

Board of Engineers of the Army, whose duty it shall be to inquire into and report whether, for railroad purposes, the river Detroit can be bridged or tunnelled, at the city of Detroit, or within one mile above or below said city, in such manner as to accommodate the large trade and commerce crossing the river at that point, and without material or undue injury to the navigation of said river; a good and sufficient tug being always kept by the bridge owners to assist any craft when required.

Approved, June 20, 1879.

June 27, 1879. [No. 16.] Joint resolution authorizing the completion of the foundation of the Washington Monument.

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled,* That the joint commission for the construction of the Washington Monument, created by the act of August second, eighteen hundred and seventy-six, be, and is hereby, authorized to expend, for the completion of the foundation of the monument now in progress, so much of the appropriation made by the said act as may be necessary for that purpose, not exceeding sixty-four thousand dollars above the sum now authorized.

Approved, June 27, 1879.

June 28, 1879. [No. 18.] Joint resolution donating granite blocks to Mower Post Grand Army of the Republic of New Orleans, Louisiana.

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Secretary of War be and he is hereby authorized and directed to donate to Mower Post Grand Army of the Republic at New Orleans certain blocks of granite now lying at Fort Livingston, Louisiana, and which are of no use to the government, for the purpose of completing a monument to the union dead at the Chalmette National Cemetery near New Orleans.

Approved, June 28, 1879.

June 28, 1879. [No. 19.] Joint resolution authorizing a survey of the Mississippi River near Lake Concordia, Louisiana, and Cowpen Bend, Mississippi.

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Secretary of War be and he is hereby authorized and directed to order a survey and recommendations thereon of the Mississippi River near Lake Concordia, Louisiana, and of Cowpen Bend, Mississippi, looking to the protection of the harbors of Natchez and Vidalia by restraining the river from cutting into Lake Concordia, and of the Charenton Canal in St. Mary's Parish, Louisiana, out of moneys already appropriated for surveys and examinations by act of Congress of March third, eighteen hundred and seventy-nine.

Approved, June 28, 1879.

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## APPENDIXES

TO THE

## REPORT OF THE CHIEF OF ENGINEERS.

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APPENDIXES

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[FORTIFICATIONS.]

APPENDIX No. 1.

SEA-WALL AT GOVERNOR'S ISLAND, NEW YORK HARBOR,  
IN CHARGE OF COL. H. W. BENHAM, CORPS OF ENGI-  
NEERS.

EXPLANATION OF THE ESTIMATE.

*Extracts from letter from Maj. Gen. W. S. Hancock, commanding mili-  
tary division of the Atlantic, to the Adjutant-General, United States  
Army, dated August 20, 1878.]*

SIR: I have the honor to recommend a suitable appropriation for the completion of sea-wall around Governor's Island. Colonel Benham, the engineer officer in charge, has, I am informed, made estimates for the purpose. I cannot too strongly urge the necessity for the early prosecution and completion of this important work. Governor's Island is within the greatest city of this continent, New York, and in immediate proximity to the great city of Brooklyn, and on these as well as on the sanitary grounds fully set forth in the within communication to which I invite special attention, its bounds should be permanently fixed by a suitable sea-wall. The shore between high and low tides is shelving and interspersed with rocks which serve to retain at the fall of the tide the refuse brought up at high-water. As an illustration of the evil from this source, I would state that official reports of observations carefully made in the six months from July, 1873, to January, 1874, show that the following carcasses of dead animals floating in the bay were thrown upon the island during that period, viz: July, 1873, 369; August, 1873, 205; September, 1873, 121; October, 1873, 58; November, 1873, 75; December, 1873, 75; total for six months of 1873, 903.

Although these carcasses are offensive and injurious, they are probably not so dangerous to health as the clothing, bedding, &c., infected with disease thrown upon the shore of the island by the tide and which lodges for want of a sea-wall. Yellow fever on the island was, in one instance, at least, traced directly to the latter cause.

\* \* \* \* \*

It is true that the management of the general police of the harbor by the city is not so bad now as it was during the time to which the statistics above given relate, but still, although in a somewhat smaller degree, the nuisance remains and can only be properly dealt with, for this island, through the aid of a sea-wall.

\* \* \* \* \*

Hoping the subject may receive the favorable consideration of the War Department and Congress, I am, sir,

Very respectfully, your obedient servant,  
 WINFIELD S. HANCOCK,  
*Major-General Commanding.*

*Endorsement by commanding officer at Fort Columbus, dated August 8, 1878, on report by Assistant Surgeon J. P. Kimball on sanitary condition of the post, the substance of which is stated in the above extracts from General Hancock's letter; and endorsement of Surgeon and Medical Director J. M. Cuyler, U. S. A.*

HEADQUARTERS, FORT COLUMBUS,  
 August 8, 1878.

The facts stated by Assistant Surgeon Kimball are well known to any one who has resided on Governor's Island for any length of time. The sanitary condition of this island will never be good until its shores are protected from filth by a suitable sea-wall, and with the view of bringing this subject to the notice of the commanding general, this report is respectfully referred to department headquarters.

J. P. SANGER,  
*Captain First Artillery, Commanding Post.*

HEADQUARTERS DIVISION ATLANTIC  
 AND DEPARTMENT EAST,  
 MEDICAL DIRECTOR'S OFFICE,  
*Governor's Island, New York Harbor, August 13, 1878.*

As a sanitary measure, the completion of the sea-wall around the entire island is unquestionably of the greatest importance, and I most earnestly recommend that the work be done at as early a period as possible.

JNO. M. CUYLER,  
*Colonel and Surgeon U. S. A., Medical Director.*

*Extract from annual report of Col. H. W. Benham, Corps of Engineers, dated July 11, 1878.*

\* \* \* \* \*

I would also respectfully represent the condition of the shores and shoals upon the southeast part of this island, back of the range of officers' quarters, between the south battery and the main wharves.

The shore line along the reach named is without protection, and is irregularly broken down by the wash of the waves in storms, while in front, or outward from the shore, a shoal extends, bare at low-water, to the distance of 100 to 200 feet, which, from its position in the eddy between the Buttermilk Channel and the Hudson River, receives the drift and carrion offal of the river, making it often very offensive to the residents on the island.

The best remedy for this, and a necessity, I consider to be a sea-wall, of rounded or convex line of short faces, running out upon this shoal,

which, without indentations, would give a regular current and direction to the water, thus tending to carry off all such offensive matter, while the space in rear, filled up, as it might be without great cost, in part perhaps by the garrison, would add some acres to the area of the island where every yard of land is so valuable.

\* \* \* \* \*

Very respectfully, your obedient servant,  
 H. W. BENHAM,  
*Colonel of Engineers, Bvt. Maj. General.*