DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

COASTAL STRUCTURES FORM

O.M.B. NO. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hour per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20598-3005, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

Flooding Source: _____

Note: Fill out one form for each flooding source studied.

A. BACKGROUND

1. Name of structures (if applicable): _____

2. Structure location: _____

3. Type of structure:

☐ Levee/Floodwall* ☐ Anchored Bulkhead ☐ Revetment ☐ Gravity Seawall

☐ Breakwater ☐ Pile supported seawall ☐ Other _____

*Note: If the coastal structure is a levee/floodwall, complete section E of Form 3 (Riverine Structures Form). The remainder of this form does not need to be completed.

4. Material structure is composed of (check all that apply):

☐ Stone ☐ Earthen fill ☐ Concrete ☐ Steel ☐ Sand

☐ Other _____

5. The structure is (check one):

☐ New or proposed ☐ Existing ☐ Modification of existing structure

☐ Replacement structure of the same size and design as what was previously at the site.

Describe in detail the existing structure and/or modifications being made to the structure and the purpose of the modifications.

If existing, please include date of construction: _____

6. copies of certified "as-built" plans ☐ are ☐ are not attached. Attach all design analyses that apply.

If "as-built" plans are not available for submittal, please explain why and submit a sketch with general structure dimensions including: face slope, height, length, depth, and toe elevation referenced to the appropriate datum (e.g., NGVD 1929, NAVD 1988, etc.)

7. Has a Federal agency with responsibility for the design of coastal flood protection structures designed or certified that the structures have been adequately designed and constructed to provide protection against the 1%-annual-chance event?

If Yes, specify the name of the agency and dates of the project completion and certification. ☐ Yes ☐ No

_____

If Yes, then no other sections of this form need to be completed.

8. An Operation & Maintenance Plan has been provided. (required for all coastal structures)

B. DESIGN CRITERIA

1. Design Parameters

a. Were physical parameters representing the 1%-annual-chance event or greater used to design the coastal flood protection structure?

☐ Yes ☐ No

b. The number of design water levels that were evaluated _____ (number) range from the mean low water elevation of _____ feet to the 1%-annual-chance stillwater surge elevation of _____ feet. The critical water level is _____ feet. The datum that these elevations are referenced to is _____ e.g.,(NGVD)

Attach an explanation specifying which water levels and associated wave heights and periods were analyzed.

c. Were breaking wave forces used to design the structure? ☐ Yes ☐ No If No, attach an explanation why they were not used for design.

2. Settlement

a. What is the expected settlement rate at the site of the structure? _____

Please attach a settlement analysis.

3. Freeboard

a. Does this structure have 1 foot of freeboard above the height of the 1%-annual-chance wave-height elevation or maximum wave runup (whichever is greater)? ☐ Yes ☐ No

b. Does the structure have freeboard of at least 2 feet above the 1%-annual-chance stillwater surge elevation? ☐ Yes ☐ No

4. Toe Protection

Specify the type of toe protection: _____

If no toe protection is provided, provide analysis of scour potential and attach an elevation of structural stability performed with potential scour at the toe.

5. Backfill Protection

Will the structure be overtopped during the 1%-annual-chance event? ☐ Yes ☐ No

If the structure will be overtopped, attach an explanation of what measures are used to prevent the loss of backfill from rundown over the structure, drainage landward, under or laterally around the ends of the structure, or through seams and drainage openings in the structure.

6. Structural Stability - Minimum Water Level

a. For coastal revetments, was a geotechnical analyses of potential failure in the landward direction by rotational gravity slip performed for maximum loads associated with minimum seaward water level, no wave action, saturated soil conditions behind the structure, and Maximum toe scour? ☐ Yes ☐ No

b. For gravity and pile-supported seawalls, were engineering analyses of landward sliding, landward overturning, and of foundation adequacy using maximum pressures developed in the sliding and overturning calculations performed?

☐ Yes ☐ No

c. For anchored bulkheads, were engineering analysis performed for shear failure, moment failure, and adequacy of tiebacks and deadman to resist loading under low-water conditions?

☐ Yes ☐ No

7. Structural Stability - Critical Water level (Note: All structures must be designed to resist the maximum loads associated with the critical water level to be credited as providing protection from the 1%-annual-chance event.)

a. For coastal revetments, were geotechnical analysis performed investigating the potential failure in the seaward direction by rotational gravity slip or foundation failure due to inadequate bearing strength?

☐ Yes ☐ No

B. DESIGN CRITERIA (Continued)

7. Structural Stability - Critical Water level (continued)

b. For revetments, were engineering analyses of rock, riprap, or armor block's stability under wave action or uplift forces on the rock, riprap or armor blocks performed? ☐ Yes ☐ No

c. Are the rocks graded? ☐ Yes ☐ No

d. Are soil or geotextile filters being used in the design? ☐ Yes ☐ No

e. For gravity and pile supported seawalls, were engineering analyses of landward sliding, landward overturning, and foundation adequacy performed? ☐ Yes ☐ No

f. For anchored bulkheads, were engineering analyses of shear and moment failure performed using "shock" pressures? ☐ Yes ☐ No

For all analyses marked "No" above for the appropriate type of structure, please attach an explanation for why the analyses were not performed.

8. Material Adequacy

The design life of the structure given the existing conditions at the structure site is _____ years.

9. Ice and Impact Alignment

a. Will the structure be subject to ice forces? ☐ Yes ☐ No If Yes, attach impact analysis and design details for such forces.

b. Will the structure be subjected to impact forces from boats, ships, or large debris? ☐ Yes ☐ No If Yes, attach impact analysis.

10. Structure Plan Alignment

The structure is (check one): ☐ Isolated ☐ Part of a continuous structure with redundant return walls at frequent intervals.

Please provide a map showing the location of the structure and any natural land features that shelter the structure from wave actions.

C. ADVERSE IMPACT EVALUATION

1. If the structure is new, proposed, or modified, will the structure impact flooding and erosion for areas adjacent to the structure?

☐ Yes ☐ No If Yes, attach an explanation.

D. COMMUNITY AND/OR STATE REVIEW

Has the design, maintenance, and impact of the structure been reviewed and approved by the community, and any Federal, State, or local agencies having jurisdiction over flood control and coastal construction activities in the area the structure impacts?

☐ Yes ☐ No If Yes, attach a list of agencies who have reviewed and approved the project.

If No, attach an explanation why review and approval by the appropriate community or agency has not been obtained.

E. CERTIFICATION

As a Professional Engineer, I certify that the above structures will withstand all hydraulic and wave forces associated with the 1%-annual-chance flood without significant structural degradation. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name	License No.	Expiration Date
Company Name	Telephone No.	Fax No.
Signature		Date

Seal (optional)