78TH CONGRESS } HOUSE OF REPRESENTATIVES { DOCUMENT
2d Session } { No. 449

MISSISSIPPI RIVER AT MINNEAPOLIS, MINN.

LETTER

FROM

THE SECRETARY OF WAR

TRANSMITTING

A LETTER FROM THE CHIEF OF ENGINEERS, UNITED STATES ARMY, DATED JANUARY 13, 1944, SUBMITTING A REPORT, TOGETHER WITH ACCOMPANYING PAPERS ON A REVIEW OF REPORT ON THE MISSISSIPPI RIVER AT MINNEAPOLIS, MINN., REQUESTED BY A RESOLUTION OF THE COMMITTEE ON RIVERS AND HARBORS, HOUSE OF REPRESENTATIVES, ADOPTED ON APRIL 24, 1941

FEBRUARY 14, 1944.—Referred to the Committee on Rivers and Harbors, and ordered to be printed

WAR DEPARTMENT,
Washington, February 5, 1944.

The SPEAKER, HOUSE OF REPRESENTATIVES.

DEAR MR. SPEAKER: I am transmitting herewith a report dated January 13, 1944, from the Chief of Engineers, United States Army, together with accompanying papers, on a review of report on the Mississippi River at Minneapolis, Minn., requested by a resolution of the Committee on Rivers and Harbors, House of Representatives, adopted on April 24, 1941.

The Department approves the submission of the report to Congress. In view of the large quantities of materials, manpower, and equipment which would be involved in the project, and since there is no established essentiality of the project to the war program, the Department desires that, if the project is approved, construction be deferred until after the war.

The Bureau of the Budget has been consulted and advises that, while there would be no objection to the submission of this proposed

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report to the Congress, in the absence of evidence showing that the proposed works are necessary to the prosecution of the war, the submission during the present emergency of any estimate of appropriation for the construction of the project would not be in accord with the program of the President.

Respectfully,

HENRY L. STIMSON,
Secretary of War.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, January 13, 1944.

The CHAIRMAN, COMMITTEE ON RIVERS AND HARBORS,
House of Representatives, Washington, D. C.

MY DEAR MR. CHAIRMAN: 1. The Committee on Rivers and Harbors of the House of Representatives, by resolution adopted April 24, 1941, requested the Board of Engineers for Rivers and Harbors to review the report of the Board of Engineers for Rivers and Harbors dated February 8, 1938, and transmitted to Congress by the Secretary of War, March 5, 1938, on Mississippi River at Minneapolis, Minn., with a view to determining whether any modification in the existing project is advisable at this time. I enclose the report of the Board in response thereto.

2. I concur in general in the views of the Board and recommend modification of the project for the improvement of the Mississippi River at Minneapolis as follows:

Mississippi River, Minneapolis, Minn.: Extension of the 9-foot channel of the upper Mississippi River navigation project to the vicinity of the Soo Line railway bridge above the Falls of St. Anthony, in Minneapolis, in general accordance with the plans described and approved by the Board of Engineers for Rivers and Harbors and the Chief of Engineers in their reports of February 8 and February 26, 1938, respectively, as subsequently modified by the reports printed in Senate Document No. 54, Seventy-seventh Congress, first session, to provide for a vertical bridge clearance of 26 feet above the estimated 40,000 cubic feet per second stage, the railroad bridges and other privately owned utility structures to be modified at Federal expense at an estimated first cost to the United States of $8,259,000, with $55,000 annually for maintenance and operation of the navigation works; subject to the conditions that local interests contribute $1,100,000 to the first cost of the improvement as a whole and provided that responsible local agencies furnish assurances satisfactory to the Secretary of War that they will: (a) Make the necessary alterations to highway bridges and publicly owned utilities, (b) furnish free of cost to the United States all lands, easements, and rights-of-way necessary for the channel and lock and dam construction, and (c) furnish at their own expense suitable spoil disposal areas for the new work and for subsequent maintenance when and as required.

Very truly yours,

E. REYBOLD,
Major General,
Chief of Engineers.

REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS

WAR DEPARTMENT,
THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, December 13, 1943.

Subject: Mississippi River at Minneapolis, Minn.

To: The Chief of Engineers, United States Army.

1. This report is in response to the following resolution adopted April 24, 1941:

Resolved by the Committee on Rivers and Harbors of the House of Representatives, United States, That the Board of Engineers for Rivers and Harbors created under section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby, requested to review the report of the Board of Engineers for Rivers and Harbors dated February 8, 1938, and transmitted to Congress by the Secretary of War, March 5, 1938, on Mississippi River at Minneapolis, Minn., with a view to determining whether any modification in the existing project is advisable at this time.

2. The Mississippi River rises in northern Minnesota and flows southerly about 2,450 miles to the Gulf of Mexico. Minneapolis is located on both banks of the river in southeastern Minnesota at the Falls of St. Anthony. About a mile below the main falls the river is crossed by the lower Northern Pacific Railway bridge in Minneapolis, 853 miles above the junction of the Mississippi and Ohio Rivers. This junction is the zero of the mileage system for this report. The Missouri River enters the Mississippi 195 miles above the mouth of the Ohio. Congress, by the River and Harbor Act approved July 3, 1930, and subsequent acts, has authorized improvement of the Mississippi River for navigation between the mouth of the Missouri River and the lower Northern Pacific Railway bridge in Minneapolis to provide a channel of 9-foot depth by the construction of locks and dams supplemented by dredging. The improvement has been completed to the extent that project depth is maintained between its head and the lowermost lock and dam, a short distance above the Missouri River. Within Minneapolis this section of river flows through a deep gorge in which little land is suitable for river terminal improvements. The Minneapolis municipal terminal is located in this area and is restricted in its use and further development by the limitations of the site. Above the lower Northern Pacific Railway bridge, the river channel is obstructed by a rapids section 0.4 mile long, at the head of which the lower St. Anthony Falls Dam raises the water surface about 20 feet and creates a pool 0.6 mile in length. At the upper end of this pool, St. Anthony Falls proper is surmounted by an upper dam which creates a second pool 49 feet above the lower pool. Neither dam provides for the passage of navigation. Upstream from the falls natural physical conditions are favorable for improvement of a channel for navigation and development of terminal facilities for river traffic.

3. By the River and Harbor Act approved August 26, 1937, Congress authorized extension of the 9-foot project channel to above the Falls of St. Anthony as follows:

> Mississippi River, Minneapolis, Minn.: Extension of the 9-foot channel above St. Anthony's Falls in accordance with the plan contained in House Document numbered 137, Seventy-second Congress, first session; subject to such changes therein as may be found advisable by the Chief of Engineers, and the final approval of the plan by the Board of Engineers for Rivers and Harbors, as necessary to provide adequate terminal facilities for Minneapolis.

Accordingly the district and division engineers formulated a plan providing for a channel 9 feet deep and generally 150 feet wide extending from the lower Northern Pacific Railway bridge upstream to the Soo Line railway bridge, mile 857.6, near the northern limit of the city of Minneapolis, widened to 500 feet for a distance of 1,000 feet below the Lowry Avenue bridge to provide a turning basin, and for a lock with chamber 56 by 400 feet and lift of approximately 24 feet at the lower dam and lock of similar chamber dimensions and lift of about 50 feet at the upper dam. Plans for the 12 bridges involved proposed removal of 1, pier protection at 4, installation of movable spans in 2 and alteration of 5 others to provide a vertical clearance of 26 feet above high water of 1881 and 150 feet horizontal clearance except where the cost of obtaining this full horizontal dimensions would be excessive. The Board of Engineers for Rivers and Harbors in its report of February 8, 1938, now under review, approved this plan for construction at an estimated cost to the United States of $7,779,000 for new work, with $55,000 annually for maintenance, provided local interests give assurances satisfactory to the Secretary of War that they will bear the cost of necessary bridge modifications and adjustments to utility structures estimated at $1,774,000 and furnish free of cost to the United States all lands needed for the improvement and suitable spoil disposal areas for new work and for subsequent maintenance as required. Concurrently the Chief of Engineers stated that the plan had his approval and that in view of the terms of the item of law quoted above no further action by Congress appeared to be necessary.

4. Subsequently the Committee on Commerce of the United States Senate, on January 25, 1939, adopted a resolution requesting a review of the Board's report of February 8, 1938, with a view to determining whether any modification of the requirements for bridge clearances was advisable. The resulting review reports have been printed in Senate Document No. 54, Seventy-seventh Congress, first session. The high-water profile used in the report of 1938 as a reference plane for determining the required heights for bridges was based upon a discharge of 73,500 cubic feet per second as experienced in 1881. In reviewing the report, the district engineer found that it would be impracticable and dangerous to navigate this section of improvement with flows of more than 40,000 cubic feet per second. He therefore proposed that the vertical bridge clearance be made 26 feet above the water surface elevation with that flow, thus lowering the required bridge elevations by from 2.8 to 4.3 feet. He reconsidered the bridge changes and costs for providing the required vertical clearance above the flow line for the 1881 discharge and prepared a plan for bridge changes based upon a discharge of 40,000 cubic feet per second. The

general bridge changes and estimated first costs thereof for these two plans as presented in Senate Document No. 54 are tabulated below:

Bridge	Mile	Type	Plan for flow of 73,500 cubic feet per second		Plan for flow of 40,000 cubic feet per second	
			Work	Estimated first cost	Work	Estimated first cost
Northern Pacific	853.00	Railroad	Pier protection	$33,600	Pier protection	$33,600
Cedar Avenue	853.15	Highway	do	19,760	do	19,760
Great Northern	853.35	Railroad	Reconstruct piers	18,750	Reconstruct piers	18,750
Tenth Avenue	853.50	Highway	Remove		Remove	
Great Northern	853.65	Railroad	Remove arches	288,000	Remove arches	288,000
Third Avenue	853.95	Highway	None		None	
Hennepin Avenue	854.20	do	Pier protection	151,720	Pier protection	151,720
Great Northern	854.40	Railroad	Provide movable span.	369,700	Provide movable span.	369,700
Plymouth Avenue	855.00	Highway	Raise	161,000	Raise	130,200
Broadway Avenue	855.45	do	do	279,000	do	234,500
Northern Pacific	855.80	Railroad	Provide movable span.	330,000	Increase span and raise.	175,000
Lowry Avenue	856.45	Highway	Raise	92,200	Raise	67,200
Total				1,743,730		1,488,430

Under either plan the Great Northern railroad bridge, at mile 854.4, would be equipped with a movable span. Under the plan based upon providing 26-foot clearance above the flow line for 40,000 cubic feet per second, the Northern Pacific bridge at mile 855.8 would not be provided with a movable span. It is estimated that the annual costs for maintenance and operation for each of these bridges would be increased by $6,000 if converted to movable span structures and that the maintenance costs of the remaining bridges would not be increased. For either plan city-owned sewers, water mains, and pumping plant intakes would require alterations at an estimated first cost of $46,000 and a privately owned submarine power cable would need to be lowered at an estimated cost of $48,000. In the reports printed in Senate Document No. 54, Seventy-seventh Congress, first session, the Board of Engineers for Rivers and Harbors and the Chief of Engineers approved the plan for bridge changes to provide 26 feet vertical clearance above the flow line of 40,000 cubic feet per second discharge and stated that in view of the terms of the act authorizing the project no further action by Congress appeared necessary. The most recent estimate of the cost to the United States for the improvement is $8,259,000 with $55,000 annually for operation and maintenance. No construction has been undertaken.

5. As summarized from the above, the estimated first cost to local interests for the required alteration of bridges and utilities is as follows:

Alteration of city-owned highway bridges	$604,000	
Alteration of city-owned utilities	46,000	
Total for city-owned structures		$650,000
Alteration of railroad bridges	$885,000	
Alteration of privately owned power cable	48,000	
Total for non-city-owned structures		933,000
Grand total		1,583,000

In addition local interests would be required to operate and maintain the movable span of the Great Northern railroad bridge at mile 854.4 at an estimated annual cost of $6,000 and to furnish free of cost to the United States all lands needed for the improvement and suitable spoil disposal areas for new work and for subsequent maintenance as required.

6. The city of Minneapolis is greatly interested in the improvement. At a public hearing held by the district engineer at Minneapolis local interests indicated that they do not at this time advocate any modification of the project plan in regard to the works included. They desire consideration of a change in the nature of the local cooperation required. No reduction in the amount of local cooperation so as to reduce the cost to them is requested. They point out, however, that difficulties in furnishing the local cooperation could be avoided by modification of the items required. No particular difficulties arise in connection with furnishing the required lands and spoil disposal areas and with alteration of the highway bridges and city-owned utilities. However, the city expects that it will need to be responsible for seeing to it that all the conditions of local cooperation are met. This presents legal problems and requires that the city act as an intermediary between the United States, the several owners of the railroad bridges, and the owner of the submarine power cable. In preference to being involved in these matters it suggests that it be permitted to make a suitable cash contribution to the cost of the improvements as a whole.

7. The Board has given careful consideration to the advisability of modifying the conditions of local cooperation as desired by the city of Minneapolis. Because of the large local benefits of the improvement, it is of the opinion that no reduction should be made in the amount of the local cooperation required and notes that local interests do not advocate a reduction in the costs to them. At the time the plan was approved by the Board, it was not definitely known that the city would be the agency to furnish the funds needed for meeting the requirements. The city has now considered its ability to be the responsible agency and advised that fulfillment of the requirements of a suitable local contribution will be facilitated if the nature of the requirements are modified. This will not increase the estimated cost to the United States and the Board knows of no sufficient reason why modification of the terms should not be made. It will enable the United States to deal direct with the owners of the railroad bridges to be modified and with the owner of the submarine power cable. After review of the matter the Board concludes that suitable local cooperation will be provided for if local interests are required to make the necessary alterations to highway bridges and publicly owned utility structures, to contribute $1,100,000 to the first cost of the improvement as a whole and to furnish at their expense all lands needed and spoil disposal areas for new work and subsequent maintenance.

8. Accordingly, the Board recommends modification of the project for the improvement of the Mississippi River at Minneapolis as follows:

Mississippi River, Minneapolis, Minn.: Extension of the 9-foot channel of the upper Mississippi River navigation project to the vicinity of the Soo Line railway bridge above the Falls of St. Anthony, in

Minneapolis, in general accordance with the plans described and approved by the Board of Engineers for Rivers and Harbors and the Chief of Engineers in their reports of February 8, 1938, and February 26, 1938, respectively, as subsequently modified by the reports printed in Senate Document No. 54, Seventy-seventh Congress, first session, to provide for a vertical bridge clearance of 26 feet above the estimated 40,000 cubic feet per second stage, the privately owned bridge and utility structures to be modified by the Federal Government at an estimated first cost to the United States of $8,259,000, with $55,000 annually for maintenance and operation of the navigation works; subject to the conditions that local interests contribute $1,100,000 to the first cost of the improvement as a whole and provided that responsible local agencies furnish assurances satisfactory to the Secretary of War that they will: (a) make the necessary alterations to highway bridges and publicly owned utilities, (b) furnish free of cost to the United States all lands, easements, and rights-of-way necessary for the channel and lock and dam construction, and (c) furnish at their own expense suitable spoil-disposal areas for the new work and for subsequent maintenance when and as required.

For the Board:

JOHN J. KINGMAN,
Brigadier General, United States Army,
Senior Member.

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