

Name: _____ Section: _____ Date: _____

Lab Report: Hurricane Irene and the Gilboa Dam

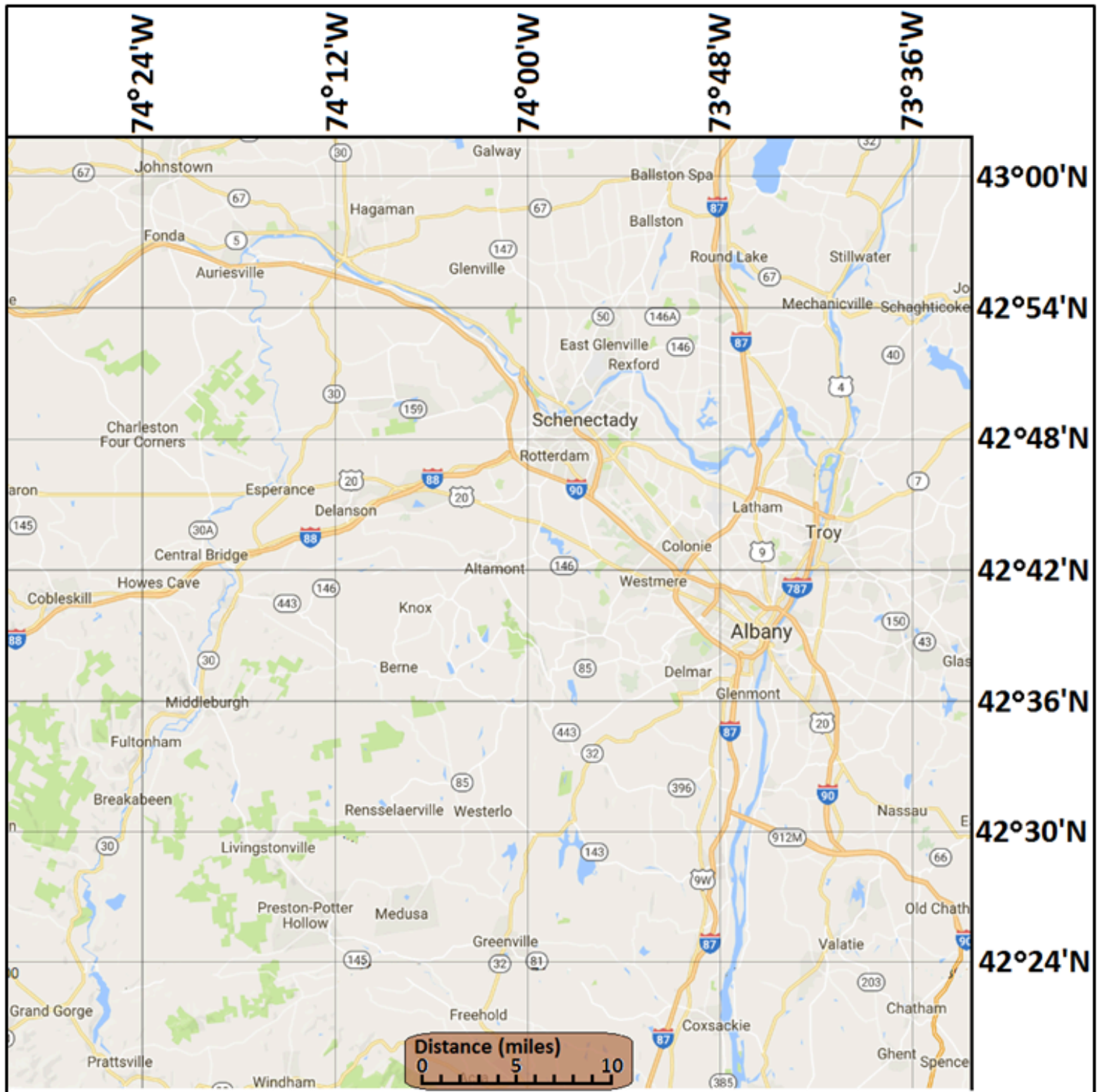
Hypothesis: If the Gilboa Dam failed during a record flooding event (like Hurricane Irene), then low-lying municipalities on the Schoharie Creek and Mohawk River would experience high level inundation with damaging and potentially life threatening consequences.

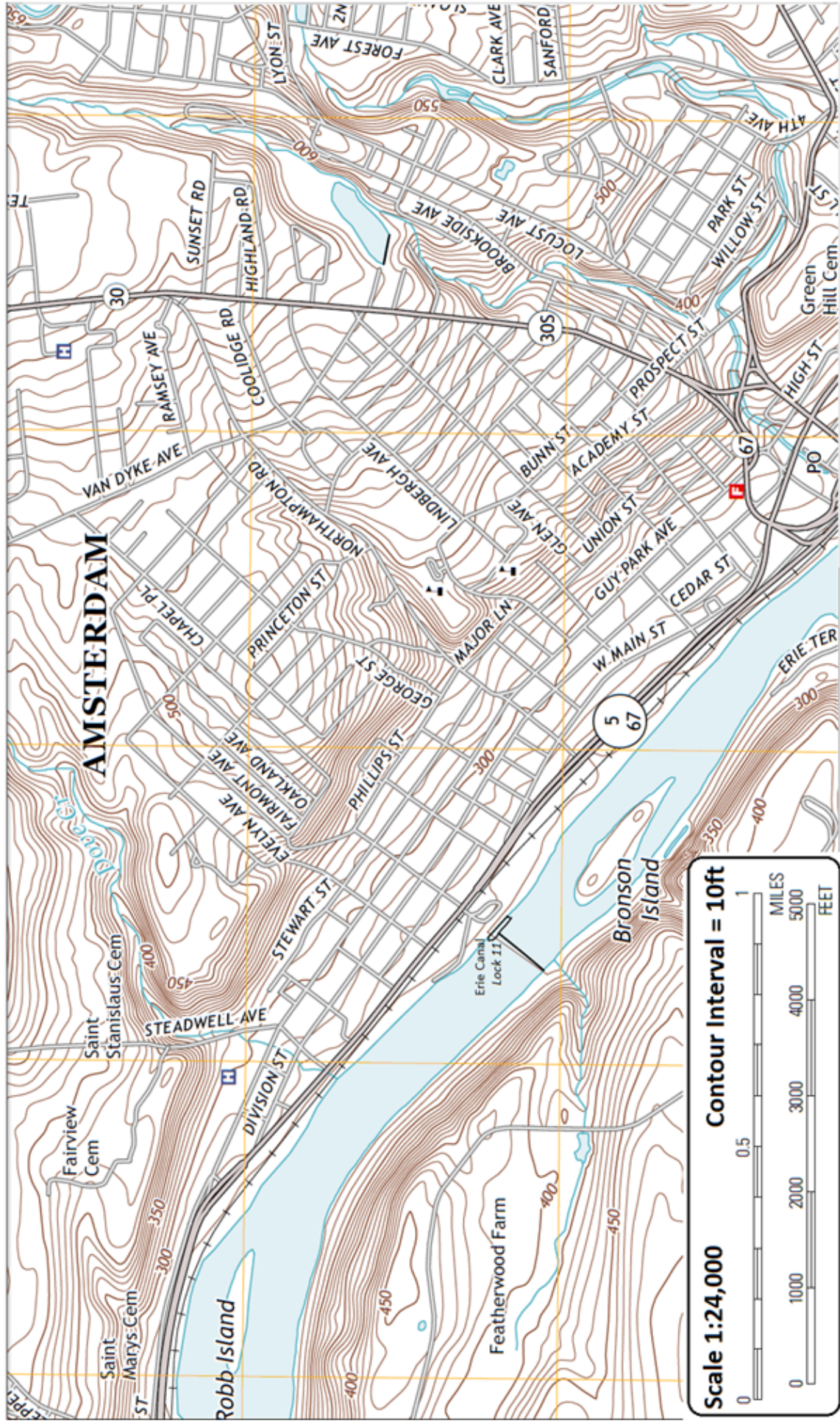
Data Collection: Follow the lab procedure to complete each data table below.

Data Table 1: Relevant information about the Gilboa Dam, Schoharie Village, Amsterdam, and Cohoes Falls						
Location	Latitude	Longitude	Population	Body of Water	Distance from the Gilboa Dam (miles)	Direction of Flow
Gilboa Dam	42° 23' N	74° 27' W				
Schoharie Village	42° 40' N	74° 18.5' W				
Amsterdam	42° 57' N	74° 11' W				
Cohoes Falls	42° 47' N	73° 42.5' W				

Data Table 2: Floods levels during Hurricane Irene and Potential Gilboa Dam Failure					
Location	Approximate Surface Elevation of Water (ft)	Hurricane Irene Max. Water Height (above normal elevation)(ft)	Hurricane Irene Max. Water Elevation (Surface Elevation + Max Height) (ft)	Additional Water Height from Gilboa Dam Failure (ft)	Max Water Elevation during Hurricane Irene with Gilboa Dam Failure (max water elevation + additional water height) (ft)
Schoharie Village		15		65	
Amsterdam					

Map A: Schoharie Creek and Mohawk River



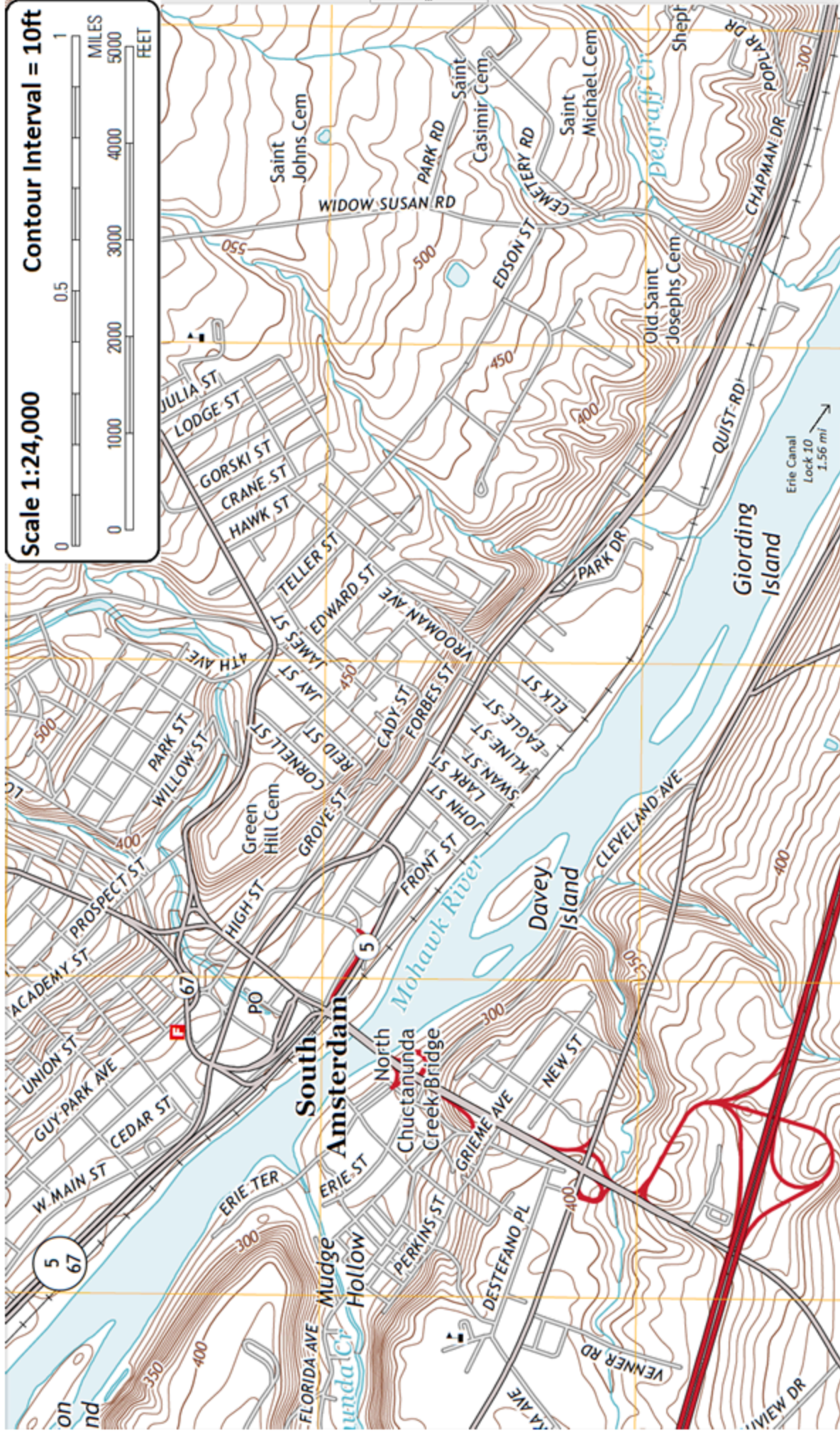


Map B: Amsterdam Inundation Pt.1

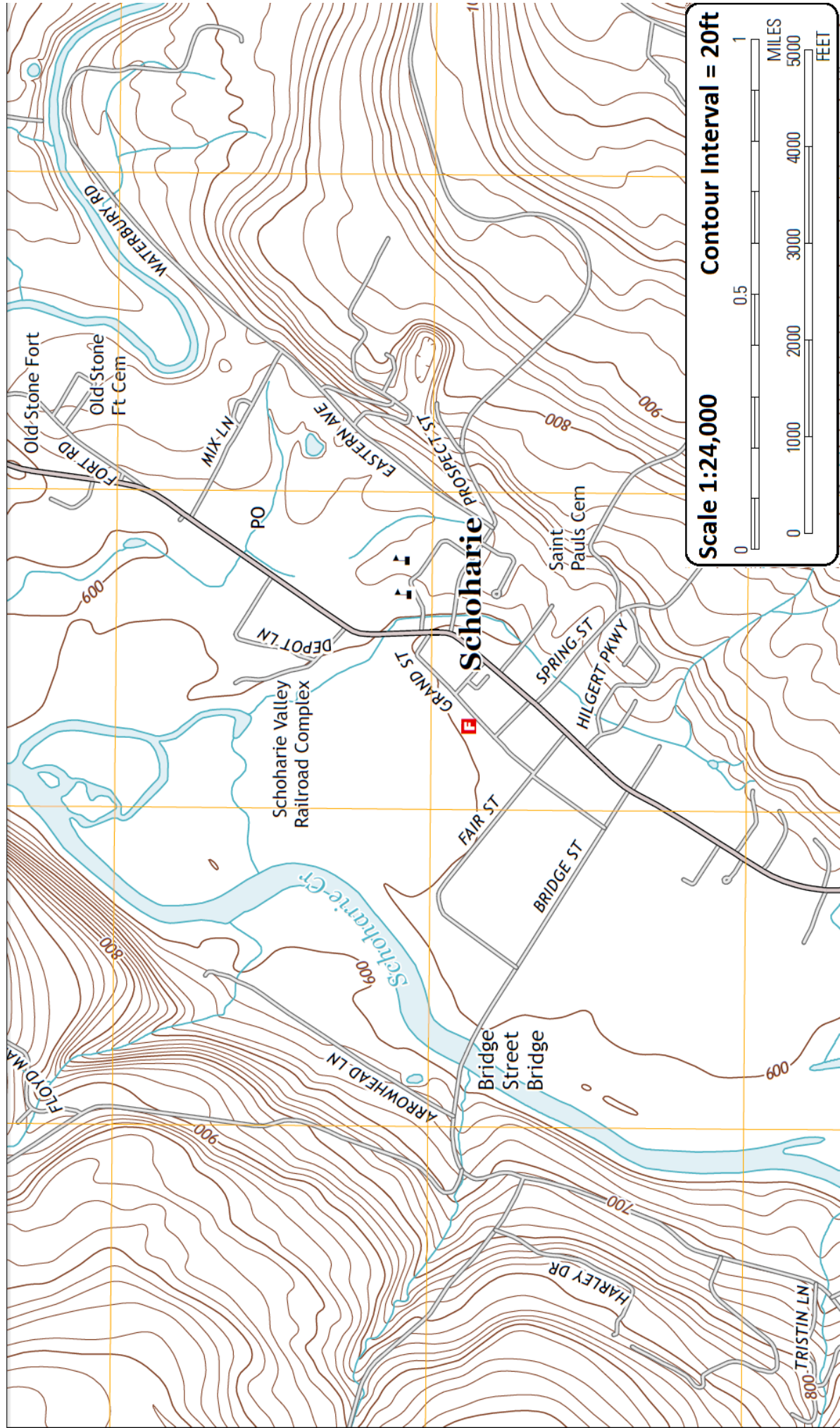
Key:

Irene flooding =

Additional flooding from a simultaneous Gilboa Dam failure = ☐



Map C: Amsterdam Inundation Pt.2



MapD: Schoharie Village Inundation

Data Analysis: Complete each of the following questions by referencing the data you collected in the lab procedures above

- 1) Explain the evidence you used to determine the direction the Schoharie Creek and the Mohawk River flow:

- 2) Although fears arose that the Gilboa Dam might fail during the flooding of Hurricane Irene, it did not. Explain the importance of collecting data to determine how areas may have been affected if the Dam had failed:

- 3) Using Map B and C, in as much detail as possible, explain the impact of the flooding from Hurricane Irene and potential Gilboa Dam failure in **Amsterdam**; (ie: the type of damage you might expect, how many people would be affected, what public buildings or structures would be affected; etc.)

Hint: you may find looking at the satellite view of google maps is helpful for this question.

- 4) Using Map D, in as much detail as possible, explain the impact of the flooding from Hurricane Irene and potential Gilboa Dam failure in **the Schoharie Village**; (ie: the type of damage you might expect, how many people would be affected, what public buildings or structures would be affected; etc.)

Hint: you may find looking at the satellite view of google maps is helpful for this question.

- 5) Based on your work on this lab, what suggestions might you make to the people and governments of Amsterdam and the Schoharie Village?.
