



May 2015

The Army Corps of Engineers: Helping Prevent Great Floods during the Great Depression

The New Deal brought a wave of government programs, including agencies to assist in flood control.

The 1930s ushered in what seemed to be endless misfortunes and tragedies. In addition to the countless Americans trying to survive the Great Depression with little work to be found, the seeds of war began permeating Europe. And at home, Mother Nature wreaked havoc.

It's ironic that the Dust Bowl which effected sections of the nation was caused, in part, by drought, while in other areas there was great concern about flooding. The Corps of Engineers (COE), however, worked to improve flood control through the construction and maintenance of locks and dams.

Another benefit of the major projects during the 1930s was jobs for thousands of laborers. The COE, under the auspices of the War Department, fought against unemployment. The Corps was one of the agencies employing people with its numerous projects during the depression era.

According to the 1992 book *The Ohio River Division U.S. Army Corps of Engineers: The History of a Central Command* by Leland R. Johnson, in 1933 the Roosevelt administration allotted \$340 million to the COE for civil works projects, and about \$60 million was specifically for the Ohio River Division. With its main office in Cincinnati, the division included other cities such as Pittsburgh and Nashville, along with the states of Ohio and Indiana.

It was important to have funding during this time because floods were always a concern. In a memo from 1936, discussing one of the instances of the Ohio River flooding, J.D. Arthur, Jr., a Lieutenant Colonel in the COE, wrote, "Unfortunately, once the conditions which cause great floods

Page 1: The Army Corps of Engineers: Helping Prevent Great Floods during the Great Depression

Page 9: National Archives at Chicago welcomes new employees

Page 9: The National Archives at Chicago Workshops for 2015

The National Archives is closed on Monday, May 25, 2015 in recognition of Memorial Day.

The National Archives at Chicago is located at:

**7358 S. Pulaski Road
Chicago, IL 60629-5898
773-948-9001
chicago.archives@nara.gov**

The National Archives at Chicago research rooms are open to the public Monday through Friday, and the second Saturday of every month, from 8:00 AM to 4:15 PM.



occur, there is little that man can do except protect as best he can life and property, and secure data on the flood for future use in planning against their repetition.”

Most of the records in the National Archives from the Army Corps of Engineers are found in Record Group 77, Records of the Office of the Chief of Engineers. The National Archives at Chicago has more than 2800 cubic feet of records dating back to the 1830s from this record group. The holdings in Chicago cover a wide variety of activities by the COE on the Great Lakes as well as many of the navigable waterways of the region. One series in these holdings, “Administrative Files Relating to Projects Undertaken within the Guidelines of the Emergency Relief Appropriation Act of 1935,” contains over four cubic feet of records from the COE’s Ohio River Division from 1935 to 1943 and sheds light not only on how the COE helped to minimize flooding but also to employ more people.

One memo found in this series shows how the COE was aware of the importance of getting citizens to work during tough economic times. Lt. Col. Arthur wrote about the progress in the construction of the Muskingum Watershed Conservancy District project in Ohio. The Muskingum River, which ultimately flows into the Ohio River at Marietta, had some reservoirs and dams constructed to help with flood control as well as aid in water conservation.

Tentative minimum wage rates for contemplated construction contracts
under Emergency Relief Appropriation Act 1935
(These wage rates have not as yet been approved by Division Engr.)

Cincinnati District

Lock and Dam Construction

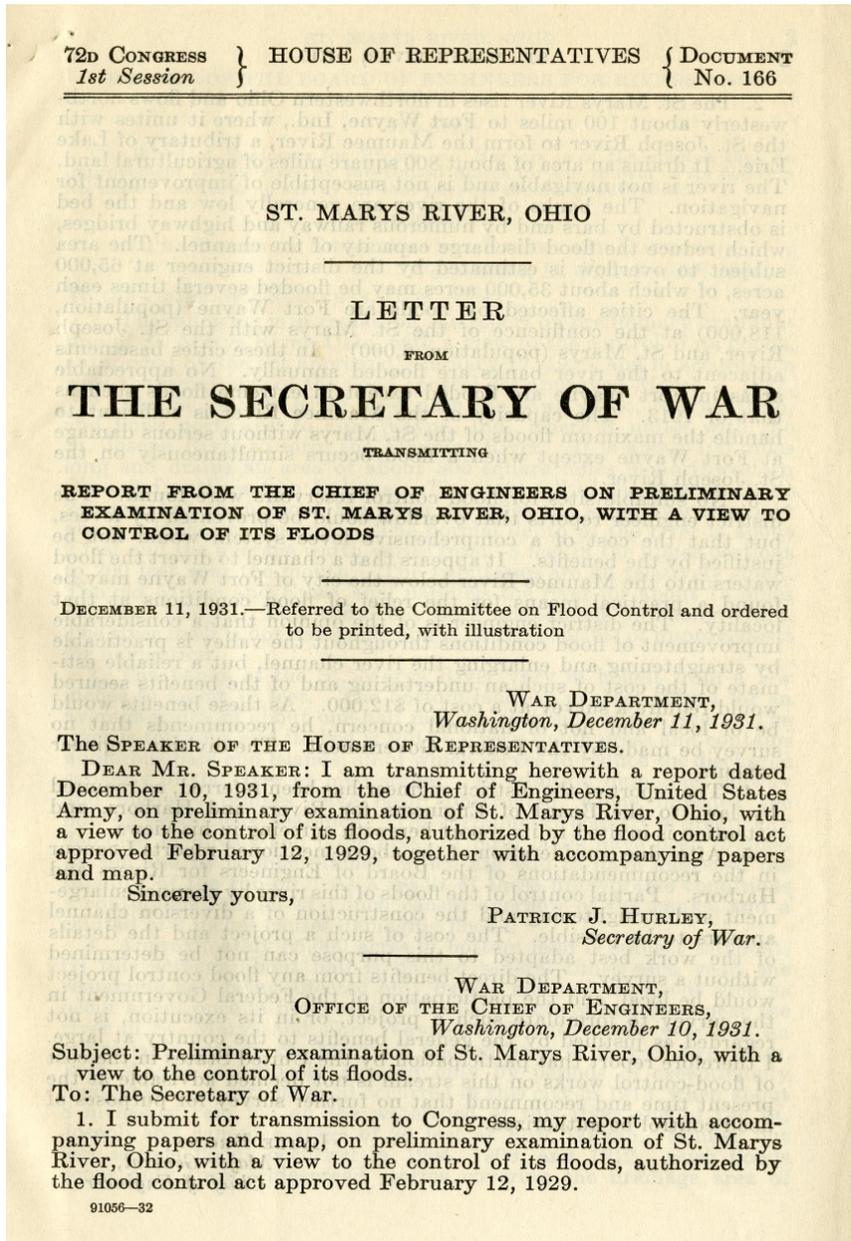
Designation	SKILLED WORK			
	Cincinnati Hamilton Co., Ohio	Portsmouth Scioto Co., Ohio	Manchester Adams Co., Ohio	Dam 38, Boone Co. Kentucky.
Blacksmiths	.75	.70	.50	.45
Blasters (expert)	.70	.65	.60	.50
Boilermakers	.90	.80	.70	.60
Bricklayers	1.00	.95	.70	.50
Bridgemen	.90	.80	.70	.60
Calkers	.70	.65	.60	.55
Carpenters	.75	.70	.65	.45
Concrete finishers	.70	.60	.45	.35
Electricians	1.00	.95	.80	.70
Engineers, operating, of				
Core Drills	.80	.70	.60	.50
Cranes	.90	.80	.70	.60
Derricks	.90	.80	.70	.60
Derrick boats	.90	.80	.70	.60
Draglines	.90	.80	.70	.60
Dredges	.90	.80	.70	.60
Hoists	.80	.50	.45	.40
File drivers	.80	.60	.50	.45
Shovels	.80	.70	.50	.50
Stationery engines	.80	.60	.50	.40
Iron workers	1.25	1.20	.80	.70
Lather	1.00	.95	.80	.70
Machinists	.80	.70	.60	.50
Millwrights	.75	.65	.55	.45
Painters	.75	.65	.50	.40
Plasterers	1.00	.95	.80	.70

Arthur’s memo from April 1936 said the project was 35% complete and expenses to that time were more than \$7.5 million. “Of this expenditure, pay rolls of the United States and the various contractors amounted to \$3,484,226; and a total of 4,796,546 man-hours of employment have been provided. The United States and the contractors have purchased from Ohio firms alone materials, such as cement, structural steel, etc., and construction equipment of all varieties, to the amount of \$3,073,340.” This detailed accounting of money and manpower was important to justify what the government was doing with taxpayer dollars.

The variety of jobs needed for the projects is quite impressive. One of the detailed lists in the collection include all the skilled and unskilled workers needed for projects including lock and dam construction, dredges and floating plant, dike and revetment work, and railroad construction.

The first of seven pages listing all the skilled and unskilled workers needed along with pay rates in different areas in Ohio

Also interesting to note are the types of engineers needed to operate various machines such as derricks, pile drivers, and draglines. Although by today's standards the wages were very low, most people were probably grateful to have income at all.



Of course to get the projects underway, there had to be meetings, forms, and approvals. Different areas of the government were involved during this process. For instance, in 1931, the Secretary of War, Patrick Hurley, submitted the report from the COE about the floods near St. Marys River in Ohio.

Secretary of War's 1931 report to Congress regarding flooding in Ohio

As evidenced by the August 1938 memo, the Works Progress Administration (WPA), in conjunction with the COE, was constructing "small earth filled dams with run-around spillways" to control drainage. But to highlight a main goal of the WPA, it says, "This program of the dam construction is being fostered by the Works Program Administration for the sole purpose of putting to work numerous unemployed in the rural areas and to further the conservation program in the State of Indiana."

WAR DEPARTMENT
UNITED STATES ENGINEER OFFICE
LOUISVILLE, KY.

August 24, 1938

Subject: Spillway Capacities for Small Works Progress Administration Earth Dams.

To: The Division Engineer, Ohio River Division, Cincinnati, Ohio.

1. The Works Progress Administration of the State of Indiana is now undertaking an extensive program involving the construction of numerous small earth filled dams with run-around spillways. In the majority of cases, these dams control drainage areas of 1 to 2 square miles in extent, with a few as large as 12 to 14 square miles in area. The pools impounded behind these dams are correspondingly small, ranging from a few acres in size up to as much as 21 acres. In practically all cases there are no developed areas below the dams, and no property of any appreciable value which would be damaged in case of failure of the dams themselves. This program of the dam construction is being fostered by the Works Progress Administration for the sole purpose of putting to work numerous unemployed in the rural areas and to further the conservation program in the State of Indiana.

2. The plans of a number of these dams have already been submitted to this office for clearance. In general, the spillway capacities provided under these plans will carry a flow of approximately 1,000 c.f.s. per square mile of drainage area with a design surcharge of about 2 feet. These capacities average 2 to 3 times the amount provided for in numerous small dams which have already been constructed without the clearance of this Department. A table, showing the general characteristics of dams over 15 feet in height, the plans of which have been submitted to this office, is attached hereto.

3. The state officials of the Works Progress Administration have informed this office that they desire to hold the spillway capacities provided for these dams to a minimum consistent with sound engineering and sound economics for the following reasons:

a. A large spillway requires a cost to the sponsor for materials entirely out of proportion to the value and cost of the dam.

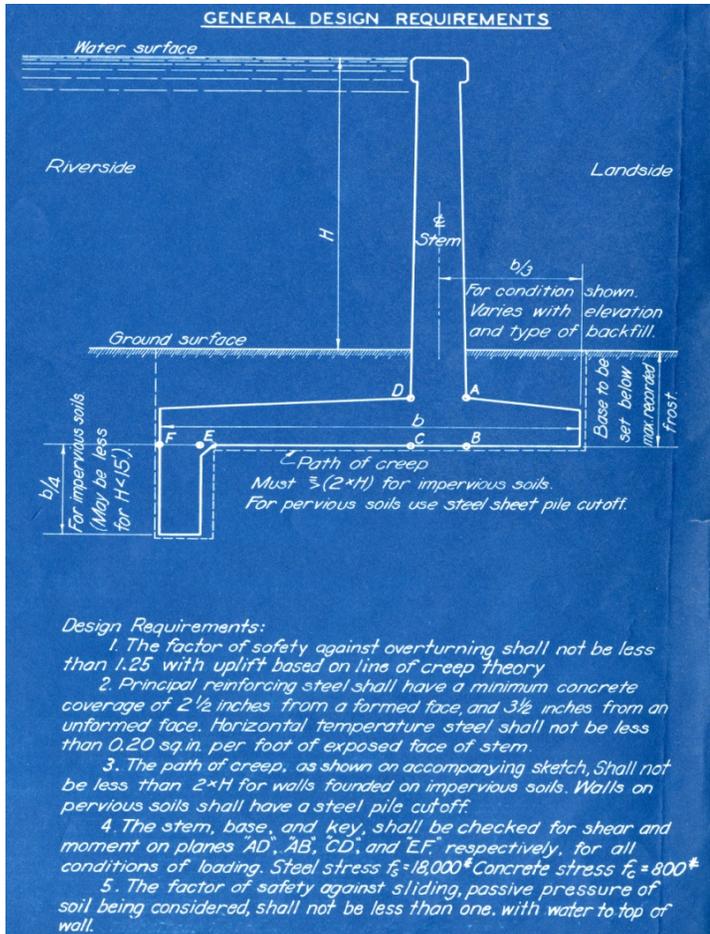
b. These dams control very small drainage areas and should not be designed with the same criteria which must be applied to large dams.

c. There is no danger to life in case of failure of these dams.

d. Practically no property damage will result from the failure of these dams.

Memo regarding Army Corps of Engineers projects in Indiana from August 1938

Approvals of the flood projects were necessary. The memo to the COE office in Cincinnati indicates there were general designs for certain projects that had to be reviewed before implemented.



ADDRESS REPLY TO
THE DISTRICT ENGINEER
P. O. BOX 59

WAR DEPARTMENT
UNITED STATES ENGINEER OFFICE
LOUISVILLE, KY.

REFER TO FILE NO. _____

May 18, 1938

Subject: General Design Requirements.

To: The Division Engineer, Ohio River Division, Cincinnati, Ohio.

1. There is forwarded herewith for approval a sketch showing general design requirements for flood walls, as per telephone conversation between Captain S. J. Horn and Captain Paschal N. Strong, May 18, 1938.
2. It is proposed to circulate the general design requirement sketches to Works Progress Administration agencies under the jurisdiction of this office, to be used as a guide in the design of structures of this type. The final design will be checked by this office before clearance for the project is granted.
3. It is requested that this matter be expedited as there are several projects depending on the release of this information.

For the District Engineer:

S. J. Horn
Captain, Corps of Engineers
Military Assistant

Inclosure:
Sketch (in dupl.)

OFFICE, DIVISION ENGINEER
OHIO RIVER DIVISION
Received - MAY 19 1938

ADJ-124

Project designs were detailed but needed final approval by the Corps of Engineers

There was no shortage of projects. The WPA compiled lists periodically related to the work being done for flood control in certain regions. Numerous projects were conducted to dredge rivers and to construct levees and dams to assist the communities that needed help with flooding.

W. P. A. Projects Involving Flood Control
and Stream Improvement in the State of Indiana.

OD5-51/3C.7

Nov. 23

(1)

W.P.A. Number	State Serial Number	Engineer District	Description of Project	Estimated Federal Cost	Date of War Dept. Clearance	Remarks
	516	Chicago	Grading banks, riprapping and dredging channel. - Little Calumet River through Hammond.	\$155,280.00		Project now operating. Project 70% complete under E. R. A.
	01792	Chicago	Dredge part of Grand Calumet River from Broadway to Cline Ave. - Gary.	46,978.00		
	01867	Chicago	Dredge parts of Grand Calumet River from city limits of Hammond to state line.	36,810.00		
	1234-A	Cincinnati	Construction of earth levee on west bank of East Fork of Whitewater River at Brookville.	14,956.00		Project started and approximately 40% complete under C.W.A.
	526-A	Cincinnati	Changing course of West Fork of Whitewater at Comersville.	23,808.00	Nov. 7, 1935	
	863-A	Louisville	Concrete and earthwork dam - Williamsport.			
	5040	Louisville	Concrete and brick dam - Crawfordsville.			
5053	456	Cincinnati	Raise and strengthen levee at Lawrenceburg.	25,919.00	Nov. 7, 1935	
	02068	Cincinnati	Revetting water side slope of Ohio River Levee - Lawrenceburg.			Removed from tentative state program by W.P.A. of Indiana.
		Louisville	Grade street and levee, relay sewers where necessary - Madison			
	01617	Detroit	Replace 20 foot section and repair remaining 75 feet of dam on St. Joseph River at Spencerville, DeKalb Co.			Execution by U. S. Engineers desired.

Some WPA projects in Indiana related to flood control. Due to the Corps of Engineers being organized around navigable waterways, these projects in Indiana were conducted by five separate Engineer Districts.

Project applications had to be filled out. They were typically six pages long and went into detail about the number of skilled and unskilled employees needed and how much money would be spent. There was even a breakdown of the "estimated daily average number of employees each month during execution of project." Another component to all these projects was the final inspection reports, which often included photos of the work as well.

W.P.A. Project
Ohio State Serial No. 76-6365
Location: On Ohio and Erie Canal in
Jackson and Lawrence
Townships, Stark County, Ohio

No.
Date
Recommended
Disapproved

OUTLINE OF REVIEW

PROJECT APPLICATION

1. Project requested: Rehabilitation of some ten miles of the Ohio and Erie Canal which includes; cleaning out canal, construction of 2 small dams, 2 highway culverts, 3 foot bridges and 2 park areas; renovation of Lock No. 4 and the toe path for the full length of the improvement.

2. Previous reports: None

Document Numbers

Statutory Authority

Recommended by

Remarks

3. Name of Applicant: Division of Conservation, Department of Agriculture,
State of Ohio.

4. Status of Applicant:

a. Jurisdiction State of Ohio

b. Duties Conservation of natural resources of state.

c. Source of income Receives allotments from State Funds

d. Financial standing Good

e. Does applicant agree to furnish rights of way? Yes

Status of land or sites:

1. Acquired Yes

2. Negotiations completed

3. Negotiations pending

4. Negotiations not begun

f. Does applicant agree to take over and maintain project
on completion? Yes

g. Does applicant agree to save United States against
damages resulting from project? Yes

First page of project application to rehabilitate a section of the Ohio and Erie Canal

Photos of the Army Corps of Engineers work done in Indiana at the McFadden Dam in Posey County and the Morrison Dam in Decatur County

McFADDEN DAM
Posey County, Indiana

Photo No. 1



View looking toward left abutment, showing enlargement along upstream slope of embankment.

Photo No. 2



View looking toward left abutment, showing enlargement along downstream slope.

MORRISON DAM
Decatur County, Indiana

Photo No. 6



Riprap placed on upstream side of embankment.

Photo No. 7



Close-up view of riprap. Notice large voids. The same type of riprap was placed in approach channel to spillway.

Alas, all the planning and construction never seems to be enough to prevent devastation along waterways. Certainly the Ohio River, among others, continues to flood periodically. Mother Nature often is able to outsmart even the Corps of Engineers.

NARA-Chicago welcomes new Archives Technicians Jeremy Farmer and Sarah Rogers



NARA-Chicago welcomes back Jeremy Farmer and Sarah Rogers. Both Jeremy and Sarah were recent student employees. If you encounter Jeremy or Sarah in our research rooms please say hello and welcome back!

The National Archives at Chicago Announces Workshops for 2015

BAMM! Business, Agriculture, Manufacturing, and Mortality Census Schedules

Saturday, June 13, 9:30 – 11:00 AM

BAMM! Add “explosive” details to your genealogy by utilizing non-population Census schedules of Business, Agriculture, Manufacturing and Mortality. Authorized by Congress, these records cover very specific time periods and locations during the 19th and 20th centuries and provide unique insights into the communities where our ancestors lived and worked. Kris Maldre Jarosik, Education Specialist at NARA-Chicago, will help you learn about these records.

Sign Up!

Each workshop is free and will be held at our facility near Ford City Mall at 7358 South Pulaski Road, Chicago, Illinois. Space is limited, so please RSVP to save a seat by sending an e-mail to kristina.jarosik@nara.gov. Please indicate in your e-mail which workshop you are interested in attending.

Follow us on Facebook



Make the National Archives at Chicago one of your Facebook Favorites and stay abreast of announcements and new discoveries with us on Facebook.

Are you on the National Archives Mailing List?

If the answer is “no,” then drop us an e-mail with your contact information to chicago.archives@nara.gov.

Per the Privacy Act of 1974 we will not share your personal information with third parties.