

Modeling Configurations

Two modeling configurations, Existing and Future, were developed for this study as described below.

Existing — Existing watershed hydrology with the drainage system configured as it exists in 2005. Channels are modeled using their existing (2005) conditions as well. This is the “existing conditions” model. Several approved development plans were considered in the existing conditions model even though construction of these projects has not necessarily been completed prior to this study. The City of Chesapeake requested that the following plan sets be considered as ‘existing’ because they have been approved prior to the start of this study:

1. The Commons at Hunningdon Lakes
2. Ruth’s Glen Subdivision
3. Sommerton Condominiums
4. Subdivision of Kemp Bridge
5. Warrington Hall Subdivision
6. Subdivision of Greystone

Future — Future watershed hydrology with the future drainage system configuration as envisioned by the City of Chesapeake. This is the “future conditions” model. Several development plans, still in the design phase, were added to the future conditions model and are listed below:

- A. Stony Run Manor Subdivision
- B. Subdivision of Westchester Estates
- C. Arlington Meadows Subdivision
- D. Hilltop Terrace Subdivision

Additional improvements were also added (largely to eliminate flooding at key locations, where feasible) to the future conditions. These improvements were developed during this study, are highlighted in Figure 8, and specifically include the following projects:

- E. Warrington Hall Channel Improvements
- F. Stony Run Manor / Westchester Estates Channel Improvements
- G. Butts Station Road Outfall Channel Improvements

This configuration depicts future conditions with strategic drainage and storm water improvements in place. Additional details and descriptions regarding the improvements are presented elsewhere in this report. Cost opinions are presented in a separate Cost Appendix.