Department of Licenses and Inspections
CITY OF PHILADELPHIA

FLOOD PROTECTION FORM – GENERAL (FP-G)

2020 Edition (published January 3, 2020)
Expires February 1, 2021
SUBMIT WITH BUILDING PERMIT APPLICATION

FLOOD PROTECTION FORM – GENERAL (FP-G)

This form is for building permit applications to confirm all development meets the City of Philadelphia's building regulations associated with a development site located in the Special Flood Hazard Area (SFHA). This form is to be completed by a PA Registered Design Professional(s) who is authorized by law to certify the information required on this form are correct and complete to the best of their knowledge and that the design plans, as submitted, are consistent with the statements. Depending on your project you may have to complete these forms, where noted:

Flood Protection Form – Zoning/Use Registration (FP-Z)
Flood Protection Form – Existing Buildings (FP-EX)
Flood Protection Form – Variances (FP_VAR)
Flood Protection Form – No Rise (FP-NR)
Flood Protection Form – Letter of Map Change (FP-LOMC)
Structural Design Criteria Form

For more information on floodplain codes/regulations visit the Floodplain Management webpage at
http://www.phila.gov/li/Pages/FloodplainManagement.aspx

For building permit plans, these additional items shall be submitted:

- Plans must be signed/sealed by a PA registered design professional when cost of work exceeds $25,000. Structural plans must be signed/sealed by a professional engineer licensed by the Commonwealth of Pennsylvania.
- Plans must be of professional quality and drawn to scale (e.g. 1/4" = 1' – 0")
- Minimum sheet size is 18" x 24".
- **Elevations must use NGVD 29 as per FIRM panels and match elevations on Elevation Certificates**
  - The following information must be included on the plan (applicable codes):
  - Special Flood Hazard Zones (A, AE, Floodway, X, 0.2%) from effective Flood Insurance Study (FIS), and when a FIS is not available, from the Flood Insurance Rate Maps (FIRM)
  - In coastal zones: must show reach of mean high tide and LiMWA line
  - Construction type, specifically foundation type and loading
    - Anchoring to withstand the hydrostatic and hydrodynamic loads, and not become buoyant
  - Plans for every floor from the DFE (BFE+18") and below, including all enclosed spaces (basements, crawlspaces, etc.)
    - Finished Floor Elevations for each level noted above
    - All the rooms must be labeled as to their use. (e.g. bedroom, kitchen, office, incidental storage, etc.)
    - Any accessory structures (sheds, dumpsters, benches, transformer pads, etc.)
  - Material types for areas wet floodproofed below the Design Flood Elevation (BFE+18")
  - Location and type of mechanical, fuel systems, water supply, elevators, electrical, and plumbing including elevations and flood design criteria
  - Details and specifications for any wet or dry floodproofing measures
  - For earth work, existing and proposed contours
- Any additional documents per Section E (Elevation Certificate, Floodproofing Certificate, No Rise Certificate, H&H Study, Geotechnical Report, Flood Emergency Operations Plan

NOTE: ALL LINES ON THIS FORM MUST BE COMPLETED, AND WHEN "NOT APPLICABLE" SELECT "N/A"

A. PROJECT INFORMATION

1. Address of proposed work			
2. Owner of property			
3. Owner address		4. Owner Phone #	
5. Agent of Owner		6. Company	
7. Agent Address		8. Agent Phone #	

B. FLOOD HAZARD INFORMATION

Flood Risk Zone – select all that apply to your site/parcel

- ☐ A Zone – **Complete Form**
- ☐ AE Zone – **Complete Form**
- ☐ Seaward of LiMWA line – **Complete Form**
- ☐ Mean high tide zone **– Complete Form**
- ☐ AE/Floodway – **Complete Form**
- ☐ FEMA Mapped 0.2% /X/unshaded – if site/parcel is only in this zone, **attach a Site Plan** and **proceed to section J** (see instructions Site Plan requirements on PG 1)

Must attach a Site Plan to this form/application.

1. Map/Panel #		2. FIRM Panel - Effective/Revised Date	
3. Flood Insurance Study (FIS) used to determine BFE		☐Yes	☐No

C. TYPE(S) OF APPLICATION (select all that apply)

- ☐ New building - **Complete section D**
- ☐ Addition – **Start with FP-EX**
- ☐ Renovation/alteration – **Start with FP-EX**
- ☐ Earth Work - **Complete section E6**
- ☐ Retaining Wall - **Complete section E5**
- ☐ Demolition - **Complete section E10**
- ☐ A Zone - **Complete section I**
- ☐ Accessory Structure - **Complete section E5**
- ☐ Below grade parking **- Complete section E3**
- ☐ Seasonal/temporary - **Complete section E9**
- ☐ Storage of materials - **Complete section E8**
- ☐ Storage of equipment/machinery - **Complete section E8/E9**
- ☐ Electrical **- Complete section E7**
- ☐ HVAC **- Complete section E7**
- ☐ Fuel Systems **- Complete section E7**
- ☐ Water supply **- Complete section E7**
- ☐ Elevator/escalator - **Complete section E7**
- ☐ Plumbing **- Complete section E7**
- ☐ Construction Office/Staging/Storage **- Complete section E9**
- ☐ Historic Designation (local, national or contributing) - **Complete section E4**
- ☐ Change of Use - **Complete FP-Z**
- ☐ Letter of Map Change (CLOMR-F, CLOMR, LOMR) - **See FP-LOMC**
- ☐ Production or storage of: - **Prohibited in the floodway, otherwise complete FP-G: E8**
  acetone; ammonia; benzene; calcium carbide; carbon disulfide; hydrochloric acid; hydrocyanic acid; magnesium; nitric acid and oxides of nitrogen; petroleum products; phosphorus; potassium; sodium; sulfur and sulfur products; or pesticides & radioactive substances *(Appendix G901)*
- ☐ Development along Delaware River in Coastal A Zone (CAZ) - **Complete E12**
- ☐ Other (not listed above):

D. FOR NEW BUILDINGS, SUBSTANTIAL IMPROVEMENTS/RENOVATIONS, AND ADDITIONS

1. ELEVATION CERTIFICATE (EC)		☐Yes (required)	☐No	☐N/A
2. BFE (NGVD 29) (unless in A Zone)		2a. BFE (City Datum) (if plan drawing use this datum to illustrate elevations)		
3. Conversion Factor (if City Datum is used)				
4. Design Flood Elevation (as shown on drawings)		☐ NGVD 29	☐ City Datum	

5. Building Diagram Number – **A7 on ELEVATION CERTIFICATE** (see **ELEVATION CERTIFICATE** instructions for diagrams)

☐ 1A ☐ 1B ☐ 1C ☐ 2A ☐ 2B ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9

6. Lowest Floor Elevation (including basement, crawlspace, or enclosed floor) **C2.a on Elevation Certificate**	
7. Attached Garage Floor Elevation **C2.d on Elevation Certificate**	
8. For townhouses, an **Elevation Certificate** for each house must be submitted	

Note: Elevation Certificates are required again, for each house when lowest floor is installed during construction (prior to vertical work starting), and upon finished construction prior to a Certificate of Occupancy.

E. DESIGN INFORMATION

E1. RESIDENTIAL (& residential portions of mixed-use structures)

(building or structures and portions thereof where people live or that are used for sleeping purposes on a transient or non-transient basis - including but not limit to 1-family, 2-family, townhouses, condominiums, multifamily dwellings, apartments, congregate residences, boarding houses, lodging houses, rooming houses, hotels, motels, convents, monasteries, dormitories, fraternity houses, sorority houses, vacation time-share properties and institutional facilities: halfway houses, social rehabilitation facilities, alcohol and drug centers, detoxification facilities) – *(ASCE 24)*

1.	Lowest floor elevation (including basement, crawlspace, or enclosed floor) is BFE+18" (*IRC 2015: R309.3, R322.2.1, R322.3.2) (IBC 2018 1603.1.7, 1612.4) (ASCE 24: 1.2, 2.3, 4.4)*	☐Yes	☐No	☐N/A
2.	Flood Design class + Flood loads and conditions *(IBC 2018: 1603.1.7, 1605.2.1, 1605.3.1.2, 1612.4, 3102.7) (IRC 2015: R301.1, TableR301.2(1), R322.1.2, R322.3.3) (ASCE 24-14: 1.4, 1.6) (ASCE 7: 2.3.3, 2.4.2, 5.3.1, 5.3.2, 5.4)*	☐Yes, complete **Structural Design Criteria Form**	☐No	☐N/A
3.	Foundation walls - masonry walls shall be designed and constructed in accordance with ACI 530/ASCE 5/TMS 402 or concrete with ACI 318 *(ASCE 24: 2.6)*	☐Yes	☐No	☐N/A
4.	Site Grading: ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one-unit vertical in 20 units horizontal (5%) for a min. distance of 10 feet of horizontal distance. Impervious surfaces within 10 feet of the building foundation shall be sloped a min. of 2% away from the building. *(IBC 2018: 1804) (ASCE 24: 1.5.4, 2.4, 4.5.4)*	☐Yes	☐No	☐N/A
5.	Fill being placed on site?	☐Yes, complete section **E6**		☐N/A
6.	Enclosed areas below BFE + 18" **(no areas below grade on all sides allowed below BFE+18")** allows for the automatic entry and exit of floodwater *(IRC 2015: R309.3, R322.2.1, R322.2.2, R322.3.2, R322.3.6) (ASCE 24: 1.2, 1.5.2, 2.3 2.7, 4.6)*	☐Yes	☐No	☐N/A
7.	Enclosed areas below BFE + 18": Use only for parking, building access, and incidental storage. (No lobbies with seating, mailboxes, security desks, etc.) (ASCE 24: Ch. 6)	☐Yes	☐No	☐N/A
8.	Flood Openings: • 1SQ/IN for every 1SQ/FT of enclosed space, shall not be less than 3in. in any direction, louvers/blades/screens/faceplates shall not block or impede automatic exit/entry of water • Min. of 2 opening for each enclosed space (including storage closets) • On at least 2 walls of each enclosed area • Bottom of each opening no higher than 1FT above the higher of the final interior grade or floor and the finished exterior grade immediately under each opening (only openings below BFE can count towards the required net open area) • Opening must be below BFE to count *(IRC 2015: R322.2.2, R322.3.5, R408.7) (IBC 2018: 1202.4.4) (ASCE 24: 2.7.1, 2.7.2, 2.7.3, 4.6.2)*	☐Yes	☐No	☐N/A
9.	Engineered opening *(ASCE 24: 2.7.2.2)*	☐Yes	☐No	☐N/A
10.	Non-engineered openings *(ASCE 24: 2.7.2.1)*	☐Yes	☐No	☐N/A
11.	See A8 and/or A9 on **ELEVATION CERTIFICATE,** for opening information	☐Yes	☐No	☐N/A
12.	Flood Resistant Materials, must be used in spaces BFE + 18" and below when wet floodproofed *(IRC 2015: R322.1.8) (IBC 2018: 801.5, 1403.6, 1612.4) (ASCE 24: 1.2 + Chapter 5)*	☐Yes	☐No	☐N/A
13.	Non-conversion notes on **PLANS** and **CERTIFICATE OF OCCUPANCY,** for spaces below the BFE+18" – spaces cannot be converted to "living" areas	☐Yes	☐No	☐N/A
14.	Dry floodproofing - **not** permitted for residential structures *(ASCE 24: 1.2, 1.5.2, Chapter 6, 7.1)*	☐Yes	☐No	☐N/A
15.	Any electrical, HVAC, plumbing or fire suppression equipment on site?	☐Yes, complete section **E7**		☐N/A

E2. NON-RESIDENTIAL (& non- residential portions of mixed-use structures)			
1. • Healthcare facilities having surgery or emergency treatment facilities; • Fire, rescue, ambulance, and police stations and emergency vehicle garages, designated emergency structures (hurricane, earthquake, etc.); • Designed emergency preparedness, communication, and operation centers and other facilities required for emergency response; • Power generating stations and other public utility facilities • Ancillary structures (communication towers, fuel storage tanks, cooling towers, electrical substation structures, fire water storage tanks or other structures housing or supporting; water, or other fire-suppression material or equipment); • Aviation control towers, air traffic control center, and emergency aircraft hangars; • Water storage facilities and pump structures required to maintain water pressure for fire suppression; • Buildings and other structures having critical national defense functions *(ASCE 24: Table 1-1)*	☐ Yes, required to have a DFE of BFE+ 24"		☐ N/A
2. Lowest floor elevation (including basement, crawlspace, or enclosed floor) is 18" above BFE *(IBC 2018 1603.1.7, 1612.4) (ASCE 24: 1.2, 2.3, 4.4)*	☐ Yes	☐ No	☐ N/A
3. Flood Design class + Flood loads and conditions *(IBC 2018: 1603.1.7, 1605.2.1, 1605.3.1.2, 1612.4, 3102.7)* *(ASCE 24-14: 1.4, 1.6) (ASCE 7: 2.3.3, 2.4.2, 5.3.1, 5.3.2, 5.4)*	☐ Yes, complete **Structural Design Criteria Form**	☐ No	☐ N/A
4. Foundation walls - masonry walls shall be designed and constructed in accordance with ACI 530/ASCE 5/TMS 402 or concrete with ACI 318 *(ASCE 24: 2.6)*	☐ Yes	☐ No	☐ N/A
5. Site Grading: ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one-unit vertical in 20 units horizontal (5%) for a min. distance of 10 feet of horizontal distance. Impervious surfaces within 10 feet of the building foundation shall be sloped a min. of 2% away from the building. *(IBC 2018: 1804) (ASCE 24: 1.5.4, 2.4, 4.5.4)*	☐ Yes	☐ No	☐ N/A
6. Fill being placed on site?	☐ Yes, complete section **E6**		☐ N/A
7. Enclosed areas below BFE + 18"	☐ Yes, not below grade	☐ Yes, below grade	☐ No	☐ N/A
8. Enclosed areas below BFE + 18" (but not below grade on all sides allowed) can be Wet floodproofed, which allows for the automatic entry and exit of floodwater *(IBC 2018: 1202.4.4) (ASCE 24: 2.7.1, 2.7.2, 2.7.3, 4.6.2)*	☐ Yes	☐ No	☐ N/A
9. If E2.8 is "yes", then use only for parking, access, and incidental Storage – openings required: (No lobbies with seating, mailboxes, security desks, etc.) *(ASCE 24: 2.7, 4.6)*	☐ Yes	☐ No	☐ N/A
10. Openings: *(ASCE 24: Ch. 2)* • 1SQ/IN for every 1SQ/FT of enclosed space, shall not be less than 3in. in any direction, louvers/blades/screens/faceplates shall not block or impede automatic exit/entry of water • Min. of 2 opening for each enclosed space (including storage closets) • On at least 2 walls of each enclosed area • Bottom of each opening no higher than 1FT above the higher of the final interior grade or floor and the finished exterior grade immediately under each opening (only openings below BFE can count towards the required net open area) • Opening must be below BFE to count *(IBC 2018: 1202.4.4) (ASCE 24: 2.7.1, 2.7.2, 2.7.3, 4.6.2)*	☐ Yes	☐ No	☐ N/A
11. Engineered opening *(ASCE 24: 2.7.2.2)*	☐ Yes	☐ No	☐ N/A
12. Non-engineered openings *(ASCE 24: 2.7.2.1)*	☐ Yes	☐ No	☐ N/A
13. See A8 and/or A9 on **ELEVATION CERTIFICATE,** for opening information	☐ Yes	☐ No	☐ N/A
14. Flood Resistant Materials, must be used in spaces BFE + 18" and below when wet floodproofed *(IBC 2018: 801.5, 1403.6, 1612.4) (ASCE 24: 1.2 + Chapter 5)*	☐ Yes	☐ No	☐ N/A
16. Non-conversion notes on **PLANS** and **CERTIFICATE OF OCCUPANCY,** for spaces below the BFE+18" – spaces cannot be converted to "living" areas	☐ Yes	☐ No	☐ N/A
15. If **E2.7** is "yes, below grade", and use beyond parking, access, and incidental storage and/or **below grade on all sides**, then must be dry floodproofed	☐ Yes	☐ No	☐ N/A

16. **FLOODPROOFING CERTIFICATE** must be prepared	☐Yes, required for Certificate of Occupancy		☐N/A
17. Dry floodproofing construction details/specifications *(ASCE 24; 1.2, 1.5.2, Chapter 6,7.1)*	☐Yes	☐No	☐N/A
18. Dry floodproofing - At least one door satisfying building code requirements for an exit door or primary means of escape, above the design flood elevation, and capable of providing human ingress and egress during the design flood *(ASCE 24: Ch. 6)*	☐Yes	☐No	☐N/A
19. Dry floodproofing – soil or fill adjacent to the structure compacted and protected against erosion and scour *(ASCE 24: Ch. 6)*	☐Yes	☐No	☐N/A
20. Dry floodproofing - **FLOOD EMERGENCY OPERATION PLAN (NON-RESIDENTIAL)** *(ASCE 24: 6.2.3)*	☐Yes	☐No	☐N/A
21. Dry floodproofing – two conspicuous and permanent posting of **FLOOD EMERGENCY OPERATION PLAN** in the structure *(ASCE 24: 6.2.3)*	☐Yes, required for Certificate of Occupancy		☐N/A
22. Any electrical, HVAC, plumbing or fire suppression equipment on site?	☐Yes, complete section **E7**		☐N/A
E3. BELOW-GRADE PARKING (only for non-residential)			
1. Must be dry floodproofed - **FLOODPROOFING CERTIFICATE**	☐Yes, required for Certificate of Occupancy		☐N/A
2. **FLOOD EMERGENCY OPERATION PLAN** *(ASCE 24-05: 6)*	☐Yes	☐No	☐N/A
E4. HISTORIC (IBC 2018: G105.3)			
1. Analysis that elevating and/or floodproofing would remove it from historic designation status (G105.3)	☐Yes	☐No	☐N/A
2. Machinery/equipment shall be elevated or floodproofed	☐Yes	☐No	☐N/A
3. Flood resistant materials, shall be used in enclosed spaces below BFE+18”	☐Yes	☐No	☐N/A
E5. ACCESSORY STRUCTURE (use can only be for incidental storage or parking)			
1. Applies to all accessory structures: anchored, withstand the hydrostatic & hydrodynamic loads as well as not become buoyant (applies to all below) *(ASCE 24: 9.4)*	☐Yes	☐No	☐N/A
2. Enclosed areas below BFE + 18” (no areas below grade on all sides allowed) allows for the automatic entry and exit of floodwater *(ASCE 24: 9.4)*	☐Yes	☐No	☐N/A
3. Engineered opening certifications and/or manufacturers documentation *(ASCE 24: 2)*	☐Yes	☐No	☐N/A
4. Non-engineered openings *(ASCE 24: 2)*	☐Yes	☐No	☐N/A
5. Openings: *(ASCE 24: Ch. 2)* • 1SQ/IN for every 1SQ/FT of enclosed space, shall not be less than 3in. in any direction, louvers/blades/screens/faceplates shall not block or impede automatic exit/entry of water • Min. of 2 opening for each enclosed space (including storage closets) • On at least 2 walls of each enclosed area • Bottom of each opening no higher than 1FT above the higher of the final interior grade or floor and the finished exterior grade immediately under each opening (only openings below BFE can count towards the required net open area) • Opening must be below BFE to count	☐Yes	☐No	☐N/A
6. Flood Resistant Materials, must be used in spaces BFE + 18” and below *(ASCE 24: Chapter 6)*	☐Yes	☐No	☐N/A
7. Machinery/equipment (no HVAC or fuel systems) at BFE+18” (ASCE 24: 7)	☐Yes	☐No	☐N/A
8. Electrical below BFE+18”, supplied by branch circuits and GFCI protection *(ASCE 24: Chapter 7)*	☐Yes	☐No	☐N/A
9. Non-conversion notes on **PLANS** and **CERTIFICATE OF OCCUPANCY,** for structures over 200 SF	☐Yes	☐No	☐N/A
E6. FILL			
1. Fill shall be designed to be stable under conditions of flooding, including rapid rise and rapid drawdown of floodwaters, prolonged inundation, and flood related erosion and scour. *(ASCE 24: Ch. 2) (IBC 2018: 1804.5)*	☐Yes	☐No	☐N/A
2. Use of fill for structural support is prohibited *(IRC 2015: R322.3.2)*	☐Yes	☐No	☐N/A

3. Structural fill used to support or protect a structure shall be placed in lifts not more than 12in. loose thickness, with each lift compacted to at least 95% of its max. standard proctor density (ASTM 2012f) or 90% max. modified proctor density (ASTM 2012e) *(ASCE 24: Ch. 2)*	☐ Yes	☐ No	☐ N/A
4. If fill is used to raise the elevation of the site for residential construction, the fill area shall extend out laterally at a maximum slope of 1% for the minimum required rear yard dimension but in no case less than 15 ft. beyond the proposed structure. The grade from the edge of the rear yard to the floodway line shall not exceed 20% unless a retaining wall is constructed. *(Philadelphia Zoning Code)*	☐ Yes	☐ No	☐ N/A
5. If less than 12", in-place dry density is not less than 90% of the max. dry density at optimum moisture content determined in accordance with ASTM D 1557 *(IBC 2018: 1804.6)*	☐ Yes, Special Inspections	☐ No	☐ N/A
6. If over 12", then **GEOTECHNICAL REPORT** *(IBC 2018: 1804.6)*	☐ Yes, Special Inspections	☐ No	☐ N/A
7. If over 12", the placement of fill creates change or modification in SFHA – FEMA Letter of Map Change (LOMC) within 6 months of change in SFHA (Phila Zoning 14-704(4)(f))	☐ Yes, complete **FP- LOMC**	☐ No	☐ N/A

E7. MACHINERY/EQUIPMENT ELEVATION (include all that apply)

- ☐ Mechanical/Appliance
  - ☐ Heating
  - ☐ Cooling
  - ☐ Exhaust
  - ☐ Appliances
  - ☐ Duct systems
  - ☐ Boilers
  - ☐ Solar
- ☐ Fuel systems
  - ☐ Gas/oil supply lines
  - ☐ Oil tanks
  - ☐ Propane tanks
  - ☐ Meter pumps
  - ☐ Gas/oil fired equipment
- ☐ Water Supply
  - ☐ Wells
  - ☐ Water connections
  - ☐ Filtration/treatment systems
- ☐ Conveyance
  - ☐ Elevator/escalator
- ☐ Electrical
  - ☐ Service/Meter
  - ☐ Feeders
  - ☐ Panel boards
  - ☐ Switches
  - ☐ Fuses
  - ☐ Transformers
  - ☐ Cabinets/control panels
  - ☐ Outlets/receptacles
  - ☐ Wiring
  - ☐ Generators (emergency power)
- ☐ Plumbing
  - ☐ Water supply
  - ☐ Water treatment
  - ☐ Sanitary drainage
  - ☐ Fixtures
  - ☐ Laundry appliances
  - ☐ Plumbing vents
  - ☐ Septic Tanks
  - ☐ Fire protection
  - ☐ Pumps

1. **Mechanical/Appliances** *(ASCE 24: Ch. 7)*			
a. Primary components (HVAC units, boilers, chillers, ductwork, hot and chilled water pumps) at BFE+18"	☐ Yes	☐ No	☐ N/A
b. Air intake openings and exhaust outlets shall be at or above DFE	☐ Yes	☐ No	☐ N/A
c. Elevation of lowest mechanical/appliances (HVAC units, boilers, chillers, ductwork, hot and chilled water pumps) in NGVD 29	_____NGVD 29		☐ N/A
2. **Fuel Systems** *(ASCE 24: Ch. 7)*			
a. Primary components (pumps, meters, tanks, piping, and valves)	☐ Yes	☐ No	☐ N/A
b. If **E7.2a** is yes, then install at BFE+18"	☐ Yes	☐ No	☐ N/A
c. If **E7.2b** is no, then components designed to resist flood forces and Prevent floodwater entry	☐ Yes	☐ No	☐ N/A
d. Fuel supply lines below DFE, shall be equipped with a float operated automatic control valve to shut off fuel supply when floodwaters rise above the BFE.	☐ Yes	☐ No	☐ N/A

e. Elevation of lowest fuel system (pumps, meters, tanks, piping, and valves) in NGVD 29	_____NGVD 29		☐N/A
3. **Plumbing** *(ASCE 24: Ch. 7)*			
a. Primary components (booster pumps, water heaters, meters, backflow prevention valves) at BFE+18”	☐Yes	☐No	☐N/A
b. If **E7.3a** is no, must be approved submersible components	☐Yes	☐No	☐N/A
c. Backflow valves and/or automatic backflow devices shall be installed in each line below the DFE.	☐Yes	☐No	☐N/A
d. Wastewater/sanitary system	☐Yes	☐No	☐N/A
i. Vents and openings shall be elevated to BFE+18”	☐Yes	☐No	☐N/A
e. Non-submersible lift and macerator pumps at BFE+18”	☐Yes	☐No	☐N/A
f. Fire sprinkler systems, sprinkler and jockey pumps at BFE+18”	☐Yes	☐No	☐N/A
g. Secondary plumbing (water, waste, vent, sprinkler piping, install components designed to resist flood forces and prevent floodwater entry)	☐Yes	☐No	☐N/A
h. Elevation of lowest plumbing (booster pumps, water heaters, meters, backflow prevention valves) in NGVD 29	_____NGVD 29		☐N/A
4. **Electrical** *(ASCE 24: Ch. 7)*			
a. Primary components (service panel, meter, generator, generator connection, transfer switch, transformer) at BFE+18”, if use listed in **E2.1** then BFE + 24”	☐Yes	☐No	☐N/A
b. Electric service conduits and cables below DFE, designed to be waterproofed or conform to NFPA 70 for wet locations.	☐Yes	☐No	☐N/A
c. Secondary components (branch circuits and devices) at BFE+18”	☐Yes	☐No	☐N/A
d. If **E7.4c** is no, install components to resist flood forces and prevent floodwater entry	☐Yes	☐No	☐N/A
e. Elevation of lowest electrical (service panel, meter, generator, generator connection, transfer switch, transformer) in NGVD 29	_____NGVD 29		☐N/A
5. **Elevators/escalators** *(ASCE 24: Ch. 7)*			
a. For any elevator where shaft is below BFE+18”, then float switch must be installed, designed to resist flood loads (ASCE 7), and are not required to have flood openings	☐Yes	☐No	☐N/A
b. Hydraulic Elevator	☐Yes	☐No	☐N/A
i. Cab, machine/equipment room, hydraulic pump, hydraulic reservoir, and electrical control panel at BFE+18”	☐Yes	☐No	☐N/A
c. Traction Elevator	☐Yes	☐No	☐N/A
i. Cab, counterweight and roller guides, hoist cable, limit switches machine/equipment room, electric hoist motor, and electrical control panel at BFE+18”	☐Yes	☐No	☐N/A
d. The resting location of the elevator cab shall be the floor fully above the DFE	☐Yes	☐No	☐N/A
e. Elevation of lowest elevator equipment (electrical control panel, motors, pumps, etc.) in NGVD 29	_____NGVD 29		☐N/A
6. For **any/all** utilities emerging from underground outside of a structure, shall be designed, constructed, anchored, and protected to withstand flood-related loads, including effects of buoyancy, hydrodynamic forces, and debris impact *(ASCE 24: Ch. 7)*	☐Yes	☐No	☐N/A
E8. STORAGE (goods, materials, vehicles, equipment, dumpster, etc.)			
1. More than 180 days	☐Yes, must comply with all floodplain requirements	☐No	☐N/A
2. Less than 180 consecutive days is allowed (*IBC 2018: G901)*	☐Yes	☐No	☐N/A
3. Must be non-hazardous (*IBC 2018: G901)*	☐Yes	☐No	☐N/A
4. For vehicles, trailers, or general vehicles – licensed and road ready and on site for more than 180 consecutive days *(IBC 2018: G601)*	☐Yes	☐No	☐N/A

5. For vehicles, trailers, or general vehicles – **not** licensed and onsite more than 180 consecutive days *(IBC 2018: G601)*	☐Yes, prohibited, review **FP-VAR**	☐No	☐N/A
E9. SEASONAL/TEMPORARY STRCUTURES (including construction offices/trailers)			
1. More than 180 days	☐Yes, complete **FP-G: E2**	☐No	☐N/A
2. Less than 180 consecutive days (*IBC 2018: G901)*	☐Yes	☐No	☐N/A
3. Less than 180 days - anchored, withstand the hydrostatic & hydrodynamic loads as well as not become buoyant – enclosed structures must also have flood openings *(IBC 2018: G901 & ASCE 24)*	☐Yes	☐No	☐N/A
E10. DEMOLITION (existing buildings in SFHA, without new construction) *(IBC 2018 A-107.2.6)*			
1. Removal of all building components (structural, foundations, machinery, underground tanks, etc.), if no then must resist buoyancy	☐Yes	☐No	☐N/A
2. Fill to adjacent grades with in-place dry density is not less than 90% of the max. dry density at optimum moisture content determined in accordance with *ASTM D 1557*	☐Yes	☐No	☐N/A
3. Site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site.	☐Yes	☐No	☐N/A
E11. FLOODWAY			
1. Public Utility companies: offices (Zoning Code)	☐Yes, prohibited in the floodway, review **FP-VAR**		☐N/A
2. Production or storage of: acetone; ammonia; benzene; calcium carbide; carbon disulfide; hydrochloric acid; hydrocyanic acid; magnesium; nitric acid and oxides of nitrogen; petroleum products; phosphorus; potassium; sodium; sulfur and sulfur products; or pesticides & radioactive substances *(Zoning Code)*	☐Yes, prohibited in the floodway, review **FP-VAR**		☐N/A
3. Docks, trails, roadways, public utilities and bridges (Zoning Code)	☐Yes, complete **FP- NR**	☐No	☐N/A
4. Fences - Designed to not obstruct or divert floodwater or cause adverse impact to neighboring parcels (IBC 2018: G801.2)	☐Yes	☐No	☐N/A
5. Structures//uses not mentioned above	☐Yes, prohibited, review **FP-VAR**	☐No	☐N/A
E12. COASTAL A ZONES (where LiMWA line is present) *(ASCE 24-14) – along Delaware River*			
If any of the following uses, then Designed Flood Elevation of **BFE + 24"** • Building and structures in which large number of persons may assemble in one place, such as theaters, lecture halls, concert halls, and religious institutions with large areas used for worship • Museums • Community centers and other recreational facilities • Athletic facilities with seating for spectators • Elementary schools., secondary schools, and buildings with college or adult education classrooms • Jails, correctional facilities, and detention centers • Healthcare facilities • Care facilities where residents have limited mobility or ability, including nursing home but not including care facilities for five or fewer persons • Preschool and childcare facilities not located in one or two family dwellings, • Buildings or structures associated with power generation, water and sewage treatment plants, telecommunications facilities, and other such facilities which, if their operations were interrupted by a flood, would cause significant disruption in day-to-day life or significant economic losses in a community • Building or structures that manufacture, process, handle, store, use, or dispose of such substances as hazardous fuels, hazardous chemicals, or hazardous waste • Fire, rescue, ambulance, and police stations and emergency vehicle garages • Designated emergency shelter • Designed emergency preparedness, communication, and operation centers and other facilities required for emergency response communication towers, electrical substations, fuel or water tanks	☐Yes	☐No	☐ N/A

1. New construction: shall be located landward of the reach of mean high tide (ASCE 24-14 Ch:4)	☐Yes	☐No	☐N/A
2. Bottom of lowest horizontal structural member of the lowest floor shall be BFE+18" (unless use notes above) (ASCE 24-14 Ch:4)	☐Yes	☐No	☐N/A
3. Foundations for non-residential structures (ASCE 24-14 Ch:4.5)	☐Yes	☐No	☐N/A
4. Foundations for residential structures (IRC 2015: R322.3.3)	☐Yes	☐No	☐N/A
5. Concrete slabs – in CAZ (ASCE 24: 9.3)	☐Yes	☐No	☐N/A
6. Fill for structural support of buildings (ASCE 24-14 Ch:4.5)	☐Yes, prohibited, review **FP-VAR**		☐N/A
7. Dry floodproofing (ASCE 24-14 Ch:4)	☐Yes, prohibited, review **FP-VAR**		☐N/A
8. Recreational Vehicles *(G601.1)*	☐Yes, prohibited, review **FP-VAR**		☐N/A
9. Development's impact on BFE study; because no designated floodway is identified	☐Yes	☐No	☐N/A
E13. OTHER BUILDING WORK			
1. Pools	☐Yes	☐No	☐N/A
a. Mechanical equipment elevated to BFE+18", unless designed to be inundated with floodwater (ASCE24: 7 + ASCE 24:9.6))	☐Yes	☐No	☐N/A
b. Membrane structures over pools must resist flood loads and be anchored (ASCE 24: 9.6)	☐Yes	☐No	☐N/A
c. When in a CAZ shall be: (ASCE 24: 9.6.2) i. Elevated (including structural member) above BFE+18" ii. Designed and constructed to break away	☐Yes	☐No	☐N/A
2. Tanks (IBC 2018: G701.1)	☐Yes	☐No	☐N/A
3. Decks and porches	☐Yes	☐No	☐N/A
a. Structurally connected shall be designed as continuation of the structure	☐Yes	☐No	☐N/A
i. Foundation requirements (ASCE 24: 1.5.3)	☐Yes	☐No	☐N/A
b. Detached, must be anchored (ASCE 24: 1.5.3)	☐Yes	☐No	☐N/A
4. Retaining walls, sidewalks and driveways	☐Yes	☐No	☐N/A
a. Pavers must be bedded in substrate (ASCE 24:C9.3)	☐Yes	☐No	☐N/A
b. Must meet IBC 2018: 1804.5 – Grading and fill	☐Yes	☐No	☐N/A
c. Retaining walls – flood loading calculations	☐Yes	☐No	☐N/A
F. VARIANCES			
1. Floodplain variance code requirements (Admin. & Building Code)	☐Yes, review **FP-VAR**		☐N/A
G. OTHER PERMITS (required with building permit)			
1. Pennsylvania Submerged Lands License • When work is within the "historic" bulkhead line	☐Yes	☐No	☐N/A
2. US Coast Guard • Construction of bridges over navigable waterways	☐Yes	☐No	☐N/A
3. PA DEP https://www.ahs.dep.pa.gov/PACT/usertabs.aspx • Section 102 – construction and land disturbance • Section 105 – water obstructions and encroachments	☐Yes	☐No	☐N/A
4. USACE https://www.nap.usace.army.mil/Missions/Regulatory/Jurisdictional-Determinations/ • Section 10 and Section 404 for freshwater, stream, lakes, ponds, and wetlands • Section 10, Section 404, and Section 103 for the outer continental shelf territorial seas, navigable water, tidal flats, and tidal fresh, and brackish wetlands	☐Yes	☐No	☐N/A
H. LETTER OF MAP CHANGE (CLOMR-F/LOMR-F, CLOMR/LOMR)			
1. See FEMA's Website for details: https://www.fema.gov/letter-map-changes			
2. Complete the Flood Protection Form – Letter of Map Change	☐Yes, complete **FP-LOMC**		☐N/A
I. A ZONES ONLY			
1. Accessory structure (200 SF or less)/Temporary + Seasonal	☐Yes, complete section **E5**		☐N/A
For all other development in Zone A, contact Floodplain Manager, floodplainmanager@phila.gov for information.			

J. SIGNATURE – must be PA Design Professional

I hereby affirm that all statements above are correct and complete to the best of my knowledge and that the design plans/additional documents, that were submitted, are consistent with these statements as I am a duly qualified engineer licensed to practice in the State of Pennsylvania. Furthermore, I affirm that I acknowledge all applicable building and zoning code/regulations will comply with the proposed development.

Design Professional Signature		**Print Name**		
Date		**Design Professional Stamp**		

If multiple design professionals are responsible for various components of this form, then complete the section below:

Insert sections applicable to your design profession:	.			
Design Professional Signature		**Print Name**		
Date		**Design Professional Stamp**		
Insert sections applicable to your design profession:	.			
Design Professional Signature		**Print Name**		
Date		**Design Professional Stamp**		
Insert sections applicable to your design profession:	.			
Design Professional Signature		**Print Name**		
Date		**Design Professional Stamp**		
Insert sections applicable to your design profession:	.			
Design Professional Signature		**Print Name**		
Date		**Design Professional Stamp**		
Insert sections applicable to your design profession:	.			
Design Professional Signature		**Print Name**		
Date		**Design Professional Stamp**		

K. ADDITIONAL INFORMATION - including variance/refusal requests

If you need to provide additional information or clarification to any items on this form, please attach below:

End of Form (FP-G).

Questions and/or Contact:
Floodplain Manager
City of Philadelphia
floodplainmanager@phila.gov

INSTRUCTIONS: FLOOD PROTECTION FORM – GENERAL (FP-G)

SECTION A

This section is for general project information.

SECTION B

This section identifies the development site's location in relation to Flood Insurance Rate Map information. Enter the Flood Risk Zone (A, AE, Floodways, or X) for the proposed development, including the Map Panel number and Effective/Revised Date of panel. For existing buildings, a FIRMette must be attached to show the location of the development in relation to the Flood Risk Zones. If any development type other than for existing structures, a site plan that is certified by a surveyor, engineer, or architect that shows the development in relation to the Flood Risk Zones.

SECTION C

This section identifies the type of development. Select all that apply to your proposed development. Follow the "Proceed to" prompts to next applicable section of the application. If none of these development types apply to your development, insert a description of the development in "Other."

SECTION D

D1-7. These items identify items found on an Elevation Certificate (EC), which is required for new buildings, substantial improvement/renovations, and additions. Reference a signed and sealed EC to complete this section. Note that 2a & 3 apply if the subsequent drawings/plans submitted are in City Datum and not NGVD 29. Note that J4. is the BFE + 18" (in some cases 24" – See ASCE 24).

D8. This item is if the proposed development is townhouses. In which case, elevations must be provided for each individual attached home, and a separately completed Flood Protection Permit Application for each contiguous group/row of townhouses.

FEMA Elevation Certificate

SECTION E

This section identifies specific building codes/regulations for specific design topics in relation to the applicants' development. Note that many sections may apply depending on the proposed development. These requirements are based on these codes/regulations:

Philadelphia Zoning Code – Chapter 14-700
Philadelphia Administrative Code
2018 International Building Code

- Section 104 Duties and Powers of the Building Official
- Section 202 Definitions
- Chapter 8 Interior Finishes
- Chapter 11 Accessibility
- Chapter 12 Interior Environment
- Chapter 14 Exterior Walls
- Chapter 16 Structural Design Requirements
  - Section 1603 Construction Documents
  - Section 1605 Load Combinations
  - Section 1612 Flood Loads
- Chapter 18 Soils and Foundations
- Chapter 27 Electrical
- Chapter 30 Elevators and Conveying Systems
- Chapter 31 Special Construction

2018 International Building Code – Appendix G
ASCE 24-14
Code Bulletin – Development in SFHA

2015 International Residential Code

- Chapter 1 Administrative
- Chapter 3 Building Planning
  - R322 Flood-Resistant Construction
- Chapter 4 Foundations
  - R401 Foundations
  - R408 Under-Floor Space
  - 506 Concrete Floors
- Mechanicals/electrical/plumbing
  - M1301.1.1 General Mechanical System
  - M1401.5 Heating & Cooling Equipment
  - M1601.1.10 Duct Construction
  - M1701.2 Combustion Air
  - M2001.4 Boilers & Hot Water Heaters
  - M2201.6 Piping & Storage Systems
  - G2404.7 Fuel Gas
  - P2601.3 Plumbing Systems
  - P2602.2 Individual Water Supply & Sewage
  - P2705.1 Plumbing Fixtures
  - P3001.3 Sanitary Drainage
  - P3101.5 Vent Systems
- Appendix E Manufactured Housing Used as Dwelling

*Note that more restrictive code applies

SECTION F

This section identifies how to seek a variance.

SECTION G

This section identifies other state and federal permits that must be obtained prior to the issuance of a City of Philadelphia Building Permit.

SECTION H

This item identifies if the applicant is requesting the City to support a Letter of Map Change (LOMC). They will be in the form of Conditional Letter of Map Revision (CLOMR), Conditional Letter of Map Revision based on Fill (CLOMR-F), and/or Letter of Map Revision (LOMR).

SECTION I

These identify development in A Zones, which require the identification of the Base Flood Elevation (BFE) as it does not appear on FEMA FIRM maps.

SECTION J

A signature is required to affirm all the statement are correct and complete to the best of the applicants' knowledge and that the design plans, were submitted, are consistent with these statements. When multiple design professionals are involved with various components, have each professional list and sign/seal this form.

SECTION K

This section is for additional information or clarification of items on this form. If the applicant has attachments or exhibits, they should be listed here with name, page number, and date.