

**NOTICE OF APPLICATION FOR FEDERAL CONSISTENCY REVIEW
LAKE MICHIGAN COASTAL ZONE PROGRAM**

Project Number: ER-19130

Name of Applicant: Margaret Dove

Address of Applicant:

U.S. Army Corps of Engineers, Chicago District
231 S. LaSalle St, Suite 1500
Chicago, IL 60604

Project Description:

Michigan City Harbor Breakwater Repair 2016: repair of 150' of the east pier breakwater's concrete cap using a grout mixture

Location of Project:

Michigan City, IN; LaPorte Co.

Send comments to the following no later than July 10, 2016:

Federal Consistency Review Coordinator, Environmental Unit
Division of Fish and Wildlife
Department of Natural Resources
402 West Washington Street, Room W273
Indianapolis, IN 46204
Electronic mail: environmentalreview@dnr.in.gov

Copies of the request, accompanying information and data are available for inspection at the following location:

Environmental Unit
Division of Fish and Wildlife
Department of Natural Resources
402 West Washington Street, Room W273
Indianapolis, IN 46204

* FC Review *

ER-19130

Vaught, Olivia

From: Dove, Margaret A LRC <Margaret.A.Dove@usace.army.mil>
Sent: Friday, June 24, 2016 1:08 PM
To: Review, Environmental
Subject: Federal Consistency Review - MI City Harbor Breakwater
Attachments: CZMpackageInDNR-MiCity.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

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The U.S. Army Corps of Engineers, Chicago District, is submitting the attached information for a Federal Consistency Review for the Michigan City Harbor Breakwater Repair Project. A hard copy will follow via the postal service.

Sincerely,

Margaret Dove
U.S. Army Corps of Engineers
Environmental Engineering, Chicago District
231 S. LaSalle St, Suite 1500
Chicago, Illinois 60604
Phone: 312-846-5502

Chicago USACE website: <http://www.lrc.usace.army.mil>
Facebook: <http://www.facebook.com/usacechicago>

* FC Review *

→ Fed. Agency conducting activity

DOW = N
FW = N
UTM = 4619530N
507600E



DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
231 SOUTH LA SALLE STREET, SUITE 1500
CHICAGO IL 60604

22 JUN 2016

Design Branch

Indiana Department of Natural Resources
Division of Fish and Wildlife
Environmental Unit
402 West Washington St, Room W273
Indianapolis, Indiana 46204

Dear Sir or Madam:

The U.S. Army Corps of Engineers, Chicago District is proposing to repair a failed section of the east pier breakwater at Michigan City Harbor. The proposed activity includes repair of approximately 150 lf of the existing concrete cap by injecting a specialized grout mixture into the structure to fill voids. This method has been successfully used multiple times at Chicago Harbor. A low mobility void filling grout will be used to support the concrete cap. Construction of this project is expected to occur in summer 2016. The proposed activity complies with Indiana's approved coastal management program and will be conducted in a manner consistent with such program.

This letter includes a copy of the IDEM application for Authorization to Discharge Dredged or Fill Materials to a State Regulated Wetland and/or Waters of the State Permit. Questions regarding the proposed project may be directed to Ms. Margaret Dove, at (312) 846-5502 or margaret.a.dove@usace.army.mil.

Sincerely,

Christopher T. Drew
Colonel, U.S. Army
District Commander

Enclosure



**APPLICATION FOR AUTHORIZATION TO DISCHARGE DREDGED
OR FILL MATERIAL TO ISOLATED WETLANDS AND/OR
WATERS OF THE STATE**

State Form 51821 (R2 / 11-15)

Indiana Department of Environmental Management

- INSTRUCTIONS:** 1. Read the instruction sheet before filling out this form.
2. You must complete all applicable sections of this form

1. Applicant Information		2. Agent Information	
Name of Applicant U.S. Army Corps of Engineers		Name of Agent	
Mailing address (Street/ PO Box/ Rural Route, City, State, ZIP Code) 231 S. La Salle St, Suite 1500, Chicago, IL 60604		Mailing address (Street/ PO Box/ Rural Route, City, State, ZIP Code)	
Daytime Telephone Number 312-846-5502		Daytime Telephone Number	
Fax Number		Fax Number	
E-mail address (optional) margaret.a.dove@usace.army.mil		E-mail address (optional)	
Contact person (required) Margaret Dove		Contact person	
3. Project / Tract Location			
County LaPorte		Nearest city or town Michigan City	
U.S.G.S. Quadrangle map name (Topographic map) Michigan City West		Project street address (if applicable)	
Quarter NW	Section 20	Township 38 N	Range 4W
Type of aquatic resource(s) to be impacted (Attach Worksheet One.) Lake Michigan at Michigan City Harbor		Project name or title (if applicable) Michigan City Harbor Breakwater Repair 2016	
Other location descriptions or driving directions Project is located on the east pier breakwater of Michigan City Harbor, adjacent to the boat harbor.			
4. Project Purpose and Description (Use additional sheet(s) if required.)			
Has any construction been started? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Anticipated start date (month, day, year) 8/1/2016	
If yes, how much work is completed?			
Purpose of project and overview of activities A section of the existing east pier breakwater's concrete cap has failed and needs to be repaired. The repairs will include application of grout mix to the interior. Approximately 150 linear feet will be repaired. Repairs consist of using existing holes through the existing concrete cap as needed and injecting a specialized grout mixture into the structure to fill the voids. A low mobility void filling grout mix will be injected under low pressure in order to limit migration. The volume of grout placed per linear foot will be monitored to prevent seepage. Lake Michigan inside the Harbor will be visually monitored during grout placement. See Attachment 1 for drawings and Attachment 2 for details on the operation.			

5. Avoidance, Minimization, and Mitigation Information: Applicants must answer all of the following questions
(Use additional sheet(s) if necessary - provide a detailed response to all applicable questions.)

A. For projects with Class II Isolated wetlands –

1. Is there a reasonable alternative to the proposed activity?

2. Is the proposed activity reasonably necessary or appropriate?

B. For projects with Class III wetlands, adjacent wetlands, and/or streams, rivers, lakes or other water bodies –

1. Is there a practicable alternative to the proposed activity?

No

2. Have practicable and appropriate steps to minimize impacts to water resources been taken?

Yes. A low mobility void filling grout mix will be injected under low pressure in order to limit migration. The volume of grout placed per linear foot will be monitored to prevent seepage. Lake Michigan inside the Harbor will be visually monitored during grout placement.

Describe all compensatory mitigation required for unavoidable impacts.

No compensatory mitigation will be conducted for this action. Work is limited to a maintenance activity for a previously authorized Federal project.

6. Drawing / Plan Requirements (Applicants must provide the following.)

- a. Top/aerial/overhead views of the project site showing existing conditions and proposed construction.
- b. Cross sectional view of areas of fill or alterations to streams and other waters.
- c. North arrow, scale, property boundaries.
- d. Include wetland delineation boundary (if applicable). Label all wetlands (jurisdictional, isolated and exempt) as I-1, I-2, I-3, etc. and the mitigation areas as M-1, M-2, etc.
- e. Location of all surface waters, including wetlands, erosion control measures, existing and proposed structures, fill and excavation locations, disposal area for excavated material, including quantities, and wetland mitigation site (if applicable).
- f. Approximate water depths and bottom configurations (if applicable).

7. Supplemental Application Materials (Applicants must provide the following.)

- a. A wetland delineation of all wetlands on the project site (for projects with wetland impacts).
- b. At least three photographs of the project site. Indicate the photo locations on the project plans.
- c. If isolated wetlands are present, a letter from the Corps of Engineers verifying this statement.
- d. Wetland mitigation plan and monitoring report.
- e. Classification of all isolated wetlands on the tract (if isolated wetlands are present onsite).
- f. Copies of all applicable local permits and/or resolutions pertaining to the project or tract.
- g. Tract history (see instructions).

8. Additional information that MAY be required (IDEM will notify you if needed.)

- a. Erosion control and/or storm water management plans.
- b. Sediment analysis.
- c. Species surveys for fish, mussels, plants and threatened or endangered species.
- d. Stream habitat assessment.
- e. Any other information IDEM deems necessary to review the proposed project.

9. Permitting Requirements

a. Does this project require the issuance of a Department of the Army Section 404 Permit from the US Army Corps of Engineers? Yes No
 If no, you do not need to answer Part b.

b. Have you applied for an Army Corps of Engineers Section 404 permit? Yes No
 If yes, please supply the Corps of Engineers ID Number, the Corps of Engineers District, the project manager, and a copy of any correspondence with the Corps. If no, contact the Army Corps of Engineers regarding the possible need for a permit application.

c. Have you applied for, received, or been denied a permit from the Department of Natural Resources for this project? Yes No
 Please give the permit name, permit number, and date of application, issuance or denial.
 IN DNR coastal zone management federal consistency review submitted concurrently

d. Have you applied for, received, or been denied any other federal, state, or local permits, variances, licenses, or certifications for this project?
 Yes No
 Please give the permit name, agency from which it was obtained, permit number, and date of issuance or denial.

10. Adjoining Property Owners and Addresses

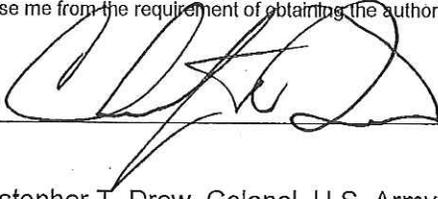
List the names and addresses of landowners adjacent to the property on which your project is located and the names and addresses of other persons (or entities) potentially affected by your project. Use additional sheet(s) if required.

Name Northern Indiana Public Service Co. (NIPSCO) Address (number and street) 101 Wabash Street City State ZIP Code Michigan City IN 46360	Name Mayor Ron Meer Address (number and street) Office of the Mayor, 100 E. Michigan Blvd City State ZIP Code Michigan City IN 46360
Name Stephen Davis, Indiana DNR Address (number and street) 100 W. Water Street City State ZIP Code Michigan City IN 46360	Name Tim Frame, Michigan City Port Authority Address (number and street) 200 Heisman Harbor Road City State ZIP Code Michigan City IN 46360
Name Officer in Charge, US Coast Guard Station Address (number and street) 10 On the Lake City State ZIP Code Michigan City IN 46360	Name Address (number and street) City State ZIP Code
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code

11. Signature - Statement of Affirmation

I certify that I am familiar with the information contained in this application and, to the best of my knowledge and belief, such information is true and accurate. I certify that I have the authority to undertake and will undertake the activities as described in this application. I am aware that there are penalties for submitting false information. I understand that any changes in project design subsequent to IDEM's granting of authorization to discharge to a water of the state are not authorized and I may be subject to civil and criminal penalties for proceeding without proper authorization. I agree to allow representatives of the IDEM to enter and inspect the project site. I understand that the granting of other permits by local, state, or federal agencies does not release me from the requirement of obtaining the authorization requested herein before commencing the project.

Applicant's Signature: _____



Date: _____

06/22/2016
(mm/dd/yyyy)

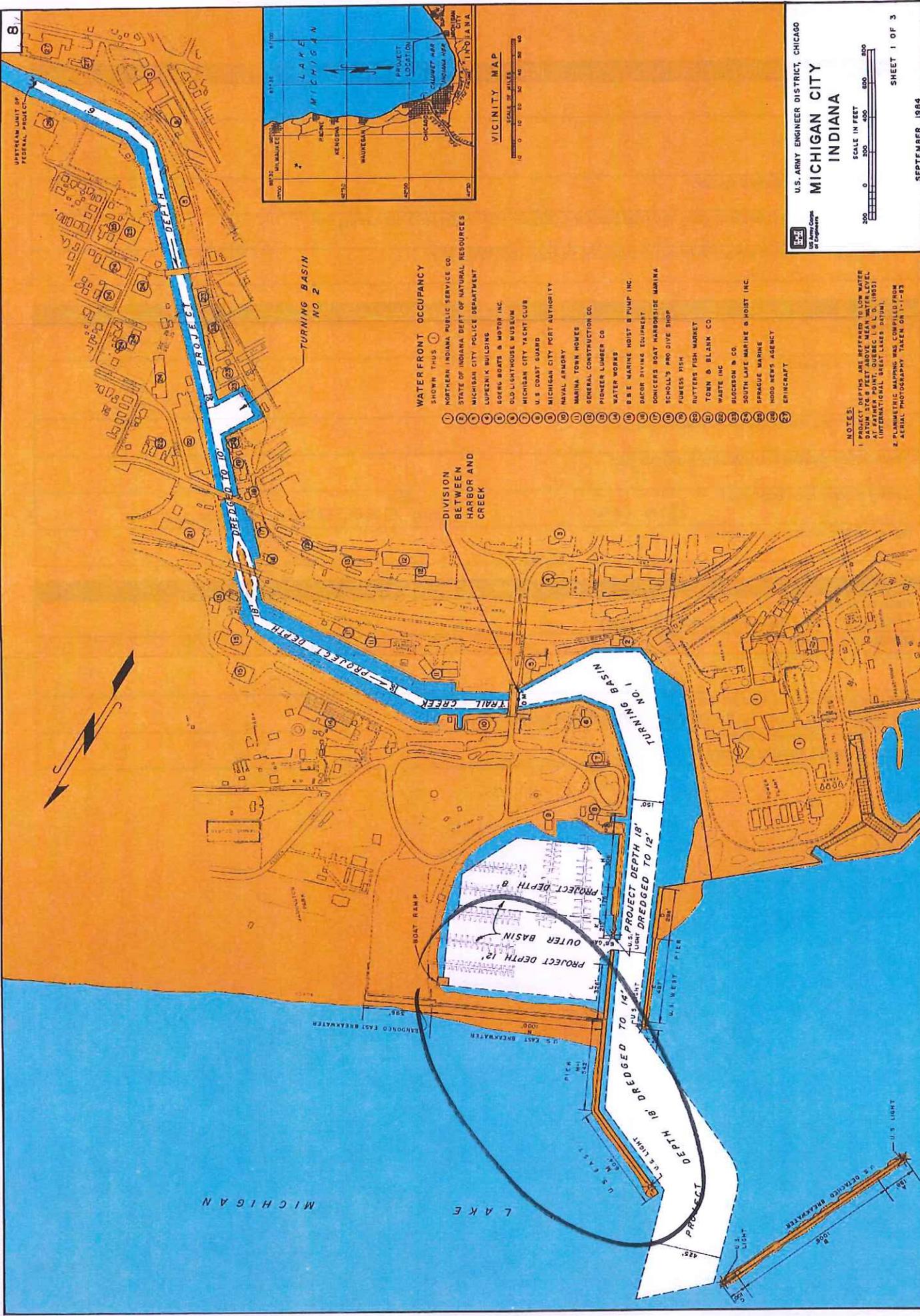
Print Name: Christopher T. Drew, Colonel, U.S. Army

Title: District Commander

D. Bank Stabilization – provide the following information for EACH segment (Use additional sheet(s) if required.)	
Water body name	
Description of impacts	
Length of shoreline or bank protection	
Volume (<i>cubic yards</i>) of bank protection fill placed below the Ordinary High Water Mark per running foot	
Area (<i>square feet</i>) of bank protection fill placed below the Ordinary High Water Mark	

E. Stream Relocation	
Water body name	
Description of impacts	
Length of existing channel to be relocated (<i>linear feet</i>)	
Length of new channel to be constructed (<i>linear feet</i>)	
Existing channel to be backfilled? <input type="checkbox"/> Yes <input type="checkbox"/> No	Type of relocation <input type="checkbox"/> Piping <input type="checkbox"/> Open <input type="checkbox"/> Channel <input type="checkbox"/> Other: _____
Type of fill and volume (<i>cubic yards</i>)	

F. Open Water Fill	
Water body name	Michigan City Harbor at Lake Michigan
Description of impacts	material to repair failed breakwater
Area of water body to be filled (<i>acres</i>)	no new area, grout to be placed in interior of breakwater
Type of fill and volume (<i>cubic yards</i>)	interior grout mixture only

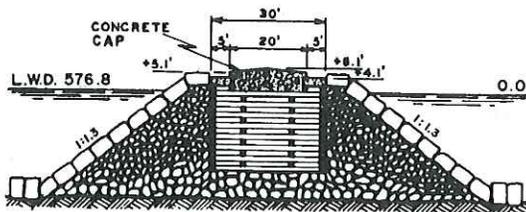


- WATERFRONT OCCUPANCY SHOWS THIS:
- 1 NORTHERN INDIANA PUBLIC SERVICE CO.
 - 2 STATE OF INDIANA DEPT OF NATURAL RESOURCES
 - 3 MICHIGAN CITY POLICE DEPARTMENT
 - 4 LUPENIK BUILDING
 - 5 GOING BOATS & MOTOR INC.
 - 6 OLD LIGHTHOUSE MUSEUM
 - 7 MICHIGAN CITY YACHT CLUB
 - 8 U.S. COAST GUARD
 - 9 MICHIGAN CITY PORT AUTHORITY
 - 10 NAVAL ARMORY
 - 11 MARINA TOWN HOMES
 - 12 GENERAL CONSTRUCTION CO.
 - 13 PIONEER LUMBER CO
 - 14 WATER WORKS
 - 15 B.S.E. MARINE HOIST & PUMP INC.
 - 16 DORR DIVING EQUIPMENT
 - 17 DONICERS BOAT HARBOURSIDE MARINA
 - 18 SCHOLL'S PRO DIVE SHOP
 - 19 FUMESS FISH
 - 20 RUTTERS FISH MARKET
 - 21 TOWN & BLANK CO
 - 22 WASTE INC.
 - 23 SUGGESSON & CO
 - 24 SOUTH LAKE MARINE & HOIST INC.
 - 25 SPRAGUE MARINE
 - 26 HOOD NEWS AGENCY
 - 27 EPINCRAFT

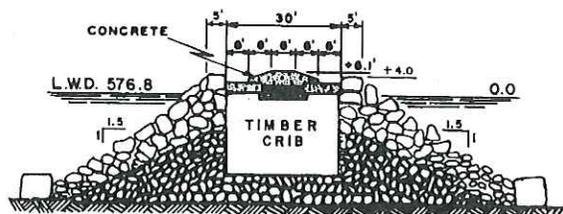
NOTES:
 1 PROJECT DEPTHS ARE REFERRED TO LOW WATER DATUM 376.8 FEET ABOVE MEAN WATER LEVEL (INTERNATIONAL GREAT LAKES DATUM)
 2 PLANNING MAP WAS COMPILED FROM AERIAL PHOTOGRAPHY TAKEN ON 11-1-83

U.S. ARMY ENGINEER DISTRICT, CHICAGO
MICHIGAN CITY
INDIANA

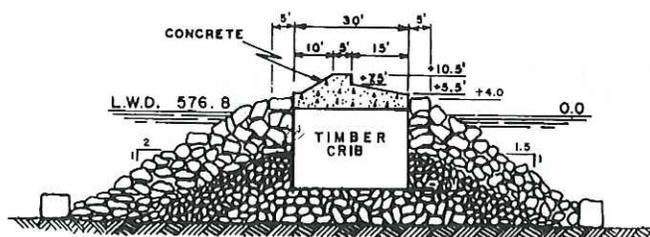




DETACHED BREAKWATER
SECTION AT A
YEAR OF COMPLETION 1903
CONCRETE SUPR BUILT 1923
RIPRAP PLACED 1939-40
CONCRETE CAP REBUILT 1978



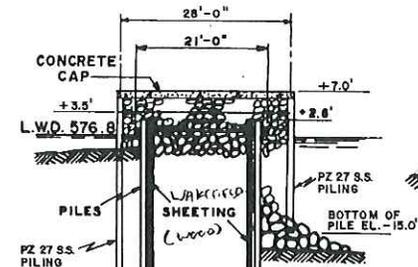
DETACHED BREAKWATER
SECTION AT B
YEAR OF COMPLETION 1903
CONCRETE SUPR BUILT 1925
RIPRAP PLACED 1968-69



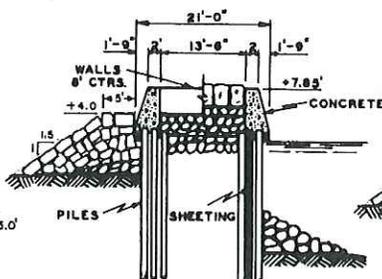
DETACHED BREAKWATER
SECTION AT C
YEAR OF COMPLETION 1903
CONCRETE SUPR BUILT 1911
RIPRAP PLACED 1968-69
SCALE OF SECTIONS A,B,C.
10' 0 10' 30' 50' 70'

LAKE SIDE

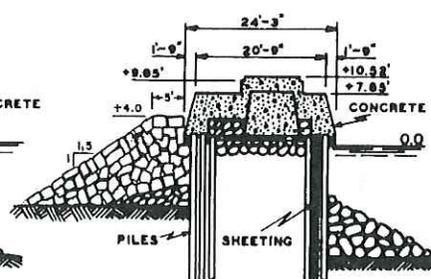
CHANNEL SIDE



WEST PIER
SECTION AT D
YEAR OF COMPLETION 1909
RECONSTRUCTION COMPLETED 1948
STAGE 1 & 2 REHAB
COMPLETED 1972



WEST PIER
SECTION AT E
YEAR OF COMPLETION 1909
CONCRETE SUPR. BUILT 1931
RIPRAP PLACED 1968-69

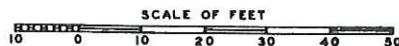


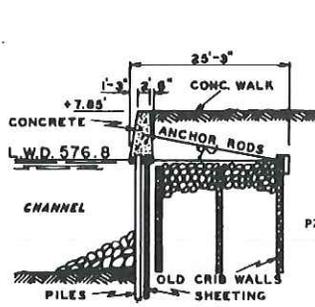
WEST PIER
SECTION AT F
YEAR OF COMPLETION 1909
CONCRETE SUPR. BUILT 1931
RIPRAP PLACED 1968-69



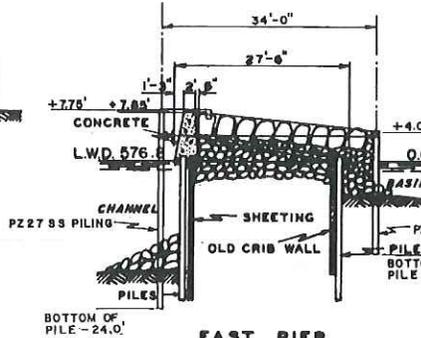
U.S. ARMY ENGINEER DISTRICT, CHICAGO

**MICHIGAN CITY
INDIANA**

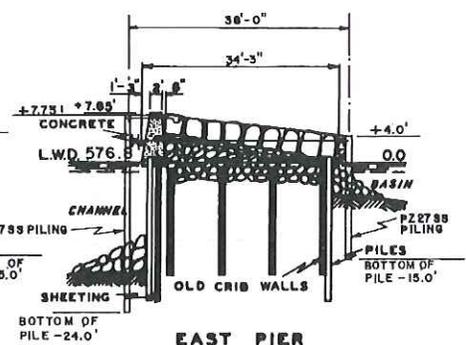




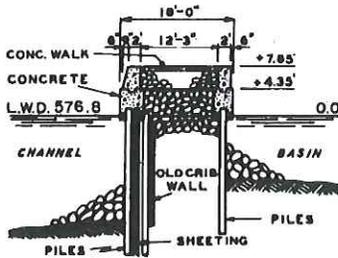
EAST PIER
SECTION AT G
RECONSTRUCTION COMPLETED 1902
CONCRETE SUPR. BUILT 1930



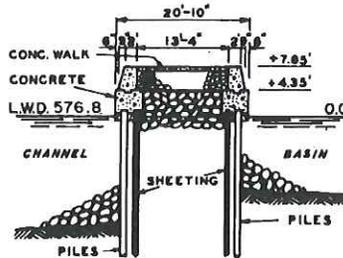
EAST PIER
SECTION AT H
RECONSTRUCTION COMPLETED 1902
CONCRETE SUPR. BUILT 1930
STAGE 1 & 2 REHAB
COMPLETED 1972



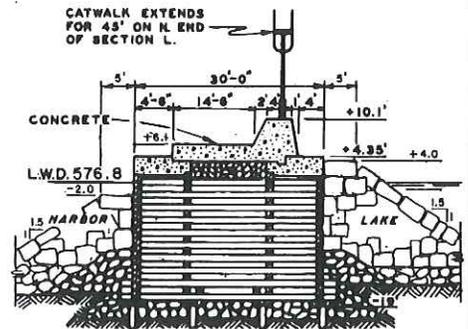
EAST PIER
SECTION AT J
RECONSTRUCTION COMPLETED 1902
CONCRETE SUPR. BUILT 1930
STAGE 1 & 2 REHAB
COMPLETED 1972



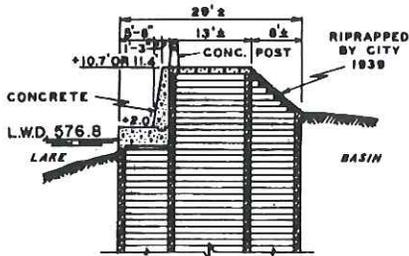
EAST PIER
SECTION AT K
RECONSTRUCTION COMPLETED 1902
CONCRETE SUPR. BUILT 1930



EAST PIER
SECTION AT L
YEAR OF COMPLETION 1902
CONCRETE SUPR. BUILT 1930



EAST PIER
SECTION AT M, M-1
YEAR OF COMPLETION 1902
CONCRETE SUPR. BUILT 1931
SECTION M AS SHOWN
SECTION M-1 RIPRAP LAKESIDE ONLY.



EAST BREAKWATER
SECTION AT N
YEAR OF COMPLETION 1894
CONCRETE SUPR. BUILT 1940

U.S. ARMY ENGINEER DISTRICT, CHICAGO
US Army Corps of Engineers

**MICHIGAN CITY
INDIANA**



Attachment 2: Project Details

Grouting Procedure

Grouting of the Michigan City Breakwater structure is proposed using one set of grout holes, based on successful completion of similar projects on the Chicago Harbor Breakwater, and incorporating lessons learned:

- A series of existing holes will be used. These holes will be grouted using a low-mobility grout containing an anti-washout ingredient to reduce potential migration of grout beyond the intended limits.
- In addition to an anti-washout ingredient a low injection rate will be used to further limit potential migration.

Protection of Water Quality

The following measures are proposed to protect Lake Michigan during grout placement, based on the experiences of the Chicago project. Using procedures indicated below, all grout will remain within the structure:

- A low-mobility grout will be used in the structure. This grout will have a fast setting time, will contain an anti wash-out component, and will be pumped at very low pumping rates to prevent excess migration.
- The quantity of grout used will be limited to the amount necessary to achieve communication to adjacent holes to prevent migration of the grout into Lake Michigan.
- Visual monitoring of both sides of the structure will be required to detect and subsequently prevent seepage of grout materials beyond the structure. If grout materials are detected, the measures to correct this will include:
 1. Decreasing pumping rates
 2. Decreasing the maximum grout quantity placed per hole
 3. Adjusting the mix to reduce mobility

