

DOEE Development Review Comments

ZC 25-17: Living Classrooms

DOEE received a referral to this case on December 4 and has only had an opportunity to conduct a limited review of the application. However, DOEE's Floodplain team is available to support the applicant in understanding and complying with the District's recently updated Flood Hazard Rules. Contact ted.driscoll@dc.gov to schedule a meeting.

The proposed project site is located within the flood hazard area and is regulated by the [District's Flood Hazard Rules](#) (Title 20 DCMR Chapter 31). The proposed project is located within the 100-year floodplain (Zone AE), which is the area that will be inundated by a flood event having a 1-percent chance of being equaled or exceeded in any given year. The flood hazard area includes land that is inside the one hundred (100)-year floodplain (Zone AE), the five hundred (500)-year floodplain (Zone X (shaded)), and the land that has been removed from the five hundred (500)-year floodplain (including Zones AE, or X (shaded)) if done through a Letter of Map Revision Based on Fill (LOMR-F). Additional guidance is available from ASCE 24-14, [FEMA Technical Bulletin 10](#), and [FEMA's P-348 manual \(Protecting Building Utility Systems From Flood Damage\)](#).

The Flood Hazard Rules require an encroachment analysis and certificate of no adverse impact conducted, signed, and stamped by a Professional Engineer. The applicant may:

- 1) Submit volumetric calculations prepared and sealed by a District registered professional engineer or surveyor demonstrating that no net loss of natural floodplain storage will occur, as the volume of the loss of floodwater storage due to filling in the flood hazard area shall be offset by providing an equal volume of flood storage by excavation or other compensatory measures at or adjacent to the development site outside the footprint of a proposed structure, **OR**
- 2) Submit a Hydrologic and Hydraulic (H&H) analysis prepared and sealed by a District registered professional engineer demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated flood hazard area encroachment, will not increase the base flood elevation on any property not owned by the applicant.

Because the structure is located wholly within the 100-year floodplain, the Flood Hazard Rules require the structure to be either elevated or dry-floodproofed to the regulatory Design Flood Elevation, which is the Base Flood Elevation plus 2.0 feet or the 500-year elevation, whichever is higher. Because DC's flood risk is projected to increase due to climate change, the developers may also wish to consider designing to one of the sea level rise-adjusted flood elevations listed in Section 2 of the [Resilient Design Guidelines](#). For any elevated structure, the applicant shall

submit to DOEE for review and approval an elevation certificate, which shall be prepared and sealed by a registered design professional using the latest FEMA Elevation Certificate Form.

The Flood Hazard Rules designate primary and secondary schools as Critical Facilities. Critical Facilities have higher standards and must submit documentation that shows there is no practical alternative for development outside the flood hazard area; a comprehensive resilient systems plan that demonstrates how any equipment and systems supporting critical functions of the development will be protected during a flood to the height of the design flood elevation (DFE); and an evacuation plan that fully explains how any evacuation of the site before or during a one hundred (100)-year or five hundred (500)-year flood would proceed, by providing for adequate vehicle access at all times and conditions and alternate escape routes.

In the Applicant's Statement in Support (Section VIII; page 22), the applicant states "In the unlikely event of flooding that would pose a danger to the Property or its occupants, Living Classrooms would either relocate or suspend operations." This statement is used as justification for exemption from evacuation standards: "Evacuation Plan: The Project is elevated out of the 100- and 500-year floodplain. Accordingly, no evacuation plan is required because a 100-year flood event would not impact the Project." This proposal contains no information regarding the designation of a flood monitoring authority, metrics which would trigger suspended operations, or a source of flood hazard information. Additionally, flash floods can occur in riverine areas rapidly and without advanced warning. If a flood event occurs, any occupant of the structure will be trapped within the structure. An evacuation plan must be in place to ensure safe operation of an educational facility occupied by children under the age of 18.