

UPPER HOCKING WATERSHED

Ohio

Revised
Work Plan
for
WATERSHED PROTECTION

Prepared by
Soil Conservation Service
United States Department of Agriculture
July 1958
(Revision of 1955 Plan)

Contents

Watershed Work Plan Agreement

Supplement to the Maintenance Agreement

	<u>Page</u>
Purpose of Revision	1
Summary of Revised Plan	1
Measures Primarily for Flood Prevention (A Measures)	2
Measures for Conservation of Water and Watershed Lands (B Measures)	3
Accomplishment of Plan	3

Tables

1. Estimated Installation Costs
- A Status of Private Costs

Figures -

Maps showing the following information on Structural measures (A Measures)

- 1 - Total Project
- 2 - Installed to date
- 3 - Remaining to be installed

WATERSHED WORK PLAN AGREEMENT
FOR UPPER HOCKING PILOT WATERSHED PROJECT

between the

Fairfield Soil Conservation District, Lancaster, Ohio
(hereinafter referred to as the Soil Conservation District)

The Hunter's Run Conservancy District, a legally organized
Conservancy District of the State of Ohio
(hereinafter referred to as the Conservancy District)

and the
Soil Conservation Service
United States Department of Agriculture
(hereinafter referred to as the Service)

Whereas, the Soil Conservation District and the Service have on March 29, 1954 entered into a memorandum of understanding for a cooperative arrangement in preparing a plan and installing works of improvement for the Upper Hocking Watershed, State of Ohio, under authority of the Soil Conservation Act of 1935 (Public Law No. 46 - 74th Congress) and the Department of Agriculture Appropriation Act, 1954 (Public Law 156, 83rd Congress); and

Whereas, the responsibility for the administration of portions of the Soil Conservation Act relating to the installation of works of improvement have been assigned by the Secretary of Agriculture to the Service; and

Whereas, the Soil Conservation District and the Conservancy District have entered into a memorandum of understanding dated December 1, 1952 relating to the planning and installation of said works of improvement; and

Whereas, there has been developed, through the cooperative efforts of the Soil Conservation District, the Conservancy District, and the Service, a plan for works of improvement for the Upper Hocking Watershed, State of Ohio, hereinafter referred to as the Watershed Work Plan, which plan has

been approved in the Court of Common Pleas, Fairfield County, Ohio, on May 25, 1954, in compliance with the statutes thereto applying; and

Whereas, it is the desire of the parties to this agreement that the Watershed Work Plan be revised to reflect changes in cost-sharing arrangements and to more fully define the responsibilities of the parties to this agreement;

Now, therefore, in view of the foregoing considerations, the Conservancy District, the Soil Conservation District and the Secretary of Agriculture, through the Service, hereby agree on the revisions in the Watershed Work Plan, and further agree that the works of improvement as set forth in said Plan will be installed by June 30, 1961 and will be operated and maintained substantially in accordance with the terms, conditions and stipulations provided for therein.

A. The parties hereto mutually agree that in installing, operating and maintaining the works of improvement described in the Watershed Work Plan:

1. The Work Plan will be revised and supplemented as soon as practicable to reflect the changes in this agreement. A copy of this agreement will be incorporated in and become a part of the Work Plan.
2. The estimated cost of structural measures to be paid for by the Federal Government and by the Non-Federal interests, including the Conservancy District, Soil Conservation District and private interests, are shown on the table

attached to and made a part of this agreement.

- a. The sum of the costs of the structural measures borne by non-Federal interests may exceed, but may not be less than 17.5% of the total cost of the structural measures, now estimated to be \$1,364,187. The terms "structural measures" includes all measures providing for flood prevention as described in the Watershed Work Plan. (A Measures)
 - b. Construction costs shown exclude costs of engineering services and costs of land, easements, and rights-of-way.
 - c. Engineering services include costs of surveys, design, preparation of plans and specifications, supervision of construction, and inspection during construction.
 - d. Costs of land, easements, rights-of-way include the cost of all land right instruments necessary and adequate to enter, construct, operate, maintain and inspect the works of improvement as contemplated in the Watershed Work Plan.
3. The costs shown in this agreement are estimates. In finally determining the cost to be borne by the parties hereto, the actual cost of structural measures will be used.
 4. The Watershed Work Plan may be amended or revised, and this agreement may be modified or terminated, only by mutual

agreement of the parties hereto.

5. The Conservancy District and the Soil Conservation District will hold the Federal Government free from any or all obligations to incur any cost for repair, reconstruction, operation or maintenance of any structural improvements after they have been officially turned over to the Conservancy District. Each unit of construction will be turned over to the Conservancy District as rapidly as it is completed in accordance with the applicable contract or contracts.
 6. This agreement does not constitute a financial document to serve as a basis for the obligation of Federal or Conservancy District funds. Financial and other assistance to be furnished by the Service and by the Conservancy District in carrying out the Watershed Work Plan are contingent on the appropriation of funds for this purpose .
 7. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.
- B. The Conservancy District will: -
1. Execute and furnish the Service, prior to the issuance of invitations to bid, a certification that the Conservancy District has acquired and recorded all necessary land rights.

In the event the Conservancy District exercises the power of eminent domain, said District will indicate on the certification the land rights necessary for the Project which are not covered by easements and agree that condemnation proceedings will be filed prior to the issuance of invitations to bid and a showing made in writing to the Service that such proceedings have been filed.

2. Accept full financial and all other responsibility for excess costs resulting from the Conservancy District's failure to obtain adequate land rights.
3. Arrange for and hold the Service free from costs for the removal, relocation or salvaging of all public utilities, buildings, roads, pipelines, fences, culverts, bridges, et cetera, which are not to be abandoned, and see that such arrangements are carried out in sufficient time to avoid interference with the contractor.
4. Acquire or provide assurance that landowners or water users have such water rights pursuant to State law as may be needed for the installation and operation of the works of improvement.
5. Approve all plans, designs and specifications prior to the awarding of contracts by action of the Conservancy District engineers or by said District's Board of Directors.
6. Be responsible for the operation and maintenance of the

structural works of improvement by actually performing the work or arranging for such work in accordance with maintenance agreement entered into by the Soil Conservation District and the Conservancy District on June 19, 1958, which maintenance agreement is made a part of this agreement.

7. Raise funds necessary for carrying out Conservancy District obligations for construction, operation and maintenance.

C. The Soil Conservation District will:

1. Cause non-Federal interests to bear the costs described as "private" costs for structural measures (A measures) in Table I of the Watershed Work Plan. Of such costs arising under contracts administered by the Service, any costs for subwatershed waterways and channel improvement in excess of the estimated amounts shown in Table I for these items will be borne by the Service up to an amount which will make the Service's share of the total cost of structural measures 82.5 per cent.
2. Obtain agreements from the owners of not less than 50% of the land above each of the floodwater retarding structures to carry out the conservation farm plans on their land.
3. Provide assistance to landowners and operators to assure the installation of the land treatment measures shown in

the Watershed Work Plan.

4. Encourage landowners and operators to operate and maintain the land treatment measures for the protection and improvement of the Watershed.
5. Incorporate in the Soil Conservation District Work Plan those portions of the Watershed Work Plan which directly concern the Soil Conservation District.

D. The Service will:

1. Provide all engineering services necessary for the construction of works of improvement as provided in the Work plan, prepare and issue invitations to bid, award contracts, and bear the cost of such contracts in an amount up to, but not exceeding 82.5%, of the total cost of structural measures, now estimated to be \$1,364,187.
2. Administer the contracts, inspect the work while in progress, and require contractors to comply with standard government procedures for construction of works of improvement.

The Hunter's Run Conservancy District

By: _____
Title _____
Date _____

This action authorized at an
official meeting of _____
on _____
day of _____, 19____,
at _____
State of _____,

Attest: _____
(Title)

Fairfield Soil Conservation District

By: _____
Title _____
Date _____

This action authorized at an
official meeting of _____
on _____
day of _____, 19____,
at _____
State of _____,

Attest: _____
(Title)

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

By: _____
Title _____
Date _____

Cost-Sharing of Structural Measures on Upper Hocking Pilot Watershed Project, Ohio

Items	Federal	Prior to Project Auth- orization	Non-Federal After Project Authoriza- tion to June 30, 1958	Obligations to be Incurred	Total	Total Project	Percent Non- Federal
Construction	\$894,547	\$33,170	-	\$54,450	\$87,620	\$982,167	
Engineering Services	218,072	-	-	-		218,072	
Land, Easements & Rights-of-Way	-	-	23,023	100,925	123,948	123,948	
Administration-Non-Federal	-	-		40,000	40,000	40,000	
Total - All costs	1,112,619	33,170	23,023	195,375	251,568	1,364,187	18.4

	<u>Construction Costs</u>	<u>Engineering Services</u>	<u>Land, Easements, and Rights-of-Way</u>
Floodwater-Retarding Structures	776,009	152,445	95,000
Sediment Control Structures	123,958	53,417	5,925
Subwatershed Waterways	7,280	3,960	--
Channel Improvements	41,750	8,250	--
Undistributed Cost to Date	--	--	23,023
	<u>948,997</u>	<u>218,072</u>	<u>123,948</u>
Total Cost After Authorization	948,997	218,072	123,948
Cost Prior to Authorization	<u>33,170</u>	<u>--</u>	<u>--</u>
Total cost	982,167	218,072	123,948

SUPPLEMENT
to the
MAINTENANCE AGREEMENT
for
Upper Hocking Watershed Project
between
Fairfield Soil Conservation District
and
Hunters Run Conservancy District

The Hunters Run Conservancy District hereby agrees to carry out the maintenance requirements as outlined in this agreement.

This maintenance agreement will encompass all those works of improvement described in the amended Hunters Run Conservancy District Official Plan as (1) Major floodwater retarding structures, (2) Stabilizing and sediment control structures, (3) Subwatershed waterway improvement, and, (4) Stream channel improvement. In addition to the maintenance on the stream channels that are improved in accordance with the Official Plan, the Conservancy District will maintain all major stream channels which have a drainage area in excess of one square mile.

Since it is anticipated that these works of improvement will be completed over a period of years, this Agreement will be further supplemented by letters from the Fairfield Soil Conservation District to the Conservancy District. These letters will list the works of improvement as they are completed and responsibility for maintenance is to be assumed by the Conservancy District upon acknowledgment of the letters.

INSPECTIONS

When - Inspections of all works of improvement will be made yearly during the month of July for the purpose of determining maintenance requirements. In addition to the annual inspection, an inspection will be made after each major flood.

By Whom - The inspections will be made by a representative of the Conservancy District and a supervisor of the Fairfield Soil Conservation District. The State Conservationist of the Soil Conservation Service will be requested to designate a representative to participate in these inspections.

Report of Inspections - The Conservancy District will prepare and maintain a record of the maintenance inspections and actions taken. These records should be available at all times during business hours for review by the Soil Conservation District and by the Soil Conservation Service.

Items of Inspection -

- a. Major floodwater retarding structures and stabilizing and sediment control structures
 1. Condition of vegetation, including adequacy of protective cover and presence of undesirable vegetation such as weeds, brush or annual grasses.
 2. Rodent damage.
 3. Erosion damage to embankments, vegetative spillways and waterways, and damage around inlets and outlets of spillways and outlet channels below the outlets.
 4. Accumulation of debris around trash racks, in the impoundment areas or in spillways.
 5. Condition of concrete.
 6. Condition of trash racks, guard rails and protective fences.
 7. Any other items which might retard the full effectiveness of the structure.

- b. Subwatershed waterway improvement and channel improvement
 - 1. Condition of vegetation, including adequacy of protective cover and presence of undesirable vegetation such as weeds, brush or annual grasses.
 - 2. Erosion damage to stream banks.
 - 3. Accumulation of debris and presence of sand or silt bars.

MAINTENANCE

- a. The Hunters Run Conservancy District agrees to maintain and keep in good repair the works of improvement named in this Agreement and listed in letters supplementing it. Any damage or unfavorable or undesirable conditions found in the inspections will be repaired or corrected.
- b. On the major floodwater retarding structures the major items of maintenance will be:
 - 1. Replacement or repair of earth fills or spillways due to erosion or other damage.
 - 2. Maintenance of good protective cover on fills and spillways by replacing or repairing damage to sod or seedings and by periodic mowing, spraying or otherwise removing undesirable plants, weeds and brush.
 - 3. Removal of debris from trash racks, spillways and impoundment areas.
 - 4. Repair of any damage to concrete, trash racks, guard rails and protective fences.
- c. Landowners have signed or will sign installation permits and maintenance agreements whereby they agree to carry out normal maintenance items on the stabilizing and sediment control structures,

the subwatershed waterway improvement and the channel improvement work, including but not limited to,

1. Control of undesirable weed and plant growth, including trees and brush on fill embankments, emergency spillways and on channel banks by mowing, spraying or other accepted methods.
2. Removal of debris within the impoundment areas which might cause clogging of spillways.
3. Removal of debris and silt bars which may cause clogging of stream channels.

Normally the maintenance required from the Conservancy District on these improvements will be replacing or repairing eroded banks and advising landowners of their maintenance obligations.

ESTIMATED ANNUAL COSTS

Maintenance costs are based on a percentage of the estimated construction costs. These percentage figures are as follows:

Floodwater retarding structures -	$\frac{1}{4}$ of 1% or	\$2,100
Stabilizing and sediment control structures-	$\frac{1}{4}$ of 1% or	200
Subwatershed waterway improvement -	5% or	980
Channel improvement -	3% or	<u>700</u>
Average Annual Costs -	Total	\$3,980

The annual maintenance costs of approximately \$1,000 for soil conservation practices, cooperative fire control and forestry plantings is anticipated to be a contribution of private individuals and other organizations such as local fire departments.

TYPE OF EQUIPMENT USED

This will be based upon the type of damages that occur. The type of equipment used will be mutually agreed upon by the representative from the Conservancy District and the Soil Conservation District.

CONTRACTUAL METHODS USED

Where maintenance work requires the use of heavy machinery for earth work or concrete work, the Conservancy District will contract to complete the work in accordance with Soil Conservation Service specifications or the specifications of any Conservancy District engineers.

SECURING OF NECESSARY FUNDS

This will be done in accordance with limitations as outlined in Section 6101.53 R. C. of the Ohio Conservancy Act.

RIGHT OF INGRESS AND EGRESS

The parties hereto agree that government representatives concerned with or interested in the maintenance of the works of improvement shall have full access to such works of improvement for inspection purposes as they may deem necessary and proper.

It is further agreed that the Government has possession of all gauges and recording instruments and the utilities for such equipment, and that the Government reserves the right to recover, add to, or alter this equipment at any time.

Signed:

Date 6-19-58

Hunters Run Conservancy District

(Signed) Edward Wells
Chairman

(Signed) James S. Peterson
Secretary

Date June 19, 1958

Fairfield Soil Conservation District

(Signed) R. C. Riegel
Chairman

(Signed) George E. Baker
Secretary

UPPER HOCKING WATERSHED
Fairfield County Ohio
Revised
WORK PLAN
for
Watershed Protection
July 1958

Purpose of Revision:

This revision of the Work Plan is prepared to more fully explain the Watershed Work Plan Agreement dated July 1958, copy of which is attached hereto. This revision does not nullify all provisions of the original Work Plan. Those items not mentioned in this revision are essentially the same, such as benefits, damages and watershed problems.

Summary of Revised Plan:

This plan is designed for watershed protection. The plan consists of two types of measures. The structural measures (A measures) are defined ^{as} works of improvements which contribute to reduction of floodwater and sediment damages and meet one or both of the following conditions: (1) produce benefits that are primarily "off-site", that is, not accruing to the landowners on whose land they are installed, and (2) require group or agency action for installation. These measures include, floodwater retarding structures, stabilizing control structures, sub-watershed waterway improvements and stream channel improvement.

B measures are defined as those measures installed primarily to reduce runoff and soil erosion. The benefits from these measures accrue primarily to the landowners on which they are installed and installation costs are borne by the landowners.

The Supplemental Maintenance Agreement attached hereto, explains the provisions and procedures for carrying out the maintenance requirements for said works of improvement.

Measures Primarily for Flood Prevention
(A Measures)

The quantities and installation costs of these measures are summarized in attached Table I's. The locations of these measures is shown in Figures 1, 2, and 3.

Floodwater Retarding Structures:-

The system of 8 major floodwater retarding structures is designed for the purposes of protecting land from inundation by providing temporary storage for runoff from approximately 50 per cent of the watershed. The structures are earthen dams with fixed drawdown tubes of concrete construction. The installation costs includes cost of seeding and sodding all scalped surfaces and land restoration as needed. The estimated cost of these structures is \$1,081,504.

Stabilizing Control Structures:-

There are 24 such planned for purposes of protecting existing or newly developed waterways from erosion and sedimentation. The structures are earthen fills with fixed drawdown tubes of corrugated metal pipe construction. The estimated cost of these structures is \$188,416.

Subwatershed Waterway Improvements:-

There is 2.2 miles of subwatershed waterways which need stabilizing for purposes of reducing soil loss and land destruction by means of shaping, sodding or seeding. The estimated cost is \$11,785.

Stream Channel Improvement:-

The 9.5 miles of stream channel improvement is needed to prevent degradation of stream channels, reduce cutting of stream banks thereby reducing sedimentation, and the reduction of land destroyed. This work consists mainly of slight channel changes, bank sloping and seeding. The estimated cost is \$82,482.

Measures for Conservation of Water and Watershed Lands
(B Measures)

These measures have been or will be installed on the watershed land in conformity with attached agreements. These measures include (1) land use adjustments, (2) strip cropping, (3) terrace outlets, (4) terraces, (5) farm waterways, (6) pasture seeding, (7) wildlife area establishment, (8) field diversions and (9) tree planting. Reference is made to the original Work Plan, since there is no change in the land treatment program as a result of the new agreement.

Accomplishment of the Plan

The attached Table I's indicates the schedule of operations and cost sharing which the cooperating parties have agreed should be followed to achieve the most efficient prosecution of the work.

As prescribed in the Watershed Work Plan Agreement the Conservancy District will provide or cause to be provided easements for all structural measures as defined in this revised plan at no cost to the Federal Government. This estimated cost is \$123,948 of which only 95,000 needs to be paid for from assessments. In order to administer these and other costs the Conservancy District agrees to raise \$40,000. This total of \$135,000

74.

constitutes the amount of money to be raised by assessments exclusive of the 1/9 contingency required by Ohio Conservancy Law. The \$33,170 spent by non federal before project authorization and \$23,023 since project authorization are used in cost sharing determination but are not a part of obligations to be incurred.

The Federal government agrees to pay all construction costs for structural measures within the 82.5% limitations as defined in the Watershed Work Plan agreement including administration costs of all contracts.

The only remaining costs on structural measures are the private costs as outlined in the attached Table A. The construction costs contributions for Federal Contracts of \$6080 for stream channel improvements will be by Trust Fund agreement between the landowner and the Fairfield Soil Conservation District. This fund is in turn transferred to the Soil Conservation Service. The \$8750 for clearing and grubbing trees on stream channel improvement may or may not be by Trust Fund. If the landowners so desire they can do this work with their own labors, which must be done before the advertising of contracts. All other costs shown on this table are borne by landowners, county, State of Ohio and utility companies. These may or may not be cash transactions depending upon the situations. Normally it will be a credit for a service performed based upon the estimated costs. The landowners will pay all construction costs for subwatershed waterway improvements, also fencing and seeding on stabilizing control structures. The county commissioners and township trustees will pay all costs of road resurfacing, guard rails, et cetera, in connection with floodwater retarding structures. Although not in writing the utilities

companies have agreed to relocate their facilities as required at an estimated cost of \$5300. In accordance with Section B-3 of the Watershed Work Plan Agreement the Conservancy District agrees to pay any costs in excess of this amount.

The cost of \$12,688 for relocation of rights-of-ways will be borne by Ohio Division of Wildlife as the floodwater retarding structure sites are purchased for public hunting and fishing areas. Other Federal costs but not included in cost-sharing computations are: (1) The technical services cost for installation of land treatment (B Measures), (2) Costs for evaluating the effects of the program and facilitating costs.

TABLE IA
INSTALLATION COST

Project: Upper Hocking

State: Ohio

Total Project Costs

Date July 1958

Structural Measures Measures Primarily for Flood Prevention Soil Conservation Service	Unit	No. to be Applied	Estimated Cost				Total
			Federal		Non- Federal Public	Private	
			Construction	Engineering Services			
Floodwater Retarding Structure	Number	8 <u>1/</u>	749,671	152,445	143,700	35,688	1,081,504
Stabilizing Control Structure	Number	24 <u>2/</u>	118,031	53,417		16,968	188,416
Subwatershed Waterway	Mile	2.2 <u>3/</u>		3,960		7,825	11,785
Stream Channel Improve- ment	Mile	9.5 <u>4/</u>	<u>26,845</u>	<u>8,250</u>	20,000	27,387	82,482
Subtotal			894,547	218,072			
Total			1,112,619		163,700	87,868	1,364,187

1/ Structures 1,2,3,4,5,6,8&9

2/ A,B,R-3,~~3~~-4, R-6, R-7, R-13, R-14, R-15, R-18, R-21, R-23, R-25, R-32, R-33, R-37, R-41, R-42, R-46, R-47, R-57, R-61, R-63, R-65

3/ Reaches WI-A, WI-1, WI-2, WI-3, WI-4, WI-5, WI-6, WI-7

4/ Reaches C-a, C-b, C-1, C-2, C-3, C-4, C-5, C-6 & C-7

Project: Upper Hocking
 State: Ohio

E I
 INSTALLATION COST
 Project Costs - To Date

Date July 1958

Structural Measures	Unit	No. Applied	Actual Cost			
			Federal	Non-Federal Public	Private	Total
Measures Primarily for Flood Prevention Soil Conservation Service			Construction	Engineering Services		
Floodwater Retarding Structure	No.	2 <u>1/</u> 6 <u>2/</u>	148,019	3,865 <u>54,693</u>	8,700	9,350 <u>169,934</u> <u>54,693</u>
Subtotal			148,019	58,558	8,700	9,350 <u>224,627</u>
Stabilizing Control Structure	No.	2 <u>3/</u> 7 <u>3/</u> 15	29,084	11,480 <u>10,101</u>	3,000 2,116	3,000 42,680 <u>10,101</u>
Subtotal			29,084	21,581	5,116	55,781
Subwatershed Waterway	Mi.	0.2 <u>4/</u> 0.1 <u>4/</u> 0.3		90 <u>90</u>	170 300 470	170 390 560
Subtotal						
Stream Channel Imp.	Mi.	4.00 1.02 5.02 <u>5/</u>	5,039 <u>5,039</u>	2,649 <u>2,649</u>	20,000 10,000 2,557 12,557	30,000 10,245 40,245
Subtotal						
Total			182,142	82,878	28,700	27,493 321,213

1/ Structures Nos. 1 and 2

2/ Structures Nos. 3, 4, 5, 6, 8 and 9

3/ A & B - Prior to project authorization: R-3, S-4, R-6, R-7, R-13, R-14, & R-15 - After project authorization

4/ 0.2 Mile prior to project authorization; 0.1 mile after project authorization

5/ 4 miles prior to project authorization; 1.02 after project authorization

TABLE IC
INSTALLATION COST

Project: Upper Hocking

State: Ohio

For Total Remaining Project Costs

Date July 1958

MEASURES	Unit	No. to be Applied	Estimated Cost				Total
			Federal		Non- Federal Public	Private	
A-Measures Primarily for Flood Prevention			Construction	Engineering Services			
Soil Conservation Service							
Floodwater Retarding Structure	Number	6 <u>1/</u>	601,672	93,887	135,000 <u>3/</u>	26,338	856,877
Stabilizing Control Structure	Number	15 <u>2/</u>	88,947	31,836		11,852	132,635
Subwatershed Waterways	Mile	1.9 <u>4/</u>		3,870		7,355	11,225
Stream Channel Improve- ment	Mile	4.48 <u>5/</u>	21,806	5,601		14,830	42,237
SCS-Subtotal			712,405	135,194	135,000	60,375	1,042,974
			Federal		Non- Federal Public	Private	Total
B-Measures - for conservation of watershed lands that contribute directly to flood prevention-							
Soil Conservation Service			10,333			86,169	96,502
Forest Service						1,172	1,172
Facilitating Measures							
Program Evaluation SCS			7,119				7,119
GRAND TOTAL WATERSHED PROTECTION			865,051		135,000	147,716	1,147,767

1/ Structures 3,4,5,6,8&9

2/ R-18, R-21, R-23, R-25, R-32, R-33, R-37, R-41, R-42, R-46, R-47, R-57, R-61, R-63, R-65

3/ Includes 40,000 administration - Non Federal

4/ Reaches WI-2, WI-3, WI-4, WI-5, WI-6, WI-7

5/ Reaches C-1, C-4, C-6, C-7

Project: Upper HockingTABLE I
INSTALLATION COSTState: Ohio

For Fiscal Year 1959

Date July 1958

Measures	Unit	No. to be Applied	Estimated Cost				Total
			Federal		Non-Federal Public	Private	
A-Measures Primarily for Flood Prevention Soil Conservation Service			Construction	Engineering Services			
Floodwater Retarding Structure	Number	4 <u>2/</u> 2 <u>3/</u>	420,120	51,152 4,000		23,338	494,610 4,000
Subtotal			420,120	55,152	110,000 <u>5/</u>		498,610 110,000
Stabilizing Control Structure	Number	15 <u>4/</u>	80,052	15,918		11,852	107,822
Subwatershed Waterways	Mile	None					
Stream Channel Improvement	Mile	None					
SCS-Subtotal			500,172	71,070 <u>1/</u>	110,000	35,190	716,432
B-Measures - for conservation of watershed lands that contribute directly to flood prevention					Non-Federal Public	Private	Total
			Federal				
Soil Conservation Service			5,700			34,595	40,295
Forest Service						641	641
Facilitating Measures							
Program Evaluation SCS			7,119				7,119
GRAND TOTAL (WATERSHED PROTECTION FUNDS)			584,061		110,000	70,426	764,487

1/ Includes \$12,000 estimated assistance from ESWP Unit2/ Structure Nos. 3, 4, 8 and 93/ Structures Nos. 5 and 64/ Structures R-18, R-21, R-23, R-25, R-32, R-33, R-37, R-41, R-42, R-46, R-47, R-57, R-61, R-63, R-655/ Includes 15,000 for Non Federal Administration

TABLE 1
INSTALLATION COST

Project: Upper Hocking

State: Ohio

For Fiscal Year 1960

Date July 1958

Measures	Unit	No. to be Applied	Estimated Cost					
			Federal			Non- Federal Public	Private	Total
			Const.	Contig.	Eng. Service			
A-Measures Primarily for Flood Prevention								
Soil Conservation Service								
Floodwater Retarding Structure	Number	4 <u>2</u> / 2 <u>3</u> /		46,345	25,585			71,930
			121,387		4,000		3,000	128,387
Subtotal			121,387	46,345	29,585		3,000	200,317
Stabilizing Control Structure	Number	15 <u>4</u> /		8,895	15,918	10,000		10,000
Subwatershed Waterways	Mile	1.9 <u>5</u> /			2,870		7,355	24,813
Stream Channel Improve- ment	Mile	4.48 <u>6</u> /	19,806		4,101		14,830	10,225
SCS-Subtotal			141,193	55,240	52,474 <u>1</u> /	10,000	25,185	38,737
								284,092
B-Measures - for conservation of watershed lands that contribute directly to flood prevention						Non- Federal Public	Private	Total
Soil Conservation Service							51,573	56,206
Forest Service							531	531
GRAND TOTAL (WATERSHED PROTECTION FUNDS)						10,000	77,289	340,829

1/ Includes \$8,000 estimated assistance from E&WP Unit

2/ Structures Nos. 3, 4, 8 and 9

3/ Structures Nos. 5 and 6

4/ Structures Nos. R-18, R-21, R-23, R-25, R-32, R-33, R-37, R-41, R-42, R-47, R-57, R-61, R-63 and R-65

5/ Reaches Nos. WI-2, WI-3, WI-4, WI-5, WI-6 and WI-7

6/ Reaches Nos. C-1, C-4, C-6 and C-7

1/ Includes \$8,000 estimated assistance from E&WP Unit

2/ Structures Nos. 3, 4, 8 and 9

3/ Structures Nos. 5 and 6

4/ Structures Nos. R-18, R-21, R-23, R-25, R-32, R-33, R-37, R-41, R-42, R-47, R-57, R-61, R-63 and R-65

5/ Reaches Nos. WI-2, WI-3, WI-4, WI-5, WI-6 and WI-7

6/ Reaches Nos. C-1, C-4, C-6 and C-7

TABLE 1
INSTALLATION COST

Project: Upper Hocking

State: Ohio

For Fiscal Year 1961

Date July 1958

Measures	Unit	No. to be Applied	Estimated Cost					
			Federal			Non- Federal Public	Private	Total
			<u>Const.</u>	<u>Contig.</u>	<u>Eng. Services</u>			
A-Measures Primarily for Flood Prevention								
Soil Conservation Service								
Floodwater Retarding Structure	Number	2 <u>2</u> /		13,820	9,150	15,000		37,970
Subwatershed Waterways	Mile	1.9 <u>3</u> /			1,000			1,000
Stream Channel Improve- ment	Mile	4.48 <u>4</u> /		2,000	1,500			3,500
SCS-Subtotal				15,820	11,650 <u>1</u> /	15,000		42,470
						Non- Federal Public	Private	Total
B-Measures - for conservation of watershed lands that contribute directly to flood prevention								
Soil Conservation Service						?	?	
GRAND TOTAL WATERSHED PROTECTION						27,470	15,000	42,470
<u>1</u> / Includes \$1000 estimated assistance from E&WP Unit								
<u>2</u> / Structures Nos. 5 and 6								
<u>3</u> / Reaches WI-2, WI-3, WI-4, WI-5, WI-6, WI-7								
<u>4</u> / Reaches C-1, C-4, C-6, C-7								

1/ Includes \$1000 estimated assistance from E&WP Unit

2/ Structures Nos. 5 and 6

3/ Reaches WI-2, WI-3, WI-4, WI-5, WI-6, WI-7

4/ Reaches C-1, C-4, C-6, C-7

[illegible]

1/ By trust fund

Insert in this space
map showing proposed structural measures.

Figure 1 - Total Project - Structural Measures

Figure 2 - Structural Measures Installed to date.

Figure 3 - Structural Measures Remaining to
be installed.

