Instructions for performing a hydraulic study for ODOT bridge when site is located in a FEMA zone AE

The study will be performed using ODOT survey for your HECRAS cross sections and the Q 2 – Q 500 as found using current ODOT standard methods. This is the data that will appear on the plans.

CHECK RUN - An additional profile will be run through all three geometries using the FEMA FIS Q 100 with the boundary condition being the known water surface elevation as interpolated from the FIS to your beginning cross section. This "check run" is the water surface elevation that we use to compare to the open channel run (if no bridge existed in the FEMA FIS study) or the existing run (if there was a bridge in the FEMA FIS study) to get a zero rise. This data will be provided in an additional line in the comparison table, not in the hydraulic summary.

In the case where a zero rise cannot be achieved using this method, bridge division will request the detailed study from FEMA, and a CLOMR will be completed. A CLOMR or use of any FEMA modeling will only be accepted and only be paid for if you have been requested by this office to do so.

We do not use the FEMA detailed study to design ODOT on - system bridges

We do not use the FEMA FIS flows or water surface elevations for the hydraulic data that is put on ODOT plans

Example: This location has a zero rise over existing therefore no CLOMR

Discharges (CFS)		Computed Water Surface Elev. (FT)						
		Open Channel	Existing 3-36' I-BM Spans		Backwater	Proposed 75'-45' Type III PCB Spans		Backwater
			Low Beam (ft) =	987.90		Low Beam (ft) =	985.68	
Q2 =	857	970.48	970.82		0.34	970.81		0.33
Q5 =	1780	973.34	973.68		0.34	973.56		0.22
Q10 =	2680	975.36	975.76		0.40	975.53		0.17
Q25 =	4160	977.61	978.16		0.55	977.81		0.20
Q50 =	5380	978.86	979.64		0.78	979.15		0.29
Q100 =	6710	980.01	981.12		1.11	980.52		0.51
FEMA Q100	8588	984.02	984.86		0.84	984.57		0.55
Q500 =	10700	983.29	983.88		0.59	984.45		1.16
			Overtopping Elev (ft) =	990.02		Overtopping Elev (ft) =	990.02	
			Overtopping Q (cfs) ≈	>10700		Overtopping Q (cfs) ≈	>10700	
			Overtopping Freq (yr) ≈	>500		Overtopping Freq (yr) ≈	>500	