

DRY FLOODPROOFING CERTIFICATE FOR NON-RESIDENTIAL STRUCTURES

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General: This information is provided pursuant to Public Law 96-511 (the Paperwork Reduction Act of 1980, as amended), dated December 11, 1980, to allow the public to participate more fully and meaningfully in the Federal paperwork review process.

Authority: Public Law 96-511, amended; 44 U.S.C. 3507; and 5 CFR 1320.

PRIVACY ACT STATEMENT

Authority: Title 44 CFR § 60.3, 61.7 and 61.8.

Principal Purpose(s): This information is being collected for the primary purpose of estimating the risk premium rates necessary to provide flood insurance for new or substantially improved structures in designated Special Flood Hazard Areas.

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-003 – National Flood Insurance Program Files System or Records Notice 79 Fed. Reg. 28747 (May 19, 2014), and upon written request, written consent, by agreement, or as required by law.

Disclosure: The disclosure of information on this form is voluntary; however, failure to provide the information requested may result in the inability to obtain flood insurance through the National Flood Insurance Program or being subject to higher premium rates for flood insurance. Information will only be released as permitted by law.

PURPOSE OF THE DRY FLOODPROOFING CERTIFICATE FOR NON-RESIDENTIAL STRUCTURES

Under the National Flood Insurance Program (NFIP), the dry floodproofing of non-residential buildings may be permitted as an alternative to elevating to or above the Base Flood Elevation (BFE) or for certain flood zones, the natural Highest Adjacent Grade (HAG). A dry floodproofing design certification is required for non-residential structures that are dry floodproofed and the dry floodproofed non-residential portions of mixed-use buildings. This form is to be used for that certification. FEMA Form 206-FY-21-122 NFIP Residential Basement Floodproofing Certificate is required for the residential portions of mixed-use buildings.

A dry floodproofed building is a building that has been designed and constructed to be watertight (substantially impermeable to floodwaters) below the BFE and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Before a dry floodproofed building is designed, numerous planning considerations, including flood warning time, uses of the building, mode of entry to and exit from the building and the site in general, floodwater velocities, flood depths, debris impact potential, flood frequency, and any other State and local requirements must be addressed to ensure that dry floodproofing will be a viable floodplain management measure.

The minimum NFIP requirement is to dry floodproof a building to the BFE. However, to be in compliance with the requirements of American Society of Civil Engineers (ASCE) 24, *Flood Resistant Design and Construction*, one foot is subtracted from the dry floodproofed elevation. Therefore, a building must be dry floodproofed to one foot above the BFE to be considered for floodproofing credit. For B, C, D, or X flood zones, the building's dry floodproofed design elevation must be at least two feet above the natural HAG to be considered for floodproofing credit.

Additional guidance can be found in FEMA Publication 936, *Floodproofing Non-Residential Buildings* (2013), and NFIP Technical Bulletin 3, *Requirements for the Design and Certification of Dry Floodproofed Non-Residential and Mixed-Use Buildings* (2021), available on FEMA's Building Science Resource Library website at www.fema.gov/ar/emergency-managers/risk-management/building-science/publications.

Copy all pages of this Dry Floodproofing Certificate and all attachments for 1) community official, 2) insurance agent/ company, and 3) building owner. The dry floodproofing of non-residential buildings and the non-residential portions of mixed-use buildings may be permitted as an alternative to elevating to or above the Base Flood Elevation (BFE); however, a dry floodproofing design certification is required. This form is to be used for that certification. Dry floodproofing of a residential building does not alter a community's floodplain management elevation requirements or affect the insurance rating unless the community has been issued an exception by FEMA to allow dry floodproofed residential basements. The permitting of a dry floodproofed residential basement requires a separate certification specifying that the design complies with the local floodplain management ordinance.

PROPERTY INFORMATION

Building Owner's Name: First Baptist Church
 Building Street Address (Including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:
4141 Pontchartrain Drive
 City: Slidell State: LA ZIP Code: 70458

FOR INSURANCE COMPANY USE
 Policy Number:

 Company NAIC Number:

Property Description (e.g., Lot and Block Numbers, or Legal Description) and/or Tax Parcel Number:
Parcel J Section 44 T-9-S R-14-E
 Building Use (e.g., Non-Residential, Mixed Use, Addition, Accessory, etc.): Non residential restrooms
 Latitude/Longitude: Lat. 30 14'56.15"N Long. 89 47 46.98" W
 Horizontal Datum: NAD 1927 NAD 1983 WGS 84

SECTION I – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

NFIP Community Name: City Of Slidell NFIP Community Identification Number: 220204
 County Name: St Tammany Parish State: LA Map/Panel Number: 0010 Suffix: C
 FIRM Index Date: 4-21-99 FIRM Panel Effective/Revised Date: 9-23-1999 Flood Zone(s): AE
 BFE(s) (Zone AO, use Base Flood Depth (BFD)): 9'
 Indicate the source of the BFE data or BFD entered above: Flood Insurance Study (FIS) FIRM
 Community Determined Other: _____
 Indicate elevation datum used for BFE shown above: NGVD 1929 NAVD 1988 Other/Source: _____
 Is a Limit of Moderate Wave Action (LiMWA) shown on the FIRM? Yes No
 If Yes, is the property located in the Coastal A Zone [area between the LiMWA and Zone V boundary (or shoreline)]? Yes No
 Is the property located in a floodway? Yes No If Yes, provide the velocity at the building location: _____
 Is the property located in an alluvial fan? Yes No
 If Yes, provide the depth at the building location: _____ and velocity: _____

SECTION II – DRY FLOODPROOFED DESIGN CERTIFICATION

(By a Registered Professional Engineer or Architect licensed in the State where the building is located)

(Note: For insurance rating purposes in all zones except for B, C, D, or X, the building's dry floodproofed design elevation must be at least one foot above the BFE to be considered for floodproofing credit. For B, C, D, or X Zones, the building's dry floodproofed design elevation must be at least two feet above the natural HAG to be considered for floodproofing credit. If the building is not dry floodproofed to the above-mentioned standards, then the building will be ineligible for floodproofing credit. See the Instructions section for information on documentation that must accompany this certificate if being submitted for flood insurance rating purposes.)

Briefly list measures incorporated into the design to meet the performance criteria for dry floodproofing and attach calculations showing the structure is designed with structural components that have the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy and will be watertight and substantially impermeable to the passage of water.

See attachments

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:	FOR INSURANCE COMPANY USE
City: _____ State: <input type="checkbox"/> _____ <input checked="" type="checkbox"/> _____ ZIP Code: _____	Policy Number: _____
	Company NAIC Number: _____

SECTION II – DRY FLOODPROOFED DESIGN CERTIFICATION (Continued)
(By a Registered Professional Engineer or Architect licensed in the State where the building is located)

Provide elevations used in design, specifications and construction drawings. In Puerto Rico only, enter meters.
 Indicate elevation datum used for the elevations in this section. NGVD 1929 NAVD 1988 Other/Source: _____
 Elevation datum used for building elevations must be the same as that used for the BFE. Conversion factor used? Yes No
 If Yes, describe the source of the conversion factor in the Comments area of this Section.

- A. Dry Floodproofed Design Elevation: _____ 14 feet meters
- B. Lowest Adjacent Grade (LAG) next to the building: Natural Finished _____ 8.4 feet meters
- C. Highest Adjacent Grade (HAG) next to the building: Natural Finished _____ 8.4 feet meters

Non-Residential Dry Floodproofed Design Certification:

I certify the structure, based upon development and/or review of the design and specifications for construction, has been designed in accordance with the accepted standards of practice (ASCE 24-05, ASCE 24-14 or their equivalent) and the following provisions.

- *The structure, together with attendant utilities and sanitary facilities will be watertight to the dry floodproofed design elevation indicated above, will be substantially impermeable to the passage of water, and shall perform in accordance with the 44 Code of Federal Regulations (44 CFR 60.3(c)(3)).*
- *All structural components are capable of resisting hydrostatic and hydrodynamic flood forces, including the effects of buoyancy, and anticipated debris impact forces up to the dry floodproofed design elevation. Flood damage-resistant materials are used for all areas where seepage is intended to collect inside the dry floodproofed areas up to at least 4 inches above the floor.*

I certify that the information in Section II on this certificate represents a true and accurate determination by the undersigned using the available information and data. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Certifier's Name: Brian Mistich License Number (or Affix Seal): 30187

Title: Chief Engineer Company Name: Dammon Engineering

Mailing Address: 554 Old Spanish Trail

City: Slidell State: LA ZIP Code: 70458

Phone #1: 9856495832 Ext.: _____ Phone #2: _____ Ext.: _____

Email: info@dammonengineering.com



Signature: Brian Mistich Date: 10-29-24

Comments (including source of conversion factor and description of any attachments):

Foundation @ 8.4'
 City requirements 9' + 2' + Fema + 1' = 12'
 Flood proofing on this bldg to an elevation of 14'

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:	FOR INSURANCE COMPANY USE
City: _____ State: <input type="checkbox"/> _____ <input checked="" type="checkbox"/> _____ ZIP Code: _____	Policy Number: _____
	Company NAIC Number: _____

SECTION III – DRY FLOODPROOFED ELEVATION CERTIFICATION
(By a Registered Professional Land Surveyor, Engineer or Architect licensed in the State where the building is located)

Benchmark Utilized: Nail in road Vertical Datum: NAVD 88

Indicate elevation datum used for the elevations provided in this section:
 NGVD 1929 NAVD 1988 Other/Source: _____

Elevation datum used for building elevations must be the same as that used for the BFE. Conversion factor used? Yes No
 If Yes, describe the source of the conversion factor in the Comments area of this section.

A. Dry floodproofed elevation (must be based on finished construction): _____ 14 feet meters

B. Lowest Adjacent Grade (LAG) next to the building: Natural Finished _____ 8.4 feet meters

C. Natural Highest Adjacent Grade (HAG) next to the building: _____ 8.4 feet meters

Height of floodproofing on the building above the natural or finished LAG is 5.6 feet.
 (In Puerto Rico only: _____ meters.)

(Note: For insurance rating purposes in all eligible zones inside the SFHA, the building's dry floodproofed design elevation must be at least one foot above the BFE to be considered for floodproofing credit. For B, C, D, or X Zones, the building's dry floodproofed design elevation must be at least two feet above the natural HAG. If the building is not dry floodproofed to the above-mentioned standards, then the building will not be considered for floodproofing credit. See the Instructions section for information on documentation that must accompany this certificate if being submitted for flood insurance rating purposes.)

Non-Residential Dry Floodproofed Elevation Information Certification:

Section III certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information.

I certify that the information in Section III on this Certificate represents a true and accurate interpretation and determination by the undersigned using the available information and data. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Certifier's Name: Brian Mistich License Number (or Affix Seal): 30187


Title: Chief Engineer Company Name: Dammon Engineering

Mailing Address: 554 Old Spanish Trail

City: Slidell State: LA ZIP Code: 70458

Phone #1: 9856407891 Ext.: _____ Phone #2: _____ Ext.: _____

Email: info@dammonengineering.com



Signature: Brian Mistich Date: 10-29-24

Comments (including source of conversion factor and description of any attachments):

Foundation @ 8.4'
 City requirements 9'+2' + FEMA + 1' = 12'
 Flood Proofing on this bldg to an elevation of 14'

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:

FOR INSURANCE COMPANY USE

City: _____ State: ZIP Code: _____

Policy Number: _____

Company NAIC Number: _____

SECTION IV – DRY FLOODPROOFED CONSTRUCTION CERTIFICATION
(By a Registered Professional Engineer or Architect licensed in the State where the building is located)

Non-Residential Dry Floodproofed Construction Certification:

I certify the structure, based upon development and/or review of the design, specifications, as-built drawings for construction and physical inspection, has been designed and constructed in accordance with the accepted standards of practice (ASCE 24-05, ASCE 24-14 or their equivalent) and any alterations also meet those standards and the following provisions.

- *The structure, together with attendant utilities and sanitary facilities is watertight to the dry floodproofed design elevation indicated above, is substantially impermeable to the passage of water, and shall perform in accordance with the 44 Code of Federal Regulations (44 CFR 60.3(c)(3)).*
- *All structural components are capable of resisting hydrostatic and hydrodynamic flood forces, including the effects of buoyancy, and anticipated debris impact forces up to the dry floodproofed design elevation.*
- *The floodproofed elevation is in accordance with the design and any alteration(s) to the design.*
- *Flood damage-resistant materials have been incorporated/used in all areas where seepage would collect inside the dry floodproofed areas up to at least 4 inches above the floor.*

I certify that the information in Section IV on this certificate represents a true and accurate determination by the undersigned using the available information and data. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Certifier's Name: Brian Mistich License Number (or Affix Seal): 30187

Title: Chief Engineer Company Name: Dammon Engineering

Mailing Address: 554 Old Spanish Trail

City: Slidell State: LA ZIP Code: 70458

Phone #1: 9856495832 Ext.: _____ Phone #2: _____ Ext.: _____

Email: info@dammonengineering.com



Signature: Brian Mistich Date: 10-29-24

See attachments

**Copy all pages of this Dry Floodproofing Certificate and all attachments for:
1) community official, 2) insurance agent/company, and 3) building owner.**

REQUIRED DOCUMENTATION

In order to ensure compliance and provide reasonable assurance that due diligence had been applied in designing and constructing dry floodproofing measures, the following information must be provided with the completed Dry Floodproofing Certificate:

1. **Photographs.** All photographs must be clear and in color, identified and include the date taken. Where the building is in the course of construction, provide clear descriptions of any other dry floodproofed components and attachments to be incorporated.
 - a. Photographs of all sides and aspects of the floodproofed building. See attached photos
 - b. Photographs of all components used to provide dry floodproofing protections (shields, gates, barriers, sump pumps, backflow (non-return) valves or shutoff valves, etc.). See attached photos
 - c. Photographs of the installed barriers/shields and corresponding clear photographs of openings areas where barriers and shields are deployed without the barriers/shields installed (doors, windows, ventilation intakes, etc.). See attached photos
 - d. Photographs of penetrations through dry floodproofed envelopes (utilities, mechanical). See attached photos
 - e. Photographs of backup power source for sump pumps. N/A

2. **Comprehensive Flood Emergency Operations Plan** for the entire structure to include but not limited to:
 - a. The personnel, equipment, tools, and supplies needed to deploy all dry floodproofing system components with sufficient time prior to the onset of flooding or conditions such as high winds that could interfere with efficient deployment of measures.
 - b. Clearly defined chain of command and assigned responsibilities for personnel involved in the installation of dry floodproofing measures. 2 days prior to storm pastor shall notify maintenance to apply and seal off 3 doors applying flex tape.
 - c. Procedure for notifying personnel responsible for installing dry floodproofing measures, along with a list of duty requirements. Pastor shall listen for weather alerts and notify maintenance of the upcoming event.
 - d. Decision tree that identifies the sequence, timeline, and responsible parties for installing the dry floodproofing components, including the triggers or benchmarks that will initiate procedures. Pastor shall notify maintenance after weather alert.
 - e. Written description and map of the storage locations and types of dry floodproofing measures to be installed or deployed (shields, gates, barriers, and components as well as all associated hardware), along with any equipment, tools, and materials required for installation. In restroom storage closet, see pictures.
 - f. Conditions that require the deployment of active dry floodproofing measures (e.g., installation of flood shields, closing of flood doors, closing of manual valves, staging of pumps). 2 days prior to storm flood.
 - g. Instructions for installing or deploying each dry floodproofing measure and the order of installation if important for effectiveness. Maintenance shall follow manufacturers directions.
 - h. Instructions for connecting standby (emergency) power source (e.g., generator) for critical equipment such as sump pumps and egress lighting N/A
 - i. Contact information for the manufacturer and designer to expedite obtaining replacement parts and support as needed
 - j. Evacuation plans for all personnel N/A
 - k. Requirements for installation and deployment drills and training program (at least once a year) N/A
 - l. Requirement for regular review and update of the plan procedures N/A

3. **Comprehensive Inspection and Maintenance Plan** for the entire structure to include but not limited to:
 - a. Exterior envelope of the structure, such as wall and foundation systems, to identify possible structural and waterproofing deficiencies such as cracks, water staining, and penetrations. Maintenance shall monitor for such events.
 - b. All penetrations to the exterior of the structure. Maintenance shall monitor for any movement of the structure.
 - c. Slabs and wall/slab joints, including structural and drainage deficiencies. Maintenance shall monitor any movement and repair.
 - d. Flood shields, gates, panels, doors, glazing, barriers, and other components designed to provide dry floodproofing protection, including all seals, gaskets, fasteners, and mounting hardware and tools. Maintenance shall install flex tape around door.
 - e. Sump pumps (or self-priming pumps) and interior drain system. N/A
 - f. Emergency power systems. N/A
 - g. Testing of emergency generators, sump pumps, and other drainage measures. N/A
 - h. Backflow (non-return) valves or shutoff valves. N/A
 - i. Location of all flood shields, gates, panels, and other components including all hardware along with any materials or tools needed to seal the dry floodproofed area. In restroom storage shelf.
 - j. Contact information for the manufacturer of the shields and other components to determine the availability of replacement gaskets, seals, and other parts and to ask questions. 833-411-3539 customer service
 - k. Cadence of inspection and maintenance plan. Once a year.

4. **Building owner** acknowledgment that verifies that the owner is aware of the criteria for when the dry floodproofing measures must be installed and that they know how to install all the measures. This would be signed by the owner. Additionally, if the measures are to be installed by a third-party, then the third-party contractor must sign that they know how to install the measures. *Casey Stark*

DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency

**INSTRUCTIONS FOR COMPLETING THE DRY FLOODPROOFING CERTIFICATE
FOR NON-RESIDENTIAL STRUCTURES**

To receive credit for dry floodproofing, a completed Dry Floodproofing Certificate for Non-Residential Structures is required for non-residential buildings and the non-residential portions of mixed-use buildings in the Regular Program communities, located in all flood zones, including Zone X. For certification of finished construction, this form is invalid without Sections I through IV.

PROPERTY INFORMATION

This section identifies the building, its location, and its owner. Enter the name(s) of the building owner(s), the building's complete street address, and/or property description. If the building's address is different from the owner's address, enter the address of the building being certified. If the address is a rural route or a Post Office box number, enter the lot and block numbers, the tax parcel number, the legal description, or an abbreviated location description based on distance and direction from a fixed point of reference.

A map may be attached to this certificate to show the location of the building on the property. A tax map, FIRM, or detailed community map is appropriate. If no map is available, provide a sketch of the property location, and the location of the building on the property. Include appropriate landmarks such as nearby roads, intersections, and bodies of water. For building use, indicate whether the building is residential, non-residential, an addition to an existing residential or non-residential building, an accessory building (e.g., garage), or other type of structure. Use the Comments area of the appropriate section if needed or attach additional comments.

Provide latitude and longitude coordinates for the center of the front of the building. Use either decimal degrees (e.g., 39.504322°, -110.758522°) or degrees, minutes, seconds (e.g., 39° 30' 15.52", -110° 45' 30.72") format. If decimal degrees are used, provide coordinates to at least 6 decimal places or better. When using degrees, minutes, seconds, provide seconds to at least 2 decimal places or better. Provide the datum of the latitude and longitude coordinates (FEMA prefers the use of NAD 1983). Indicate the method or source used to determine the latitude and longitude in the Comments area.

SECTION I – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Complete the Dry Floodproofing Certificate using the Flood Insurance Study (FIS) and FIRM in effect at the time of the certification.

The information for Section I is obtained by reviewing the FIS and the FIRM panel that includes the building's location. Information about the current FIS and FIRM is available from FEMA by visiting msc.fema.gov or contacting the local floodplain administrator. If a Letter of Map Amendment (LOMA), Letter of Map Revision (LOMR), or LOMR Based on Fill (LOMR-F) has been issued by FEMA, please provide the letter date and case number in the Comments area, as appropriate.

For a building in an area that was mapped in one community but is now in another community due to annexation or dissolution, enter the community name and 6-digit number of the community in which the building is now located in the name of the county or new county, if necessary; and the FIRM index date for the community the building is now located in. Enter information from the actual FIRM panel that shows the building location, even if it is the FIRM for the previous jurisdiction. If the map in effect at the time of the building's construction was other than the current FIRM, and you have the past map information pertaining to the building, provide the information in the Comments area.

Note: Indicate in the Comments Section, if using information based on best available data, such as base-level engineering or advisory flood hazard data (contact the local floodplain administrator to confirm).

NFIP Community Name & Community Identification Number. Enter the complete name of the community in which the building is located, and the associated 6-digit Community Identification Number. For a newly incorporated community, use the name and 6-digit number of the new community. Under the NFIP, a "community" is any State or area or political subdivision thereof, or any Indian tribe or authorized native organization which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction. To determine the current community number, see the NFIP *Community Status Book*, available on FEMA's web site at www.fema.gov/national-flood-insurance-program-community-status-book.

County Name. Enter the name of the county or counties in which the community is located. For an unincorporated area of a county, enter the county name and "unincorporated area." For an independent city, enter "independent city."

State. Enter the 2-letter state abbreviation (for example, VA, TX, CA).

Map/Panel Number and Suffix. Enter the 10-character "Map Number" or "Community Panel Number" shown on the FIRM where the building or manufactured (mobile) home is located. For maps in a county-wide format, the sixth character of the "Map Number" is the letter "C" followed by a 4-digit map number. For maps not in a county-wide format, enter the "Community Panel Number" shown on the FIRM.

FIRM Index Date. Enter the effective date or the map revised date shown on the FIRM Index.

FIRM Panel Effective/Revised Date. Enter the effective date shown on the current FIRM panel. The current FIRM panel effective date can be determined by visiting msc.fema.gov or contacting the local floodplain administrator. In addition, if the area where the building is located was revised by a LOMR, include the LOMR effective date.

Flood Zone(s). Enter the flood zone, or flood zones, in which the building is located. All flood zones containing the letter "A" or "V" are considered Special Flood Hazard Areas. The flood zones are A, AE, A1–A30, V, VE, V1–V30, AH, AO, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. Each flood zone is defined in the legend of the FIRM panel on which it appears.

BFE(s). Using the appropriate Flood Insurance Study (FIS) Profile, FIS Data Table (e.g., Transect, Floodway, etc.), or FIRM panel, locate the property and enter the BFE (or base flood depth) of the building site to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico). If the building is located in more than one flood zone, list all appropriate BFEs.

BFEs are shown in the FIS or on a FIRM for Zones A1–A30, AE, AH, V1–V30, VE, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO; flood depth numbers are shown for Zone AO. Use the AR BFE if the building is located in any of Zones AR/A, AR/AE, AR/A1–A30, AR/AH, or AR/AO.

In unnumbered A or V zones where BFEs are not provided in the FIS or on the FIRM, BFEs may be available from another source. For example, the community may have established BFEs or obtained BFE data from other sources (e.g., Base Level Engineering) for the building site. For subdivisions and other developments of more than 50 lots or 5 acres in Zone A, establishment of BFEs is required per Floodplain Management requirements 44 CFR 60.3(b)(3). If a BFE is obtained from another source, enter the BFE. The BFE entered must be based on hydrologic and hydraulic analyses. In an unnumbered A Zone where BFEs are not obtained from another source, enter N/A.

For areas in which BFEs have not been established, designers can refer to FEMA 265 *Zone A Manual: Managing Floodplain Development in Approximate Zone A Areas* (FEMA 1995), https://www.fema.gov/sites/default/files/documents/fema_approx-zone-a-guide.pdf?id=2215. This guide provides information on obtaining and developing BFEs.

Source of BFE. Indicate the source of the BFE or flood depth that you entered. If the BFE is from a source other than FIS Profile, FIRM, or community, include the name of the study, the agency or company that produced it, and the date when the study was completed. Visit msc.fema.gov or contact the local floodplain administrator to access the current FIS and FIRM.

Elevation Datum. Indicate the elevation datum to which the elevations on the applicable FIRM are referenced as shown on the map legend. The vertical datum is shown in the Map Legend and/or the Notes to Users on the FIRM.

Limit of Moderate Wave Action (LiMWA). Indicate if a LiMWA is shown on the FIRM and the location of the building in relation to the LiMWA.

Floodway. Indicate if building is in a floodway and if applicable, the velocity in the area of the building. See FEMA P-936, *Floodproofing Nonresidential Buildings* for more information on determining the velocity.

Alluvial Fan. Indicate if building is in an alluvial fan and if applicable, the depth and velocity in the area of the building.

SECTION II – DRY FLOODPROOFED DESIGN CERTIFICATION

Section II is to be completed by a Registered Professional Engineer or Architect licensed in the State where the building is located to certify the design of the dry floodproofing measures as required by 44 CFR 60.3(c)(4).

SECTION III – DRY FLOODPROOFED ELEVATION CERTIFICATION

Section III is to be completed by a Registered Professional Land Surveyor, Engineer, or Architect licensed in the State where the building is located to provide the surveyed elevations of the as-built construction. To ensure that all required elevations are obtained, it will be necessary to physically enter the building.

SECTION IV – DRY FLOODPROOFED CONSTRUCTION CERTIFICATION

Section IV is to be completed by a Registered Professional Engineer or Architect licensed in the state where the building is located to certify the structure, based upon development and/or review of the design, specifications, as-built drawings for construction and physical inspection, has been designed and constructed in accordance with the accepted standards of practice (ASCE 24-05, ASCE 24-14 or their equivalent) and any alterations also meet those standards and the provisions listed in Section IV.

REMOVABLE WATERPROOF TAPE

FLEX TAPE

REMOVABLE RUBBERIZED WATERPROOF TAPE

FLOOD PROTECTION

STOP FLOOD WATER!

30 ft (9.52 cm) X 6.10 m

REMOVABLE WATERPROOF TAPE

HELPS SEAL OUT FLOOD WATER

COMES OFF QUICK & EASY



REMOVABLE WATERPROOF TAPE

FLEX TAPE

REMOVABLE RUBBERIZED WATERPROOF TAPE

FLOOD PROTECTION

STOP FLOOD WATER!

30 ft (9.52 cm) X 6.10 m

HELPS SEAL OUT FLOOD WATER

COMES OFF QUICK & EASY













October 29, 2024

Re: 1st Baptist Church Restroom Bldg Buoyancy Calcs

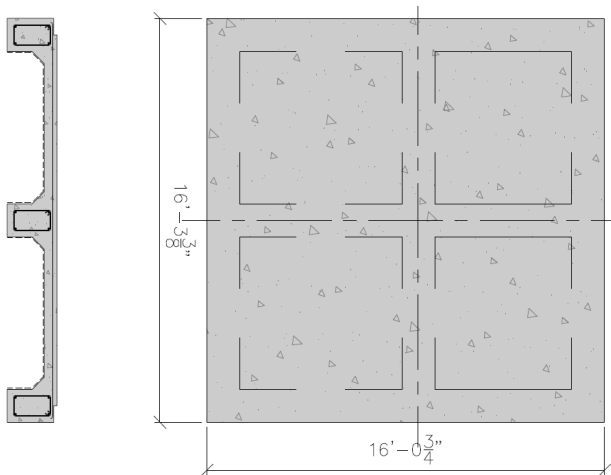
Assumptions:

Density of concrete = 150 #/ft³

Density of water(ρ)= 62.4 #/ft³

$g = 32.2 \text{ft/s}^2$

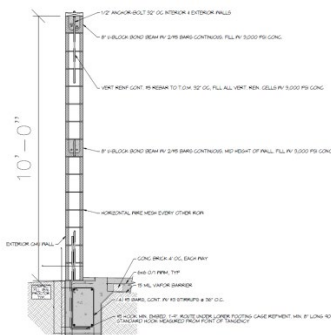
Estimate the weight of the building



The foundation weight is estimated:

14.47 s.f. x 16lf = 231.5 cu ft x 150 #/cu ft of CONCRETE = 34,728 #

+ 2.68 s.f. x (16.25 x 3) = 130.65 cu ft x 150 #/cu ft of CONCRETE = 19,597.5#



The weight of the CMU filled walls are estimated:

6.65 s.f. x (84.7-9 (doors)) lf = 503.4 cu ft x 150 #/cu ft of CONCRETE = 75,510.75#

The total weight of the concrete building is estimated :

$$34,728\# + 19,597.5\# + 75,510.75\# = 129,836.25\#$$

buoyancy :

Volume of the building below static water level (BFE) :

Natural Grade = 8.4 ft

BFE = 14.0 ft

Depth of building below BFE = $14 - 8.4 = 5.6$ ft

Area of building = $16.25 \times 16 = 260$ ft²

Volume of displaced water = $260 \text{ ft}^2 \times 5.6 \text{ ft} = 1,456 \text{ ft}^3$

Displacement Force: $1456 \text{ cuft} \times 62.2 \text{ \#/cuft} = 90,854 \text{ \#}$

Since the weight of the concrete bldg is greater than the buoyancy force the bldg will not float.

$$129,836.25\# > 90,854\#$$

Thank You,



David Dammon



October 29, 2024

Re: 1st Baptist Church Restroom Bldg Wall Strength

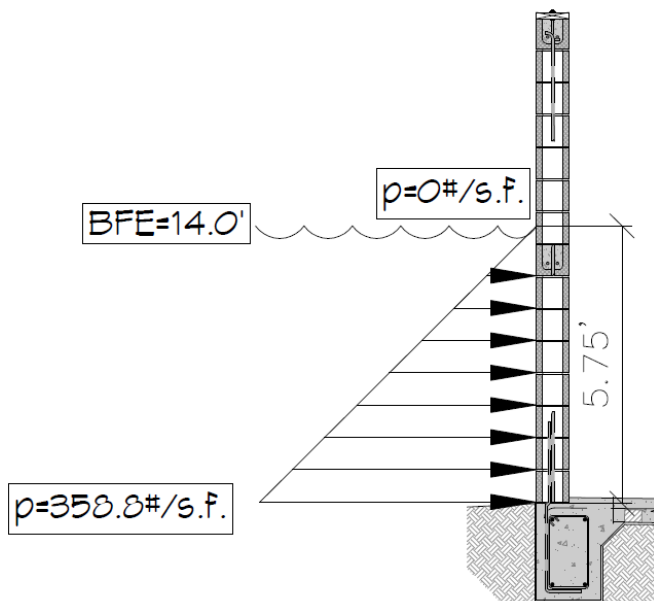
Assumptions :

Grade 60 rebar has a yield strength of 60,000 psi

Density of concrete = 150 #/ft³

Density of water (ρ)= 62.4 #/ft³

Calculate the pressure from water at depth.



The pressure from the water at the top is nothing increasing to 62.4 pcf x 5.75 ft = 358.8 psf

To get an equivalent uniform distributed load 358.8 psf x 1.03 = 369.6 psf

To get a total pressure along the wall 369.6 psf x 5.75 ft = 2,125.2 plf

Then multiply by the length of each wall 16.25 lf x 2,125.2 plf for a total pressure against the wall of 34,534.5 #

A #5 vertical rebar has been imbedded in concrete foundation @ 24 inches on center and extended up to the top of the CMU wall. Each rebar has a yield strength of 60,000 psi. The rebar will keep the structure from collapsing.

David Dammon