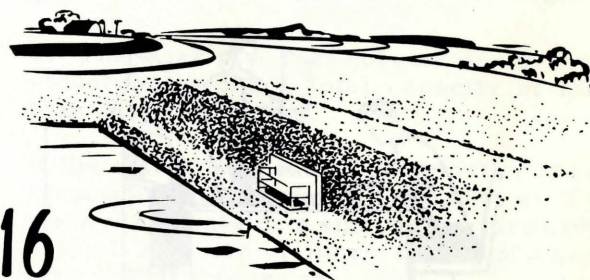
Land Treatment. The local organization is responsible for needed soil and water conservation treatment. It must be applied before or during work on the structures. SCS technicians and others can provide additional technical assistance to accomplish this during the time specified in the work plan.



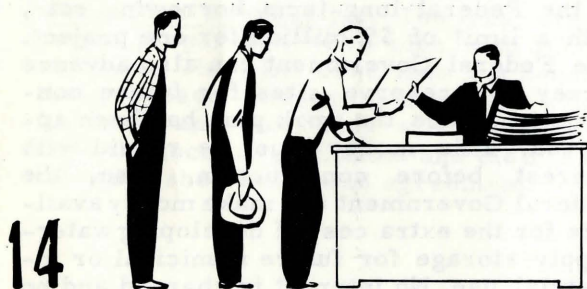
Construction. The local organization is responsible for issuing bids and lets the contracts for construction. Contractors build the structures and other works of improvement.



Engineering Work. Engineers make field surveys and prepare designs and specifications for construction. The local organization has the option of employing its own engineers or of requesting SCS to provide them.



Operation and Maintenance. Once works of improvement are installed, the local organization is responsible for operation and maintenance. The local organization must sign a written operation and maintenance agreement before Federal funds are made available for any construction.



Project Agreements. The SCS and the local organization enter into an agreement covering each potential contract for the construction of works of improvement. This agreement is the basis for obligating Federal funds.

WATERSHED ROOSTER
LANDLORD, TENANT, ACRES ETC.

Maps - 1958 Aerial	Sail	Maps - Standard Survey
10-106	Sec. 17-20	
10-105	" 19	Total acres 2332
10-133	" 30-31	Roads <u>53</u>
1-132	" 29-32	2385 acres - Watershed.
10-131	" 28	

- ① Frankie Hadd - Harcourt - Owner Sec. 17 15 ac.
 Everett Erickson - Harcourt - Opr.
- ② Charles Hutchins - Owner Sec. 17-20 159 ac.
 Charles Newhouse - Ripsey - Agent
 Everett Erickson - Harcourt - Opr.
- ③ H. J. Carlson - Owner Sec. 20 76 ac.
 Robert E. Carlson - Dayton - Agent
 Charles Manguson - Harcourt - Opr.
- ④ Rubeen H. Peterson - Owner Sec. 19 5 ac.
 Harcourt.
- ⑤ Cubbon Realty Co. - Owners Sec. 19 9 ac.
 Farmers National Co. - Agents
 M-35 Warden Bldg. Fort Dodge.
 Phil Fridolfson - Harcourt - Opr.
- ⑥ Jack Peterson - Harcourt - Owner Sec. 19-30 73 ac.
- ⑦ Harold F. Johnson - Dayton - Owner Sec. 19 78 ac.
 Bob Young - Dayton - Opr.

⑧ H. L. Baas - Ogden - Owner Sec. 20-29 193 ac.
Charles Lundberg - Harcourt - Opr.

⑨ Oscar T. Swanson - Harcourt - Owner Sec. 20 79 ac.
Clarence R. Johnson - Harcourt - Opr.

⑩ Warren Sayers - Pine Bluff, Wyo. - Owner Sec. 20 89 ac.
Clarence R. Johnson - Harcourt - Opr.

⑪ Ted Peterson - Harcourt - Owner Sec. 30 139 ac.
Don Peterson - Harcourt - Opr.

⑫ Mrs. Mildred Anderson - Lanyon - Owner Sec. 30 156 ac.
Wendell Balmquist - Harcourt - Opr.

⑬ Wesley Swanson - Harcourt - Owner-Agent Sec. 19 125 ac.
Clarence R. Johnson - Harcourt - Opr.

⑭ Herman & Ester Nordeen Est. Deceased - Sons - Owners
Harald F. Johnson - Dayton - Agent Sec. 29 118.5 ac.
Wayne Newholm - Dayton - Opr.

⑮ Ralph C. Strand - Harcourt - Owner Sec. 29 66 ac.
Sec. 28 4 ac.

10-116 Sec. 17-20
10-115 " 19
10-133 " 2-31
10-132 " 29-32
10-131 " 28

Total acres 2332
Rods 53
2385 acres. Watered.

(16) Nov Konvalinka - Harcourt - Owner Sec. 30 156 ac.

(17) Quentin Lundquist - Harcourt - Owner Sec. 29 116 ac.

(18) Fred E. Haklin - 403 So. Greene St. Boone, Ia. - Owner
Ronald Anderson - Dayton - Opr. Sec. 29 118.5 ac.

(19) Helge W. Thulin - Owner Sec. 29 58 ac.
Oliver R. Carlson - Harcourt - Agent.
- - Apr.

(20) J. Alger Strand - Dayton - Owner Sec. 28 20 ac.

(21) Edna & L.E. Peterson - 1618 - E. 13th Ave. Moines - Owners.
Leonard Swanson - Harcourt - Opr. Sec. 31 99 ac.

(22) Robert Carlson - Dayton - Owner Sec. 32 235 ac.
Charles Manguson - Harcourt - Opr.

(23) Ruben Skoglund - Dayton - Owner Sec. 32 120 ac.

(24) Anna Anderson - Paton - Owner Sec. 31 25 ac.
Oliver Anderson - Paton - Agent

Charles Hutchins	Owner
Charles Newhouse	Agent
Everett Erickson	Tenant
Frankie Hade	Owner
H.G. Carlson	
Robert E. Carlson	Agent
Charles Manguson	Tenant
Warren A. Sayers	Owner
Clarence Johnson	Tenant
Oscar T. Swanson	Owner
H.L. Bass	Owner
Charles Lundbert	Tenant
Farmers National Co.	
Rueben H. Peterson	Owner
Harold Johnson ⁸	Owner
Clarence Stevens	Tenant
J. Wesley Swanson Est. Lloyd, Elmer and Dwight Swanson	
Wm. C.A. Anderson Est.	
John Peterson	Tenant
G.G. Krahm	Owner
Bob Young	Tenant
Theodore Peterson	Owner
Mildred Anderson	Owner
Wendell Palmquist	Tenant
Don Konvalinka	Owner
Herman Nordeen	Owner
Wayne Newholm	Agent
Fred Dahlin	Owner
Ralph Strand	Owner
Helen Anderson	Exec.
Quentin Lundquist	Tenant
Helge Thulin	Owner
Oliver Carlson	Agent
Edna & L.E. Peterson	Owner
Leonard Swanson	Tenant
Anna Anderson	Owner x
Oliver Anderson	Tenant
Robert Carlson	Owner (agent for H.G. Carlson)
Rueben Skoglund	Owner
J. Olger Strand	Owner

[illegible]

Jan. 1964

Approval Given Area Watershed

Beaver Watershed, located in Dayton Township, Webster County Soil Conservation District, has been approved for planning by the State Soil Conservation Committee.

The Soil Conservation Service will initiate planning activities in the near future. Information will be gathered throughout the area, leading to the development of a complete watershed work-plan. They will be working very closely with the farmers in the area, watershed leaders, district commissioners, work unit personnel and others concerned with the watershed in the Webster District.

Beaver Watershed also known as Webster County Drainage Ditch No. 47 was formally organized in April of 1963, with application for assistance being submitted to the State Soil Conservation Committee at that time. The watershed was organized for the purpose of obtaining engineering and financial assistance, to provide tile drainage relief on the existing county main. This will provide adequate drainage outlets for all the land in the watershed.

The watershed contains 2385 acres with all or parts of 24

farms. One hundred percent of the landowners in the area are cooperators with the Webster County Soil Conservation District. Basic conservation farm plans have been developed on 21 of the farms in the watershed. Directors of the watershed are Fred E. Dahline, Chairman, John Peterson and Leonard Swanson.

Sponsoring agencies are the Webster County Board of Supervisors and the Webster County Soil Conservation District.

BEAVER WATER SHED

The Beaver Watershed was organized under the Watershed Protection and Flood Prevention Act of 1954. (P.L. 566) in April of this year. The Webster County Commissioners held several interesting and informative meetings at Dayton with personnel from the County Board of Supervisors, Soil Conservation Service Watershed Planning Party, State Soil Conservation Committee and the Soil Conservation Service Area and Work Unit offices all took part in these meetings.

The application for assistance was completed and submitted to the State Soil Conservation Committee in April and the approval for assistance was received in June. This is the first watershed project in Webster County.

The Beaver Watershed is located in the southwest corner of Dayton township. It consists of 2,385 acres and includes all or parts of 24 farms. The average farm size is 150 acres. There are eight owner-operated farms. This watershed includes all lands within the boundary of County Drainage number 47. The tile outlets into an open ditch located on the Webster-Boone County line.

The existing county mains in the watershed are inadequate due to size and depth. This problem will be solved with the addition of a relief main. When the Beaver Watershed project is completed adequate drainage outlets for all lands in the district will be provided.

The cost of the project to landowners in the Beaver Watershed will be about \$101,000. Federal cost-sharing will pay for 40 per cent of the project up to a 30 inch tile main. The sponsors of the Beaver Watershed project are the Webster County Board of Supervisors and the Webster County Soil Conservation District.

Dayton 3-5-64

Beaver Watershed Planning approved

Dayton - Jan 1964

Beaver Watershed, located in Dayton Township, Webster County Soil Conservation District, has been approved for planning by the State Soil Conservation Committee.

The Soil Conservation Service will initiate planning activities in the near future. Information will be gathered throughout the area, leading to the development of a complete watershed work plan. They will be working very closely with the farmers in the area, watershed leaders, district commissioners, work unit personnel and others concerned with the watershed in the Webster District.

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The watershed contains 2,385 acres with all or parts of 24 farms. One hundred percent of the landowners in the area are cooperators with the Webster County Soil Conservation District. Basic conservation farm plans have been developed on 21 of the farms in the watershed. Directors of the watershed are Fred E. Dahline, Chairman, John Peterson and Leonard Swanson.

Sponsoring agencies are the Webster County Board of Supervisors and the Webster County Soil Conservation District.

Jan.

Dayton 3-64

Beaver Watershed Meeting March 24

A meeting for Beaver Watershed landowners and operators will be held Tuesday, March 24, 1964 at 7:30 p.m. in the Dayton High School.

The purpose of this meeting will be to discuss the Federal cost-sharing, as it concerns Beaver Watershed, under P.L. 566. The status of the watershed will also be discussed at this time.

Please plan to be there.

Beaver Watershed Decision now up to Area landowners

March 1964

The decision on whether to proceed with the Beaver Watershed is now in the hands of the 24 farm owners, whose land would benefit from this type of conservation project. The Beaver Watershed group held a meeting in the Dayton high school Tuesday, March 24. Attending the meeting were ten landowners, two land agents and several farm operators of land within the boundaries of Webster County Drainage District number 47.

Mr. Leonard Larson, head of the watershed planning party of Iowa and Russ Knudson, engineer for the same group presented cost estimates to the members of the Beaver Watershed area. Others in attendance were Webster County Soil Conservation commissioners, Jens Rugaard, Leon Skoglund and Larry Heaton Work Unit Conservationist for Webster County. C. W. Carlson represented the County Board of Supervisors and Webster County Drainage Attorney Andrew Schill was also present at this informative meeting.

The Beaver Watershed is located in the southwest corner of Dayton township. It consists

of 2,385 acres including all or parts of 24 farms. The existing county mains in the watershed are inadequate due to size and depth. This problem could be solved with the addition of a relief main, providing adequate drainage for all lands in the district.

The total cost of the watershed project would be about \$146,000. The landowners have been working with the Webster County Board of Supervisors and the Webster County Soil Conservation District on this project. Under public law number 566 of the flood prevention act of 1954 federal cost-sharing funds are available for 40% of the project up to a 30" tile main. Under this law, about \$66,110.00 could be made available for the Beaver Watershed. The group at the meeting Tuesday evening approved the motion to go ahead and proceed with the final federal approval for the watershed project.

The local cost on this project will be about \$80,000.00 to improve the 2,385 acres of land. Local landowners must now get together and decide within the next thirty to sixty days whether to proceed with the project or drop it.

Fred Dahlin, Boone; John Peterson, Harcourt and Leonard Swanson of Dayton are the local directors of the Beaver Watershed.

Dayton Review 3-64

Estimate Cost of \$149,600 For Beaver Watershed Work

DAYTON — A total cost of \$149,600 would be needed for the proposed improvements on the original tile in the Beaver Watershed Project, according to Leonard Larson, Des Moines, head of Watershed Planning for the state SCS.

Larson spoke to 26 persons meeting at the high School here recently to hear of the proposed work plan, estimate costs and federal cost-sharing for the watershed.

Larson's estimate includes the labor and materials, engineering, damage to crops, contract letting, interest, attorney fees and the benefit commission

costs. Estimated cost to the landowners in the watershed would be \$79,650, with the federal government cost-sharing the balance of \$69,950.

Andrew Schill, county drainage attorney, told the group of the legal aspects of the projects and gave his estimate on the cost of interest, attorney fees, and the hiring of a benefit commission.

Jens Rugaard, chairman of the Webster County Soil Conservation commissioners, presided at the meeting.

Rice, rubber, copra and cinamon are important crops in South Viet Nam.

Watershed Cost To Be \$149,600

The Beaver Watershed Group met recently at the Dayton High School to hear the proposed work plan, estimated costs and federal cost-sharing for the watershed.

The total estimated cost for the proposed improvement on the original county tile would amount to \$149,600 according to Leonard Larson, Head, Watershed Planning Party, Soil Conservation Service, Des Moines, Iowa.

This estimate includes the labor and materials, engineering, damages to crops, contract letting, interest, attorney fees and the benefit commission costs according to Mr. Larson. Estimated cost to the landowners in the watershed would be \$79,650, with the federal government cost-sharing the balance of \$69,950.

Andy Schill, County Drainage Attorney, informed the group of some of the legal aspects of the project and the estimate costs of the interest, attorney fees and the hiring of a benefit commission. This is included in the cost estimate of \$79,650 to the landowners.

There were 26 persons in attendance. Twelve landowners and agents were present to hear the proposal. Jens Rugaard, Chairman of the Commissioners, presided over the meeting.

Others in attendance were, Leon Skoglund, Commissioner; Cash Carlson, County Supervisor; Fred Dahlin, Chairman; John Peterson, Secretary, and Leonard Swanson of the Beaver Watershed Board; Russell Knutson, and Larry Heaton of the Soil Conservation Service.

Dayton - June 1964

Beaver watershed is Approved for plans

The Beaver Creek Watershed Protection Project in Webster County, Iowa, has been authorized for planning assistance by the U.S. Soil Conservation Service, announced State Conservationist Frank H. Mendell.

The watershed project covers 2,385 acres in Dayton Township, Webster County, and is sponsored by the Webster County Soil Conservation District and the Webster County Board of Supervisors.

Major problem in the watershed is lack of adequate tile outlet capacity causing serious crop loss from flooding in the low areas. The farm land in the 24 farms in the watershed is highly productive with adequate drainage. Webster County Drainage District No. 47 is located in the watershed project.

The Watershed Planning Party of the U.S. Soil Conservation Service, under the leadership of Leonard J. Larson, will begin preparation of the work plan for the Beaver watershed immediately. The Party will work with the local sponsors of the watershed and with the farmers and others in the watershed area to develop a work plan covering the works of improvement needed to control the drainage problem.

Gawrie - June 1964

Area Watershed Given Approval

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The Watershed Planning Party of the U. S. Soil Conservation Service, under the leadership of Leonard J. Larson, will begin preparation of the work plan for the Beaver watershed immediately. The Party will work with the local sponsors of the watershed and with the farmers and others in the watershed area to develop a work plan covering the works of improvement needed to control the drainage problem.

Plan Watershed Meeting Monday

A meeting for Beaver Watershed landowners and operators will be held Monday, September 28, 1964, at 7:30 p.m. in the Dayton high school.

The purpose of this meeting will be to discuss the information presented at a recent meeting of watershed directors, commissioners and local and state Soil Conservation Service officials, with the County Board of Supervisors.

All interested parties should plan to attend.

The project is located southeast of Harcourt. The approval of federal assistance in carrying out the project was approved recently.

Total cost of the project is estimated at \$190,000, of which the federal contribution will be about \$70,000.

Gawrie - Sept. 1964

Beaver Watershed Meeting Sept. 28

A meeting for Beaver Watershed landowners and operators will be held Monday, September 28, 1964, at 7:30 pm in the Dayton High School.

The purpose of this meeting will be to discuss the information presented at a recent meeting of watershed directors, commissioners and local and state Soil Conservation Service officials, with the County Board of Supervisors.

All interested parties should plan to attend.

Dayton Sept. 1964

Watershed Meeting Monday

DAYTON — A meeting for landowners and farm operators living in the newly organized Beaver Watershed will be held in the High School here Monday at 7:30 p.m.

The meeting is being called to discuss information presented at a recent meeting of watershed directors, commissioners and SCS officials with the County Board of Supervisors.

All persons involved or interested in the watershed are urged to attend.

Messenger - Sept. 1964

Information Meet Held on Beaver Watershed Project

DAYTON — Eighteen land owners and tenants turned out Monday evening for an informative meeting of those persons involved in the Beaver Watershed southwest of here.

Discussion centered on the reclassification of land in the watershed, the method of assessment, damage claims and the construction procedure.

Answering most of the questions concerning the project was H. Andrew Schill, Webster County drainage attorney. Larry Heaton, Webster County work unit conservationist, also aided in the question and answer meeting.

The Beaver Watershed is the first of its kind in Iowa, since it is an all-drainage project. There are 25 farms involved in the 2,385-acre project.

Schill told the group that because the cost of the project is 50 per cent greater than the cost of the original tiling project, the land would have to be reclassified. However, the classification would follow the pattern of the original classification.

Assessments will be made on the basis of each 40-acre tract of land. This assessment can be made in one lump sum or over a period of up to 20 years. Schill said he felt it would probably extend over something like a 10-year period. Interest on the unpaid balance will be four per cent per year.

Assessment will be made on the total cost of the project, minus the federal aid (about 40 per cent). A three-man commission will determine the individual benefits and assessments.

After the work plan is presented to the board of supervisors, they will hold a public hearing. Any objections must be presented to the board in writing before the public hearing. Schill told the farmers they could get a rough idea of their assessment by using four times their assessment on the original \$21,000 project in 1908.

At the close of the meeting, Fred Dahlin, Boone, president of the Beaver Watershed directors, called for unity on the project, reminded the group of the strong sign-up at the beginning and said by waiting any longer the cost of construction would probably go up.

Leonard Swanson, Harcourt, vice president of the group, reminded them that each year's delay on the project might see the government stop aid to projects of this type.

Jens Rugaard, Dayton, president of the Webster County Soil Conservation commissioners, presided at the meeting.

Messenger - Oct. 1964

Schill said farmers could collect for crop damage, but that an easement for right-of-way would be obtained by the construction company. Heaton encouraged the farmers to put land along the tile line in diversified acres, so as not to have a crop on it next year.

Land owners will be given adequate time to move all fences in the path of the tile line. Most of the 36-inch main line will follow the path of the original line.

Schill told the group that after the board has approved the project, they would call for bids. All work would be given to one contractor and he will be responsible for labor, materials, etc.

An engineer will be on the job at all times, inspecting and approving the work done.

A question raised by one of the land owners as to the advantage of an open ditch in place of the 36-inch tile was answered by Heaton who reminded the group that this would cause another one or two year delay in the project, as well as adding the cost of maintaining the ditch after construction.

Schill said an open ditch would result in additional damage claims, especially the severance claims.

Monday, Sept. 13, 1965 ★ FORT DODGE MESSENGER ★ 5
A later edition delivered RFD Routes, Tuesday, September 14, 1965

In Dayton Township

To take bids on Beaver watershed Wednesday

Bids will be taken Wednesday by the Webster County Board of Supervisors for structural work on the Beaver Watershed Project located in Dayton township.

Larry Heaton, work unit conservationist, said work is expected to begin this fall.

Beaver Watershed was formally organized in April of 1963, with application for assistance submitted to the State Soil Conservation Committee at that time. The watershed was organized for the purpose of obtaining engineering and financial assistance and to provide tile drainage relief on the existing county main. The watershed will provide

adequate drainage outlets for all tures Some of the land treated the land in the 2,385 acres measurement measures already are being which includes all or part of tiling applied.

In addition to the conservation land treatment measures necessary to protect and improve the land and water resources of the watershed the project includes about seven miles of public tile drains.

Of the total cost of \$190,000, return \$7.70 in benefits for every dollar of project cost. Project sponsors are the Webster County Soil Conservation District and the Webster County Board of Supervisors. Federal assistance will be provided by the Soil Conservation Service of the U. S. Department of Agriculture.

Only one bid for watershed

Only one bid was submitted for structural work on the Beaver Watershed Project in Dayton township at Wednesday's Webster County Board of Supervisors meeting.

Cooper Construction Company of Fort Dodge submitted the bid in the amount of \$109,232.59.

Supervisors will study the bid and meet again Thursday to determine if they will accept it.

Let \$109,232 contract for drainage work

Members of the Webster County Board of Supervisors Tuesday let a contract for \$109,232 to the Cooper Construction Company of Fort Dodge for work in the Beaver Watershed in Dayton Township.

The contract was let at the amount of the construction firm's bid, which was opened a week ago. It includes tiling and other drainage work.

More than one-third of the cost of the project, which involves some 2,385 acres, will be paid by the federal government.

In another contract action, the board concurred with the state highway commission in awarding a \$59,451 contract to the Hanson Construction Company, Washington, Iowa, for culvert work on a county road just west of Kennedy Park. The cost of the work will be paid from farm to market funds.

9-13-65 9-13

9/22/65



—Messenger Photo

Begin Beaver tiling project

Work began Tuesday in Dayton Township on the Beaver Watershed project. Workmen here are getting ready to install

36 inch concrete relief mains. The project will be completed in 1966 at a cost of \$109,000 and will provide adequate drainage out-

lets for all the land in the 2,385 acres which includes all or part of 24 farms in the watershed.

In Dayton Township

Work begins on \$109,000 watershed

HARCOURT — The installation of a tile drainage relief main is now under way in the Beaver Watershed project located in Dayton Township of Webster County.

Beaver Watershed was organized by local landowners in April, 1963, under the P. L. (Public Law) 566, Watershed Protection and Flood Prevention Act of 1954. The application for

assistance submitted to the State Soil Conservation Committee was approved in June of 1963.

The development of a complete watershed work plan by the Soil Conservation Service was started in January and completed in July of 1964. Approval for construction was received from the State Office of the Soil Conservation Service in August of 1964.

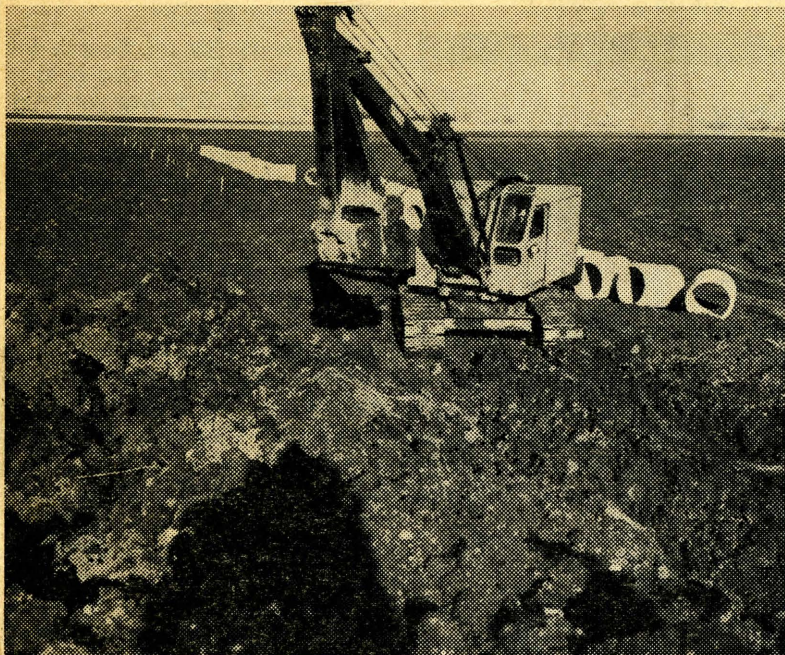
A bid for \$109,232.59 for materials and labor for drainage improvement by the Cooper Construction of Fort Dodge was accepted and approved by the Webster County Board of Supervisors in September. The project will be completed in 1966.

Beaver Watershed is the first of this type in the state of Iowa and is the result of the excellent cooperation between the

local landowners, county Board of Supervisors, the district, the State Soil Conservation Committee and the Soil Conservation Service.

Directors in the watershed are Fred Dahlin, chairman; Jack Peterson, secretary and Leonard Swanson. Co-sponsors are the Webster County Board of Supervisors and the Webster County Soil Conservation District.

Beaver Watershed project Started in Dayton Township



First of this Type in Iowa

The installation of a tile drainage relief main is now underway in the Beaver Watershed project located in Dayton Township, according to Jens Rugaard, Chairman, Webster County Soil Conservation District.

The watershed was organized by local landowners, in April, 1963 under the PL (Public Law) 566, Watershed Protection and Flood Prevention Act of 1954. The application for assistance submitted to the State Soil Conservation Committee was approved in June of 1963.

The development of a complete watershed work plan by the Soil Conservation Service was started in January and completed in July of 1964. Approval for construction was received from the State Office of the Soil Conservation Service in August of 1964.

Submitting of a bid for \$109,232.59 for materials and labor for drainage improvement by the Cooper Construction of Fort Dodge was accepted and approved by the Webster County Board of Supervisors in September of this year. The project will be completed in 1966.

Beaver Watershed is the first of this type in the State of Iowa, and is the result of the excellent cooperation between the local landowners, county board of supervisors, the district, the State Soil Conservation Committee and the Soil Conservation Service, said Rugaard.

Directors in the watershed are Fred Dahlin, Chairman; Jack Peterson, Secretary and Leonard Swanson. Co-sponsors are the Webster County Board of Supervisors and the Webster County Soil Conservation District.

Sept. - 1965 Take bids on X Beaver Watershed

Work on the Beaver Watershed Project located in Dayton Township is expected to get underway this fall according to Larry Heaton, work Unit conservationist.

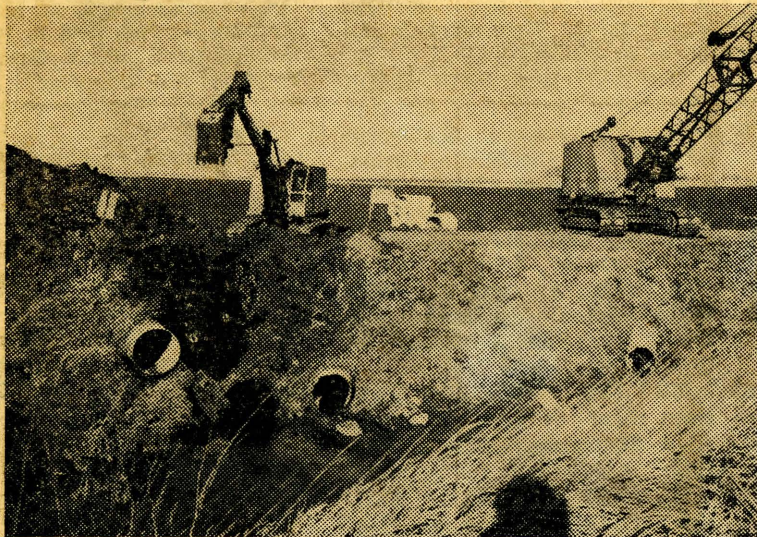
Bids for the project were taken Wednesday, September 15 by the Webster County Board of Supervisors for structural work.

The local watershed project was formed for the purpose of getting engineering and financial assistance to provide tile drainage relief on the present county main. The watershed will include all or parts of 24 farms and will provide drainage outlets for 2,385 acres. The watershed project was formed in April of 1963.

Cost of the Beaver Watershed Project is \$190,000. The federal contribution will be about \$70,000 with the local funds of \$120,000 will complete the project.

Sponsors of the project are Webster County Soil Conservation District and the Webster County Board of Supervisors.

Beaver Watershed Project Is Started



A backhoe and large crane are shown operating above as the installation of a tile drainage relief main is undertaken in connection with the Beaver Watershed project between Harcourt and Dayton. To be completed in 1966, the project was approved at a cost of \$109,232 by the Webster County Board of Supervisors in September.

With unusually good Autumn weather prevailing, work on the new Beaver Watershed project—the first of its kind in the state—is now progressing southeast of Harcourt.

According to Jens Rugaard, chairman of the Webster County Soil Conservation district, the installation of a tile drainage relief main is now underway on the project, which is expected to be completed in 1966.

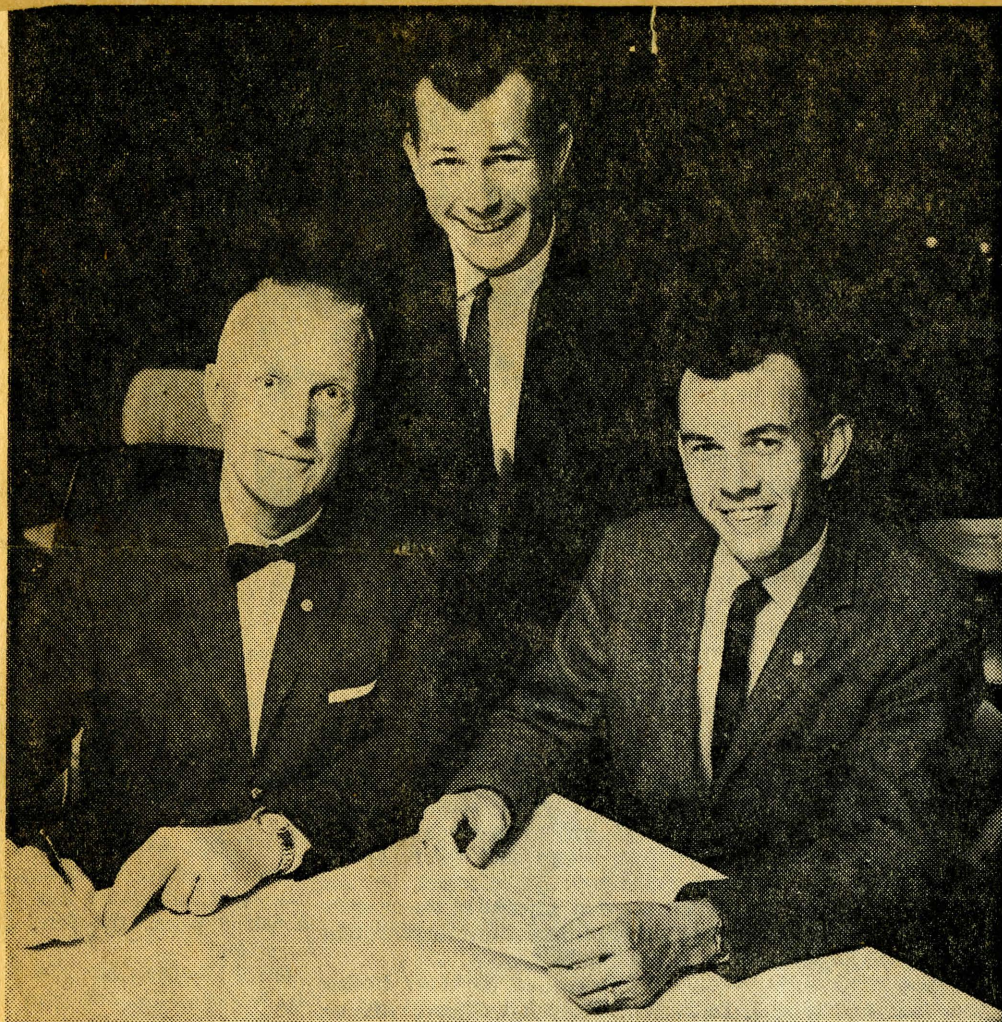
A low bid of \$109,232.59 for materials and labor for drainage improvement submitted by the Cooper Construction of Fort Dodge was accepted and approved by the Webster County Board of Supervisors in September of this year.

The development of a complete watershed work plan by the Soil Conservation service was started in January and completed in July 1964. Approval for construction was received from the state office of the SCS in August of 1964.

The watershed was organized by local landowners in April 1963 under Public Law 566, Watershed Protection and Flood Protection Act of 1954. The application for assistance submitted to the State Soil Conservation committee was approved in June 1963.

The first of its type in the State of Iowa, Beaver Watershed is the result of the excellent cooperation between local landowners, the county board of supervisors, the district, the State Soil Conservation committee and the Soil Conservation service, Rugaard said.

Directors in the watershed are Fred Dahlin, chairman; Jack Peterson, secretary, and Leonard Swanson. Co-sponsors are the Webster County Board of Supervisors and the Webster County Soil Conservation district.



—Messenger Photo

Sign agreement for Beaver Watershed

Larry Heaton, work unit conservationist, looks on as James Almquist, extension director who also serves as secretary for the Webster

County Soil Conservation District and Jens Rugaard of Dayton, chairman of the district, sign a maintenance and operation agreement for the Beaver Watershed Project. 9-17-65

PUBLIC NOTICE

Notice of Hearing on Drainage District No. 47, Proposed Establishment of Webster County, Iowa.

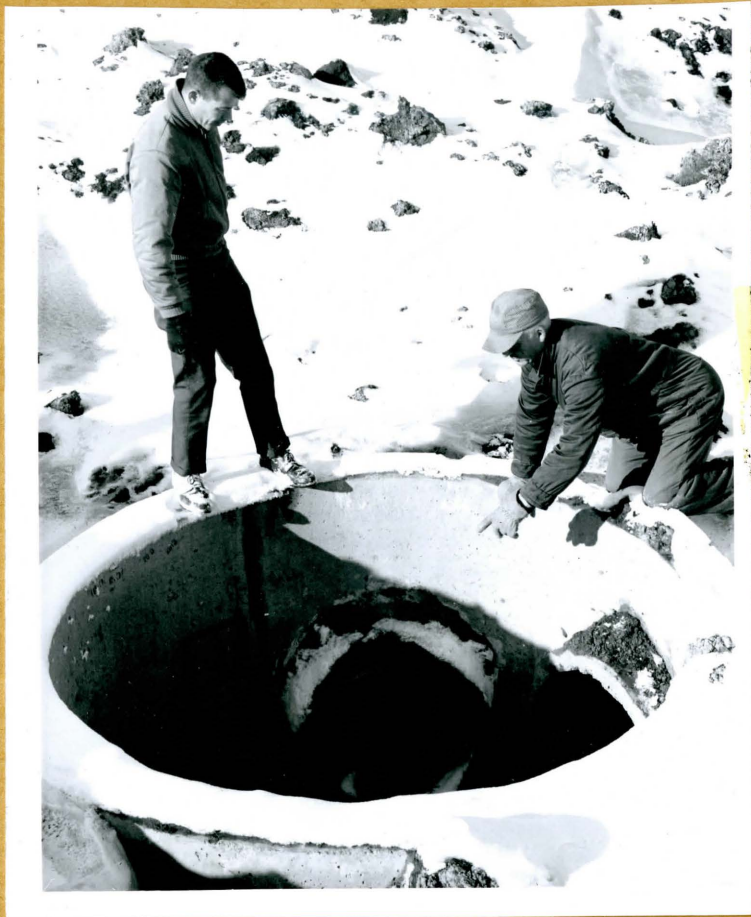
TO: Charles Hutchins, Frankie Hade, Cubbon Realty Co., C. August Anderson, Harold F. Johnson, J. W. Wilmers, John A. Peterson, C. A. Anderson, M. A. Anderson, Harold F. Johnson, Lloyd H. Swanson, Elmer V. Swanson, J. Wesley Swanson, Dwight W. Swanson, H. G. Carlson, Oscar T. Swanson, H. L. Bass, Warren A. Sayers, Mabel Sayers, Ralph C. Strand, Mabel T. Strand, J. Olger Strand, Ruth D. Strand, Fred E. Dahlin, J. P. Johnson, Lizzie Lindgren, Frank I. Johnson, Herman Nordeen, Esther B. Nordeen, Helen C. Anderson, Dorothy M. Lundquist, Margaret V. Stewart, Helge W. Thulin, F. E. Dahlin, Mildred Camelia Anderson, C. A. Anderson, J. W. Wilmers, John A. Peterson, Theodore Peterson, Georgia A. Peterson, E. C. Snively, Eva Snively, Delila L. Peterson, Esther C. Peterson, Edna L. E. Peterson, Anna Anderson, Ruben Walter Skoglund, Esther L. Skoglund, John Bjorkgren, Edward Burkgren, Martin J. Burkgren, Robert E. Carlson, Alice Carlson, R. W. Skoglund, Oliver R. Carlson, Webster County, and to all other persons to whom it may concern, including lien holders and the actual occupants of the land within said Drainage District.

You are hereby notified that the Webster County Board of Supervisors has entered into an agreement in advance with the Soil Conservation Service, U. S. Department of Agriculture, for the establishment, construction, improvement of Drainage District No. 47, Webster County, hereinafter also known as Beaver Watershed, and that the Board of Supervisors requested and appointed an engineer to report on the feasibility of the construction of said project; that said engineer's report is on file in the office of the Auditor of Webster County, Iowa, recommending the establishment of the district and construction of the repair and improvements in Drainage District No. 47. Said engineer's report was filed on the 11 day of January, 1965, recommending the establishment, repair and improvements to the drainage district, and that the Board of Supervisors on June 29th, 1965, did approve the report of the engineer and adopted the plan as tentative and said plan may be amended before final action.

For further particulars, see petition, reports and plans now on file in the office of the Auditor of Webster County, Iowa.

August 11, 1965, at 10:00 o'clock A. M. in the Webster County Courthouse, Fort Dodge, Iowa, has been set as the time and place for hearing on the petition, reports and plans affecting the said drainage district. All claims for damages, except claims for land required for right-of-way, and all objections for any reason, must be made in writing and filed in the Office of the County Auditor of Webster County before the time set for hearing, or at the time and place of hearing.

Charles A. Knudson
Webster County Auditor
(Pub. July 8, 15, 1965)





Beaver Watershed outlet

April 7, 1965

0861

Don Hamilton

Thom & Co. artist.

April 7, 1965

0861

April 1965

Taken from SW corner of Don Hamilton's farm, (Beaver Watershed) looking NW.

SE $\frac{1}{4}$, Sec 32. Dayton Twp. SRR