



FEMA

Levee Analysis and Mapping Procedures (LAMP) for Non-accredited Levees

Town and Village of Herkimer, Herkimer County, NY
November 10, 2016

RiskMAP
Increasing Resilience Together



Agenda

- Introductions
- Review of:
 - Local Levee System
 - LAMP Process
- Concurrent Map Revision
- LAMP Analyses & Application
- LAMP Path Forward
- First Pass Analysis Results
 - Bellinger Brook
 - West Canada Creek
 - Mohawk River

Introductions & Contact Information

- **FEMA Project Monitor**

- Alan Springett, Engineer
(212) 680-8557
Alan.Springett@fema.dhs.gov

- **Project Manager**

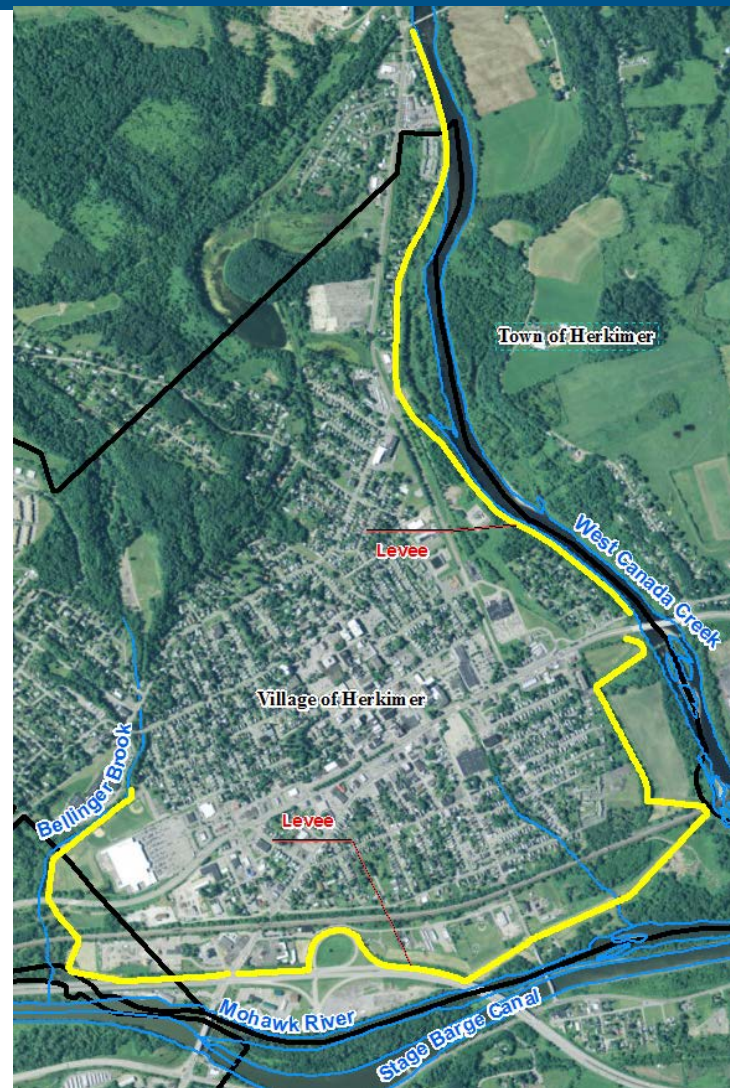
- Stephanie Nurre (STARR II)
(312) 262-2284
Stephanie.Nurre@stantec.com

- **Outreach**

- Cara Spidle
(202)7294288
Cara.Spidle@ogilvy.com

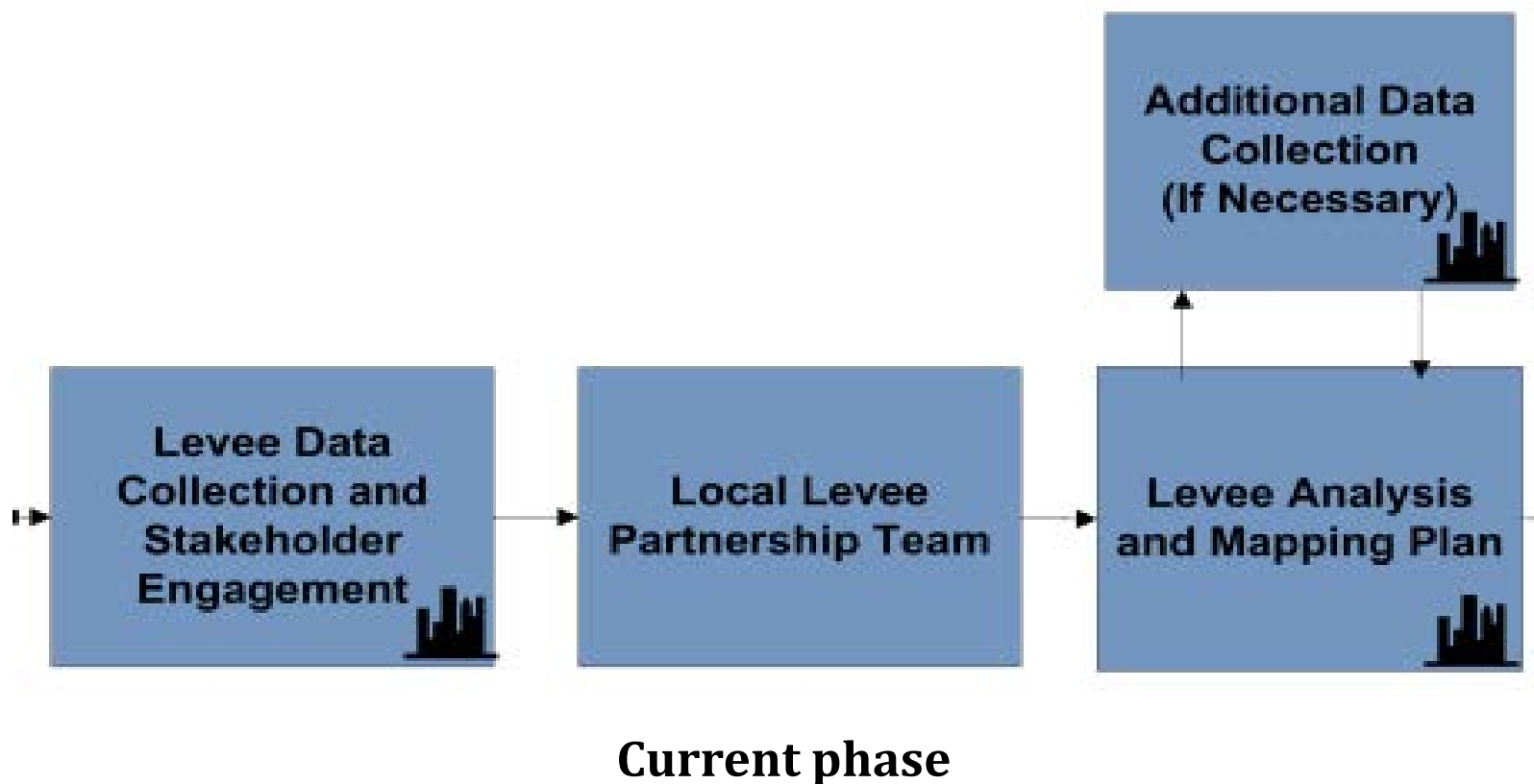
Review of the Local Levee System

- Levee constructed along Mohawk River, West Canada Creek, and Bellinger Brook in Town and Village of Herkimer
- The flood risks landward of the non-accredited levee system will be studied with FEMA's new approach to levee mapping, LAMP.



Levee Analysis and Mapping Process (LAMP) Process

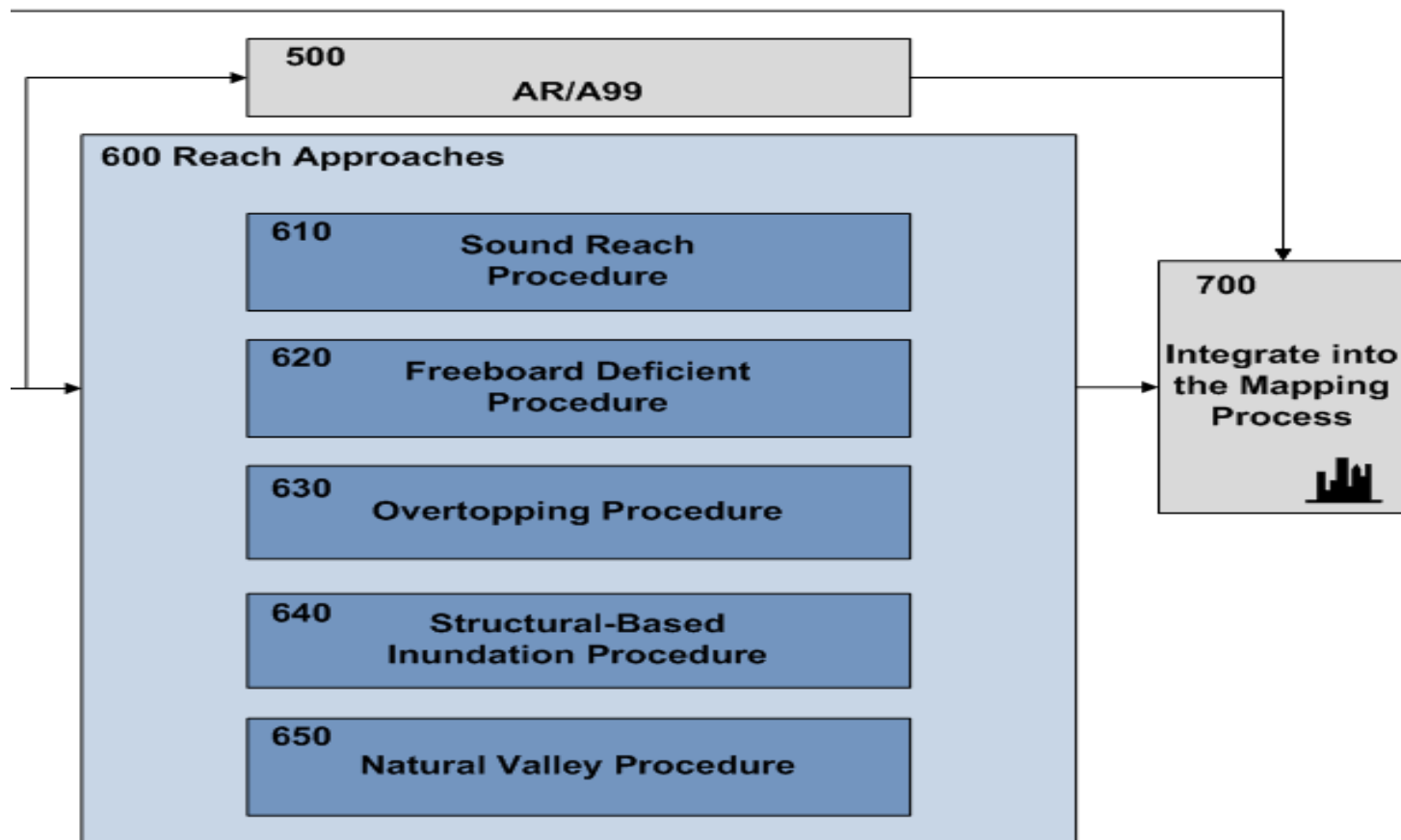
PHASE I: Engagement and Planning Process



Levee Analysis and Mapping Process (LAMP) Process

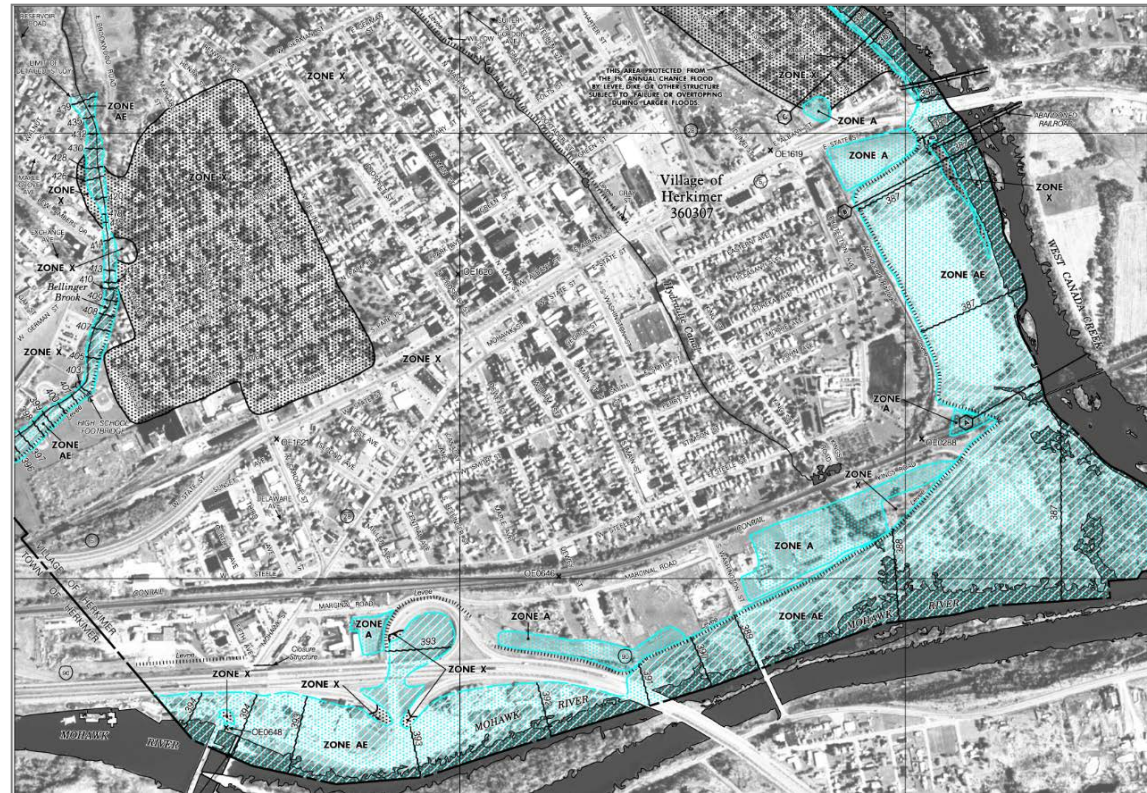
Phase 2: Detailed Flood Hazard Analyses

Phase 3: Map Update



Concurrent Map Revision

- LAMP Study focuses on determining flood risk related to the Herkimer levee.
- Concurrent Countywide Preliminary Flood Insurance Rate Map (FIRM) update underway with “seclusion”.



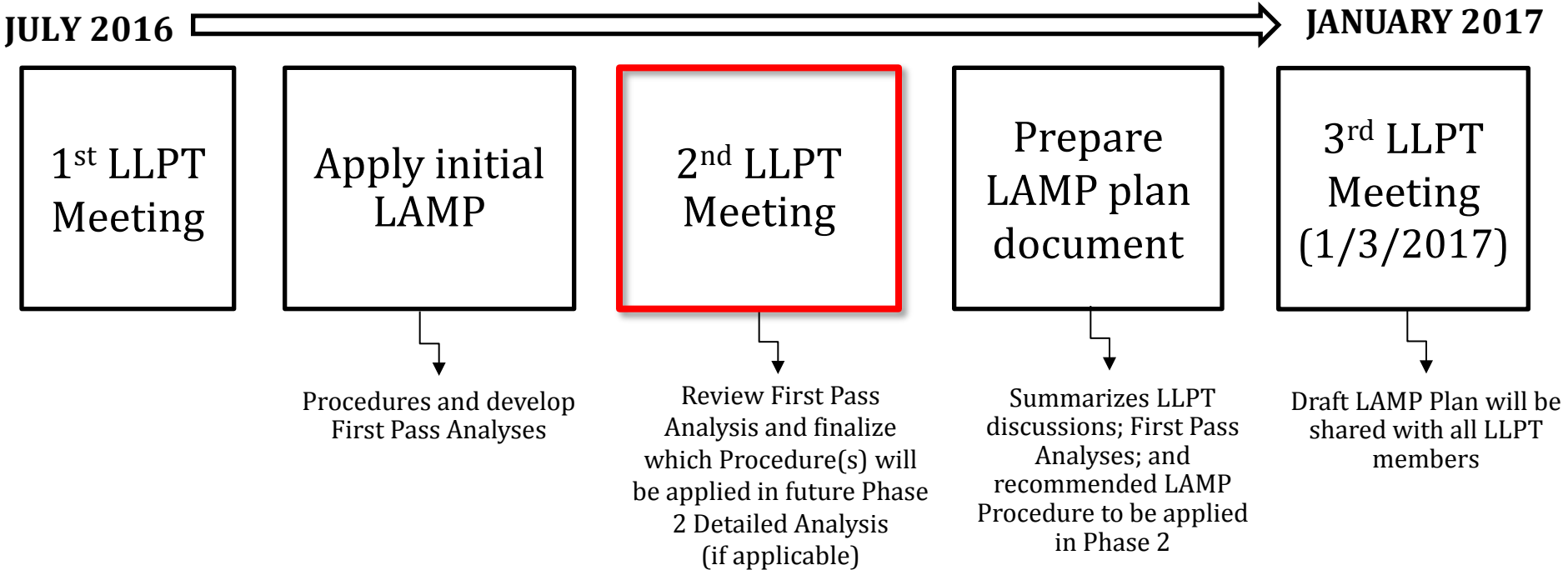
Application of LAMP to Levees in Herkimer

- **LAMP Procedures are:**

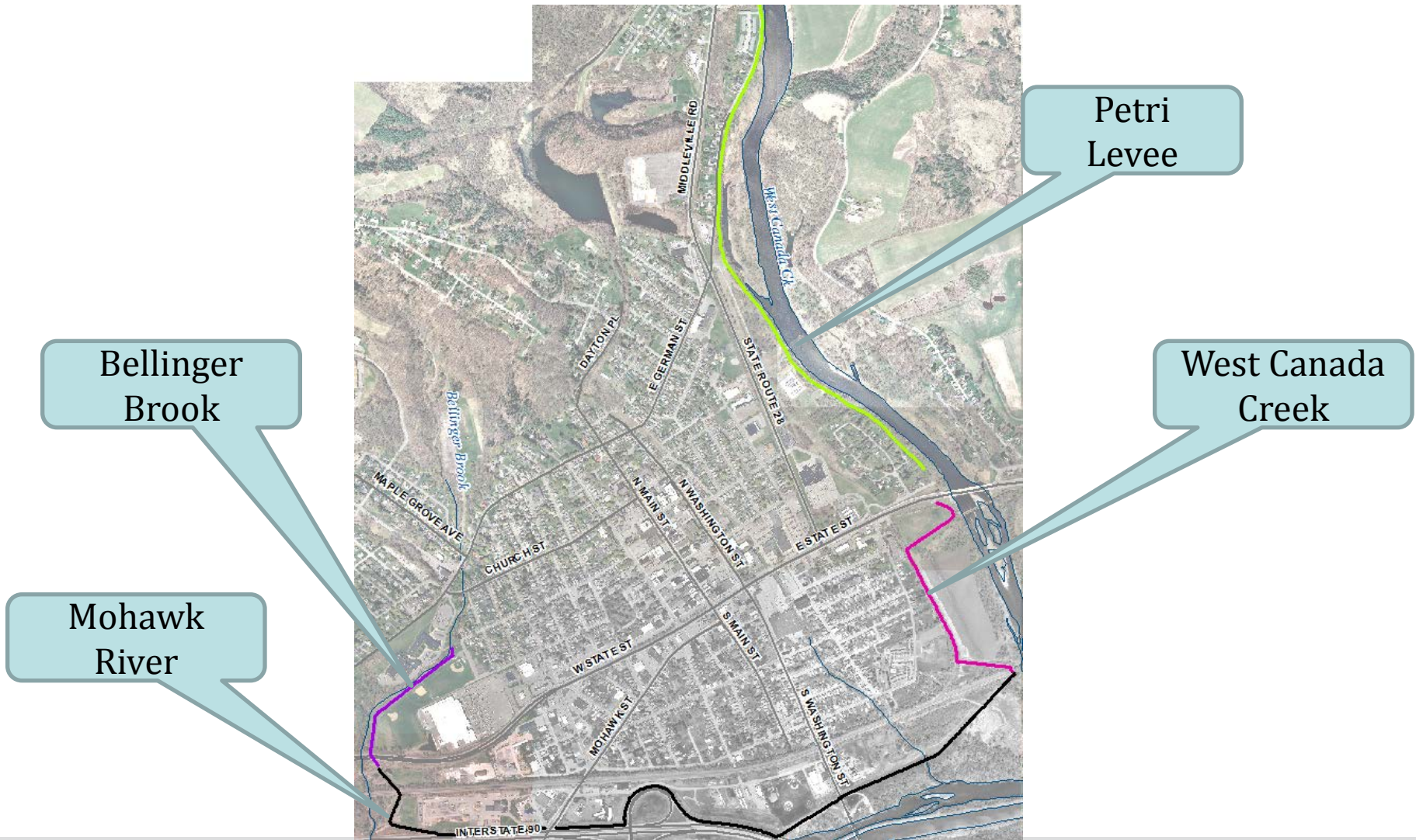
- Natural Valley Procedure (Applicable)
- Structural Based Inundation Procedure (Potentially Applicable)
 - Levee does not have known vulnerabilities or history of breaching, except for potential vulnerability along Bellinger Brook south of High School
- Overtopping Procedure (Not Applicable)
 - BFEs are lower than top of levee
- Freeboard Deficient Procedure (Potentially Applicable to West Canada Creek Herkimer Levee)
 - Would require documentation that levee meets 44 CFR 65.10 except for freeboard
- Sound Reach Procedure (Not Applicable)
 - Insufficient freeboard

LAMP Path Forward

■ LAMP PHASE 1

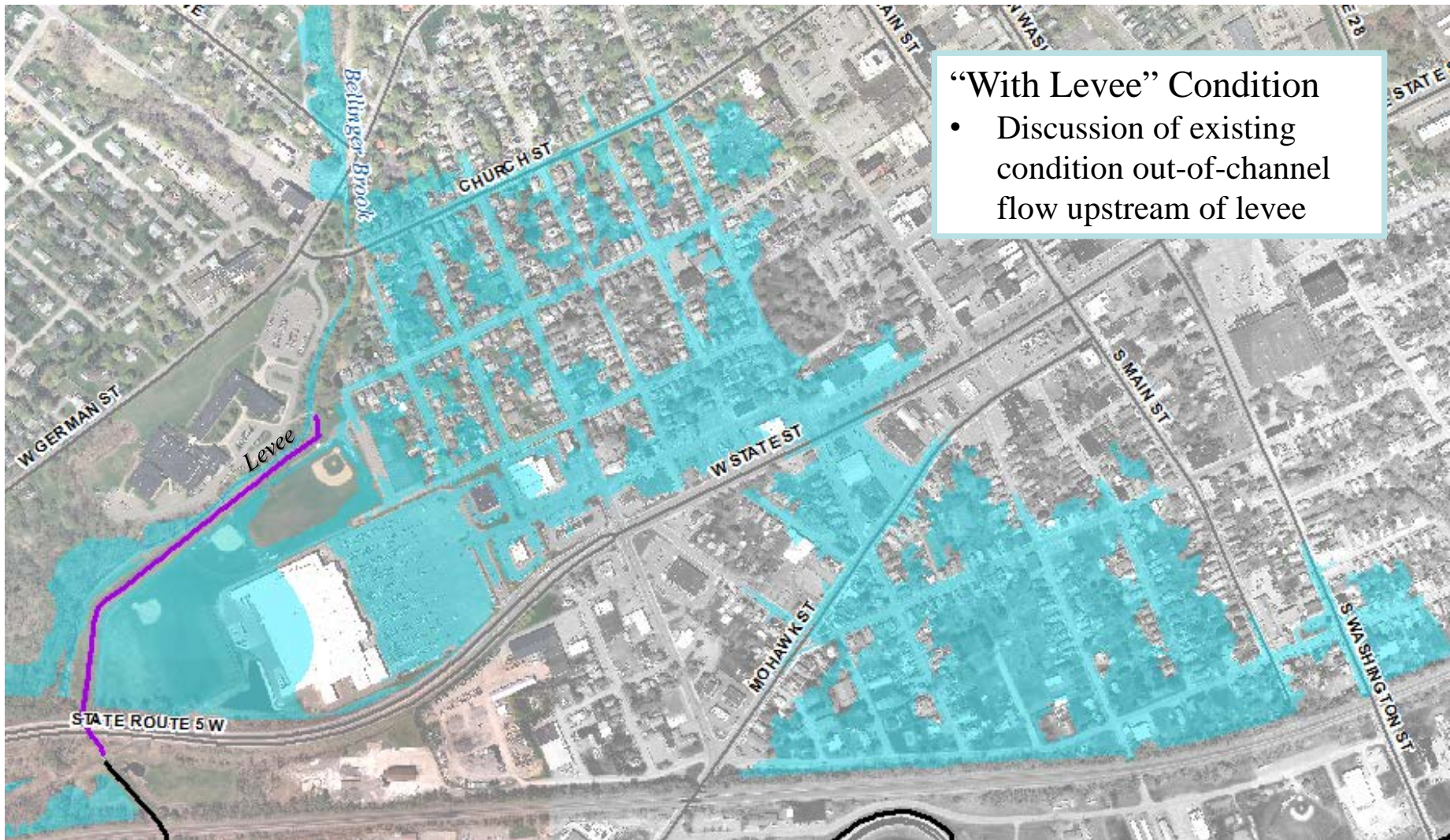


Levee System Reaches

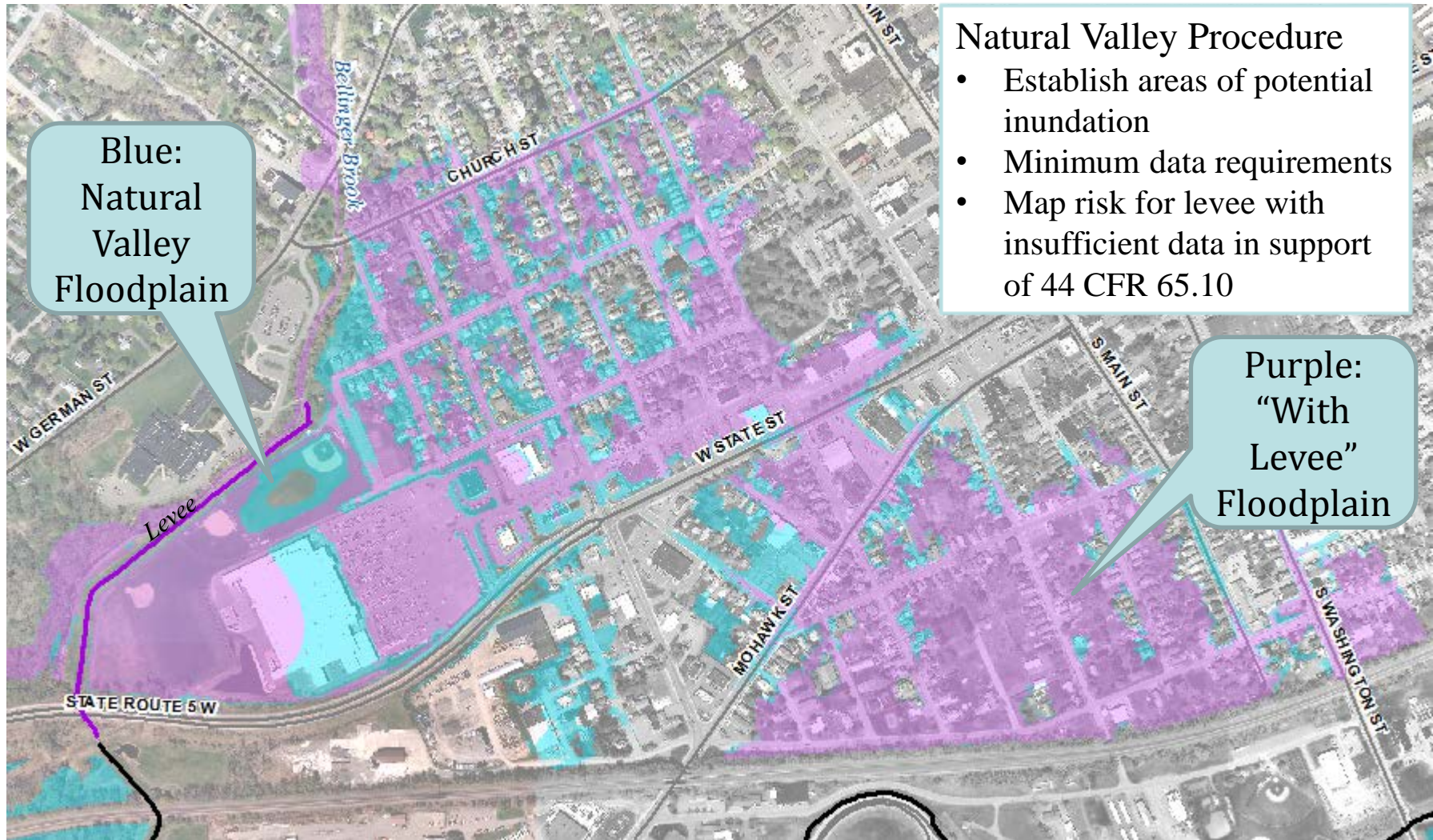


Review of First Pass Analysis Results Bellinger Brook

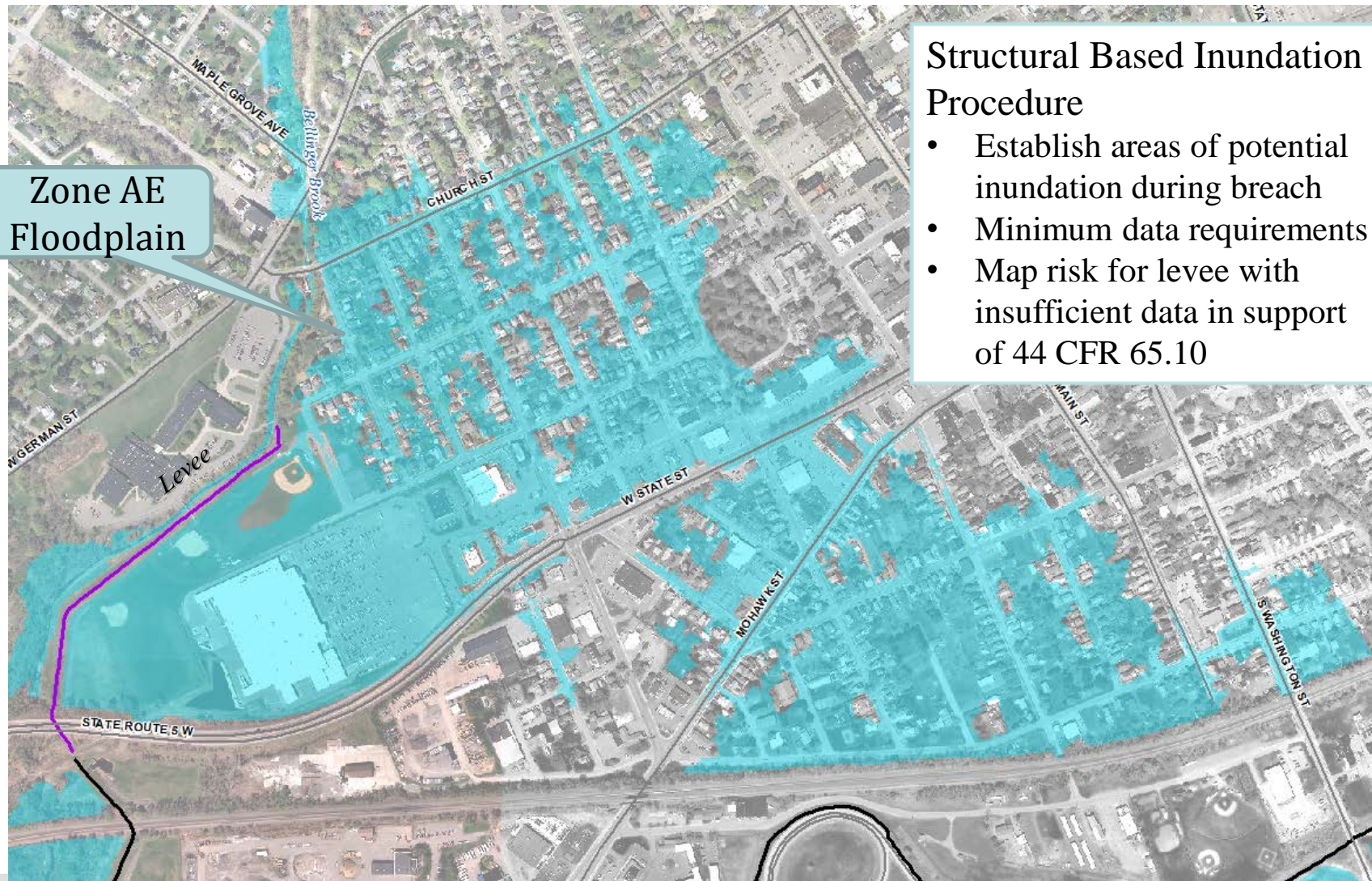
First Pass Analysis “With Levee” Bellinger Brook



First Pass Analysis Natural Valley Procedure Bellingr Brook



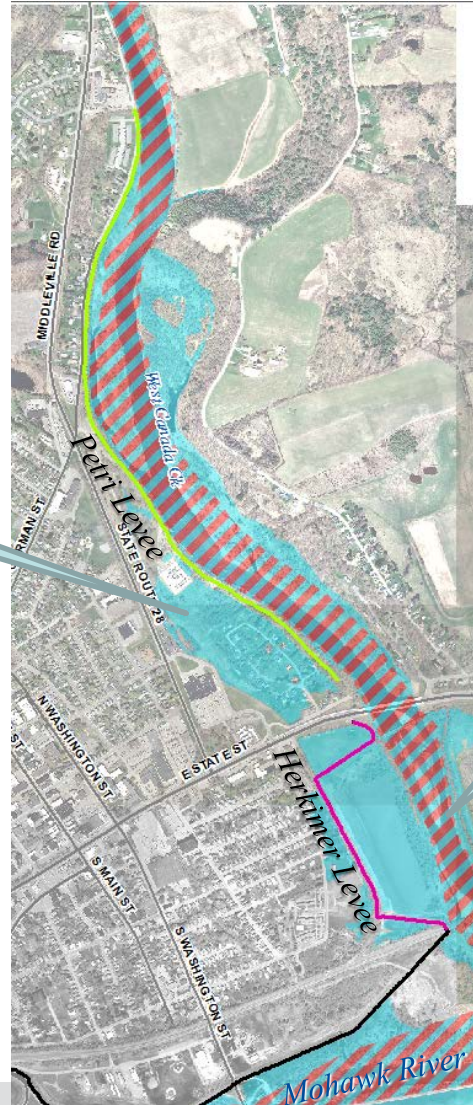
First Pass Analysis Structural Based Inundation Bellinger Brook



Review of First Pass Analysis Results Mohawk River & West Canada Creek

First Pass Analysis Natural Valley Procedure West Canada Creek

Zone AE
Floodplain



Natural Valley Procedure

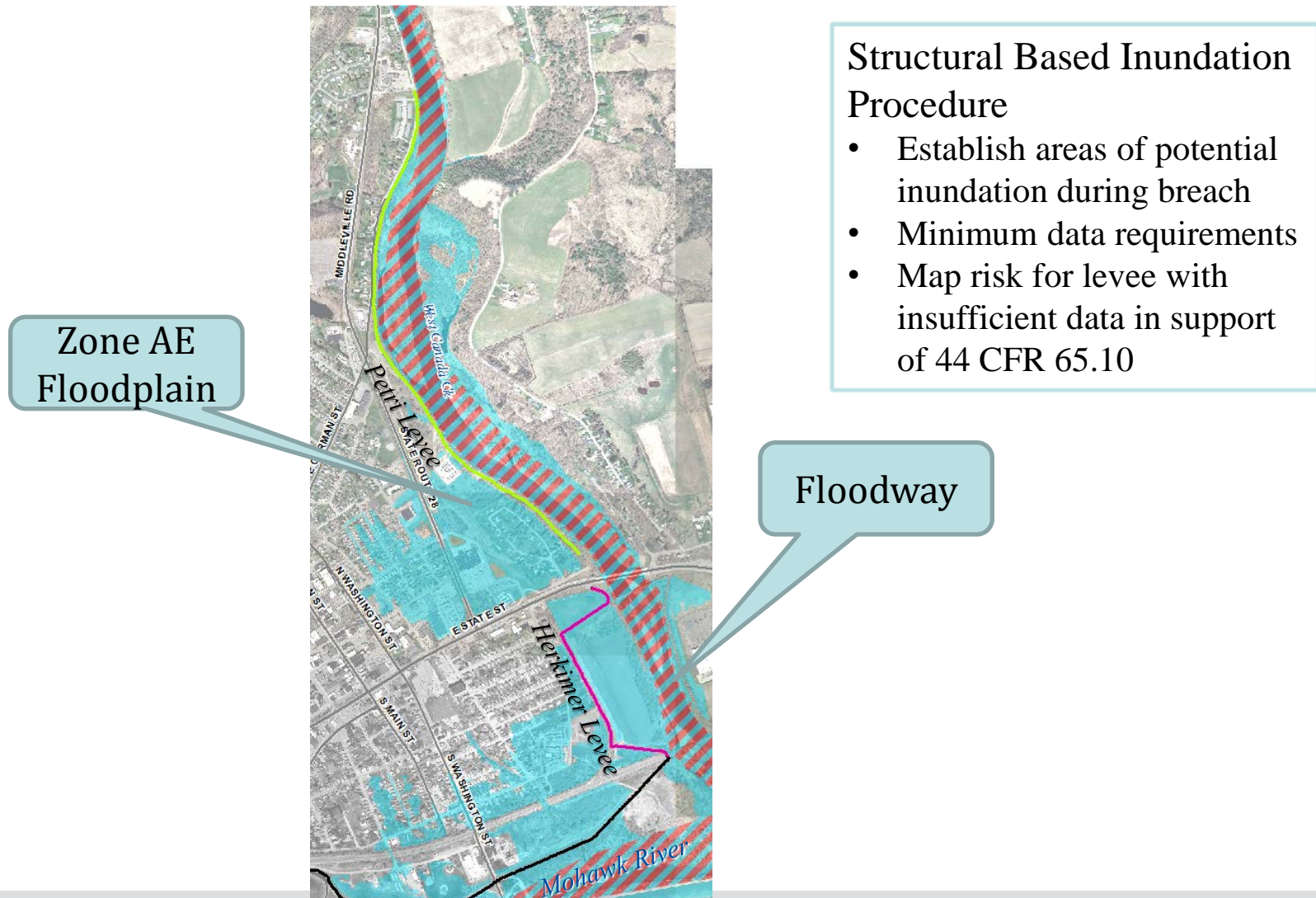
- Establish areas of potential inundation
- Minimum data requirements
- Map risk for levee with insufficient data in support of 44 CFR 65.10

Floodway

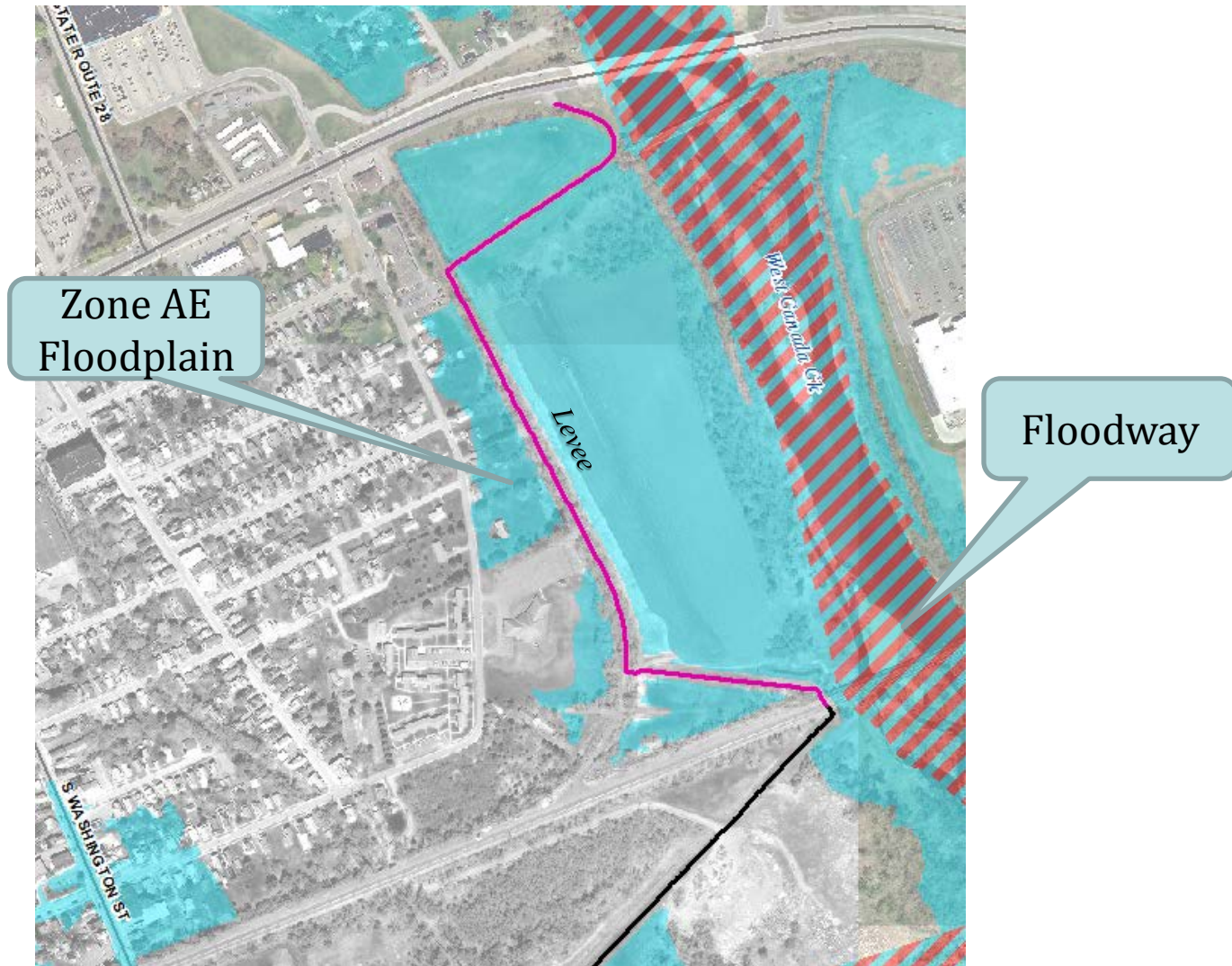
First Pass Analysis

Structural Based Inundation Procedure

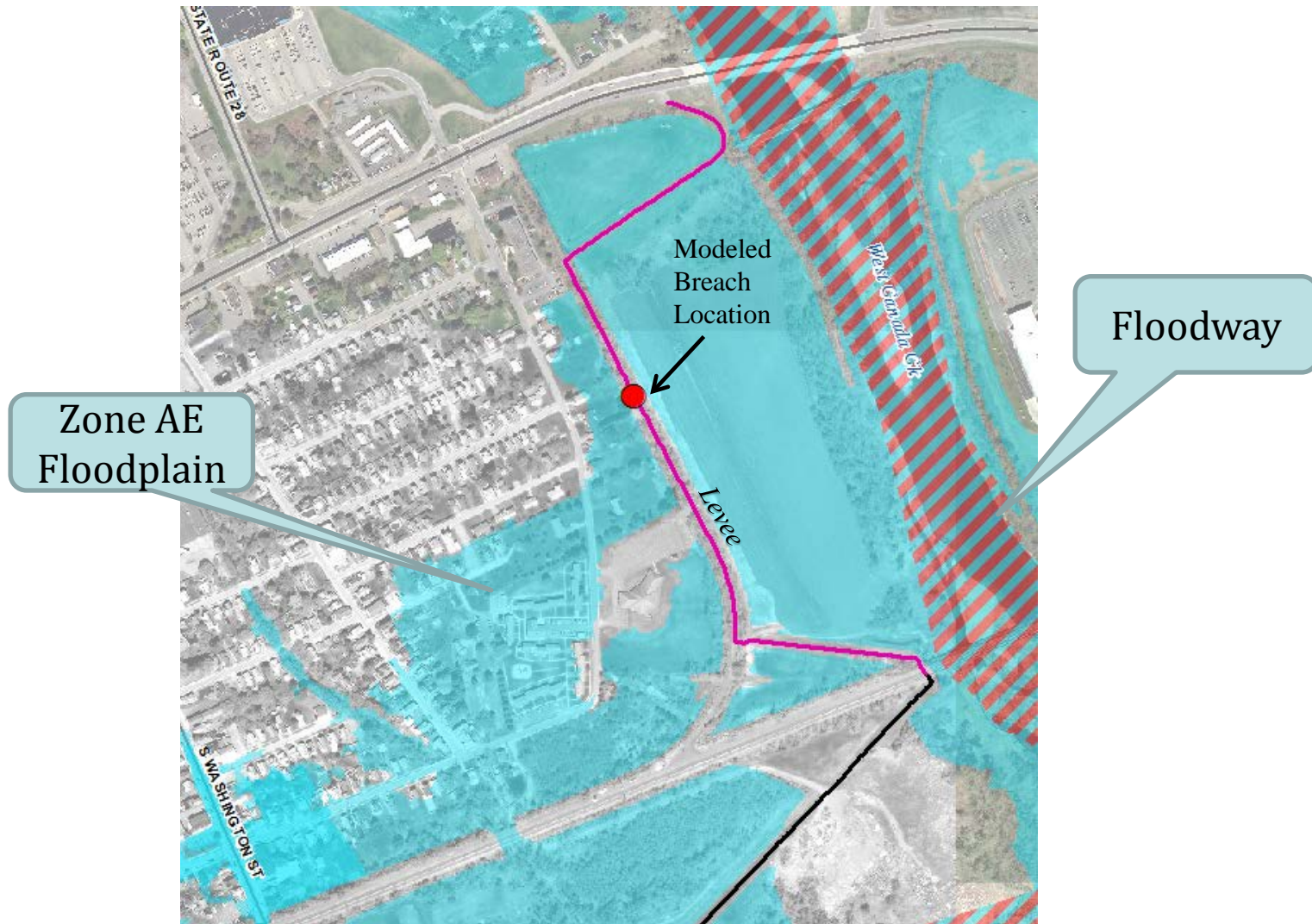
West Canada Creek



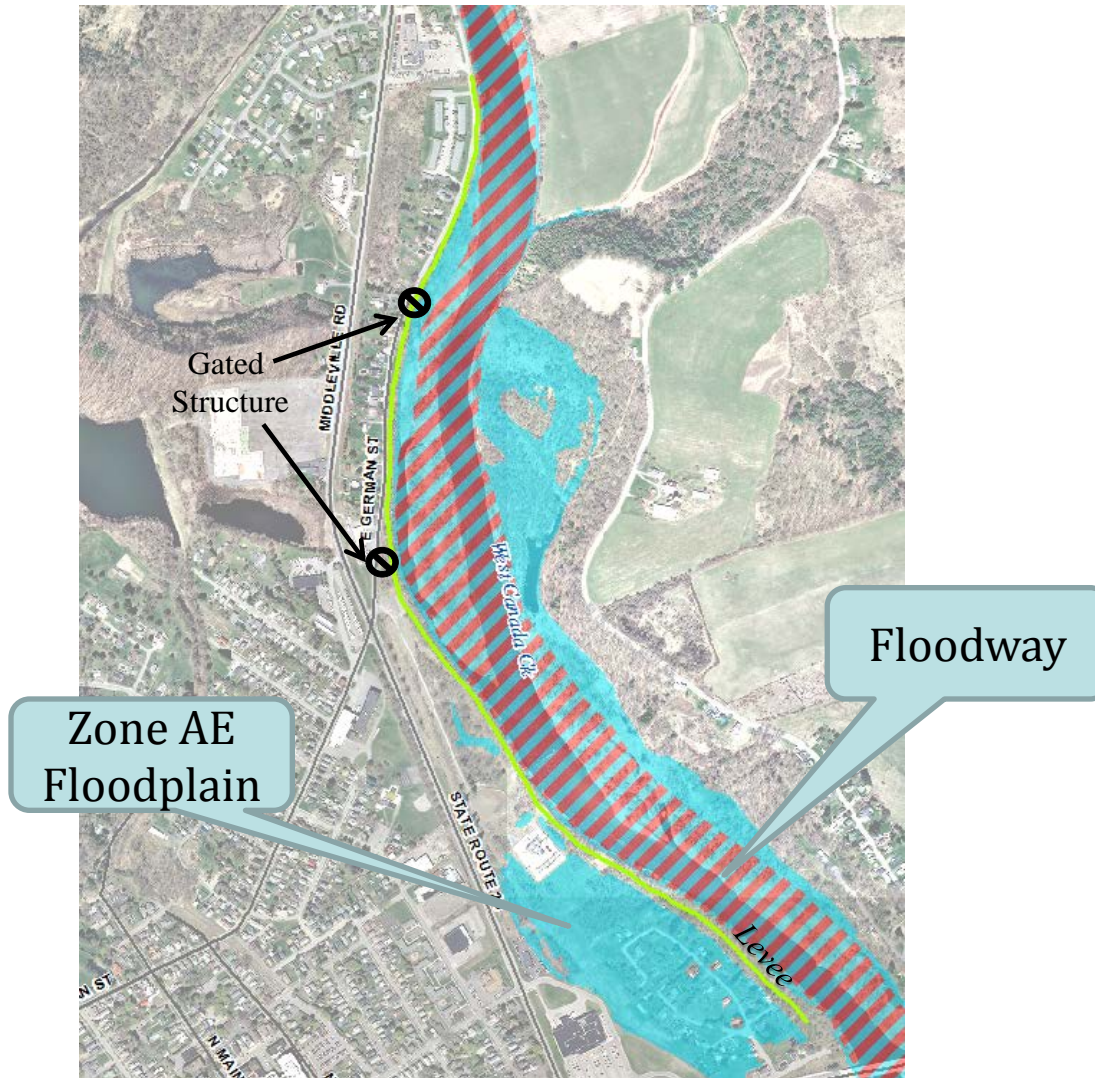
First Pass Analysis Natural Valley Procedure West Canada Creek – Herkimer Levee



First Pass Analysis Structural Based Inundation West Canada Creek – Herkimer Levee



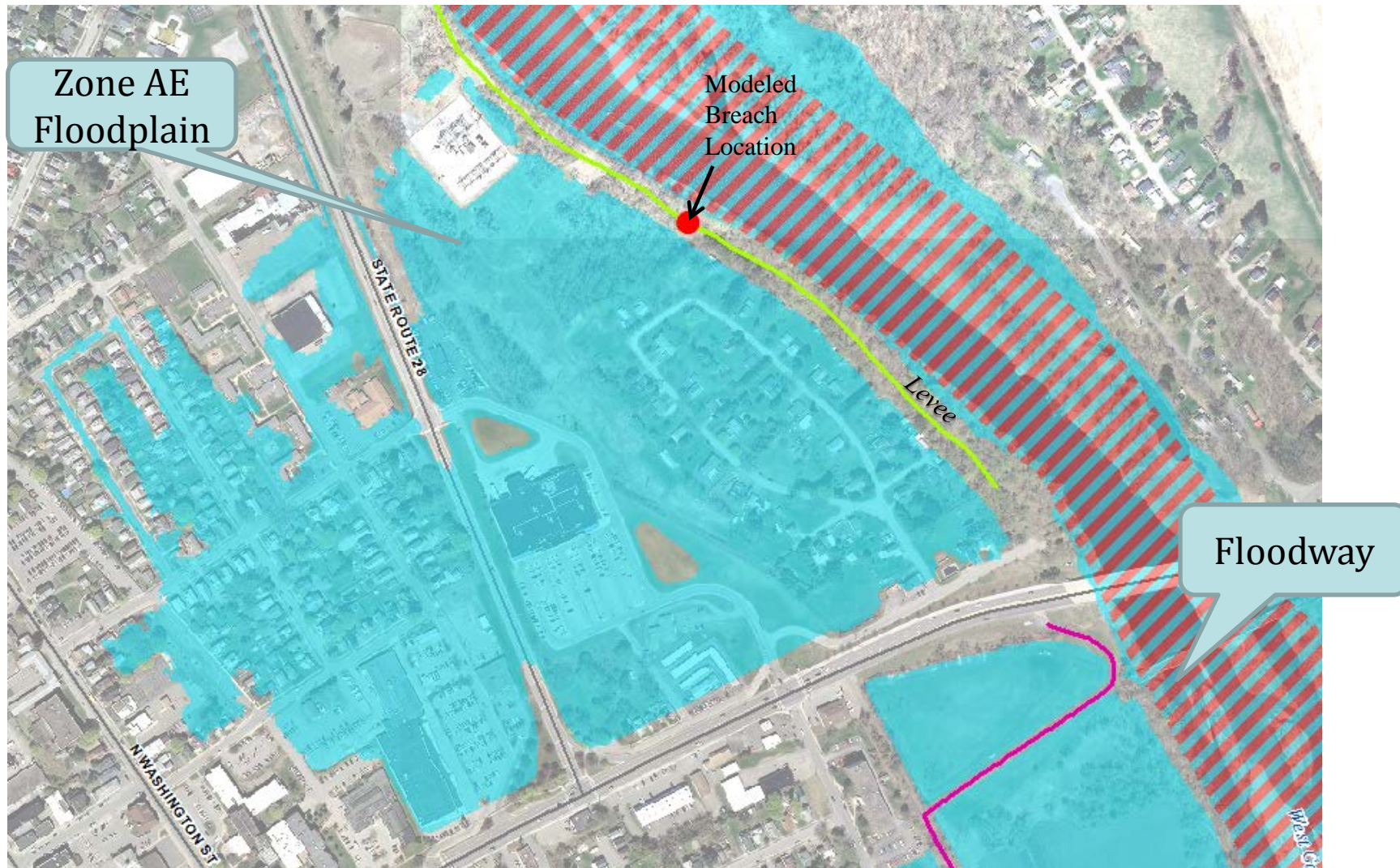
First Pass Analysis Natural Valley Procedure West Canada Creek – Petri Levee



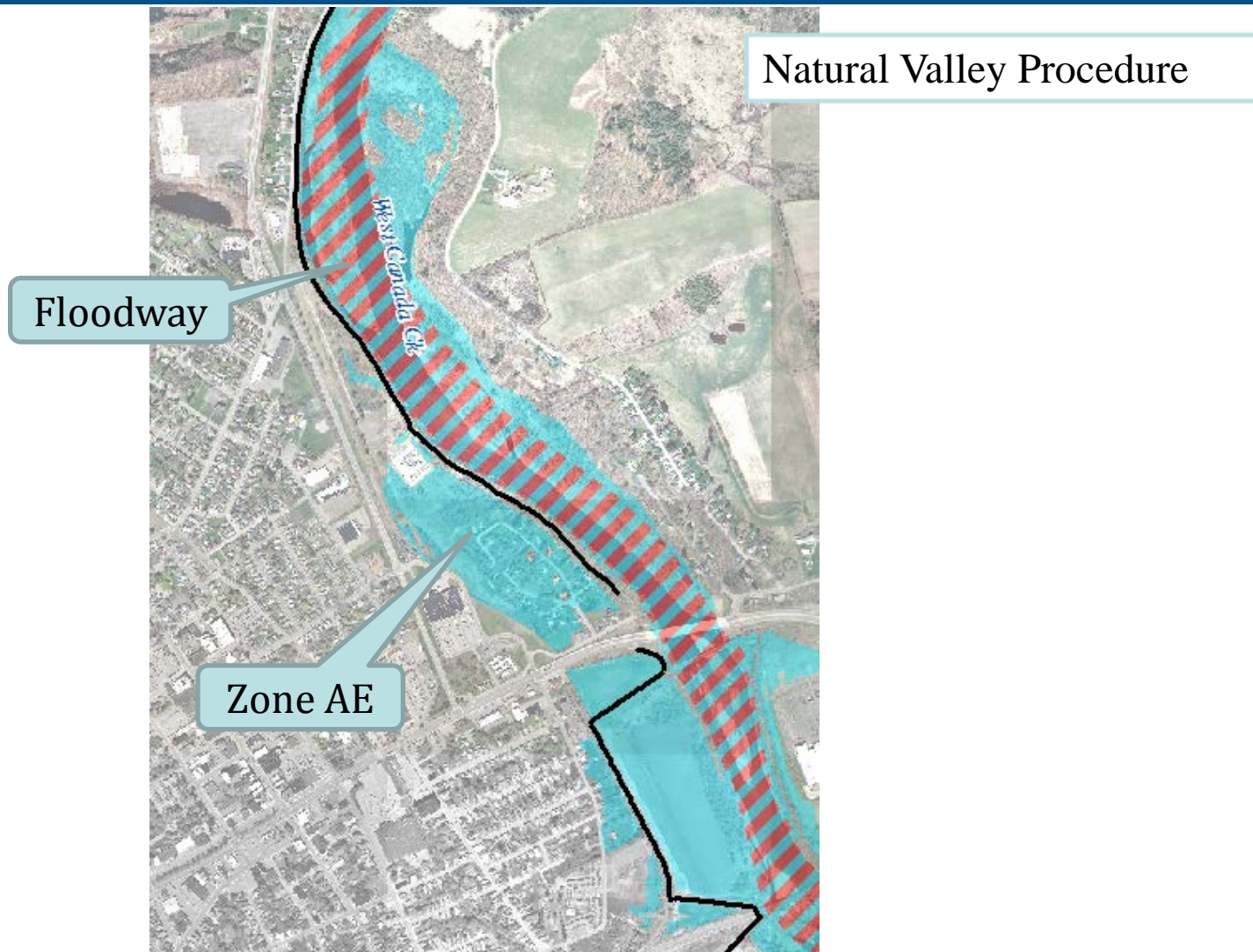
First Pass Analysis

Structural Based Inundation

West Canada Creek – Petri Levee



First Pass Analysis Composite



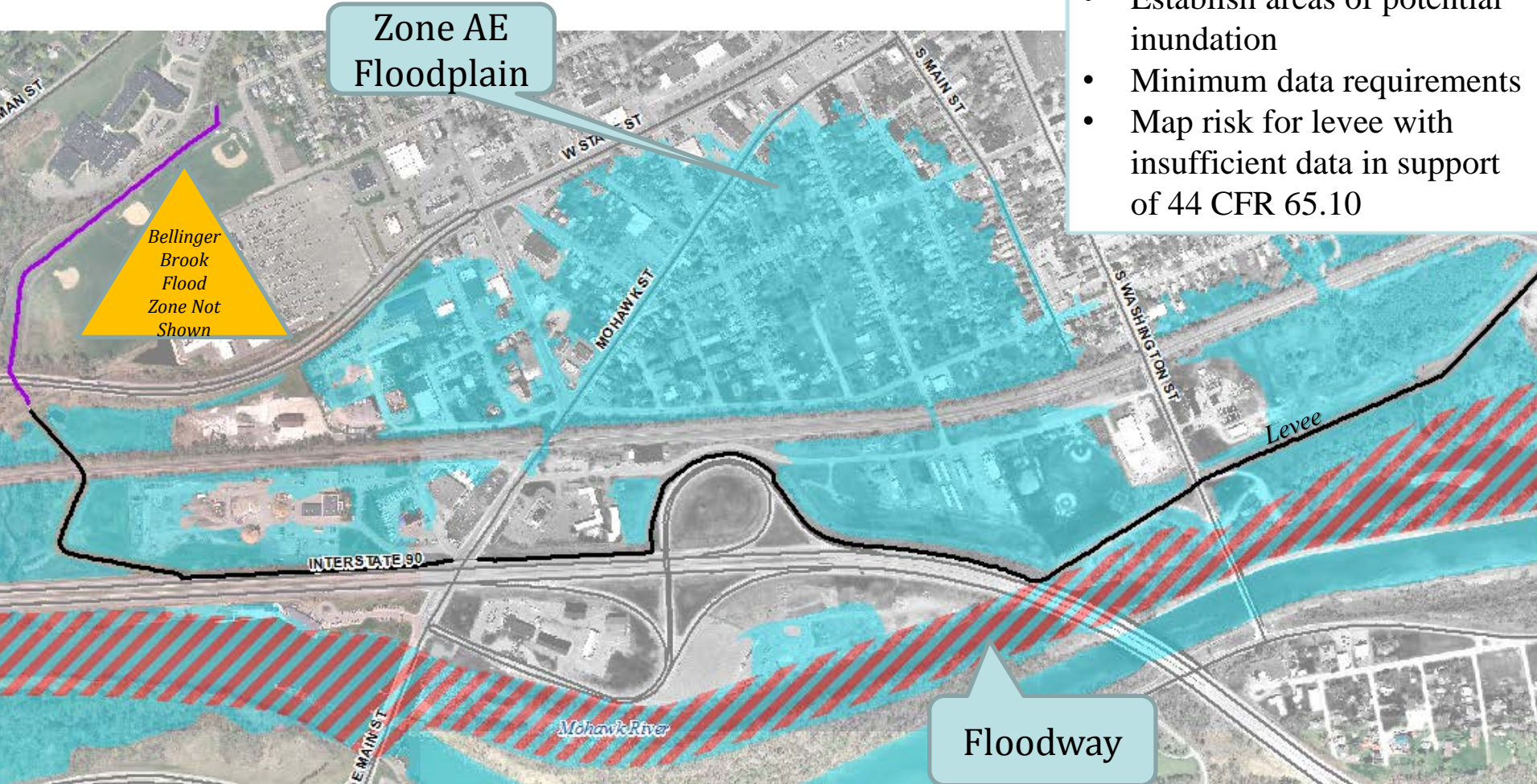
First Pass Analysis

Natural Valley Procedure

Mohawk River – Herkimer Levee

Natural Valley Procedure

- Establish areas of potential inundation
- Minimum data requirements
- Map risk for levee with insufficient data in support of 44 CFR 65.10



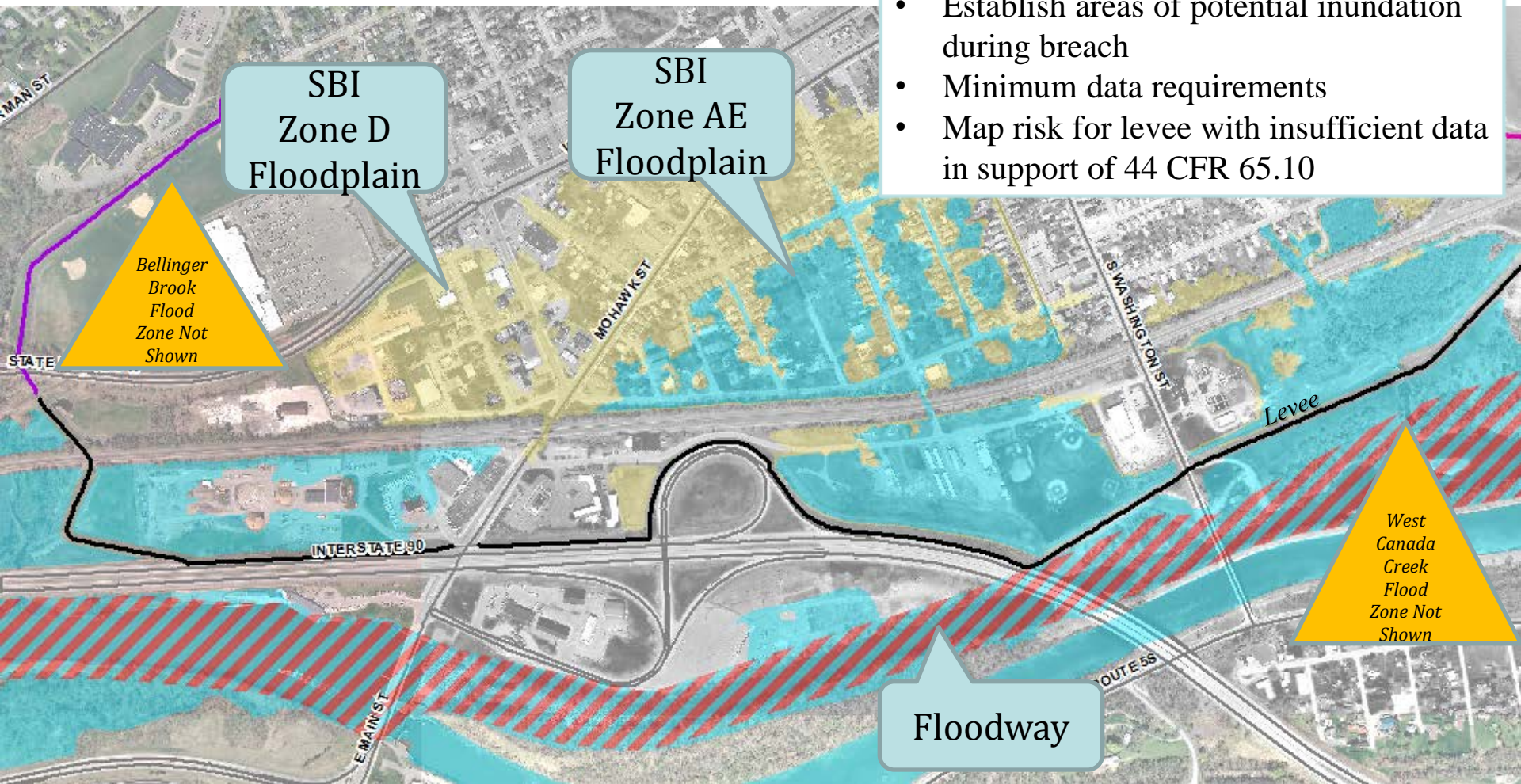
First Pass Analysis

Structural Based Inundation Procedure

Mohawk River – Herkimer Levee

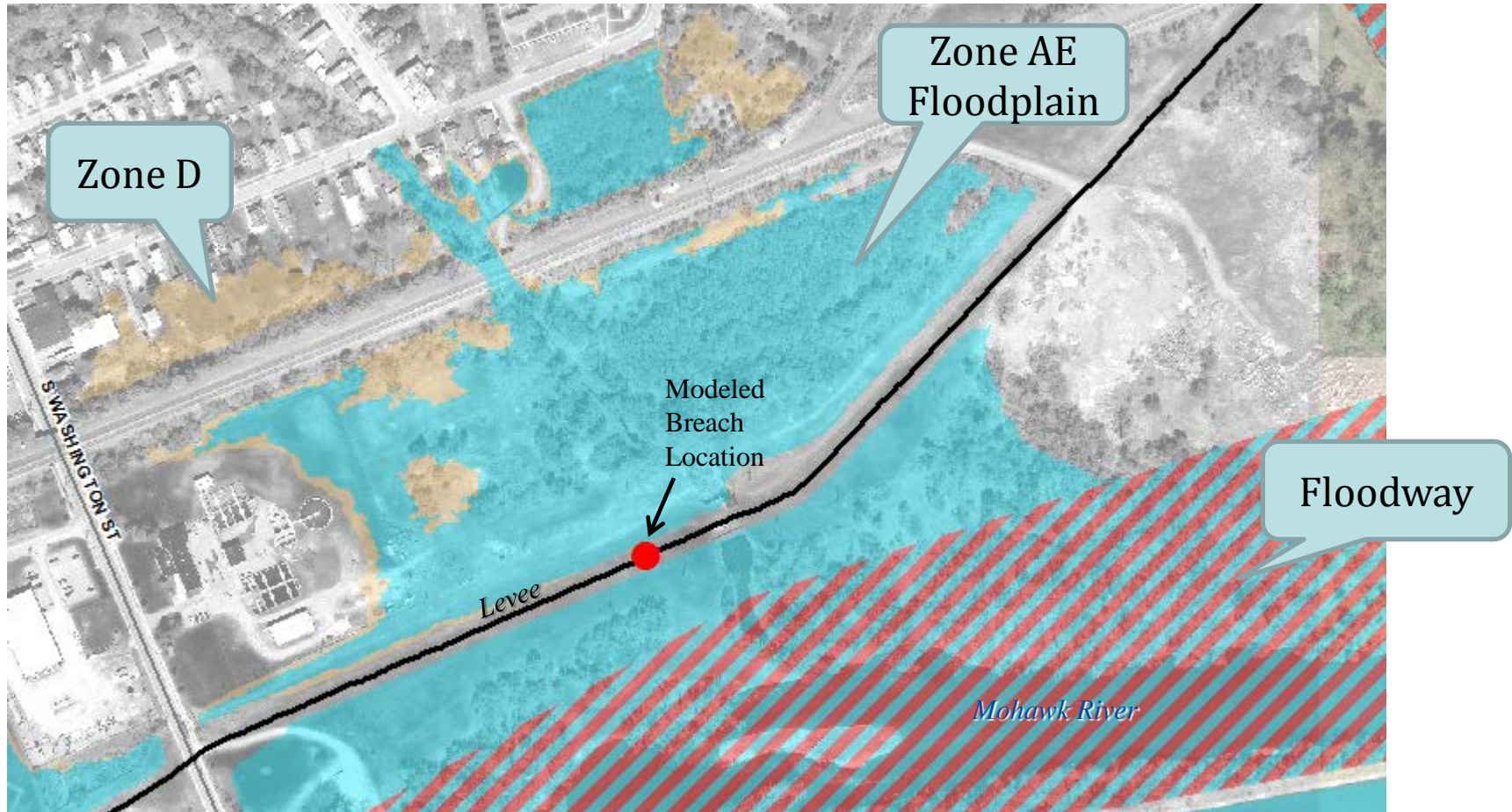
Structural Based Inundation Procedure

- Establish areas of potential inundation during breach
- Minimum data requirements
- Map risk for levee with insufficient data in support of 44 CFR 65.10



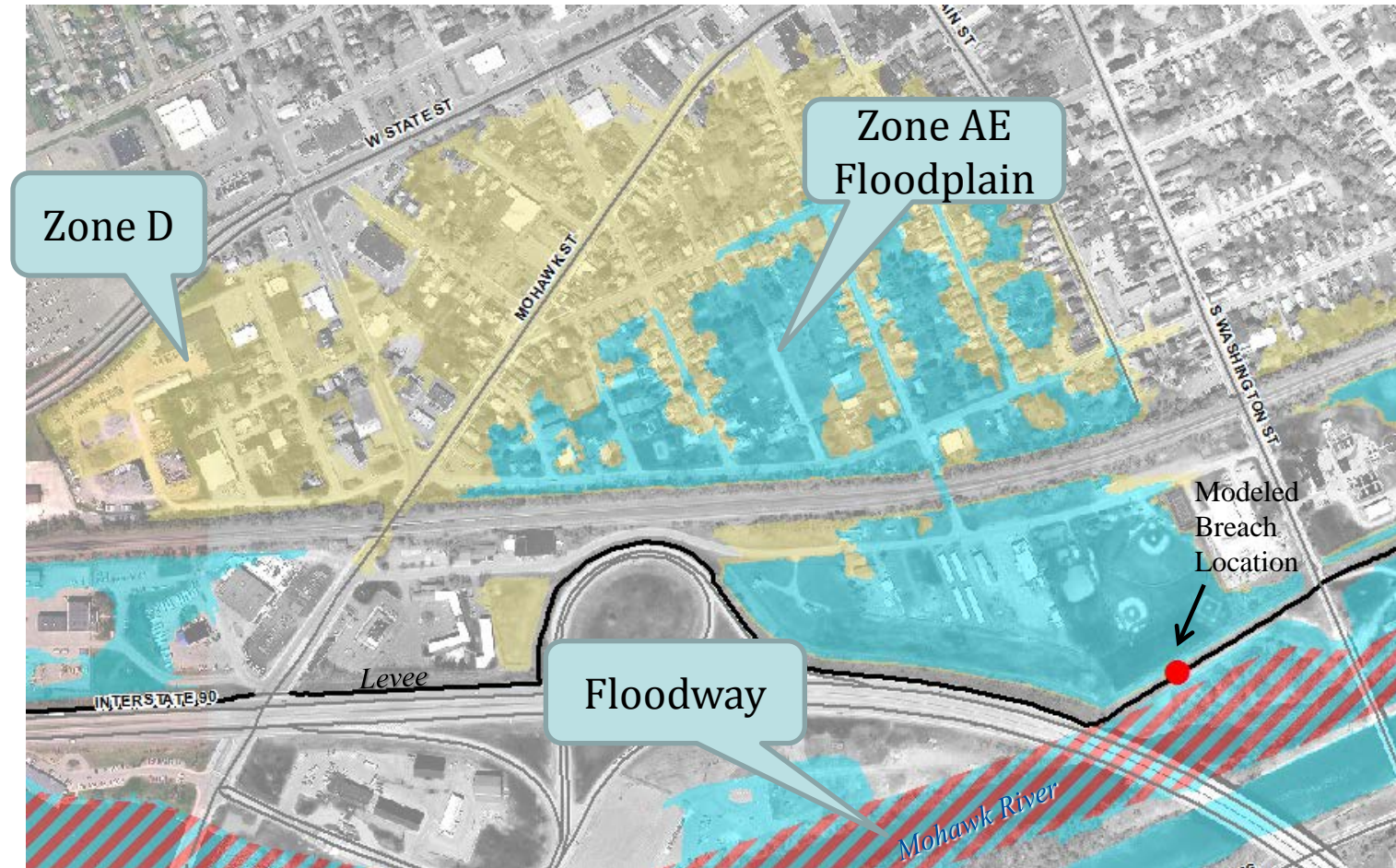
First Pass Analysis Structural Based Inundation Mohawk River – Herkimer Levee

East of Washington Street



First Pass Analysis Structural Based Inundation Mohawk River – Herkimer Levee

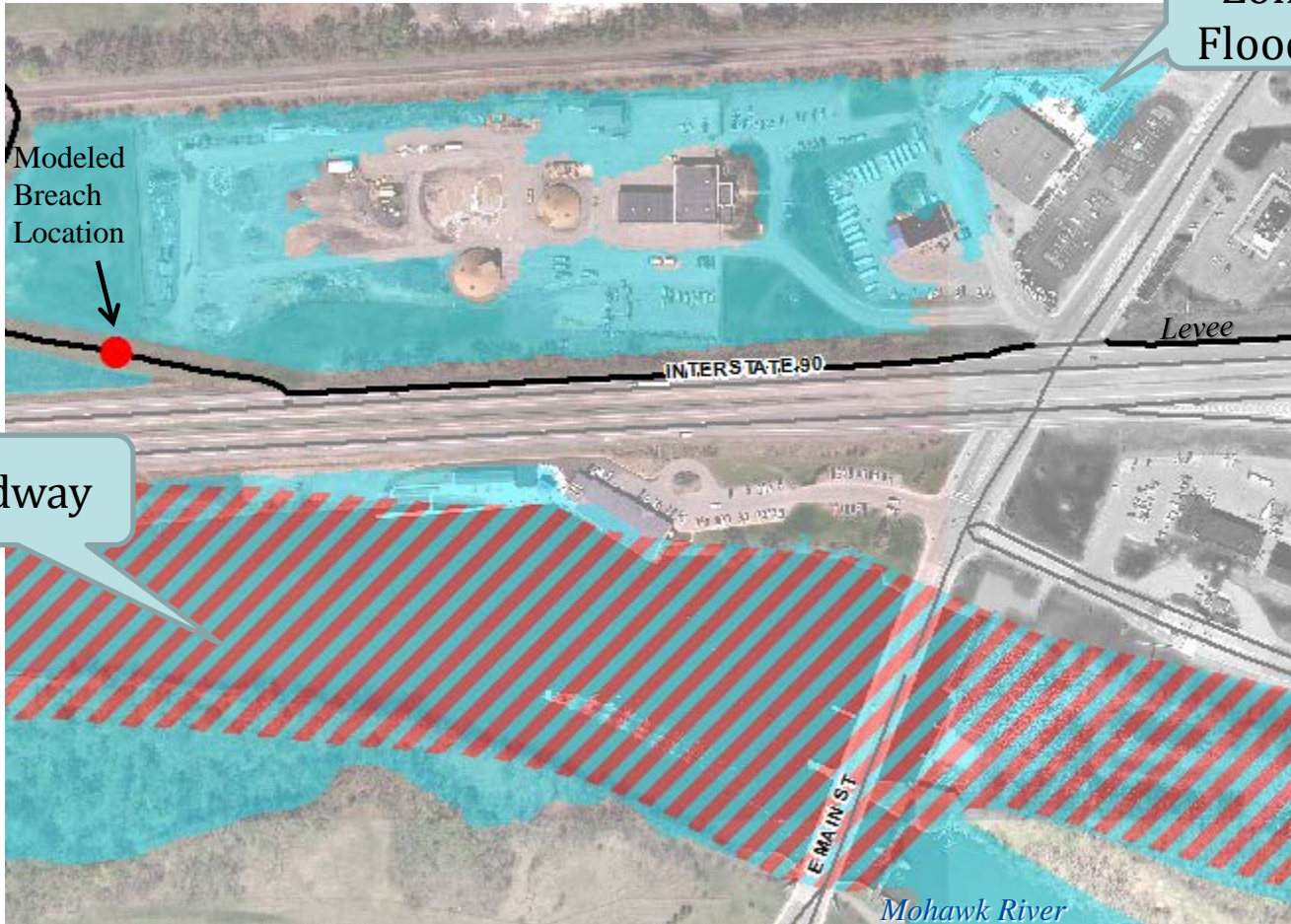
West of Washington Street



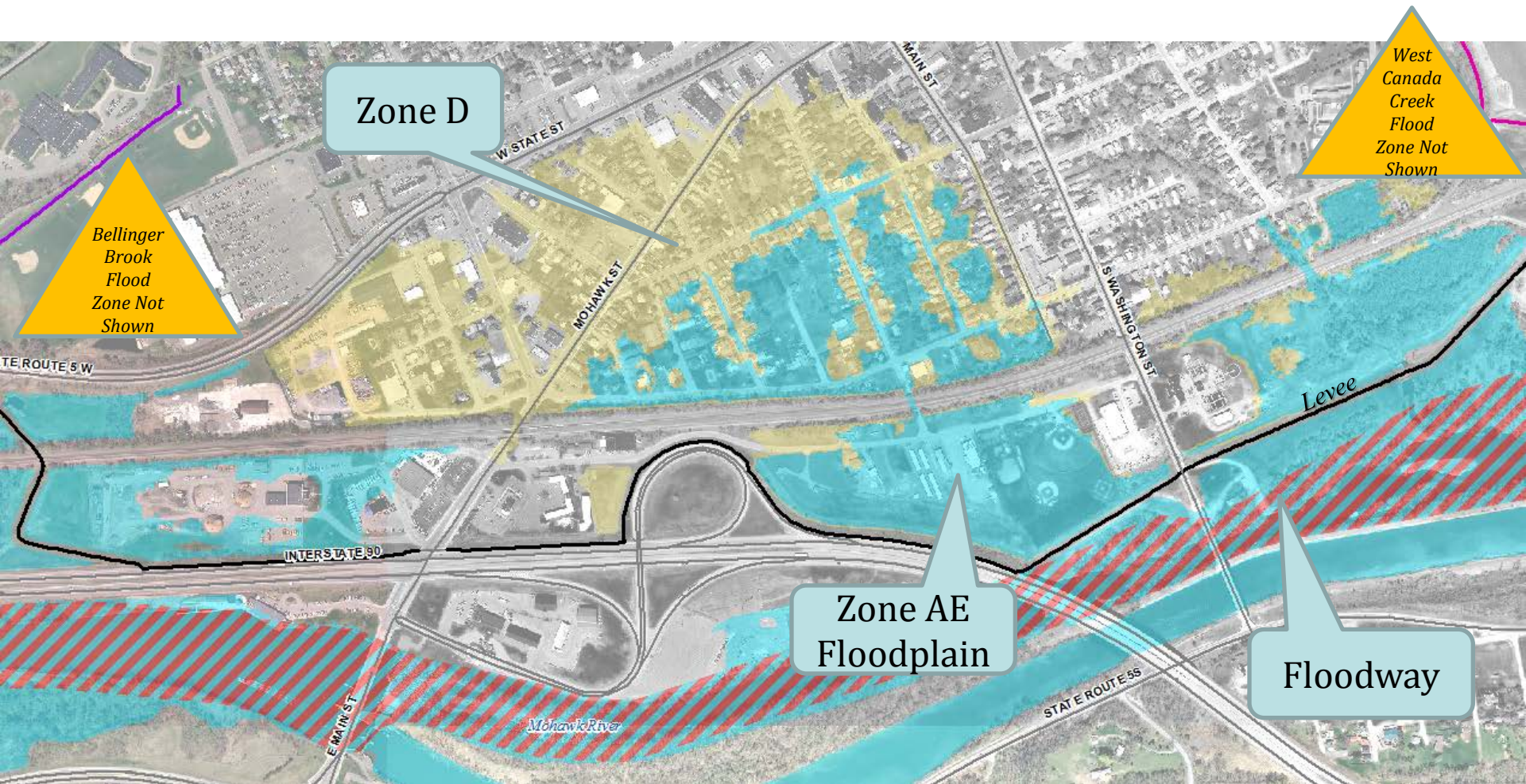
First Pass Analysis Structural Based Inundation Mohawk River – Herkimer Levee

West of Main Street

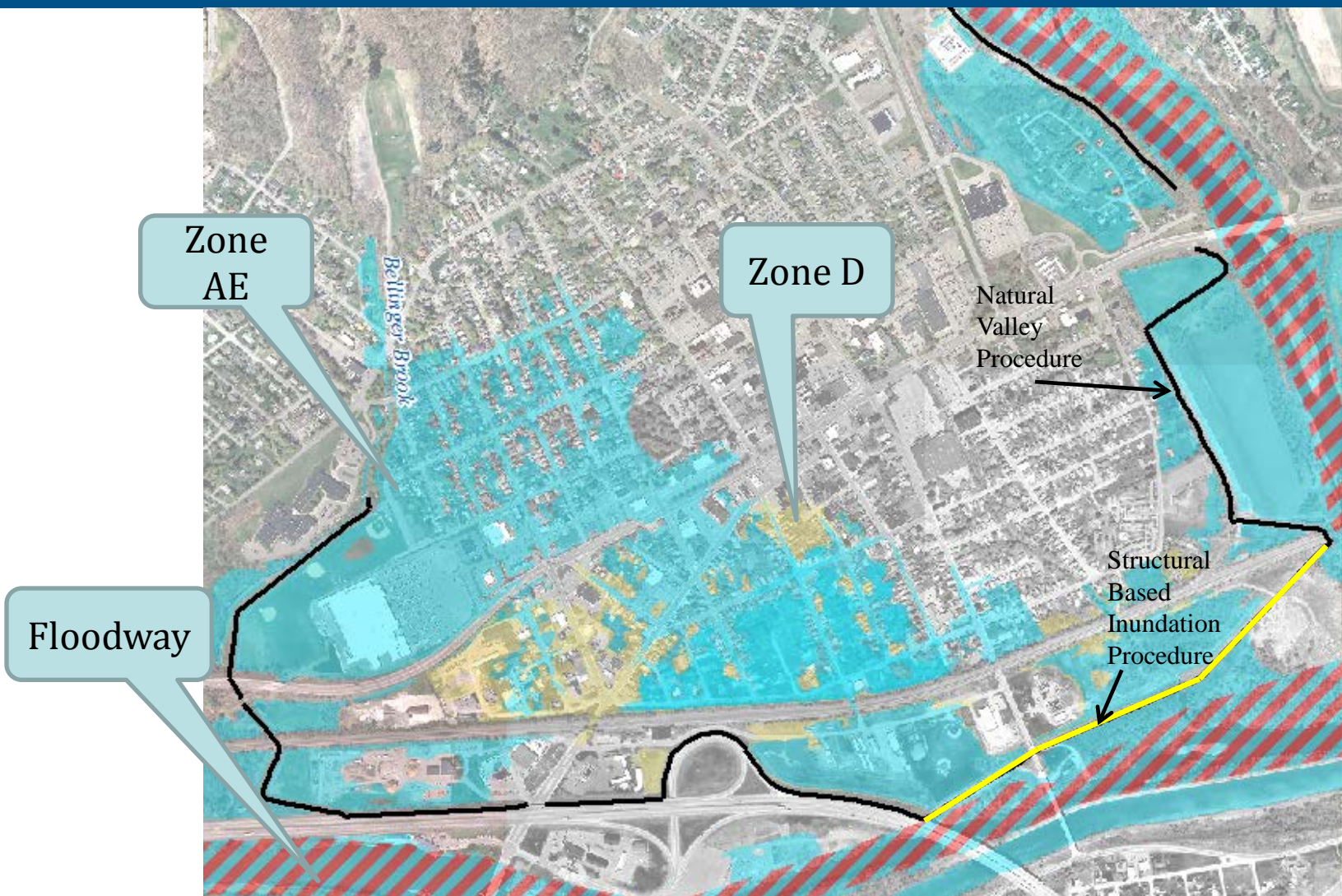
Zone AE
Floodplain



First Pass Analysis Composite Mohawk River – Herkimer Levee



Finalize LAMP study methods for Phase 2 Analysis





FEMA

Know, plan for, mitigate against and communicate about the risks in your community.