

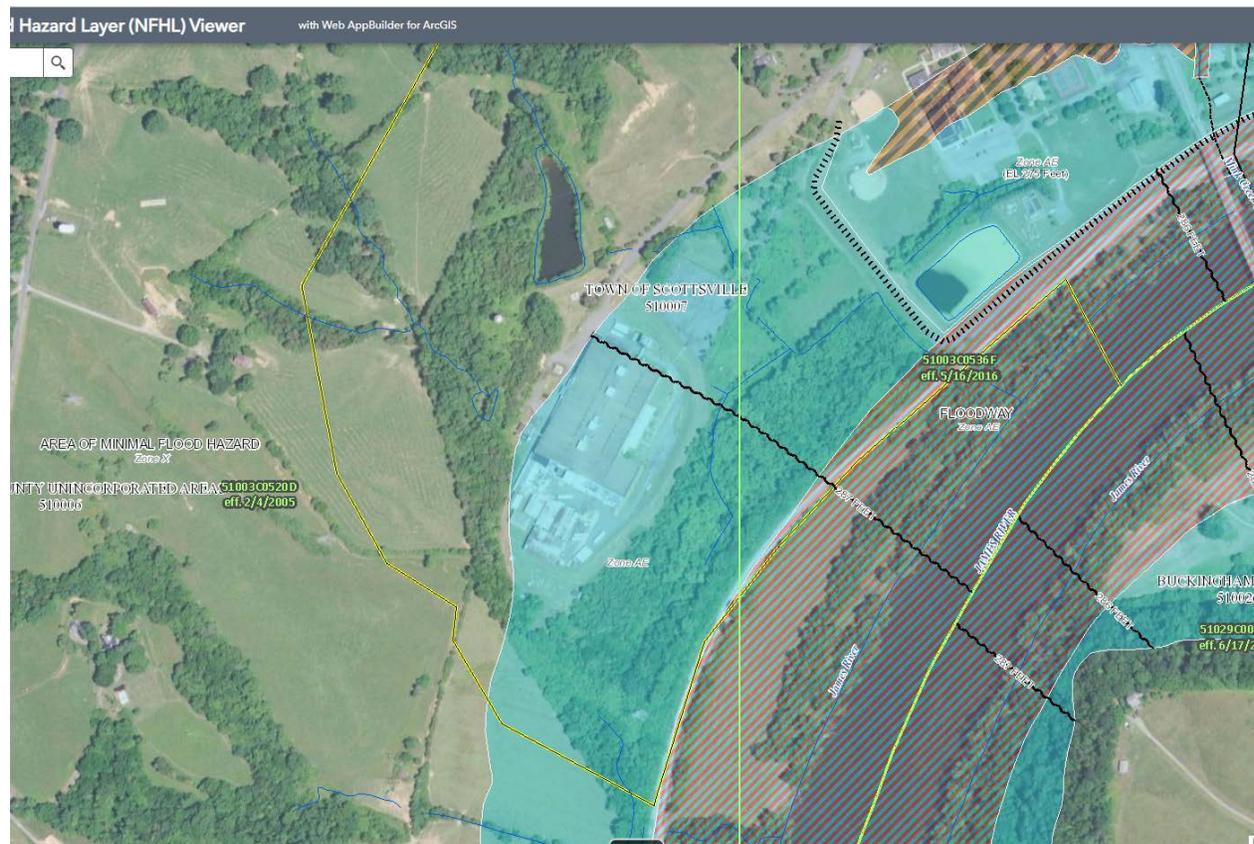
# MEMORANDUM

September 25, 2019

## Town of Scottsville Hyosung Tire Plant – Flood Modeling Investigation

### Background and Understanding

The effective study for the section of the James River near the Town of Scottsville was requested from FEMA. The provided effective model from FEMA was a scan of a paper HEC2 model that was completed in the 70's. It is also noted that the effective model within the area of interest does not appear to include the existing berm around the Hyosung Plant. The current effective FEMA mapping indicates that the entire Hyosung Plant would be inundated during the 100-year flood event.



## **Summary and Recommendations**

- The only accurate way to map the 10, 20, and 50-yr floods is through assembling a HEC-RAS model (there isn't a way of obtaining such linework within the VFRIS or the FEMA NFHL viewer).
- The only information FEMA had on file was a 1976 HEC2 printout. The team would need to convert this to a HEC-RAS model in order to obtain any information not shown on the current FEMA maps or within the FIS report.
- The only topographic information the team found is on the Albemarle County GIS website. They have an overlay showing 2018 four-foot contour intervals.
  - The area around the plant shows contours for the berm that appear to only go to elevation 288. Without a field survey of the berm we cannot confirm the 292' top elevation. The flood maps indicate a Base Flood Elevation (BFE) at the plat of 287'.
  - However, there does not appear to have been any cross sections pulled for the area at the plant within the HEC2 model. In order for the team to provide more detailed information, a HEC-RAS model would have to be set up with additional cross sections pulled in within the area of the plant based on current field survey.
- Performing an updated flood study would be the only way the team could determine if the plant is actually protected from the 100-year flood by the berm. The goal would also be to map other storm events (5, 10, 20, and 50-yr) as part of the study.

Based on our review of the current FEMA information we recommend performing an updated flood study for this section of the James River. The study will involve:

- Creating a duplicate effective model in HEC-RAS using the HEC2 FEMA data.
- Creating a corrected effective model to include additional cross sections within the area of the Hyosung Plant.
- Developing a proposed condition model to include the existing berm surrounding the plant.
- Performing a revised floodway delineation for the area of study.

The updated modeling will need to be submitted to FEMA as a Letter of Map Revision (LOMR) in order to revise the effective floodplain within the area of the Hyosung Plant. The typical LOMR process can take from 6 to 12 months once the application is submitted to FEMA for initial review.