CHAPTER 10

REVIEW CHECK LISTS AND ELECTRONIC FILE FORMAT

10.6 Review Checklist – Flood Study

DEVELOPMENT NAME:
ENGINEER:
DISTRICT/LANDLOT:
FAX NUMBER:
REVIEWER:
DATE:
CITY CASE #:

Please contact Planning and Zoning Department at 770-963-2414 with any questions

1. ☐ When floodplain encountered is not FEMA related (i.e. is not shown as floodplain on the FIRM maps but is a drainage area greater than 100 acres), and no encroachment in the floodplain is proposed, flood study shall contain the following:

   A. ☐ HEC-RAS study information summarized similar to the following:

Table 10.6-1

Cross Section Station	Q_{100} Using Existing Hydrology	Q_{100} Using Future Hydrology (2020 Land Use)	Manning's N Left Overbank	Manning's N Channel	Manning's N Right Overbank	Water Surface Elevation Based on Existing Hydrology	Water Surface Elevation Based on Future Hydrology
1+00							
2+00							
3+00							

   B. ☐ Documentation supporting your choice of Manning 'n' values for channel and overbank

   C. ☐ Existing and 2020 Land Use hydrology calculations using USGS regression equations or HEC-1.

2. ☐ When Floodplain encountered is not FEMA related (i.e. is not shown as floodplain on the FIRM maps but is a drainage area greater than 100 acres), but encroachment is proposed, Flood Study shall contain the following: (FPMO.4.4a-

e)

A. HEC-RAS study information summarized similar to the following:

Table 10.6-2

Cross Section Station	Q_{100} Using Existing Hydrology	Q_{100} Using Future Hydrology (2020 Land Use)	Manning's N Left Overbank	Manning's N Channel	Manning's N Right Overbank	Pre Developed Water Surface Elevation Based on Existing Hydrology	Post Developed Water Surface Elevation Based on Existing Hydrology	Pre Developed Water Surface Elevation Based on Future Hydrology	Post Developed Water Surface Elevation Based on Future Hydrology
1+00									
2+00									

Preliminary Plat, Grading Plan, or Site Plan clearly defining floodplain encroachments and showing flood study cross sections at proposed encroachments.

The cross sections chosen for doing the flood study must be changed in HEC-RAS to reflect the proposed floodplain encroachment. Provide plots of the pre and post encroachments cross sections.

B. Existing and 2020 Land Use hydrology calculations using USGS

regression equations or HEC-1.

If changes to the regulatory flood elevation are proposed, submit profiles of the channel showing existing and proposed base flood elevations.

Proposed floodplain storage (end area) calculations based on maximum 100' cross sections (include cross sections in report) showing that flood storage capacity will not be reduced by proposed grading. Following is an example:

Table 10.6-3

Cross Section Station	Pre-Encroach-ment Wetted Area, s.f.	Average Area s.f	Channel Length, ft	Pre-Encroach-ment Volume, c.f.	Post-Encroach-ment Wetted Area, s.f.	Average Area, s.f.	Channel Length, ft	Post-Encroach-ment Volume, c.f.
1+00	5000				4200			
		6271	100	627,100		6350	100	635,000
2+00	7542				8500			

Description of the extent to which any watercourse or floodplain will be altered or relocated as a result of the proposed development.

100-year base and regulatory floodplain elevation increases must be containe onsite unless contained in a drainage easement obtained by the developer. Flood study shows increases offsite at cross section _____. (FPMO 1.4.3a(1))

Provide documentation supporting your choice of Manning ‘n’ values for channel and overbank.

3. ☐ When floodplain encountered is FEMA related (i.e. is shown as floodplain on the FIRM maps), and no encroachment in the floodplain is proposed, flood study shall contain the following:

A. ☐ HEC-RAS study information summarized similar to the following:

Table 10.6-4

Cross Section Station	Q_{100} Using Existing Hydrology	Q_{100} Using Future Hydrology (2020 Land Use)	Mannings N Left Overbank	Mannings N Channel	Mannings N Right Overbank	Water Surface Elevation Based on Existing Hydrology	Water Surface Elevation Based on Future Hydrology
1+00							
2+00							
3+00							

B. ☐ Documentation supporting your choice of Manning ‘n’ values for channel and overbank.

C. ☐ Existing and 2020 Land Use hydrology calculations using USGS regression equations or HEC-1.

D. ☐ If zone A on the FIRM, make application to FEMA for CLOMR. Documentation that a complete submittal has been received by FEMA is required prior to receiving a permit from City of Lawrenceville.

4. ☐ When Floodplain encountered is FEMA related (i.e. is shown as floodplain on the FIRM maps), and encroachment in the floodplain is ,Flood Study shall contain the following: (FPMO 1.4.4a-e)

A. ☐ HEC-RAS study information summarized similar to the following:

Table 10.6-5

Cross Section Station	Q_{100} Using Existing Hydrology	Q_{100} Using Future Hydrology (2020 Land Use)	Mannings N Left Overbank	Mannings N Channel	Mannings N Right Overbank	Pre Developed Water Surface Elevation Based on Existing Hydrology	Post Developed Water Surface Elevation Based on Existing Hydrology	Pre Developed Water Surface Elevation Based on Future Hydrology	Post Developed Water Surface Elevation Based on Future Hydrology
1+00									
2+00									

Preliminary Plat, Grading Plan, or Site Plan clearly defining floodplain encroachments and showing flood study cross sections at proposed encroachments.

B. ☐ The cross sections chosen for doing the flood study must be changed in HEC-RAS to reflect the proposed floodplain encroachment. Provide plots of the pre and post encroachments cross sections.

C. ☐ Existing and 2020 Land Use Hydrology Calculations using USGS Regression Equations or HEC-1.

If changes to the regulatory flood elevation are proposed, submit profile of the channel showing existing and proposed base flood elevations.

Proposed floodplain storage (end area) calculations based on maximum 100' cross sections (include cross sections in report) showing that flood storage capacity will not be reduced by the proposed grading. Following is an example:

Table 10.6-6

Cross Section Station	Pre-Encroach-ment Wetted Area, s.f.	Average Area s.f	Channel Length, ft	Pre-Encroach-ment Volume, c.f.	Post-Encroach-ment Wetted Area, s.f.	Average Area, s.f.	Channel Length, ft	Post-Encroach-ment Volume, c.f.
1+00	5000				4200			
		6271	100	627,100		6350	100	635,000
2+00	7542				8500			

Description of the extent to which any watercourse of floodplain will be altered or relocated as a result of the proposed development.

100-year base and regulatory floodplain elevation increases must be contained on site unless contained in a drainage easement obtained by the developer. Flood study shows increases offsite at cross section _____. (FPMO 1.4.3a(1))

D. ☐ Provide documentation supporting your choice of Manning 'n' values for

channel and overbank.

E. ☐ Show Floodway limits or, if no floodway has been determined on the FIRM, calculate floodway limits and show on plans. (FPMO 1.3.2(2))

Make application to FEMA for CLOMR. Documentation that a complete submittal has been received by FEMA is required prior to receiving a permit from the City of Lawrenceville (FPMO 1.4.3c)

END OF SECTION 10.6