

## Division 7 | Floodplain

### **Sec. 7.01 Standards for Construction Drawings, Site Plans (all types), Capital Improvement Plans, and All Other Development Within or Adjacent to Major and Minor Floodplains**

- (a) For the purposes of this Division, Director shall mean Director of Plan Review.
- (b) All development shall be consistent with the need to minimize flood damage.
- (c) All development shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
- (d) All development shall have adequate drainage provided to reduce exposure to flood hazards.
- (e) All development greater than 50 lots or 5 acres, whichever is less, or as specified herein, shall provide base flood elevation data.
- (f) On a case by case basis, the Director may modify, if applicable and with ample justification provided by the applicant, items in Division 7 pertaining to floodplain requirements. However, variations of Division 7, modifications of Article 5 of the Design and Construction Standards Manual (DCSM), variances in the Article 7 of the Zoning Ordinance, and variances to Section 14 of the Town Code which pertain to the National Floodplain Insurance Program Regulations shall not be permitted for any development within the Major Floodplain unless specifically permitted by FEMA regulations.
- (g) Additional Floodplain Requirements can be found in Article 5 of the Design and Construction Standards Manual (DCSM), Article 7 of the Zoning Ordinance, and Section 14 of the Town Code.

### **Sec. 7.02 Processing of Construction Drawings, Site Plans (all types), Capital Improvement Plans, and All Other Development Within or Adjacent to Major and Minor Floodplains**

- (a) If Construction Drawings, Site Plans (all types), Capital Improvement Plans, or land disturbing activity proposes to modify the ground surface, the channel alignment, or proposes construction within or contiguous to the Town's minor and/or major floodplain of any natural or manmade water course, permanent or intermittent. The following processing procedure shall apply:
  - (1) On a case-by-case basis, the Director may modify the requirements for a floodplain study when the applicant can prove and justify to the Director's satisfaction that the proposed development will not encroach into the floodplain, will not have adverse impacts to the floodplain, and/or will not have adverse impacts to upstream and downstream properties.
  - (2) A floodplain study shall be submitted for Town review in accordance with DCSM Section 5-430. The Town reviewing entity shall be the Department of Plan Review.

- ((a)) The Applicant shall be required to attend a pre-application meeting as well as a pre-submission meeting with the Director prior to any formal submission of a Floodplain Study to the Town.
  - ((b)) A corrected effective floodplain study shall be submitted for Town review and comments for all land development activities associated with parcels that contain 100 year floodplain as well as for parcels that are directly adjacent to parcels containing 100 year floodplain. Floodplain studies may be submitted in conjunction with Construction Drawings, Site Plans (all types), and Capital Improvement Plans and will be processed concurrently.
  - ((c)) The corrected effective floodplain study (based upon an updated HEC-RAS model) is required for all floodplain related applications unless specifically waived by the Director at the pre-application meeting (and only if prior justification has been provided by the applicant to the satisfaction of the Director).
  - ((d)) While separate studies are required, a floodplain alteration study may be processed concurrently with the corrected effective floodplain study.
  - ((e)) A floodplain alteration study shall be submitted for Town review and comments for all land development activities associated with parcels that propose construction activities that are performed within the limits of the 100 year floodplain as noted above. Floodplain alteration studies may be reviewed concurrently with Construction Drawings, Site Plans (all types), and Capital Improvement Plans for the same site.
  - ((f)) Prior to Final Town Approval of the Floodplain and or Floodplain Alteration Study, the Town must be in possession of a FEMA approval letter (for FEMA regulated floodplain studies only), and the Applicant shall provide the Town with an electronic version of the study in a format to be determined by the Town.
  - ((g)) Prior to Floodplain Study and/or Floodplain Alteration Study approval, all outstanding Town and FEMA (if applicable) comments shall be resolved. Upon resolution of all outstanding comments and FEMA approvals as applicable, the Floodplain Study and/or Floodplain Alteration Study shall be signed approved by the Director.
- (b) If the floodplain study or alteration is determined to lie within a designated FEMA floodplain, the applicant shall first obtain Town approval of the studies and then be responsible to prepare and package the study in a format acceptable to FEMA. The Town will submit to FEMA for their final review and approval.

The Town reviewing entity shall be the Department of Plan Review. Specifically:

- (1) A floodplain study shall be submitted for Town review in accordance with Article 5 of the DCSM.

- (2) After the Town has approved the study(ies) the Applicant shall prepare the FEMA floodplain study package for submission to the Town. The package shall adhere to all criteria set forth in FEMA MT-2 instructions.
- (3) The applicant's Engineer shall notify neighboring NFIP communities of alterations to the floodplain that impact the associated community.
- (4) The appropriate Town Staff then prepares and sends a transmittal in addition to the applicant's package and a Town endorsement to FEMA requesting their review and approval of the study.
- (5) Where the applicant's study proposes to change the flood elevation or floodplain delineation that FEMA has on record, FEMA will notify the Town of their approval by letter authorizing a FEMA Conditional Letter of Map Revision (CLOMR).
- (6) Upon the Town's receipt of the CLOMR approval, a copy of FEMA notification will be transmitted to the applicant and the appropriate Town Staff.
- (7) The applicant's Engineer shall furnish the appropriate Town Staff with any revisions and correspondence related to the Study that they send directly to FEMA during the FEMA review process. In addition, the applicant's engineer shall furnish the appropriate Town Staff with a copy of the final version of the study that was approved by FEMA and a letter certifying that no other changes were made to the study other than those required by FEMA.
- (8) The associated construction plans shall not be approved nor shall the Applicant be permitted to begin any construction on their site until such time as the CLOMR approval has been issued for the project and final approved copies of the Study have been made available to the appropriate Town and County Staff.
- (9) Upon completion of all construction activities involving the 100 year floodplain, the applicant's engineer shall submit a revised floodplain study that shall include a certified as-built survey of the site. This as-built survey shall include field shot elevations and depict any associated recently constructed infrastructure shown on the CLOMR within or directly adjacent to the floodplain. All hydraulic modeling and floodplain delineations shall be updated to reflect the certified as-built condition. A Letter of Map Revision (LOMR) package shall be completed by the applicant and submitted to the Town with the revised floodplain study.
- (10) Once the appropriate Town Staff confirms the floodplain study as-built is consistent with the approved plans and floodplain alteration study, the Town will send the as-built floodplain study and LOMR package to FEMA for review and approval along with the Town's approval endorsement.
- (11) Once the applicant has properly addressed all of FEMA's comments, FEMA will issue an approval letter of the LOMR.
- (12) Building permits, for proposed residential buildings and proposed non-residential buildings associated with related Construction Drawings or Site Plans that are located within the floodplain, shall not be issued until such time as the Town has been provided a copy of the approved LOMR from FEMA and the appropriate

appeals process has expired, which has officially removed said area from the FEMA regulated floodplain.

- (13) Building permits for non-residential buildings that partially define the 100-year floodplain limits may be issued once the related CLOMR has been approved by FEMA and all approvals have been signed on the associated site plan, provided the building was shown to encroach into the 100-year floodplain on the approved CLOMR.

Prior to occupancy of a non-residential building within the floodplain, the applicant shall obtain a LOMR from FEMA that verifies the building has been constructed in general conformance to the approved CLOMR elevations and all required floodproofing mechanisms have been properly installed.

- (c) For all minor floodplain studies, the applicant shall follow all requirements stated in (a) and (b) above with the exception of the FEMA review and submittals; all reviews and approvals shall be by the Director.
- (d) Construction Drawings, Site Plans (all types), and Capital Improvement Plans submitted for Town review shall conform to any floodplain and/or floodplain alteration studies that have been approved. This shall include floodplains that are within or directly adjacent to the proposed development.
- (1) Construction Drawings, Site Plans (all types), and Capital Improvement Plans containing floodplain, shall not be deemed acceptable for review until such time as the floodplain study (and if applicable the floodplain alteration study) has been submitted to the Town for review. Concurrent processing of floodplain studies and Site Plans or Construction Plans is permitted.
- (2) Construction Drawings, Site Plans (all types), and Capital Improvement Plans shall not be approved nor shall the Applicant be permitted to begin any construction on their site until such time as all Town comments have been resolved, the CLOMR has been issued by FEMA for the project (if applicable), and copies have been made available to the appropriate Town and County Staff.
- (e) If Construction Drawings, Site Plans (all types), Capital Improvement Plans, and/or any other land disturbing activity proposes to modify the ground surface, the channel alignment, or proposes construction within or contiguous to any natural and/or manmade water course, permanent or intermittent, with a total drainage area of less than 100 acres, a detailed overland relief study shall be required that conforms to the requirements set forth in Article 5 of the DCSM unless specified by the Director.

### Sec. 7.03 Required Contents of Existing Floodplain Studies

- (a) All floodplain studies shall be prepared showing compliance with these regulations, the Leesburg Zoning Ordinance, the Leesburg Design and Construction Standards Manual, and applicable FEMA and State regulations. The Director shall have the authority to waive certain submittal requirements for Floodplain Studies, if it is determined such information is not necessary for the review and approval of the plans and that not providing the information will in no way affect any public improvements, adversely affect adjoining properties. Such waivers must be approved prior to submission of the floodplain study.
- (b) A corrected effective floodplain study to establish the existing 100 year floodplain shall be submitted independent of any Floodplain Alteration Study.
  - (1) This corrected effective floodplain study shall be submitted to FEMA within 6 months of the Town recommending conditional approval to FEMA; unless otherwise directed by the Director.
- (c) Floodplain studies that will be submitted to FEMA as part of a CLOMR (or LOMR) package shall be initially submitted to the Town and may only include what is required in the FEMA MT-2 instructions, in lieu of a full upfront floodplain study, if the applicant meets with the Town as part of a pre-application meeting. Upon FEMA approval of a CLOMR (or LOMR), a complete floodplain study shall be submitted to the Town that adheres to the subsection (d) of this section.
- (d) All floodplain studies shall include the following minimum information in general conformance with the Leesburg Design and Construction Standard Manual but not be limited to:
  - (1) General Information.
    - ((a)) Vicinity map at a scale of not less than six inches equals one mile, indicating roads, their names and numbers, Town Corporate Limits, subdivisions and other landmarks.
    - ((b)) Names, addresses, signatures, and registrations of professionals preparing the floodplain study.
    - ((c)) Date plan was drawn and date of any revision.
    - ((d)) Names, addresses, and property identification number (PIN) of all adjoining property owners, including proof that all such property owners have been notified in writing by the applicant that the floodplain study will be filed with the Town. Such notification shall be in a form approved by the Director of Plan Review.
  - (2) Graphic Requirements.
    - ((a)) All plan sheets shall be clearly and legibly drawn at a horizontal scale no more than 50 feet to the inch and no less than 25 feet to the inch, on numbered sheets 24 x 36 inches in size, which shall be clearly marked Existing Floodplain Study or Floodplain Alteration Study. The plan view shall include the following information:

- (1) The Minor and Major floodplain limits (100-year) as calculated by the study shall be shown accurately on the plans.
  - (2) The Existing Effective FEMA regulated floodplain limits (100-year) as shown on the FEMA Flood Insurance Rate Map shall be shown on the plans.
  - (3) If modifications to the Minor and/or Major 100-year floodplain are proposed, the plan shall indicate the new limits of such floodplain.
  - (4) Floodplain easement shown with metes and bounds.
  - (5) Limits of potential construction shall be designated on the plans. These limits shall preclude residences within two (2) vertical feet and fifteen (15) horizontal feet of the computed 100-year water surface elevations.
  - (6) Limits of the Creek Valley Buffer.
  - (7) Location and description of Benchmarks.
  - (8) North arrow on each plan sheet indicating the vertical datum of the topography.
  - (9) The topography shall be developed using field run survey along cross sections within the channel banks. Other certified topography may only be utilized outside of the project limits and must be field verified to ensure accuracy. The certified topography is subject to approval by the Director and shall be agreed upon during the pre-application meeting.
  - (10) The lowest floor elevation and lowest adjacent grade for all existing structures that have floodplain on the property within the study limits.
  - (11) For structures to be flood-proofed (non-residential only), the elevation to which the structure will be flood-proofed.
  - (12) For major floodplains, floodplain limits (500-year) as calculated by the study shall be shown accurately on the plans.
  - (13) Property lines and property labels.
  - (14) Cross sections with labels corresponding to the HEC-RAS model and 100-year water surface elevations to two decimal places.
  - (15) Stream centerline.
  - (16) Scale bar.
- ((b)) Stream profile sheets shall be clearly and legibly drawn at the same horizontal scale as the plan view with a vertical scale of one inch equals

no more than ten feet and no less than five feet. The profiles shall include the following information:

- (1) Cross section identification consistent with plan view.
  - (2) Invert elevation of the stream, shown out to two decimal places, at every cross section for the entire length of the study.
  - (3) The water surface profiles for the 100 and 500 year storm events.
  - (4) Computed 100-year water surface elevation at each cross section along the profile shown out to two decimal places.
  - (5) Computed 500-year water surface elevation for Major Floodplains at each cross section along the profile shown out to two decimal places.
  - (6) Identification of all drainage structures.
  - (7) Stationing shall be consistent with HEC-RAS input data.
- ((c)) Output data
- (1) HEC-RAS report
  - (2) HEC-RAS Standard Table 1 and 2
- ((d)) Topographic work map
- (1) Map must meet all requirements as set forth in MT-2 instructions for FEMA CLOMR/LOMR submission.
- (3) Digital Copies of the following items are required to be included with any submission of a floodplain study. All items shall utilize Virginia State Plane North projection utilizing the NAD 1983 horizontal datum.
- ((a)) HEC-RAS model utilized for the study.
  - ((b)) Cross section locations.
  - ((c)) 100-year floodplain delineation.
  - ((d)) 500-year floodplain delineation for major floodplains.
  - ((e)) Floodway delineation where applicable.
  - ((f)) Stream centerline.
  - ((g)) Topography upon which the hydraulic model has been developed.

**Sec. 7.04 Required Contents of Floodplain Alteration Studies**

- (a) All of the criteria contained within section 7.03 are applicable to Floodplain Alteration Studies. In addition to those items from section 7.03, the following items also are required:
- (1) The existing and proposed conditions 100-year water surface elevations shall be shown on all plan view and profile view sheets.
  - (2) If modifications to the Minor and/or Major 100-year floodplain are proposed, the plan shall indicate both the existing and proposed conditions 100-year floodplain limits.
  - (3) The existing and proposed conditions 500-year floodplain delineations shall be provided on all plan view sheets for major floodplains.
  - (4) A summary table shall be provided showing the change in the 100-year water surface elevations from existing to proposed conditions at each cross section. The change in water surface elevations shall be shown to 2 decimal places.
  - (5) A table shall be provided that specifies the properties upon which there has been a change in the 100-year floodplain delineation. This table shall specify how many square feet of these properties are within the existing and proposed conditions 100-year floodplain delineation.
  - (6) If cross section locations differ between existing and proposed conditions, the existing versus proposed cross section locations must be clearly differentiable.
  - (7) Proposed topography with maximum of two-foot contours.
  - (8) Proposed site improvements.
  - (9) Limits of construction.