

GULF INTRACOASTAL WATERWAY, CHANNEL  
TO VICTORIA, TEXAS

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LETTER  
FROM  
THE SECRETARY OF THE ARMY  
TRANSMITTING

A LETTER FROM THE CHIEF OF ENGINEERS, DEPARTMENT OF THE ARMY, DATED MARCH 31, 1961, SUBMITTING A REPORT, TOGETHER WITH ACCOMPANYING PAPERS AND AN ILLUSTRATION, ON A REVIEW OF REPORT ON GULF INTRACOASTAL WATERWAY, CHANNEL TO VICTORIA, TEXAS, REQUESTED BY RESOLUTION OF THE COMMITTEE ON PUBLIC WORKS, HOUSE OF REPRESENTATIVES, ADOPTED JUNE 3, 1959.



OCTOBER 25, 1961.--Referred to the Committee on Public Works and ordered to be printed with one illustration. Pursuant to Public Law 87-330 approved September 30, 1961.

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U.S. GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1961



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- Plate 1. Index map.
- Plate 2. Vertical lift bridge details.

## APPENDIXES ACCOMPANYING THE REPORT OF THE DISTRICT ENGINEER (Not printed)

- Exhibit I. Economics.
- Exhibit II. Engineering data, MP RR main line crossing, vertical lift bridge.
- Exhibit III. Estimates of first cost, MP RR main line crossing, vertical lift bridge.
- Exhibit IV. Estimates of first cost, Victoria turning basin.
- Exhibit V. Project cost estimate.
- Exhibit VI. Estimates of annual charges.

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LETTER OF TRANSMITTAL



IN REPLY REFER TO:

DEPARTMENT OF THE ARMY  
WASHINGTON 25, D. C.

October 17, 1961

Honorable Sam Rayburn  
Speaker of the House of Representatives

Dear Mr. Speaker:

I am transmitting herewith a favorable report dated 31 March 1961, from the Chief of Engineers, Department of the Army, together with accompanying papers and an illustration, on a review of the report on the Gulf Intracoastal Waterway, channel to Victoria, Texas, requested by resolution of the Committee on Public Works, House of Representatives, adopted 3 June 1959.

In accordance with Section 1 of Public Law 14, 79th Congress, and Public Law 85-624, the views of the Governor of Texas and the Department of the Interior are set forth in the inclosed communications.

The Bureau of the Budget advises that there is no objection to the submission of the report to the Congress. A copy of the letter from the Bureau of the Budget is inclosed.

Sincerely yours,

A handwritten signature in cursive script that reads "Stephen Ailes".

Stephen Ailes  
Acting Secretary of the Army

1 Incl  
Rept w/accomp  
papers & illus

COMMENTS OF THE BUREAU OF THE BUDGET

EXECUTIVE OFFICE OF THE PRESIDENT

BUREAU OF THE BUDGET

WASHINGTON 25, D. C.

September 20, 1961

Honorable Elvis J. Stahr, Jr.  
Secretary of the Army  
Washington 25, D. C.

Dear Mr. Secretary:

Assistant Secretary Schaub's letter of July 12, 1961, submitted the proposed report of the Chief of Engineers on a review of the report on the Gulf Intracoastal Waterway, channel to Victoria, Texas, requested by resolution of the Committee on Public Works, House of Representatives, adopted June 3, 1959.

The Chief of Engineers recommends that the requirements of local cooperation of the authorized navigation project be modified to relieve local interests of the responsibility for (a) constructing a railroad bridge at channel mile 29.2, (b) constructing and maintaining the Victoria turning basin, and (c) maintaining the locally constructed turning basin at Seadrift. The additional cost to the Federal Government from this modification would be \$1,590,000 for construction and \$8,000 annually for maintenance.

There would be no objection to the submission of the report to the Congress.

Sincerely yours,

  
Deputy Director

COMMENTS OF THE GOVERNOR OF TEXAS



EXECUTIVE DEPARTMENT  
AUSTIN 11, TEXAS

PRICE DANIEL  
GOVERNOR

May 9, 1961

Lt. Gen. Walter K. Wilson, Jr.  
Chief of Engineers  
U. S. Army Corps of Engineers  
Washington 25, D. C.

Dear General Wilson:

Supplementing my letter of March 31 to General Itschner, I am pleased to enclose copy of an order by the Texas Board of Water Engineers approving the proposed report on Gulf Intracoastal Waterway, Channel to Victoria, Texas.

I concur in the order and recommend approval of the report by the Congress.

Sincerely yours,

*Price Daniel*

PD:gs

Enclosure

cc: Hon. Durwood Manford, Chairman  
Board of Water Engineers  
Capitol Station, Box 2311  
Austin 11, Texas

BOARD OF WATER ENGINEERS



AN ORDER approving changes proposed for the United States Army Corps of Engineers, Gulf Intracoastal Waterway, Channel to Victoria, Texas, Project.

BE IT ORDERED BY THE BOARD OF WATER ENGINEERS OF THE STATE OF TEXAS:

Section 1. By letter dated March 31, 1961, the Honorable Price Daniel, Governor of Texas, requested the Board of Water Engineers to review the report dated June 1, 1960, of the Chief of Engineers, United States Army, entitled Review of Reports on Gulf Intracoastal Waterway (Galveston District), Channel to Victoria, Texas, and to provide comments for transmission to the Chief of Engineers, United States Army.

Section 2. The Board finds that the project for the Gulf Intracoastal Waterway, Channel to Victoria, was authorized by the River and Harbor Act of March 2, 1945, as modified by the River and Harbor Act of September 3, 1954, and was incorporated into the Gulf Intracoastal Waterway Project by the River and Harbor Act of July 12, 1952; that the project has been initiated, is under construction and is partially completed; that the project was authorized prior to the enactment of Article 7472e, Vernon's Annotated Civil Statutes of Texas; that the matters to be considered by the Board in determining feasibility pursuant to said Article 7472e are not before the Board for its consideration under said report; and that the only matter before the Board under said report is determining whether it would be advisable to modify the requirements of local cooperation on the project.

Section 3. After fully considering the report, the Board finds that the proposed modifications will serve the public interest, and said report is hereby approved.

Section 4. Based on the findings set forth in Section 2 above, the Board concludes that a public hearing on said project under Article 7472e, Vernon's Annotated Civil Statutes of Texas, is not required, and therefore public hearing will not be held.



Section 5. It is further ordered that a certified copy of this Order be transmitted to the Governor of the State of Texas.

Section 6. This Order shall take effect and be in force on and after the 24th day of April, 1961, the date of its passage, and it is so ordered.

SIGNED IN THE PRESENCE OF THE  
BOARD OF WATER ENGINEERS

Durwood Manford  
Durwood Manford, Chairman

ATTEST:

Ben F. Looney, Jr.  
Ben F. Looney, Jr., Secretary

I certify that the foregoing order was adopted by the Board of Water Engineers of the State of Texas at a meeting on the 24<sup>th</sup> day of April, 1961, upon motion of Member Dent; Chairman Manford voting "aye", Member Dixon voting "no", and Member Dent voting "aye".

Ben F. Looney, Jr.  
Ben F. Looney, Jr., Secretary

STATE OF TEXAS     ◊

COUNTY OF TRAVIS   ◊

I, Ben F. Looney, Jr., Secretary of the Board of Water Engineers, do hereby certify that the foregoing is a true and correct copy of a resolution of said Board, the original of which is filed in the permanent records of said Board.

Given under my Hand and the Seal of the Board of Water Engineers of the State of Texas, this the 3<sup>rd</sup> day of May, 1961.

Ben F. Looney, Jr.  
Ben F. Looney, Jr., Secretary

COMMENTS OF THE DEPARTMENT OF THE INTERIOR



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
OFFICE OF THE SECRETARY  
WASHINGTON 25, D. C.

May 24, 1961

Maj. Gen. Keith R. Barney  
Acting Chief of Engineers  
Department of the Army  
Washington 25, D. C.

Dear General Barney:

As requested in General Itschner's letter of March 9, we have reviewed the reports of the Chief of Engineers, the Board of Engineers for Rivers and Harbors, and the District and Division Engineers, on a review of reports on Gulf Intracoastal Waterway, channel to Victoria, Texas.

Inasmuch as your proposal involves a modification in the requirements of local cooperation and does not affect our interests, we have no comments to make.

We appreciate the opportunity of reviewing your report.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "H. A. H.", is written over a horizontal line.

Assistant Secretary of the Interior

# GULF INTRACOASTAL WATERWAY, CHANNEL TO VICTORIA, TEXAS

## REPORT OF THE CHIEF OF ENGINEERS, DEPARTMENT OF THE ARMY



IN REPLY REFER TO

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF ENGINEERS  
WASHINGTON 25, D.C.

ENG CW-P

31 March 1961

SUBJECT: Gulf Intracoastal Waterway, Channel to Victoria, Texas

TO: THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress the report of the Board of Engineers for Rivers and Harbors in response to the resolution of the Committee on Public Works of the House of Representatives, adopted June 3, 1959, requesting the Board to review the report on the Guadalupe River, Texas, contained in House Document No. 247, Seventy-sixth Congress, and other reports with a view to determining whether it would be advisable to modify the requirements of local cooperation of the authorized navigation project at this time.

2. The District and Division Engineers recommend modifying the requirements of cooperation so as to relieve local interests of the responsibility for (a) constructing the Missouri Pacific Railroad bridge at channel mile 29.2, (b) constructing and maintaining the Victoria turning basin, and (c) maintaining the locally constructed turning basin at Seadrift.

3. After full consideration of the reports of the District and Division Engineers, the Board recommends that the existing project for the Gulf Intracoastal Waterway, Channel to Victoria, Texas, be modified:

a. To eliminate the requirement for assurances by local interests that they will:

(1) Construct at their own expense the bridge for the railroad crossing at channel mile 29.2,

(2) Construct the turning basin at Victoria, and

(3) Maintain the turning basins at Victoria and Seadrift.

ENGW-P

SUBJECT: Gulf Intracoastal Waterway, Channel to Victoria, Texas

b. To provide for: Federal construction of a vertical-lift railroad bridge at the Missouri Pacific Railroad main line crossing, mile 29.2; construction and subsequent maintenance of a turning basin 9 feet deep, with average width of 600 feet and average length of 780 feet, near Victoria, Texas; and for maintenance of the turning basin 9 feet deep, 250 feet wide, and 300 feet long, constructed by local interests at Seadrift, Texas; all generally in accordance with the plan of the District Engineer and with such modifications thereof as in the discretion of the Chief of Engineers may be advisable; at an estimated cost of \$1,590,000 to the United States for construction and \$8,000 annually for maintenance, in addition to that now required; provided that, prior to construction or maintenance, local interests agree to:

(1) Provide without cost to the United States all lands, easements, and rights-of-way required for construction of the railroad bridge, for construction and subsequent maintenance of the Victoria turning basin and of aids to navigation, and for maintenance of the turning basin at Seadrift, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil and necessary retaining dikes, bulkheads, and embankments therefor or the costs of such retaining works;

(2) Hold and save the United States free from damages due to construction and maintenance of the improvements;

(3) Bear all cost of owning, maintaining, and operating the new railroad bridge and related sections of railroad embankment and track which are to be raised in elevation;

(4) Accomplish, without cost to the United States, alterations in pipelines, powerlines, utility lines, cables, and highway facilities all as may be necessary in connection with the work at the Victoria and Seadrift turning basins; and

(5) Provide and maintain at local expense adequate public terminal and transfer facilities, open to all on equal terms, at the Victoria and Seadrift turning basins.

The Board further recommends that no dredging be done by the United States within 50 feet of any existing pierhead, pierhead line, wharf, or structure, except bridges.

ENGCW-P

SUBJECT: Gulf Intracoastal Waterway, Channel to Victoria, Texas

4. After due consideration of these reports, I concur in the views and recommendations of the Board.



E. C. ITSCHNER  
Lieutenant General, USA  
Chief of Engineers

# REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS



## CORPS OF ENGINEERS, U. S. ARMY BOARD OF ENGINEERS FOR RIVERS AND HARBORS WASHINGTON 25, D. C.

ENGBR

1 February 1961

SUBJECT: Gulf Intracoastal Waterway, Channel to Victoria, Texas

TO: The Chief of Engineers  
Department of the Army

1. Authority and scope.--This report is in response to the following resolution adopted June 3, 1959:

Resolved by the Committee on Public Works of the House of Representatives, United States, That the Board of Engineers for Rivers and Harbors be, and is hereby, requested to review the report on the Guadalupe River, Texas, contained in House Document No. 247, Seventy-sixth Congress, and other reports with a view to determining whether it would be advisable to modify the requirements of local cooperation of the authorized navigation project at this time.

The report considers elimination of the provisions of local cooperation which require that local interests (a) construct at their own expense the new bridge required for the Missouri Pacific Railroad main line crossing at channel mile 29.2, (b) construct and maintain the turning basin at Victoria, and (c) maintain the turning basin at Seadrift.

2. Description.--The city of Victoria, on the Guadalupe River in south-central Texas, is about 45 miles inland from the Gulf of Mexico. The channel to Victoria will closely parallel the river from the Gulf Intracoastal Waterway in San Antonio Bay to a point 7 miles south of Victoria. Guadalupe River is tidal for 25 miles above its mouth. The mean range of tide in San Antonio Bay is about 1.5 feet. Tropical hurricanes, which occur at infrequent intervals during the summer and fall along the Gulf Coast, may raise tides as much as 15 feet above mean low tide at the coastline for short periods of time.

3. Existing navigation improvements.--The existing Federal project provides for a sea level channel 9 feet deep and 100 feet wide extending northwestward about 35.2 miles from the Gulf Intracoastal Waterway in San Antonio Bay to a turning basin to be constructed by local interests about 7 miles south of Victoria. The

turning basin, as planned by local interests, would be 9 feet deep over a trapezoidal area having a length of 800 feet adjacent to the channel edge and decreasing to 400 feet at a distance of 600 feet from the channel. The project also provides for a side channel 9 feet deep, 100 feet wide, and about 2 miles long, extending northeastward from about mile 6.5 on the Victoria channel to a turning basin at Seadrift. The turning basin at Seadrift has been constructed by local interests to a depth of 9 feet, a width of 250 feet, and a length of 300 feet. The Federal project also provides for a small-craft harbor of refuge at Seadrift, 9 feet deep, 200 feet wide, and 1,000 feet long, with an entrance channel 9 feet deep and 100 feet wide extending from the side channel. With the exception of the westerly wye connection to the Gulf Intracoastal Waterway, the project has been completed to mile 14, including the side channel to the turning basin at Seadrift. The channel is substantially completed between mile 14 and State Highway No. 35 at channel mile 17.1. The channel from State Highway No. 35 to the county road bridge at mile 32.1 is presently being constructed. Costs to the United States to 30 June 1959 were \$967,800 for new work and \$114,300 for maintenance. Local interests expended about \$395,000 in dredging the lower 14 miles of the channel, and \$40,000 in dredging the Seadrift turning basin.

4. Tributary area and commerce.--The area commercially tributary to the Channel to Victoria includes all or parts of 14 counties and comprises about 10,525 square miles. San Antonio and Victoria, with populations presently estimated at 545,000 and 30,000, respectively, are the largest cities in the area, which had a total population estimated at 904,000 in 1957. Agriculture is the principal activity, including crop production, livestock and poultry raising, and dairying. Rice, which is grown by irrigation, is an important crop along the lower river. The production of crude oil is also important. Waterborne commerce on the main channel, which has been limited to the lower 14-mile reach, and on the side channel to Seadrift, averaged about 140,000 tons annually during the period 1954 through 1958. The principal commodities moved on the waterway in 1958 consisted of about 63 percent industrial chemicals and 31 percent seashells. The remaining commodities included petroleum, petroleum products, and machinery.

5. Improvement desired.--Local interests desire that the requirements of local cooperation for the authorized project be

SUBJECT: Gulf Intracoastal Waterway, Channel to Victoria, Texas

modified to relieve them of the responsibility for (a) constructing, maintaining, and operating the railroad bridge for the Missouri Pacific Railroad crossing at channel mile 29.2, (b) constructing and maintaining the Victoria turning basin, and (c) maintaining the locally constructed turning basin at Seadrift.

6. Proposed improvement.--The District Engineer contemplates no change in the plan of improvement for the authorized project. He proposes, however, that the Federal Government, rather than local interests, assume the responsibility for constructing the Missouri Pacific Railroad main line bridge at channel mile 29.2, dredging and maintaining the Victoria turning basin, and maintaining the turning basin at Seadrift. Under his plan, local interests would still be responsible for owning, operating, and maintaining the Missouri Pacific Railroad bridge after its completion.

7. Cost and justification.--The District Engineer estimates the additional Federal first cost at \$1,601,000, consisting of \$1,300,000 for the railroad bridge, \$290,000 for the Victoria turning basin, and \$11,000 for preauthorization studies. Additional annual charges would be \$70,000, including \$8,000 for maintenance. With the proposed change in cooperation the estimate of first cost for the entire authorized project, based on June 1960 prices, is \$13,110,000, of which \$8,214,000, including \$32,000 for preauthorization studies and \$43,000 for aids to navigation, is Federal and \$4,896,000 is non-Federal. The annual carrying charges would be \$775,000, of which \$513,000, including \$3,000 for maintenance of navigation aids, would be Federal, and \$262,000 would be non-Federal. The annual benefits are estimated at \$1,447,000, consisting of \$1,272,000 for transportation savings and \$175,000 for flood-control benefits, of which \$160,000 would result from land enhancement. The benefit-cost ratio is 1.9. The District Engineer recommends modification of the existing project to include as Federal responsibility, the construction of the railroad bridge and Victoria turning basin and maintenance of this basin and the turning basin at Seadrift, subject to certain conditions of local cooperation. The Division Engineer concurs.

8. Public notice.--The Division Engineer issued a public notice stating the recommendations of the reporting officers and affording interested parties an opportunity to present additional information to the Board. Careful consideration has been given to the communications received.



Views and Recommendations of the Board of Engineers for Rivers and Harbors.

9. Views.--The Board of Engineers for Rivers and Harbors concurs in general in the views and recommendations of the reporting officers. It finds that, in view of the general nature of the prospective benefits and the extent of work already accomplished by local interests, the proposed modifications in the requirements of local cooperation are consistent with current policies with respect to the division of cost between the Federal Government and local interests. It believes, also, that all other conditions of local cooperation required by the authorized project should remain in force.

10. Recommendations.--The Board accordingly recommends that the existing project for the Gulf Intracoastal Waterway, Channel to Victoria, Texas, be modified:

a. To eliminate the requirements for assurances by local interests that they will:

(1) Construct at their own expense the bridge for the railroad crossing at channel mile 29.2,

(2) Construct the turning basin at Victoria, and

(3) Maintain the turning basins at Victoria and Seadrift.

b. To provide for: Federal construction of a vertical-lift railroad bridge at the Missouri Pacific Railroad main line crossing, mile 29.2; construction and subsequent maintenance of a turning basin 9 feet deep, with average width of 600 feet and average length of 780 feet, near Victoria, Texas; and for maintenance of the turning basin 9 feet deep, 250 feet wide, and 300 feet long, constructed by local interests at Seadrift, Texas; all generally in accordance with the plan of the District Engineer and with such modifications thereof as in the discretion of the Chief of Engineers may be advisable; at an estimated cost of \$1,590,000 to the United States for construction and \$8,000 annually for maintenance, in addition to that now required; provided that, prior to construction or maintenance, local interests agree to:

(1) Provide without cost to the United States all lands, easements, and rights-of-way required for construction of the railroad bridge, for construction and subsequent maintenance of the

ENGBR

1 February 1961

SUBJECT: Gulf Intracoastal Waterway, Channel to Victoria, Texas

Victoria turning basin and of aids to navigation, and for maintenance of the turning basin at Seadrift, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil and necessary retaining dikes, bulkheads, and embankments therefor or the costs of such retaining works;

(2) Hold and save the United States free from damages due to construction and maintenance of the improvements;

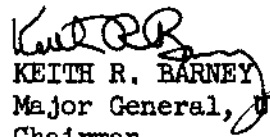
(3) Bear all cost of owning, maintaining, and operating the new railroad bridge and related sections of railroad embankment and track which are to be raised in elevation;

(4) Accomplish, without cost to the United States, alterations in pipelines, powerlines, utility lines, cables, and highway facilities all as may be necessary in connection with the work at the Victoria and Seadrift turning basins; and

(5) Provide and maintain at local expense adequate public terminal and transfer facilities, open to all on equal terms, at the Victoria and Seadrift turning basins.

The Board further recommends that no dredging be done by the United States within 50 feet of any existing pierhead, pierhead line, wharf, or structure, except bridges.

FOR THE BOARD:

  
KEITH R. BARNEY  
Major General, USA  
Chairman

# REPORT OF THE DISTRICT ENGINEER

## REVIEW OF REPORTS ON GULF INTRACOASTAL WATERWAY CHANNEL TO VICTORIA, TEXAS

JUNE 1, 1960

### SYLLABUS

This report comprises the results of an investigation to determine the advisability of modifying at this time the requirements of local cooperation for the authorized navigation project, Gulf Intracoastal Waterway, Channel to Victoria, Texas. It was found that the costs of local cooperation on the Channel to Victoria, an important tributary of the Gulf Intracoastal Waterway, have increased disproportionately since the project was authorized in 1945 and that the ratio of local to Federal costs is greater than for other similar projects. Local interests have reduced the Federal cost about \$395,000 by dredging the lower 14 miles of the channel at their own expense. The very large costs have become a burden on the local navigation districts and their financial stability is threatened.

In recent years, Federal policies on other projects have provided for Federal construction of bridges and turning basins on navigation projects. It is concluded that the local cooperation requirements on the Channel to Victoria should be modified to relieve local interests of the requirements for constructing the Missouri Pacific main line railroad bridge at channel mile 29.2, constructing and maintaining the Victoria turning basin and maintaining the Seadrift turning basin.

Accordingly, it is recommended that the existing project for the Gulf Intracoastal Waterway, Channel to Victoria, be modified to:

a. Eliminate the provisions of local cooperation which required that local interests furnish assurances that they will: (1) construct at their own expense the new bridge required for the Missouri Pacific railroad main line crossing at channel mile 29.2; (2) construct the turning basin at Victoria; and (3) maintain the turning basins at Seadrift and Victoria.

b. Provide for Federal construction of a vertical-lift bridge at the Missouri Pacific railroad main line crossing at channel mile 29.2 and of a turning basin near Victoria, Texas, and for maintenance of the turning basins at Victoria and Seadrift.

The recommendations would increase the Federal first cost for new work \$1,590,000 and the Federal annual maintenance cost \$8,000. Similar costs to local interests would be reduced by like amounts. All local cooperation requirements not affected by the recommendations would remain in force, including maintenance and operation of the Missouri Pacific railroad bridge, subject to the further provision that no dredging shall be done by the United States within 50 feet of any existing pierhead, pierhead line, wharf, or structure, except bridges.

U. S. ARMY ENGINEER DISTRICT, GALVESTON  
CORPS OF ENGINEERS  
GALVESTON, TEXAS

June 1, 1960

SUBJECT: Review of reports on Gulf Intracoastal Waterway, Channel to  
Victoria, Texas

TO: Chief of Engineers, Department of the Army  
Washington, D. C., through  
Division Engineer, U. S. Army Engineer Division,  
Southwestern, Dallas, Texas

AUTHORITY

1. This review of reports on Gulf Intracoastal Waterway, Channel to Victoria, Texas, is submitted pursuant to the following resolution adopted June 3, 1959 by the committee on Public Works, House of Representatives, United States:

"Resolved by the Committee on Public Works of the House of Representatives, United States, That the Board of Engineers for Rivers and Harbors be and is hereby, requested to review the reports on the Guadalupe River, Texas, contained in House Document 247, Seventy-sixth Congress and other reports with a view in determining whether it would be advisable to modify the requirements of local cooperation of the authorized navigation project at this time."

PURPOSE AND EXTENT OF STUDY

2. This report comprises an investigation of survey scope and considers the advisability of relieving local interests of the cost of the following items of required local cooperation:

a. Constructing, maintaining and operating a railroad bridge to cross the channel to Victoria at the Missouri Pacific main line crossing near Bloomington, Texas.

b. Constructing and maintaining the turning basin near Victoria, Texas.

c. Maintaining the turning basin at Seadrift which was constructed by local interests.

3. The views of local interests regarding the proposed modification of the requirements of local cooperation were obtained at a public hearing held in Victoria, Texas on December 18, 1959, and through subsequent conferences and correspondence.

4. Field investigations.- Field investigations for this report consisted of topographic surveys at the sites of the proposed bridge crossing and turning basin. Earth borings were made as required to determine the quantity and character of the materials. Extensive use was made of available survey data and soils information. Office studies included preparation of designs and estimates of costs pertinent to the requested modifications.

#### DESCRIPTION

5. The Federal navigation project known as Gulf Intracoastal Waterway, Channel to Victoria, Texas, is located in the south central part of Texas. It will provide for shallow-draft navigation from the Gulf Intracoastal Waterway to Seadrift and Victoria, Texas. The channel connects with the main channel of the Gulf Intracoastal Waterway at a point about 495.5 miles west of the Harvey Lock (New Orleans), Louisiana, and will extend northwestward about 35.2 miles to a turning basin located about 7 miles south of Victoria. The project also provides for a side channel to a turning basin at Seadrift and for a harbor of refuge at Seadrift. The first 14 miles of the channel from the Gulf Intracoastal Waterway, and the side channel to Seadrift are in or adjacent to the open waters of San Antonio and Guadalupe Bays and Mission Lake. The remaining 21.2 miles will be located along the eastern edge of the flood plain of the Guadalupe River. Seadrift is located on the northeast shore of San Antonio Bay approximately  $2\frac{1}{2}$  miles from the main channel. Victoria is located on the Guadalupe River, about 51 miles above its mouth. Plate 1 accompanying this report, and United States Coast and Geodetic Survey charts 891, 1117 and 1285 show the project channels and adjacent area. The existing Federal project for the Channel to Victoria, including its present status of construction, is described in paragraphs 15 through 19.

6. The Guadalupe River rises in Kerr County, Texas, about 70 miles northwest of San Antonio and flows eastward about 150 miles to the vicinity of New Braunfels, thence southeastward 275 miles through the coastal plains to discharge into Guadalupe Bay, an arm of San Antonio Bay. The drainage basin area totals about 10,200 square miles. The river is tidal for 25 miles above its mouth. The elevation of the Guadalupe River flood plain decreases uniformly from about 55 feet at river mile 51 near Victoria to a foot or two near the mouth of the river. The heights of the river banks vary from 25 to 30 feet at Victoria to about 3 feet at the mouth. The Gulf Intracoastal Waterway crosses San Antonio Bay about 12.5 miles southeast of the mouth of Guadalupe River.

7. San Antonio Bay, one of the larger bays along the Texas coast, is separated from the Gulf of Mexico by a narrow barrier beach known as Matagorda Island. The bay is about 15 miles long by 8 miles wide and has natural depths of 3 or 4 feet at mean low tide over its upper portion and 5 or 6 feet over its lower portion, with a maximum depth of about 7 feet. The mean diurnal range of tide in San Antonio Bay is about 1.5 feet. However, the water surface in San Antonio Bay is greatly affected by strong winds and may be as much as 3 feet above or below mean low tide depending on the direction and force of the prevailing wind. Tropical hurricanes which occur at infrequent intervals during the summer and fall along the Gulf coast, may raise tides as much as 15 feet above mean low tide at the coastline for short periods of time.

#### TRIBUTARY AREA

8. The area commercially tributary to the Channel to Victoria includes all or parts of 14 counties within 113 miles of Victoria and comprises about 10,525 square miles having a total population estimated at 904,000 in 1957. San Antonio and Victoria, with populations presently estimated at 545,000 and 30,000 respectively, are the largest cities in the area. The tributary area is principally agricultural with crop production, livestock and poultry raising and dairying being of major importance. Rice, which is grown by irrigation, has become an important crop along the lower river in recent years. The production of crude oil is also an important industry. Several large commercial sand and gravel producing pits are located near Victoria. Other industries in the tributary area include oil refining, meat packing, and manufacturing of foundry products, food products, garments, chemicals, furniture, and metal products. The tributary area is served by a network of improved highways, railroads and oil and gas pipelines.

9. Two large industrial chemical plants have been constructed along the Channel to Victoria in recent years. The Union Carbide Chemical Co. has located a large plant near Long Mott, a short distance northeast of channel mile 14 and about 7 miles north of Seadrift. E. I. du Pont de Nemours and Co. is located just east of the channel near mile 32, or about 10 miles south of Victoria.

#### BRIDGES AFFECTING NAVIGATION

10. The following bridges will cross the Channel to Victoria upon completion of the project:

Location (miles from GIWW):	Type	Clearance (feet)		Crossing facility
		Horizontal	Vertical(1)	
17.1	Fixed (Hwy)	75	50	Texas Hwy No. 35
29.2	Vert. lift (RR)	75	50	Mo. Pacific Railroad
<del>32.1</del>	Fixed (Hwy)	75	50	County road

(1) Above mean high water

11. Under the existing authorization for the navigation project, construction, operation and maintenance of all of these bridges, are responsibilities of local interests. The bridge crossing for State Highway No. 35 at mile 17.1 is now being constructed by the Texas Highway Department under a permit approved by the Secretary of the Army on January 21, 1959. Work has not been started on the two remaining bridges.

12. When the project was authorized a branch line of the Missouri Pacific railroad crossed the proposed channel route at mile 23.1 and the responsibility for constructing, operating and maintaining a suitable bridge at this location was also a local cooperation requirement. The branch line railroad subsequently was abandoned and the rails removed. Accordingly, a bridge is no longer required at this location.

#### PRIOR REPORTS

13. The only prior reports pertinent to this investigation were printed as House Document No. 247, Seventy-sixth Congress, 1st session and House Document No. 478, Eighty-first Congress, 2d session. The first report recommended a channel, 9 feet deep and 100 feet wide, extending from the Gulf Intracoastal Waterway by the way of Seadrift to a point on the Guadalupe River 3 miles above Victoria, Texas, an overall distance of 45.5 miles. The second report recommended a small-craft harbor of refuge, 9 feet deep, 200 feet wide and 1,000 feet long, at Seadrift with an entrance channel 9 feet deep and 100 feet wide connecting with the authorized channel to Seadrift.

## EXISTING CORPS OF ENGINEERS' PROJECT

14. Previous project.- The first Federal project for navigation improvements in this locality was authorized by the River and Harbor Act of March 2, 1907, (H. Doc. No. 336, 59th Cong., 2d sess.), which provided for a channel 5 feet deep and 40 feet wide in San Antonio Bay and for removing snags and log-rafts and dredging of shoals in the Guadalupe River between its mouth and mile 52 at Victoria, Texas. The project was completed in 1912. It was found impracticable to maintain the channel and maintenance was discontinued in 1916. The abandonment of this improvement was recommended in House Document No. 1090, 64th Congress, 1st session. The total cost of work on the previous project was \$279,000, including \$173,000 for new work and \$106,000 for maintenance.

15. Existing project.- The existing project for the Gulf Intra-coastal Waterway, Channel to Victoria, was authorized by the River and Harbor Act of March 2, 1945 and modified by the River and Harbor Act of September 3, 1954. The channel was incorporated into the Gulf Intra-coastal Waterway project by the River and Harbor Act of July 12, 1952.

16. Subsequent to authorization of the existing project, detailed design studies revealed that the water supply from the Guadalupe River would not be sufficient for dependable operation of a lock canal. Development of the project as a sea level channel rather than a lock canal was determined to be within the scope of the authorized project and was approved by the Chief of Engineers on October 27, 1950.

17. The existing project for the Channel to Victoria provides for a sea level channel 9 feet deep and 100 feet wide extending northwestward about 35.2 miles from the Gulf Intracoastal Waterway in San Antonio Bay to a turning basin to be constructed by local interests about 7 miles south of Victoria. The project also provides for a side channel, 9 feet deep, 100 feet wide and about 2 miles long extending northeastward from about mile 6.5 on the Victoria channel to a turning basin constructed by local interests at Seadrift. The turning basin at Victoria, as planned by local interests, would be 9 feet deep over a trapezoidal area having a length of 800 feet adjacent to the channel edge decreasing to 400 feet at a distance of 600 feet from the channel edge, as shown on plate 1. The turning basin at Seadrift has been constructed by local interests to a depth of 9 feet, a width of 250 feet and a length of 300 feet. The Federal project also provides, for a small-craft harbor of refuge, 9 feet deep, 200 feet wide, and 1000 feet long, located at Seadrift with an entrance channel 9 feet deep and 100 feet wide extending from the side channel.

18. The authorized project has been completed to mile 14, including the side channel to the locally dredged turning basin at Seadrift, except for the westerly wye connection to the Gulf Intracoastal Waterway. The channel is substantially completed between mile 14 and State Highway No. 35 at channel mile 17.1. The channel from State Highway No. 35



to the existing county road at mile 32.4 is presently being constructed under three continuing contracts. The remainder of the channel to the turning basin near Victoria is scheduled for completion in January 1965. The harbor of refuge and entrance channel at Seadrift have not been constructed and these features were placed in a deferred for restudy category by the Chief of Engineers on January 9, 1957.

19. The cost of the existing project to June 30, 1959, was as follows:

<u>Item</u>	<u>New Work</u>	<u>Maintenance</u>	<u>Total</u>
Federal funds	\$967,800	\$114,300	\$1,082,100
Contributed funds	<u>None</u>	<u>None</u>	<u>None</u>
Total cost	967,800	114,300	1,082,100

20. The current estimate of annual cost of maintenance for the Channel to Victoria is \$249,000. The actual amounts expended for maintenance during the last 5 years averaged about \$23,000 annually. The cost of maintenance during this period is not representative of the requirements for the full project since only the lower 14-mile reach of the project was complete during most of the period.

#### LOCAL COOPERATION ON EXISTING AND PRIOR REPORTS

21. No local cooperation was required on the prior project. The legislation authorizing the existing navigation project requires local interests to provide the following:

##### Channel to Victoria (HD 247/76/1)

a. Furnish free of cost to the United States all lands, easements, rights-of-way, and spoil-disposal areas for construction and for subsequent maintenance as required;

b. Hold and save the United States free from all claims for damages that may result from the construction and maintenance of the channels;

c. Bear all costs of required bridge modification; and

d. Give assurances satisfactory to the Secretary of the Army that they will provide adequate terminal facilities, including turning basins at Seadrift and Victoria.

Harbor of refuge at Seadrift (HD 478/81/2)

a. Provide without cost to the United States all lands, easements, rights-of-way, and spoil disposal areas necessary for construction and subsequent maintenance of the project, when and as required;

b. Construct and maintain without cost to the United States suitable mooring facilities within the harbor of refuge and exercise jurisdiction over those facilities so that all vessels shall have free and equal access thereto during storm periods; and

c. Hold and save the United States free from damages due to the construction and subsequent maintenance of the works;

Provided further, that construction of the proposed harbor of refuge shall not be undertaken until the authorized Guadalupe River channel and the side channel have been completed from the Gulf Intracoastal Waterway to and including the turning basin to be constructed by local interests at Seadrift, and that no dredging shall be done by the United States within 50 feet of any pierhead, pierhead line, wharf, or structure.

22. Under the requirements of local cooperation set forth in paragraph 21 the first cost of non-Federal items based on June 1960 prices is estimated at \$6,486,000. Details of the estimated non-Federal first cost are given in exhibit V, appendix I. These costs are summarized as follows:

Completed unit, Seadrift Channel	\$ 60,000
Uncompleted unit, Channel to Victoria:	
Lands and damages	1,188,000
Relocations	4,553,000 (1)
Dredging	<u>685,000 (2)</u>
Total	6,486,000 (3)

(1) Includes \$1,300,000 for MP RR main line bridge.

(2) Includes \$290,000 for Victoria turning basin.

(3) Excludes Seadrift Harbor of Refuge in "deferred for restudy" category. Latest estimate, July 1956, was \$33,000 for lands and damages and for installation of mooring facilities.

23. Local interests have furnished all items of local cooperation, required by the Federal construction schedule, for those portions of the project which have been constructed or are presently under contract, and have furnished assurances that the remaining items of local cooperation will be provided as required. The cost of local cooperation furnished through June 1, 1960 is estimated at \$1,600,000.

## OTHER IMPROVEMENTS

24. In 1911 and again in 1925 local interests dredged channels 5 feet deep and 50 feet wide from the town of Seadrift to connect with the bay channel. These channels, dredged 5 feet deep by 50 feet wide, shoaled rapidly and have not been maintained. Local interests widened the channel along the railroad pier at Seadrift to 100 feet and constructed a turning basin about 150 feet wide at its inner end. These improvements subsequently were abandoned. The cost of the work done in 1911 was reported at \$1,500. Costs of the later work are not available.

25. In addition to the items of local cooperation, the West Side Calhoun County Navigation District in 1954-55 dredged the portion of the authorized Channel to Victoria project from the Gulf Intracoastal Waterway to mile 14.0 except for the westerly leg of the connecting wye at the Gulf Intracoastal Waterway main channel intersection. The local interests also dredged a spur channel extending northeastward from mile 14.0 to and including a turning basin at the Union Carbide Chemical Co. plant at Long Mott. The total cost reported for the work was \$764,000, including \$369,000 for the spur channel and turning basin at Long Mott and \$395,000 for dredging the authorized Federal project channel. A number of private slips have been dredged to connect with the completed lower 14-mile reach of channel.

## TERMINAL AND TRANSFER FACILITIES

26. Existing terminal facilities include a timber wharf for public use on the turning basin at Seadrift, which is adequate for existing commerce on the completed section of channel. The Union Carbide Chemical Co. has constructed a bulkhead type wharf and terminal facilities at the upper end of the spur channel to Long Mott which are adequate for commerce moving to and from this plant. Local interests have furnished plans of terminal facilities to be constructed on the Victoria turning basin when the project is completed.

## MODIFICATIONS DESIRED

27. A public hearing was held in Victoria, Texas on December 18, 1959, to determine the changes in the requirements of local cooperation desired by local interests and to afford all interested parties an opportunity to express their views concerning the desired changes. There were 31 persons present including Federal, State, County and local officials, representatives of civic organizations, business and navigation interests and other interested parties.

28. At the public hearing the Victoria County Navigation District and the West Side Calhoun County Navigation District submitted a joint brief requesting that the requirements of local cooperation for the authorized project be modified to relieve local interests of the responsibility for constructing, maintaining and operating the railroad bridge for the Missouri Pacific main line crossing at channel mile 29.2 and for constructing the Victoria turning basin, and that the Federal Government assume responsibility for these items. Supplemental letters were submitted by the navigation districts subsequent to the public hearing requesting that maintenance of both the Seadrift and Victoria turning basins be performed by the Federal Government.

29. In support of the requested changes in the requirements of local cooperation, the local interests state that:

a. Precedents established on other similar projects indicate that, under present Federal policies, these items are not normally assigned as a local interests responsibility.

b. Federal costs on completed work and work presently under contract are about \$1,800,000 or 45 percent less than estimated in the Revised Definite Project Report on the Guadalupe River and, assuming a 25 percent savings on remaining work, would be about \$2,735,000 or 35 percent less than the Definite Project Report estimates when the entire project is completed.

c. Local interests have further reduced Federal costs by \$437,500 by constructing the lower 14 miles of the Victoria channel entirely at local expense. (Local costs on the Federal project actually totaled \$395,000).

d. Local interests rights-of-way costs have increased substantially because of the necessity for wider rights-of-way, unforeseen mineral deposits and unanticipated damages to property and improvements. The estimated increase in rights-of-way cost is about \$248,700 more than the Revised Definite Project Report estimate.

e. The unusually large number of structures involved (37 for the entire project) has imposed a heavy financial burden on local interests. Actual costs to date and estimates received from several pipeline companies have been as much as  $2\frac{1}{2}$  to 3 times higher than the Revised Definite Project Report estimates because of rising material and labor costs, and policies and more stringent requirements of pipeline companies.

f. Local interests costs represent an unusually high percentage of the total project cost. Based on actual costs to date and revised estimates for remaining work, the local interests cost will approximate 58 percent of the total project cost. This is considerably above customary requirements for projects serving the needs of, and developing benefits for, general commerce and navigation.

g. The construction, operation and maintenance costs of railroad bridges have been assumed by the Federal Government in connection with other navigation projects. Also, Federal policies in recent years have provided that construction and maintenance of turning basins for public use on waterway projects should be a Federal responsibility.

#### EXISTING AND PROSPECTIVE COMMERCE

30. Existing commerce.- Commerce on the Channel to Victoria is limited to the lower 14-mile reach which has been completed from the Gulf Intracoastal Waterway to Long Mott and the side channel to Seadrift. The annual commerce on the waterway for the period 1954, the first year for which statistics are available, through 1958 is given in table 1.

TABLE 1

#### ANNUAL COMMERCE

(In tons of 2,000 pounds)

<u>Year</u>	<u>Tons</u>
1954	47,570
1955	150,840
1956	212,710
1957	106,667
1958	180,457

31. The principal commodities moved on the waterway in 1958 comprised about 63 per cent industrial chemicals, handled at the Long Mott terminal, and 31 per cent seashells, handled at the Seadrift turning basin. The remaining commodities included petroleum, petroleum products and machinery, which were handled at both terminals.

32. Prospective commerce.- The prospective commerce for the Channel to Victoria project is estimated from the results of a detailed traffic survey of the tributary area made in 1947 and supplemented in August 1956. The average annual prospective commerce is estimated at 2,170,000 tons, of which 603,000 tons would be inbound and 1,567,000 tons would be outbound. The prospective inbound commerce consists principally of steel shapes, refined petroleum products, oil well drilling supplies and seashells. The outbound commerce consists of gravel, sand, concrete manufactures, petro-chemical intermediates, and crude oil.

VESSEL TRAFFIC

33. Present vessel traffic.- The vessel traffic during 1958 on the 14-mile completed reach of the Channel to Victoria is given in table 2. The table shows the trips and drafts of vessels and the direction of the movement. The draft classification is based on actual draft at the time of the vessel arrived at, or departed from, the port.

TABLE 2

TRIPS AND DRAFTS OF VESSELS  
CALENDAR YEAR 1958

Draft in: feet	: Self propelled vessels	: Non-self propelled vessels	: Dry cargo	: Tankers	: Total
<u>Inbound</u>					
9	6	-	7		13
8	4	13	3		20
7	7	69	-		76
6	88	38	1		127
5	225	66	-		291
4 & less	<u>9</u>	<u>64</u>	<u>83</u>		<u>156</u>
Total	339	250	94		683
<u>Outbound</u>					
9	6	-	34		40
8	5	1	50		56
7	7	1	4		12
6	87	12	-		99
5	225	7	-		232
4 & less	<u>9</u>	<u>230</u>	<u>6</u>		<u>245</u>
Total	339	251	94		684
Total all vessels	-----				1367

The commerce on the channel to Seadrift consists mainly of shell with approximately 60,000 tons moved under the waterway in barges in 1958, most of which was inbound commerce. The trips and drafts of vessels on the Seadrift turning basin is not known, however, assuming an average of two barges per tow, with average of 300 tons of shell per barge and the barges leaving empty there was a total of 200 barges inbound and outbound, with 100 tows making both the inbound and outbound trips.

## DIFFICULTIES ATTENDING NAVIGATION

34. There are no known difficulties to navigation on the completed reach of channel.

## WATER POWER AND OTHER SPECIAL SUBJECTS

35. The question of modifying local cooperation requirements for the Channel to Victoria project would have no bearing on water power, flood control, land reclamation, conservation of water or soil, malaria control and public health, stream pollution, acid mine waste or other special subjects.

## MODIFICATIONS CONSIDERED

36. No change in the plan of improvement for the authorized project is proposed in this report. The project modifications considered are limited to the apportionment between the Federal and non-Federal interests of the costs of constructing, maintaining and operating the Missouri Pacific railroad main line bridge at channel mile 29.2, the costs of dredging and maintaining the Victoria turning basin, and the cost of maintaining the turning basin at Seadrift.

37. Details of the vertical-lift, through truss span proposed for the railroad crossing are shown on plate 2 and design criteria are described in exhibit II of appendix I. Navigation clearances of the proposed bridge would be 75 feet horizontally between fenders, 20 feet vertically above mean high water in the closed position and 50 feet vertically in the open position.

38. Crossing the Missouri Pacific railroad with the project channel will require raising about 6,000 feet of track which extends across the flood plain of the Guadalupe River. In 1936, the maximum flood of record reached an elevation slightly above the base of rail elevation of the railroad. Construction of the channel and its protection levee along the easterly side of the flood plain will cause increased flood heights in the remaining flood plain. Design studies have determined that flood heights for both the flood of record and the standard project flood would be raised about 2.5 feet at the railroad crossing. Accordingly, the 6,000-foot reach of track, including 4,100 feet of earth embankment and about 1,900 feet of timber trestle, would be raised 2.5 feet. The bridge would be constructed on the existing track alignment and a temporary by-pass would carry rail traffic past the construction site during the construction period. The 6,000-foot section of track across the flood plain would be raised under traffic. Details of the proposed track raising are shown on plate 2.

39. The turning basin 7 miles south of Victoria would be relocated slightly to the north from the location proposed in the plan developed for the revised definite project report. This change is required to conform with current plans of local interests for development of terminal facilities at the turning basin. The relocated position for the turning basin is shown on plate 1.

40. The modifications considered in this report would have no bearing on existing shorelines or aids to navigation.

#### ESTIMATES OF FIRST COST

41. Detailed estimates of first cost for constructing the railroad bridge at mile 29.2 and the turning basin 7 miles south of Victoria are given in exhibits III and IV of appendix I. The estimate of first cost for the entire authorized project, revised to June 1960, and the modified estimate of first cost for the project that would result from the modification of local cooperation requirements considered herein are given in detail in exhibit V of appendix I and are summarized in table 3. The division of first costs shown for the authorized project is based on the existing requirements of local cooperation, set forth in paragraph 21. The division of first costs shown for the modified project cost estimate is based on the proposed requirements set forth in paragraph 45.



TABLE 3

ESTIMATES OF FIRST COSTS  
GULF INTRACOASTAL WATERWAY  
CHANNEL TO VICTORIA, TEXAS

Item	: Authorized : project cost : estimate	: Modified : project cost : estimate
<u>Federal first cost</u>		
Corps of Engineers:		
Land title costs	\$ 3,000	\$ 3,000
Dredging, channels	4,211,000(1)	4,211,000
Levees	1,029,000	1,029,000
Flushing system	400,000	400,000
Constructing R.R. bridge (mile 29.2) and raising 6,000' track	-	1,094,000
Dredging, Victoria turning basin*	-	264,000
Subtotals	5,643,000	7,001,000
Preauthorization studies	21,000	32,000
Engineering and design	455,000	570,000
Supervision and administration	451,000	568,000
Subtotal, Corps of Engineers	6,570,000	8,171,000
U. S. Coast Guard aids to navigation	43,000	43,000
Total Federal first cost	6,613,000	8,214,000
<u>Non-Federal first cost</u>		
Lands and damages	1,208,000	1,208,000
Dredging, channels and turning basins	725,000(2)	435,000
Relocations, pipelines and utilities	1,340,000	1,340,000
Highway bridges and road ramps	464,000(3)	464,000
Siphons	1,349,000	1,349,000
R.R. bridge (mi. 23.1) abandonment cost, constructing R.R. bridge (mi. 29.2) and raising 6,000' track	1,400,000	100,000
Total non-Federal first cost	6,486,000	4,896,000
Total estimated first cost	13,099,000	13,110,000

(1) Includes \$335,300 completed work and \$2,673,700 work under contract.

(2) Includes \$435,000 completed work.

(3) Includes \$285,000 work under construction.

42. Estimates of investment and annual charges for the authorized project, revised to June 1960, and for the project as modified by the changes in local cooperation requirements considered herein are given in detail in exhibit VI of appendix I and are summarized in table 4. The estimates for the authorized project are based on the existing requirements of local cooperation, set forth in paragraph 21. The estimates for the revised project are based on the proposed requirements set forth in paragraph 45.

TABLE 4

ESTIMATES OF ANNUAL CHARGES  
GULF INTRACOASTAL WATERWAY  
CHANNEL TO VICTORIA, TEXAS

Item	: Authorized : project	: Modified : project
<u>Investment</u>		
Federal	\$7,124,000(1)	\$8,851,000(2)
Non-Federal	<u>7,026,000</u>	<u>5,293,000</u>
Total investment	14,150,000	14,144,000
<u>Annual charges</u>		
Federal:		
Corps of Engineers	438,000	508,000
U. S. Coast Guard	<u>5,000</u>	<u>5,000</u>
Total Federal annual charges	443,000	513,000
Non-Federal	<u>337,000</u>	<u>262,000</u>
Total annual charges	780,000	775,000

(1) Includes \$21,000 cost of preauthorization studies

(2) Includes \$32,000 cost of preauthorization studies

ESTIMATES OF BENEFITS

43. The benefits that have been estimated for the channel to Victoria project include both navigation and flood control benefits. The estimated benefits are based on a detailed traffic survey of the tributary area made in 1947 and revised by a reconnaissance survey in August 1956. The benefits were re-evaluated in June 1960. The benefits are described in detail in exhibit I of appendix I and are summarized in table 5.

TABLE 5

SUMMARY OF ESTIMATED BENEFITS  
GULF INTRACOASTAL WATERWAY  
CHANNEL TO VICTORIA, TEXAS

Item	:	Annual benefits
Navigation benefits		\$1,272,000
Flood control benefits		
a. Prevention of flood damages		15,000
b. Net return from higher order of land utilization		<u>160,000</u>
Subtotal, flood control benefits		175,000
Total annual benefits		1,447,000

COMPARISON OF BENEFITS AND COSTS

44. The estimated first costs, annual charges, annual benefits and ratios of annual benefits to annual charges for the authorized channel to Victoria project, revised to June 1960, including preauthorization study costs of \$11,000 for this report are as follows:

Estimated first cost -----	\$13,110,000
Annual charges -----	780,000
Annual benefits -----	1,447,000
Ratio of benefits to charges -----	1.9

## PROPOSED LOCAL COOPERATION

45. Local cooperation requirements for the existing project are set forth in paragraph 21. Modification of the requirements is proposed in accordance with the apportionment of costs which is discussed and set forth in paragraph 48. The modifications proposed in the requirements of local cooperation are applicable only to construction of the Victoria turning basin and the Missouri Pacific main line railroad bridge and to subsequent maintenance of these features and the Seadrift turning basin. The modifications proposed are as follows:

a. For the Missouri Pacific main line railroad bridge, local interests shall furnish without cost to the United States all necessary lands, easements, rights-of-way required for construction; hold and save the United States free from damages due to construction of the improvement; and bear all cost of owning, maintaining and operating the new bridge.

b. For construction and subsequent maintenance of the Victoria turning basin and maintenance of the Seadrift turning basin, local interests will:

(1) Provide without cost to the United States all lands, easements and rights-of-way required for construction and subsequent maintenance of these items, and of aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil and necessary retaining dikes, bulkheads and embankments therefor or the costs of such retaining works;

(2) Accomplish, without cost to the United States, alteration required in pipelines, powerlines, utility lines, cables, and highway facilities, where the allocation of such costs to local interests is found to be in accordance with current Federal policies;

(3) Hold and save the United States free from any damage claims that might arise from the work; and

(4) Provide and maintain at local expense adequate public terminal and transfer facilities at the Victoria and Seadrift turning basins open to all on equal terms in accordance with plans approved by the Chief of Engineers.

46. All requirements of local cooperation not affected by the modifications proposed in paragraph 45 would remain the same as specified under the existing authorization. The modifications would relieve local interests of the requirements for: (a) constructing the bridge required for the

Missouri Pacific railroad main line crossing at channel mile 29.2,  
(b) constructing and maintaining the Victoria turning basin, and  
(c) maintaining the turning basin at Seadrift.

47. The West Side Calhoun County Navigation District and the Victoria County Navigation District have furnished assurances that the local cooperation required under the existing authorization will be provided.

#### APPORTIONMENT OF COSTS AMONG INTERESTS

48. This report proposes a revision of apportionment between the Federal and non-Federal interests of the estimated first cost and the annual cost of maintenance and operation of the authorized Channel to Victoria navigation project. The revisions proposed are based on an equitable division of costs determined in accordance with present Federal policies relative to similar multi-user navigation projects. A small portion of the estimated benefits from the project would be derived from a higher order of land utilization within the Guadalupe River flood plain to the east of the project channel. Under current Federal policies, local interests would be required to share the construction cost of the project because of the higher order of land utilization benefit. However, the required local share would be much less than the \$395,000 expended by local interests for construction of the lower 14 miles of the Federal project channel and no additional contribution by local interests is proposed because of this benefit. In view of the large local expenditures on this project, it is considered equitable that the estimated first cost of the Missouri Pacific railroad main line bridge and the Victoria turning basin should be apportioned to the United States for the reasons set forth in paragraphs 54 through 57. Apportionment of the first cost of the remaining project features would remain unchanged. Local interests would be required to provide lands and rights-of-way and hold the Government free from damages. The local cost would include the cost of all relocations except the railroad bridge. The cost of owning, maintaining and operating the railroad bridge would be apportioned to local interests. The apportionment of costs for the project under the existing authorization acts and as proposed for modification in this report is presented in table 6.

TABLE 6

APPORTIONMENT OF COST FOR  
GULF INTRACOASTAL WATERWAY,  
CHANNEL TO VICTORIA, TEXAS

Item	: Under existing : authorization	: Under proposed : modification
<u>First cost:</u>		
Federal:		
Corps of Engineers	\$ 6,570,000(1)	\$ 8,171,000(2)
U. S. Coast Guard	<u>43,000</u>	<u>43,000</u>
Subtotal Federal first cost	6,613,000	8,214,000
Non-Federal	<u>6,486,000</u>	<u>4,896,000</u>
Total first cost	13,099,000	13,110,000
<u>Annual maintenance and advance replacement cost</u>		
Federal:		
Corps of Engineers	182,000	190,000
U. S. Coast Guard	<u>3,000</u>	<u>3,000</u>
Subtotal Federal maintenance cost	185,000	193,000
Non-Federal maintenance cost	<u>64,000</u>	<u>56,000</u>
Total annual maintenance cost	249,000	249,000

(1) Includes preauthorization study cost of \$21,000.

(2) Includes preauthorization study cost of \$32,000.

COORDINATION WITH OTHER AGENCIES

49. Copies of the notice of the public hearing held in Victoria, Texas on December 18, 1959, were sent to all known Federal, State and local agencies that might be interested in the proposed modification of the local cooperation requirements considered in this report. No comments from other agencies were received.

## DISCUSSION

50. Local interests request that the requirements of local cooperation of the authorized Gulf Intracoastal Waterway, Channel to Victoria, Texas, project be modified to relieve local interests of: (a) the cost of constructing, maintaining and operating the Missouri Pacific railroad main line bridge crossing the channel at mile 29.2, (b) the cost of constructing and maintaining the turning basin near Victoria, and (c) the cost of maintaining the turning basin at Seadrift, which was constructed by local interests. In support of the requested modifications, local interests state that these items are not normally assigned as a local interests responsibility under present Federal policies; that during construction of the project, Federal costs have decreased while non-Federal costs have increase substantially over estimates prepared in 1957 for the revised definite project report; that local interests have reduced the Federal cost by constructing a substantial amount of the Federal portion of the project at their own expense; and that the non-Federal cost represents an unusually high percentage of the total project cost, based on present Federal policies for multi-user navigation projects.

51. The Channel to Victoria, which is now under construction, is potentially an important tributary to the Gulf Intracoastal Waterway. Prospective commerce for the waterway includes petroleum and petroleum products, seashells, gravel, sand, steel shapes and chemical products. The annual benefits of the waterway are presently estimated at \$1,447,000, including \$1,272,000 savings in transportation costs and \$175,000 from flood control benefits. Annual charges are estimated at \$780,000 and the benefits to costs ratio at 1.9. The benefits from transportation savings will accrue to general commerce and are considered national in scope.

52. The Channel to Victoria project was initially authorized by the River and Harbor Act of March 2, 1945 in accordance with House Document No. 247, Seventy-sixth Congress, first session, which contained a report of the Chief of Engineers dated February 24, 1939. In this report, the total cost of the project was estimated at \$4,100,000, including \$3,700,000 (90 percent) Federal cost and \$400,000 (10 percent) local cost. The estimate was based on a canal with two navigation locks to terminate at a point about 3 miles above Victoria. Subsequent detailed design studies revealed that the dependable water supply of the Guadalupe River would not be sufficient for operating the locks. Development of the project as a sea level channel was approved by the Chief of Engineers on October 27, 1950. In a revised definite project report, approved by the Chief of Engineers on October 18, 1957, total costs of a realigned sea level channel to terminate at a turning basin about 7 miles south of Victoria were estimated at \$14,600,000, including \$7,910,000 (54 percent) Federal and \$6,690,000 (46 percent) local costs. The June 1960 cost estimate totals \$13,099,000 with approximately equal division of Federal and local costs.

53. Although price level changes have greatly increased the estimated overall costs of the project since its original authorization, the costs apportioned to local interests have been substantially increased by extensive relocation problems and costs. Construction of new pipelines and industrial water supply facilities have added large relocation costs to the original estimates. More extensive development in the area has increased the costs of altering and relocating improvements from the channel right-of-way. The very large local costs have placed a burden upon the navigation districts to the extent of threatening their financial stability.

54. The cost of altering obstructive bridges across navigable streams is borne by the Federal Government under certain conditions. Public Law 647, 76th Congress, approved June 21, 1940 (Truman-Hobbs Act) as amended by Public Law 564, 82d Congress, approved July 16, 1952 provided that the cost of altering railroad and highway bridges which are determined to be unreasonably obstructive to navigation would be allocated between the bridge owner and the United States in accordance with the provisions of section 6 of that act. In recent years, it has been the policy of Congress to recognize that bridges necessary for crossing new, artificial waterways are integral parts of the project and that, for those projects benefiting general commerce and navigation, the construction cost of the bridges should be borne by the United States. Examples of this policy are found in the authorized projects for the Arkansas River and Tributaries, Arkansas and Oklahoma (House Document No. 758, 79th Congress, 2d Session) and for the realignment of the Gulf Intracoastal Waterway in Vicinity of Aransas Pass, Texas. The latter improvement was authorized by the River and Harbor Act of July 24, 1946 in accordance with House Document No. 700, 79th Congress, 2d Session. Similarly, it has been the policy of Congress in recent years to recognize that turning basins are necessary and integral parts of a waterway and, for those projects benefiting general commerce and navigation, the costs of turning basins should be borne by the United States.

55. The inland portion of the Channel to Victoria is landlocked and does not follow the natural channel of the Guadalupe River. At the Missouri Pacific railroad main line crossing the channel will cut through an earth embankment section of the railroad. The existing railroad bridge over the natural channel of the river is about 1.1 miles to the southwest and will not be affected in any way by the navigation project. If the project were being considered for authorization under existing policies at the present time, the costs for constructing new bridges and turning basins would be apportioned to the United States.

56. It is proper that consideration be given to the large amounts expended by local interests for the requirements of local cooperation. The costs of relocations and alteration of various facilities, a number of which did not exist when the project was initially authorized, have increased disproportionately the estimated costs of local cooperation. At present, local costs are estimated at about 49 percent of the total cost of the project, which is far greater than normally required on navigation projects carrying general commerce and navigation with benefits of



national scope. It is proper, also, that consideration be given to the construction of the lower 14 miles of the project channel by the local interests, at a construction cost of \$395,000, with a saving of this amount to the Federal Government.

57. As shown in table 3, paragraph 41, the estimated first costs for the entire project would be \$8,214,000 Federal and \$4,896,000 non-Federal if construction of the railroad bridge and Victoria turning basin were reapportioned from local interests to the Federal Government. This would apportion about 63 per cent of the cost to the Federal Government and 37 per cent to local interests. This ratio is more equitable than the existing apportionment ratio.

58. The additional first cost to the United States from the reapportionment would be \$1,590,000, including \$1,300,000 for construction of the railroad bridge and \$290,000 for construction of the Victoria turning basin. A like reduction would be effected in the costs to local interests. These costs do not include \$11,000 for the preauthorization study costs expended in the preparation of this report.

59. Present Federal policies relative to maintenance of navigation projects generally provide for Federal maintenance of channels and turning basins and for Federal maintenance and operation of appurtenant structures such as locks, jetties and breakwaters. Bridges crossing navigable waters generally are owned, operated and maintained by non-Federal interests. Accordingly, it is considered that no change should be made in the requirement for local interests to own, operate and maintain the railroad bridge after its construction. In accordance with current Federal policies, however, it is proposed that maintenance of the Victoria and Seadrift turning basins would be reapportioned to the United States at an increased annual maintenance cost of \$8,000, with a like reduction in the costs of local interests.

60. Additional information called for by Senate Resolution 148, 85th Congress, adopted January 28, 1958, is contained in an attachment to this report.

## CONCLUSIONS

61. Based upon the findings of this investigation, it is concluded that:

a. The Channel to Victoria, Texas, when completed, will be an important tributary of the Gulf Intracoastal Waterway and provide general navigation benefits of national significance.

b. The estimated costs of local cooperation have increased disproportionately because of additional development in the vicinity since the project was authorized in 1945, and the ratio of local costs to Federal costs is considerably greater than for other similar projects.

c. Local interests have reduced the estimated Federal cost by about \$395,000, by dredging the lower 14 miles of the channel at their own expense.

d. The authorization for the Channel to Victoria project provides, in addition to the customary requirements of local cooperation, for local interests to bear the costs of constructing, operating, and maintaining necessary new bridges and of constructing and maintaining turning basins at Victoria and Seadrift.

e. In recent years, Federal policies have provided for the construction cost of new bridges across artificial channels, and for the construction and maintenance of project turning basins, to be apportioned as Federal costs. There are ample precedents setting forth these policies.

f. Local interests have furnished assurances of local cooperation and have provided all items required for construction of the project up to the present time. However, the very large costs have become a burden on the navigation districts and their financial stability is threatened.

g. In equity, the local cooperation requirements should be modified to reapportion the cost of constructing the Missouri Pacific railroad main line bridge at channel mile 29.2, the cost of constructing and maintaining the Victoria turning basin, and the cost of maintaining the Seadrift turning basin from the local interests to the Federal Government.

h. Modification of the requirements of local cooperation as proposed would increase the estimated first cost to the United States by \$1,590,000, exclusive of \$11,000 for preauthorization study costs for this report, and would effect a reduction of the same amount in the estimated first cost to local interests. Estimated annual maintenance costs to the United States would be increased by \$8,000 with a like reduction to local interests.

i. All other requirements of local cooperation for the Channel to Victoria project should remain in force.

## RECOMMENDATIONS

62. Accordingly, it is recommended that the existing project for the Gulf Intracoastal Waterway, Channel to Victoria, Texas, be modified to:

a. Eliminate the provisions of local cooperation which require that local interests furnish assurances that they will: (1) construct at their own expense the new bridge required for the Missouri Pacific railroad main line crossing at channel mile 29.2; (2) construct the turning basin at Victoria, and (3) maintain the turning basins at Seadrift and Victoria.

b. Provide for Federal construction of a vertical-lift bridge at the Missouri Pacific railroad main line crossing at channel mile 29.2 and of a turning basin near Victoria, Texas, substantially as shown on plates 1 and 2 of this report, and with such modifications thereof as in the discretion of the Chief of Engineers may be advisable, at an estimated increase in first cost to the United States of \$1,590,000, and for maintenance of the turning basins at Victoria and Seadrift at an estimated increase in annual maintenance cost of \$8,000.

63. The foregoing recommendation shall be subject to the condition that local interests shall furnish assurances satisfactory to the Secretary of the Army that:

a. For the Missouri Pacific railroad main line bridge local interests will furnish without cost to the United States all necessary lands, easements and rights-of-way required for construction; hold and save the United States free from damages due to construction of the bridge; and bear all costs of owning, maintaining and operating the new bridge.

b. For construction and subsequent maintenance of the Victoria turning basin and maintenance of the Seadrift turning basin, local interests will:

(1) Provide without cost to the United States all lands, easements and rights-of-way required for construction and subsequent maintenance of these items, and of aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil and necessary retaining dikes, bulkheads and embankments therefor or the costs of such retaining works;

(2) Accomplish, without cost to the United States, alteration required in pipelines, powerlines, utility lines, cables, and highway facilities, where the allocation of such costs to local interests is found to be in accordance with current Federal policies;

(3) Hold and save the United States free from any damage claims that might arise from the work; and

(4) Provide and maintain at local expense adequate public terminal and transfer facilities at the Victoria and Seadrift turning basins open to all on equal terms in accordance with plans approved by the Chief of Engineers.

64. The foregoing recommendation shall be subject also to the condition that all other requirements of local cooperation for the authorized project, including owning, maintaining and operating the Missouri Pacific railroad bridge after its completion, shall remain in force. Further, that no dredging shall be done by the United States within 50 feet of any existing pierhead, pierhead line, wharf, or structure, except bridges.

- 3 Incls  
1. Plates 1 and 2  
2. Appendix I  
3. Attachment

*Harold C. Brown*  
HAROLD C. BROWN  
Colonel, CE  
District Engineer

[First endorsement]

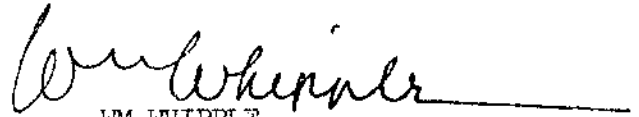
SWDCW-4

SUBJECT: Review of Reports on Gulf Intracoastal Waterway, Channel  
to Victoria, Texas

United States Army Engineer Division, Southwestern, Dallas, Texas,  
July 8, 1960

TO: Chief of Engineers, Department of the Army, Washington 25, D. C.

I concur in the conclusions and recommendations of the District  
Engineer.



WM WHIPPLE  
Brigadier General, USA  
Division Engineer

REVIEW OF REPORTS  
ON  
GULF INTRACOASTAL WATERWAY  
CHANNEL TO VICTORIA, TEXAS

INFORMATION CALLED FOR BY  
SENATE RESOLUTION 148, 85TH CONGRESS  
ADOPTED JANUARY 28, 1958

1. Authority.- The following information is furnished in response to Senate Resolution 148, 85th Congress, adopted January 28, 1958.

2. Requests of local interests.- At the public hearing in Victoria, Texas, on December 18, 1959, local interests requested that the requirements of local cooperation for the authorized navigation project be modified to relieve them of the responsibility for: (a) construction, maintenance, and operation of the Missouri Pacific railroad main line crossing bridge; (b) construction and maintenance of the Victoria turning basin; and (c) maintenance of the Seadrift turning basin.

3. Project modifications considered.- The report is limited to consideration of proposed changes in the apportionment of project costs between the United States and non-Federal interests. Under the present local cooperation requirements for the authorized project, the current project cost estimate is apportioned \$6,613,000, or 51 percent of the total cost, to the United States and \$6,486,000, or 49 percent of the total cost, to the local interests. This degree of local participation is greater than present policies would normally require on navigation projects providing general navigation benefits of national scope.

4. Present Federal policies for navigation projects generally provide for Federal construction of new bridges crossing artificial channels and for Federal construction and maintenance of turning basins. In accordance with these policies, the report recommends modification of the local cooperation requirements as requested by local interests except for maintenance and operation of the Missouri Pacific railroad main line bridge. On navigation projects, it is customary for the Federal Government to maintain channels, turning basins and such appurtenant structures as jetties, breakwaters, locks and aids to navigation. Crossing facilities such as pipelines, electric power lines, and bridges for highways and railroads usually are maintained and operated by non-Federal interests. Accordingly, maintenance and operation of the Missouri Pacific railroad main line bridge is considered to be properly a responsibility of local interests. Under the revised local cooperation requirements, the project first cost would be apportioned \$8,214,000, or 63 percent of the total cost, to the United States and \$4,896,000, or 37 percent of the total cost, to local interests.

5. Changes in the apportionment of cost would not affect the benefits to cost ratio for the project.

