Maryland Benefits from Successful Collaboration

A Public/Private partnership between FEMA, Maryland Department of the Environment, the USACE, and AECOM

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Chris Penney, USACE
Andy Wohlsperger, AECOM

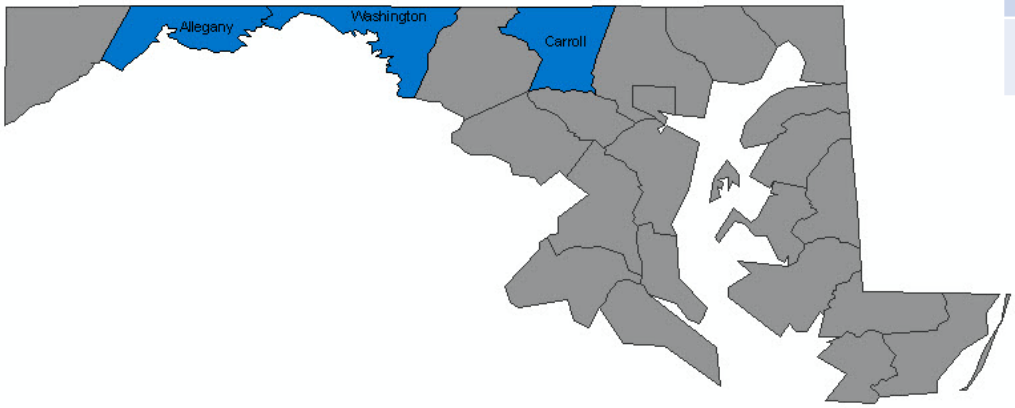
Agenda

Topic	Speaker
Introduction	Andy & Chris
Study Overview & Area	Andy
Study Team & Responsibilities	Andy & Chris
USACE Tasks	Chris
AECOM Tasks	Andy
Study Status Update	Andy & Chris
Closing, Q&A	Andy & Chris

Study Overview and Area

- Three Counties in Maryland
  - Allegany County
  - Carroll County
  - Washington County

Study Task	Combined Value
Detailed Study	268 Miles
Limited Detailed Study	834 Miles
Approximate A	30 Miles
DFIRM Panels	233



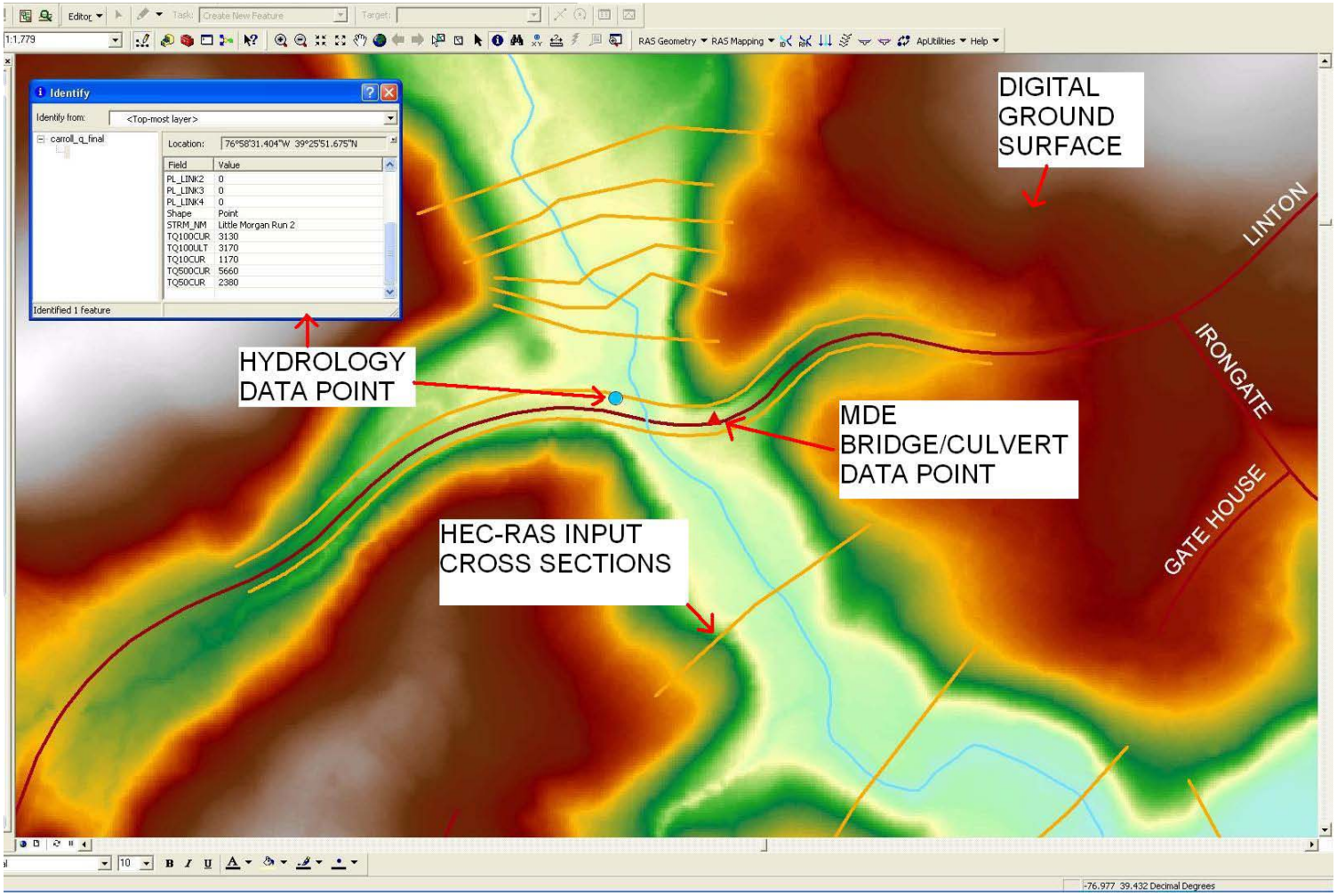
Study Team and Responsibilities

- State of Maryland
  - Survey Data Collection
  - Cooperating Technical Partner
  - NFIP Program Management
  - GIS Hydro based calculations
- FEMA
  - General Oversight
  - Technical Review
- USACE
  - Detailed Study
  - Limited Detailed Study
  - FIS Report
- AECOM
  - Engineering data transfer
  - Approximate Zone A modeling (30 Miles)
  - Boundary Delineation (Approx 1150 miles)
  - DFIRM Production

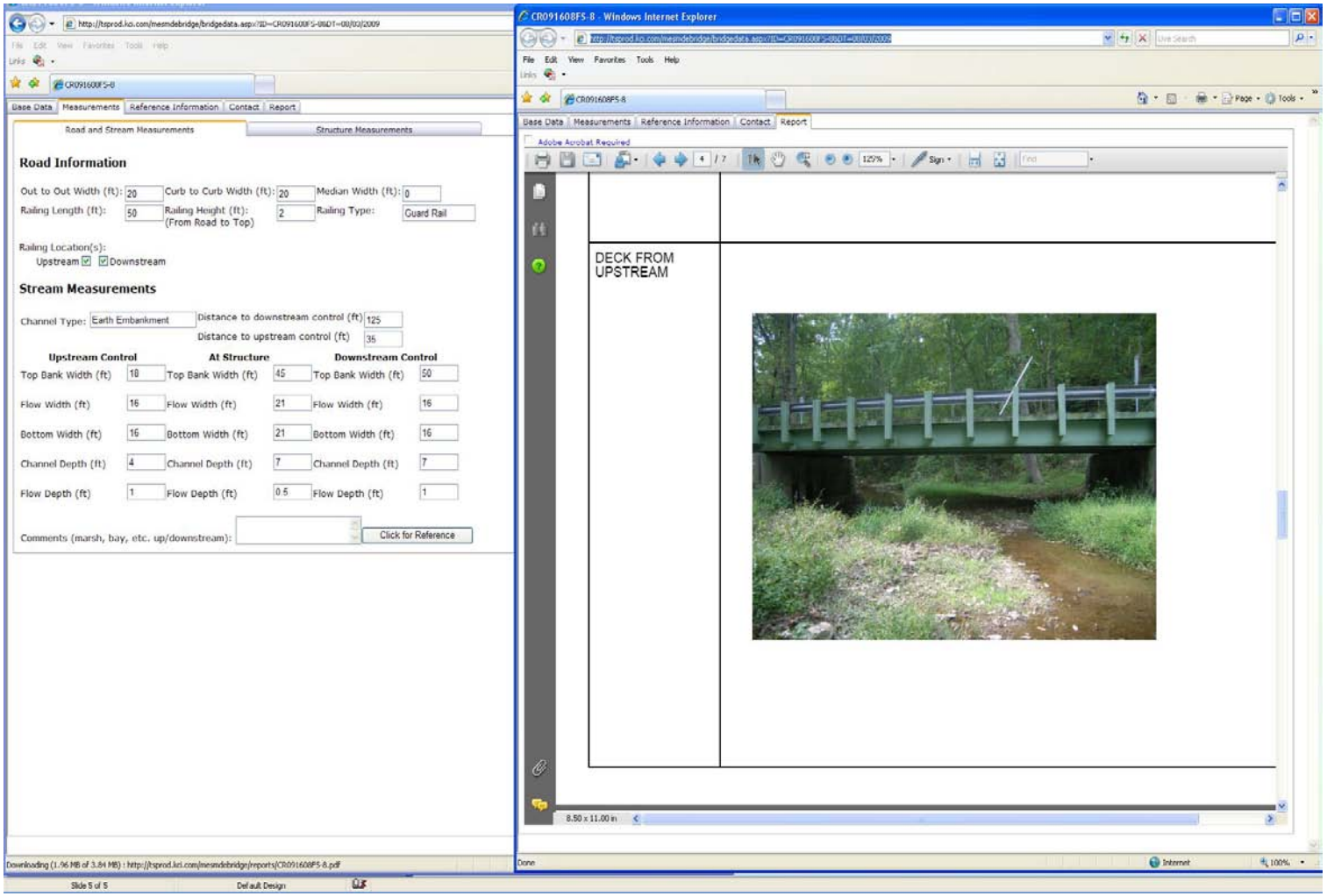
USACE Hydraulic Modeling Tasks

- Update all effective HEC-2 models to georeferenced HEC-RAS models
- Establish HEC-RAS models for effective Zone A areas, while incorporating MDE survey data
- Takes advantage of latest modeling and GIS technology (HEC-RAS 4.0 and GeoRAS)
- Incorporate data from LOMR's when applicable

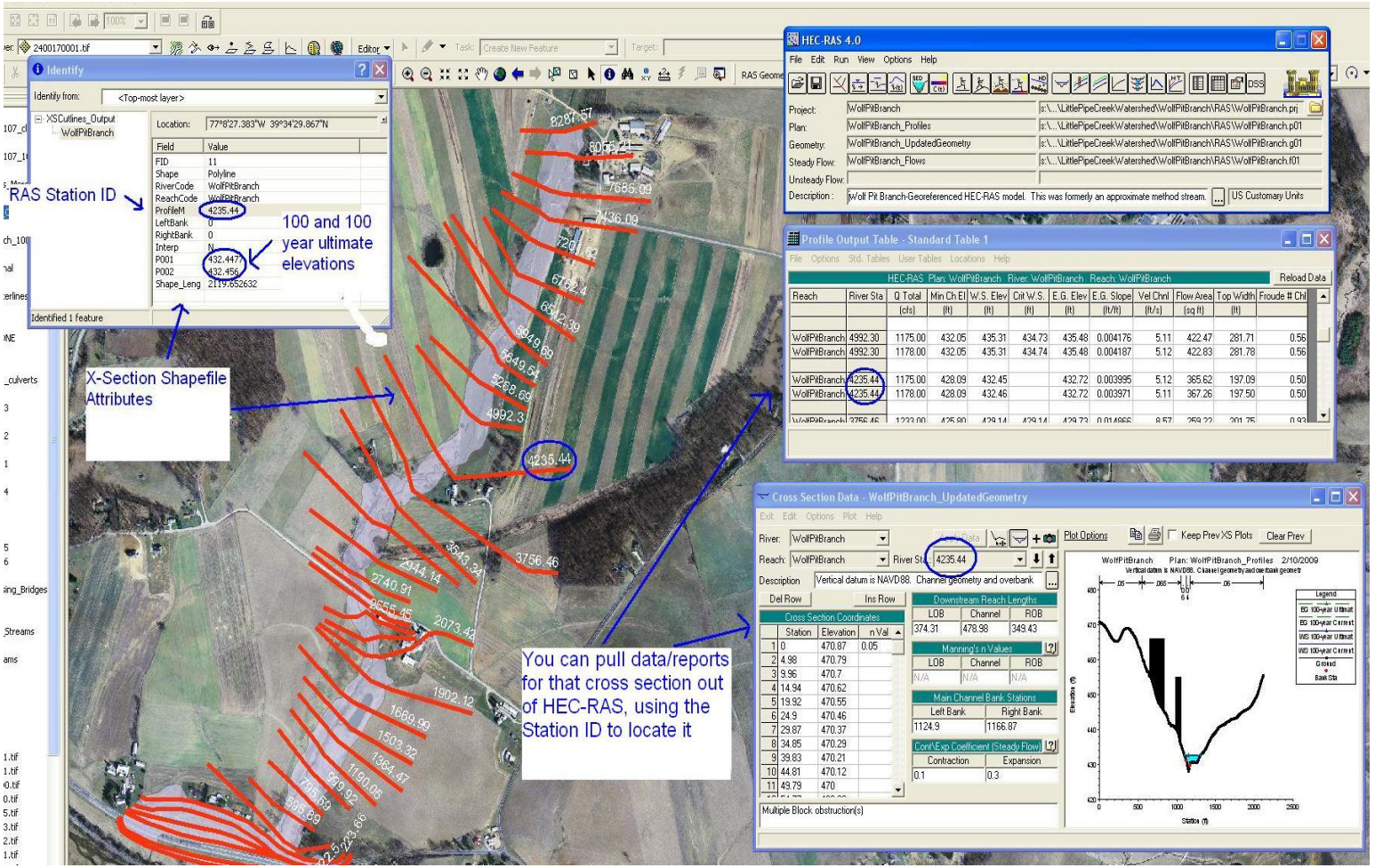
HEC RAS input data



MDE Bridge/Culvert data



Output data provided to AECOM

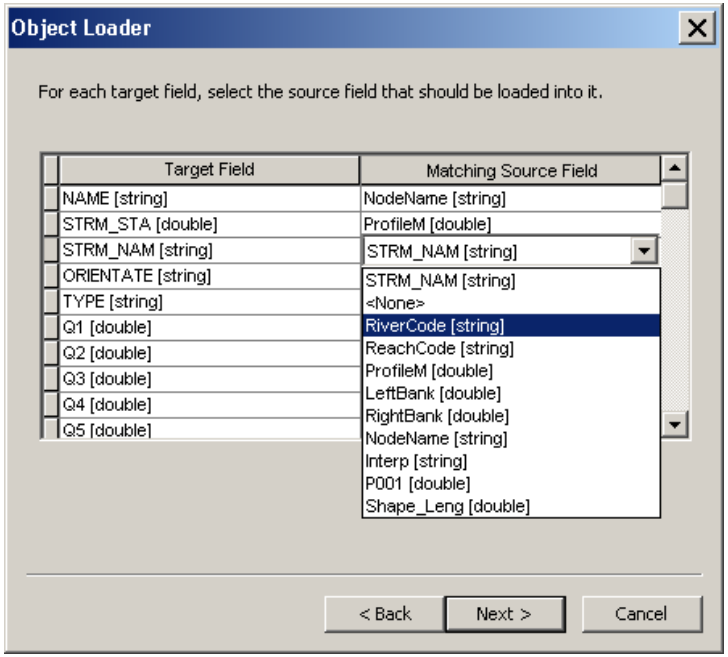


AECOM Tasks

- Boundary Delineation in WISE
  - Import GeoRAS spatial files cross-sections and streamlines into WISE format
  - Delineated Boundaries in WISE
- Merging of LDS and Detailed Study boundaries
  - Automated procedure in WISE
- Automated Approximate along the Potomac River in Allegany and Washington Counties
- DFIRM Production
  - Utilization of AECOM DFIRM Tools (Mapping Analyst Extension)

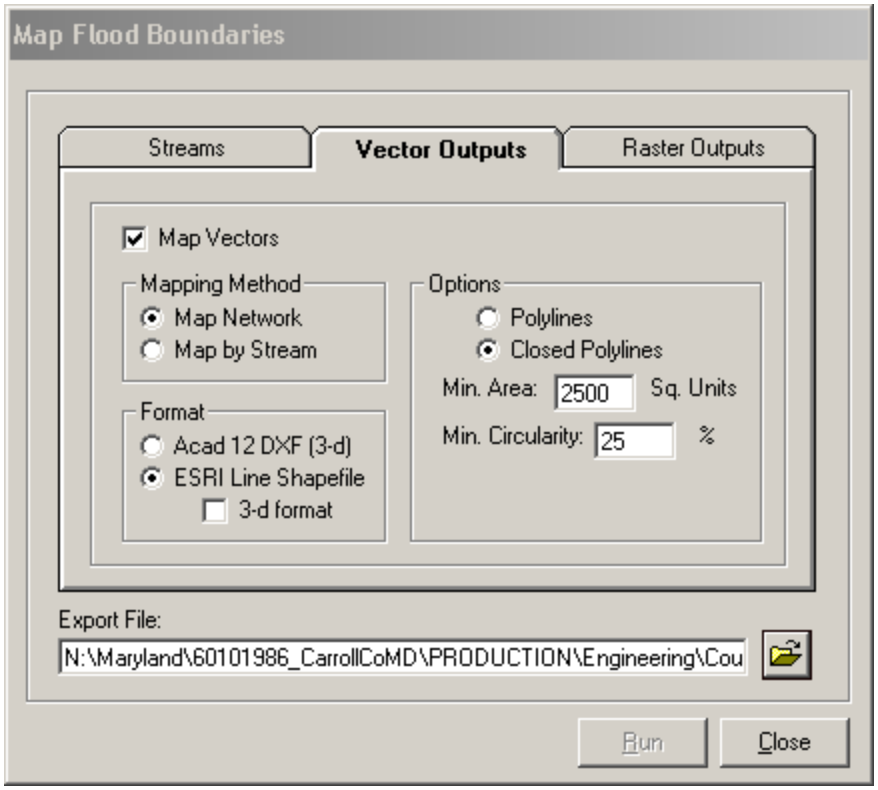
AECOM Boundary Delineation

- WISE
  - Comprehensive software platform developed by AECOM for Water Resources
    - Supports H&H modeling tasks
    - Terrain data processing
    - Automates floodplain delineation
- Merging of LDS and Detailed Studies
  - Automated procedure in WISE
  - Import GeoRAS spatial files into WISE format
    - Geodatabase Template files
    - Load Objects – Set Source and Target fields

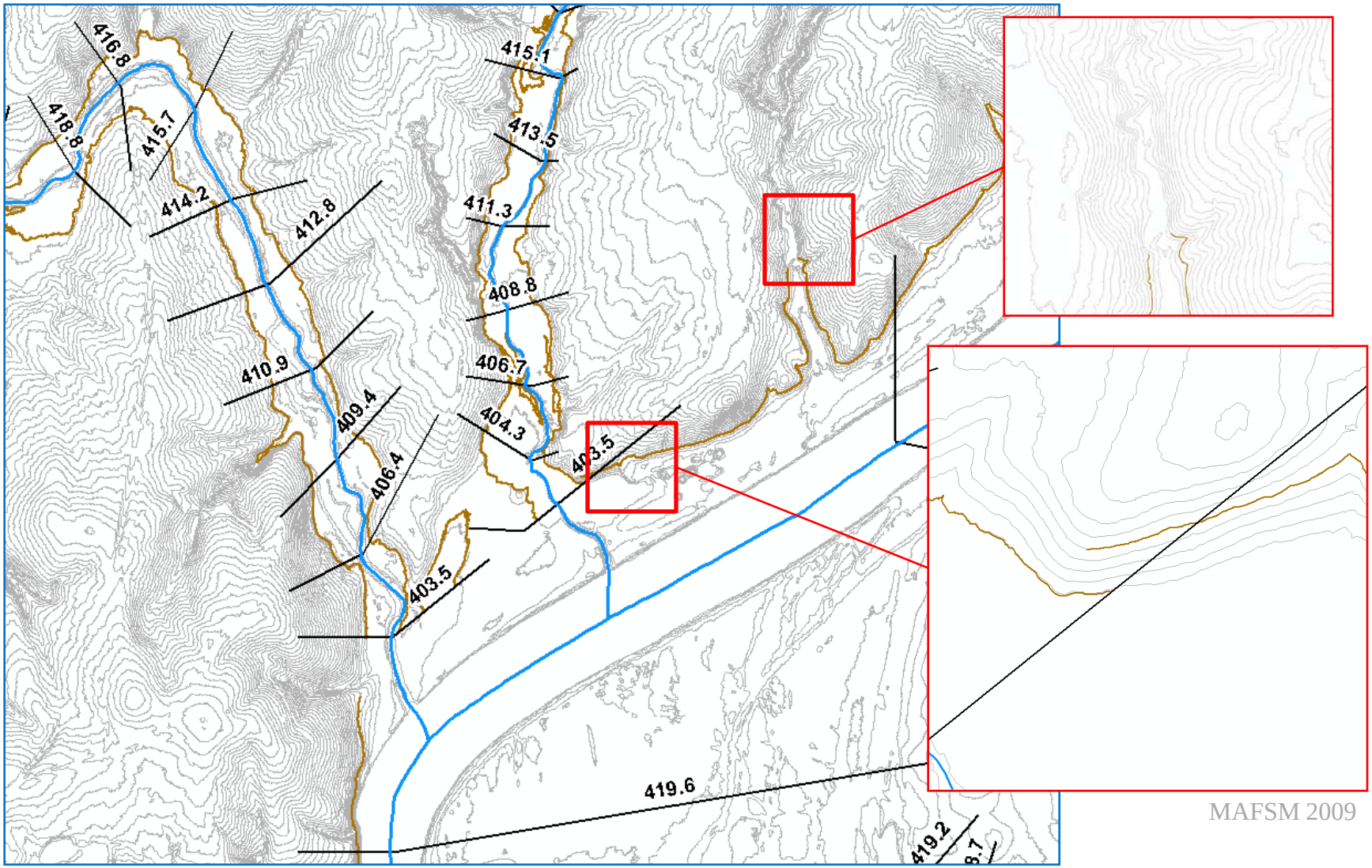


Boundary Delineation cont.

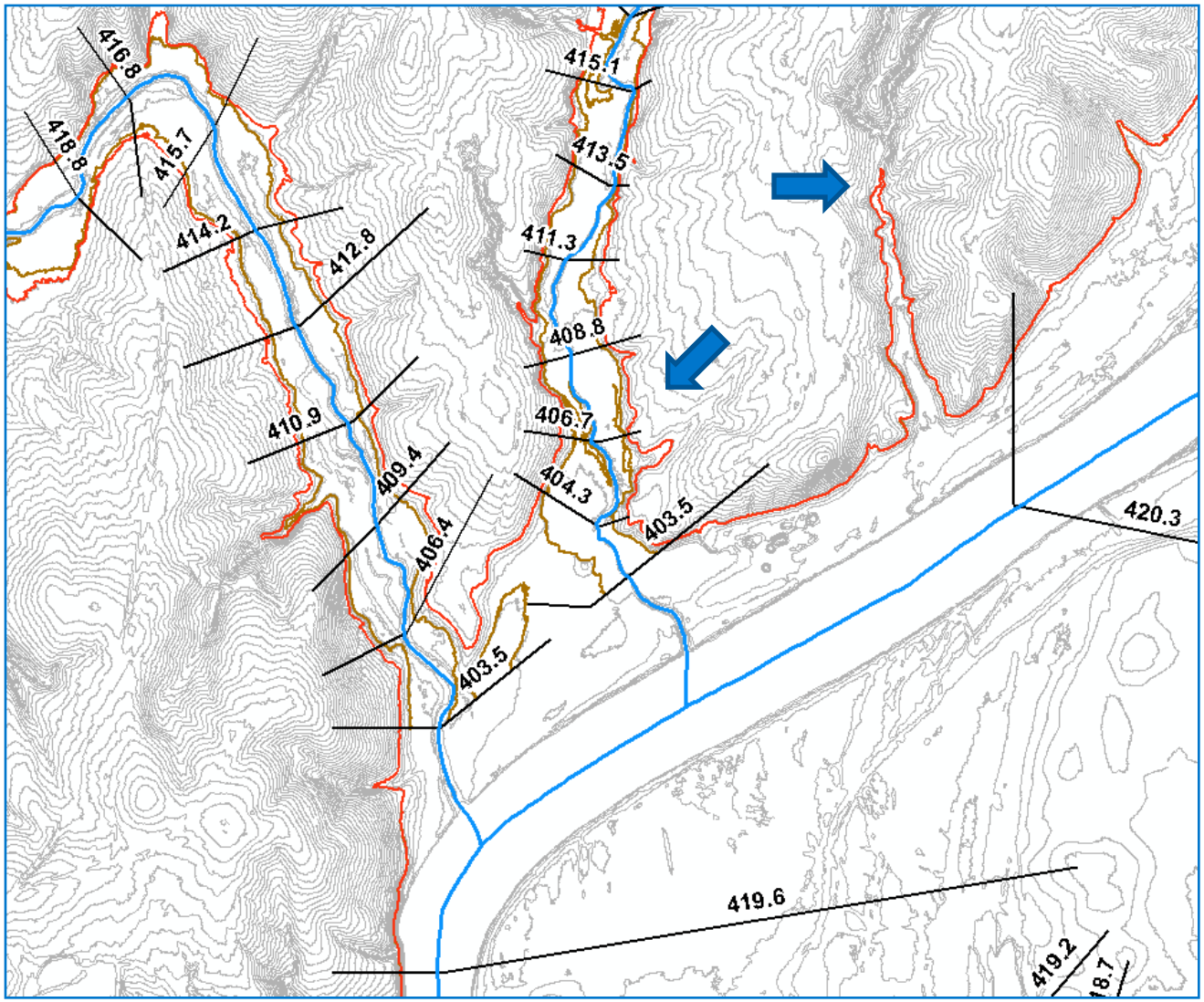
- Utilize Network Mapping in WISE
  - Automatically ‘merges’ LDS and Detailed study boundaries
    - Not stream by stream
    - Stream network mapping
  - Automatically delineates backwater areas
  - Attributes data – ready to load into DFIRM database schema



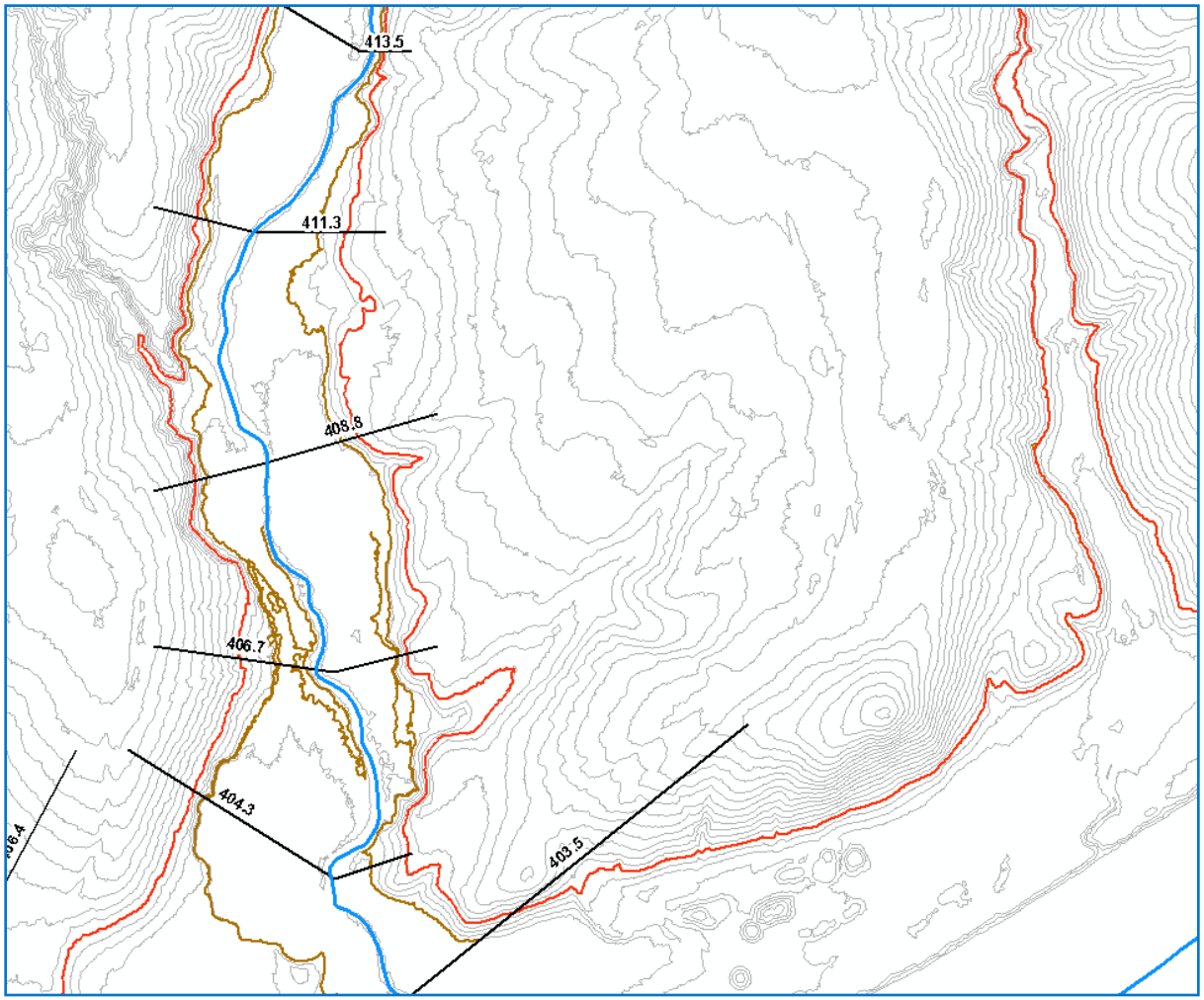
Traditionally Mapped Boundaries



WISE Network Mapping

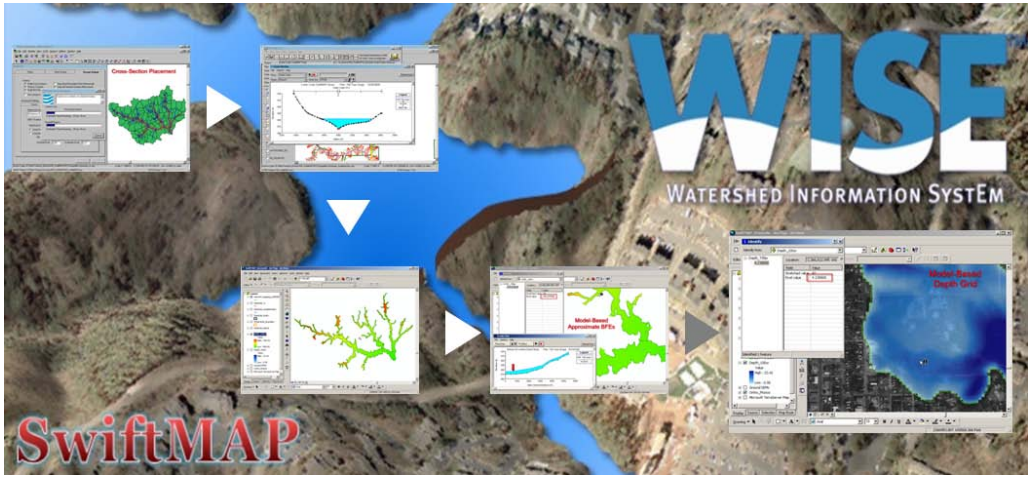


WISE Network Mapping Cont.



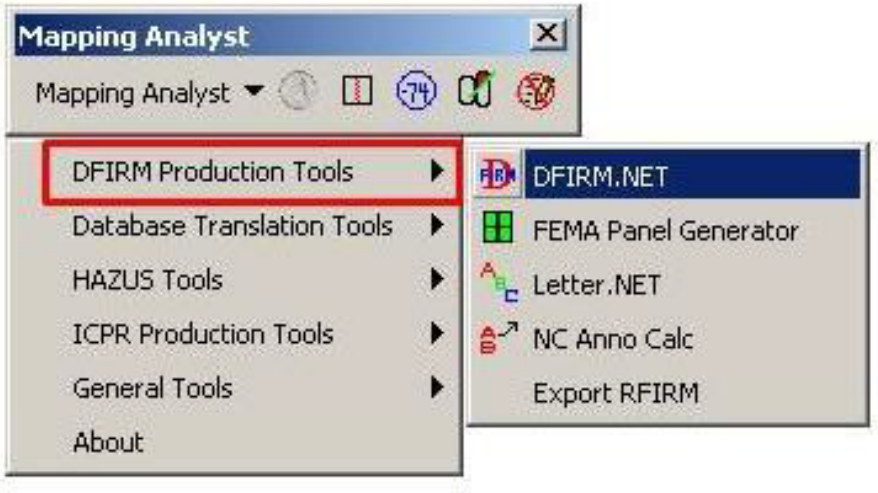
Automated Approx. Studies

- Approximately 30 miles of the Potomac River in Allegany and Washington Counties
- Utilize discharge values provided by USACE
- WISE SwiftMAP procedure
  - Batch XS lay out and take offs
  - Automated basin delineation
  - Automated creation of HEC RAS models
  - Engineering review
  - Delineation of boundaries



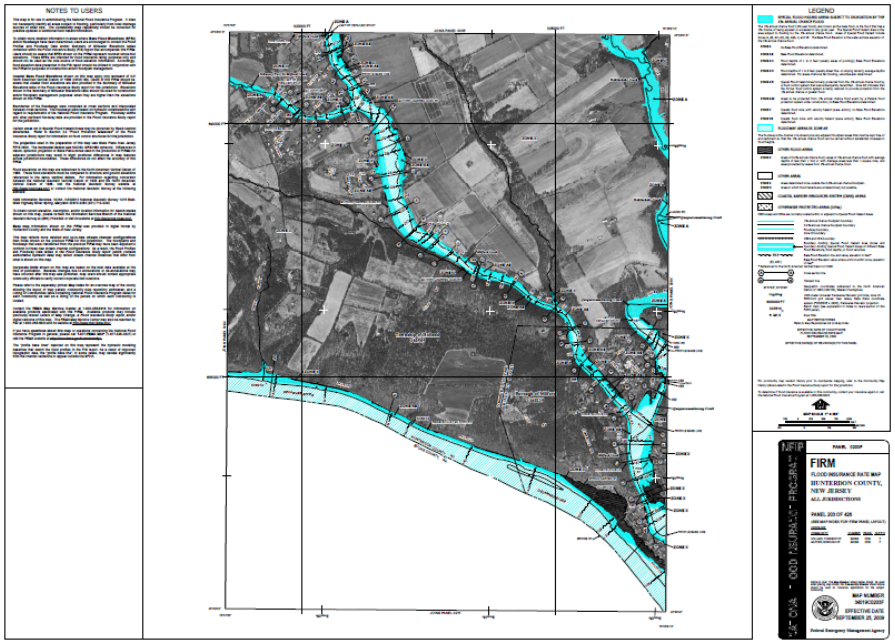
DFIRM Production

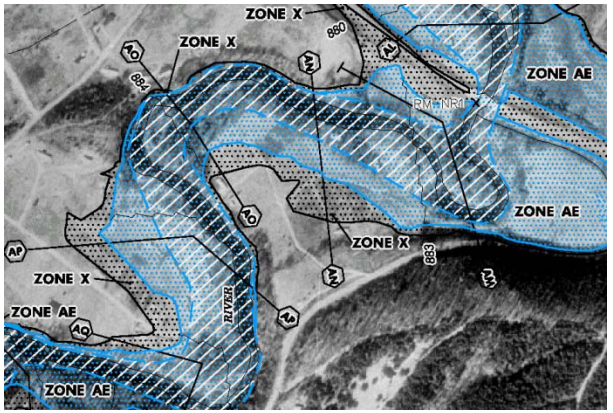
- Citrix / SDE Enterprise production environment
  - Versioning workflow
  - Multiuser editing
  - Remote access possible
- AECOM DFIRM Tools – Mapping Analyst
  - ArcMap Extension



DFIRM Example

- Ortho based





Study Status update

- Engineering update
  - Carroll County 95%
  - Allegany County 40%
  - Washington County 50%
- DFIRM update
  - Base Map Setup done for all three studies
  - DFIRM Databases are setup and ready for production for all three studies
  - Carroll County – boundary delineation in progress 95% complete
- Prelim Dates:
  - Carroll (March 2010)
  - Washington (April 2010)
  - Allegany (May 2010)

Closing

- Questions?