

## **City of Fort Collins Floodplain Review Checklist**

### **100% Development Review Submittals**

Instructions: Complete this checklist by marking all boxes that have been adequately completed. Put an “NA” next to any items that are not applicable to this particular submittal. Any boxes that are left blank and do not have an “NA” marked next to them are considered incomplete.

Date of Review: \_\_\_\_\_ Reviewer’s Name: \_\_\_\_\_

#### **Plat Map**

- The following required items are on the plat:
  - 100-year floodplain boundary
    - City
    - FEMA
  - Floodway boundary
    - City
    - FEMA
  - The benchmark number and elevation of benchmark
  
- These items match the FIRM. (FEMA Basin)
  
- These items match the Master Plan. (City Basin)
  
- The benchmark number and elevation match with those published in the City of Fort Collins benchmark system.

#### **Site Plan**

The following required items are on the site plan:

- 100-year floodplain boundary- FEMA and City
- 500-year floodplain boundary (if proposed structure is a “critical facility” and a 500-year floodplain is mapped)
- Floodway boundary
- Erosion buffer zones
- Restrictions related to use (ie. critical facility or no residential use of lower floor if floodproofed mixed use structure)

**Drainage and/or Grading Plan** (or a separate Floodplain Sheet if it is too cluttered on Drainage and Grading Plan)

The following required items are on the drainage and/or grading plan:

- 100-year floodplain boundary- FEMA and City
- 500-year floodplain boundary (if proposed structure is a “critical facility” and a 500-year floodplain is mapped)

- Floodway boundary
  - Erosion buffer zones
  - Cross-section locations
  - BFE lines
  - Lowest floor elevation of structures (bottom of basement or crawl space is considered the lowest floor)
  
- The floodplain and floodway boundaries are in the correct location and labeled properly.
  
- The cross-section and BFE lines are in the correct location and labeled properly.
  
- Elevations are referenced to the appropriate datum:
  - FEMA basins – list in both NGVD 29 and NAVD 88
  - City basins – list only in NGVD 29
  
- Floodway regulations have been met.
  - No fill in the floodway unless a hydraulic analysis shows “no-rise”.
  - No manufactured homes, except in an existing park, can be placed in the floodway.
  - No changing a nonconforming non-residential or mixed use structure to a residential structure.
  - Landscaping meets requirements for no encroachment in the floodway without a hydraulic analysis to show “no-rise”.
  - No storage of materials or equipment.
  
- A note is on the plans about the above floodway restrictions.
  
- Critical facilities regulations have been met:
  - 100 year – no life safety, emergency response or hazardous material critical facilities
  - 500 year Poudre – no life safety or emergency response critical facilities
  
- Any pedestrian bridges in the floodway that are not able to pass the 100-year flow are designed to be “break-away”.
  
- Fences in the floodway will not block conveyance. Example: split-rail fence cabled together to not float, flap at bottom of privacy fence to allow water through (flap at BFE or above).
  
- Any items in the floodway that can float (Example: picnic tables, bike racks, etc.) are noted as being anchored.
  
- Erosion Buffer Zone requirements have been met:
  - Design of any allowed development minimizes disturbance to channel bed and banks.

- No structures allowed.
  - No additions to existing structures allowed.
  - Any fencing is split-rail design and break-away, but cabled. Must be oriented parallel to general flow direction.
  - No detention or water quality ponds.
  - No bike or pedestrian paths or trails except as required to cross streams or waterways.
  - Road, bicycle and pedestrian bridges must span erosion buffer zone.
  - No fill.
  - No outdoor storage of non-residential materials or equipment.
  - No driveways or parking areas.
  - No irrigated vegetation and non-native trees, grasses, or shrubs.
  - No utilities except as necessary to cross streams or waterways.
  - No grading or excavation except as required for permitted activities in erosion buffer zone.
  - No construction traffic except as required for permitted activities in erosion buffer zone.
  - Any construction in the erosion buffer zone shows that it will not impact the channel stability.
- A note is on the plans about the above erosion buffer zone restrictions.
  - Any necessary floodplain modeling has been submitted and approved. All modeling must follow the City's floodplain modeling guidelines.

#### Special Poudre River Regulations

- Poudre River Floodway Regulations have been met.
  - No construction of new residential, non-residential or mixed-use structures.
  - No redevelopment of residential, non-residential or mixed-use structures.
  - No additions to residential, non-residential or mixed-use structures.
  - No fill unless hydraulic analysis shows "no-rise".
- Poudre River floodplain regulations have been met
  - No construction of new residential or mixed-use structures
  - No additions to residential structures
  - No additions to mixed-use structures if there is an expansion in the residential-use area of the structure.
  - No floatable materials on non-residential sites

#### Information Related to Structures in the Floodplain

- For structures in the floodplain, a table is shown that lists the following:
  - City BFE at upstream end of structure
  - FEMA BFE at upstream end of structure (if different than City BFE)

- Regulatory flood protection elevation
  - Lowest floor elevation (bottom of basement or crawl space is considered lowest floor)
  - Floodproofing elevation for non-residential structures (if applicable)
  - Garage slab elevation
  - HVAC elevation
- The BFE at upstream end of structures are correct based on interpolation between the cross-sections.
- The regulatory flood protection elevation is correct.
- The lowest floor and HVAC are at or above the regulatory flood protection elevation.
- Elevations are referenced to the appropriate datum:
  - FEMA basins – list in both NGVD 29 and NAVD 88
  - City basins – list only in NGVD 29
- A typical drawing detail is included for each foundation type proposed (slab-on-grade, basement, crawl space) showing the elevation of the HVAC and lowest floor elevation (which includes bottom of the basement or crawl space) relative to the BFE.
- If garage is not elevated to the regulatory flood protection elevation, then a drawing detail is included showing vent placement, size, and number.
  - There is 1 square inch of venting for every 1 square foot of enclosed area.
  - The bottom of the venting is not higher than 1 foot above grade.
  - The venting is on at least two sides, preferably on upstream and downstream sides. (Does not have to be divided equally).
- If a non-residential structure is to be floodproofed, one of these conditions is met:
  - All requirements on separate sheet titled “Floodproofing Guidelines” have been met.
  - If floodproofing information is not submitted as part of the plans, then a note is on the plans stating that floodproofing information will be submitted at the time of the building permit application.
- For manufactured homes, all submittal requirements on separate sheet titled “Installation of a Mobile Home Located in a Floodplain: Submittal Requirements” have been met.
- If the floodplain use permit is not going to be submitted until the building permit is applied for, then a note is on the plans stating that the floodplain use permit will be submitted at the time of building permit application.

- A note is on the plans stating that a FEMA elevation or floodproofing certificate will be completed and approved before the CO is issued. This is required even if property is only in a City floodplain.

### **Drainage Report**

- The site is described as being in the floodplain. Floodplain name and if the floodplain is a FEMA or City-designated is described. Any floodway or erosion buffer zones on the site are described.
- The FEMA FIRM panel # and date and/or the Master Plan information is cited.
- A copy of the FIRM panel with the site location marked is included in the report.
- If a floodplain modeling report has been submitted, that report is referenced. The reason for the floodplain modeling report is described.
- If a FEMA CLOMR or LOMR has been approved for the site, the case number is referenced. The reason for the CLOMR or LOMR is described.
- If a FEMA LOMR is required after construction, this is stated in the report.
- The location of the structures relative to the floodplain is described. If there is both a FEMA and a City floodplain on the site, the location of the structures relative to both is described.
- The use of the structures is described. This is to determine if the structure is residential, non-residential, or mixed-use. Also, structures in all 100-year and Poudre River 500-year floodplains cannot be used as a critical facility. (See Chapter 10 of City Code for definitions.)
- The report describes how the development is in compliance with the applicable floodplain regulation (Chapter 10 of City Code). (Examples: elevation of lowest floor above regulatory flood protection elevation, floodproofing, floodway regulation, erosion buffer zone regulation, no-rise, etc.)
- The type of foundation construction for the structures (i.e. slab-on-grade, crawl space, basement, etc.) is discussed in the report.
- The type of foundation matches with the lowest floor elevations and grading plan.
- If any of the garages are not going to be elevated above the regulatory flood protection elevation, the hydraulic venting requirements are discussed.
- For structures in the floodplain, a table is included (same table as on the Drainage/Grading Plan) that lists the following:

- City BFE at upstream end of structure
  - FEMA BFE at upstream end of structure (if different than City BFE)
  - Regulatory flood protection elevation
  - Lowest floor elevation (bottom of basement or crawl space is considered lowest floor)
  - Floodproofing elevation for non-residential structures (if applicable)
  - Garage slab elevation
  - HVAC elevation
- Elevations are referenced to the appropriate datum:
    - FEMA basins – list in both NGVD 29 and NAVD 88
    - City basins – list only in NGVD 29
  - If the floodplain use permit is not going to be submitted until the building permit is applied for, then a note must be included in the report that states the permit will be submitted at the time of building permit application.
  - If floodproofing information is not submitted as part of the plans, then a note must be in the report stating that floodproofing information will be submitted at the time of the building permit application.
  - A note is in the report stating that a FEMA elevation or floodproofing certificate will be completed and approved before the CO is issued.
  - In the compliance section, Chapter 10 of City Code is listed.

**Floodplain Use Permit**

- Floodplain Use Permit has been submitted for each structure.
- Permit fee has been submitted
- All information on permit matches the plans
- All information on permit meets floodplain regulations

**FEMA CLOMR Approval**

- FEMA has approved any necessary CLOMRs.

Additional Comments:

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### **Terms to Note**

**Lowest Floor Elevation** – Elevation of the lowest floor of the lowest enclosed area (including bottom of basement or crawlspace). This is not the same as finished floor. The lowest floor should be distinguished from finished floor on plans and reports.

**Regulatory Flood Protection Elevation** – For all floodplains except the Poudre River, the regulatory flood protection elevation is eighteen (18) inches above the base flood elevation. For the Poudre River floodplain, the regulatory flood protection elevation is twenty-four (24) inches above the base flood elevation. If there is both a FEMA and a City BFE, the higher BFE should be used to determine the regulatory flood protection elevation.

Additional floodplain terminology is defined in Chapter 10 of City Code.

**NOTE: Issues specific to individual sites may arise that result in additional requirements. These will be discussed during initial meetings with the applicant.**