

Bow Concord I-93 Improvements

City of Concord Transportation Policy Advisory Committee

December 15, 2016

Agenda

- Project History / Project Development Process
- Traffic Modeling
- Alternatives Development
 - I-93 Corridor
 - I-89/I-93
 - Exit 12
 - Exit 13
 - Exit 14/15
- Next Steps
- Questions and Answers

Project History/ Project Development Process

Part A – Planning (2002 - 2008)

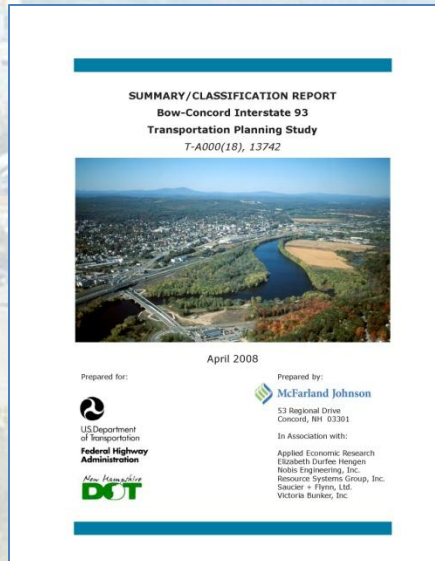
- Problem & Goal Statements
- Range of Reasonable Alternatives
- Determine Level of Environmental Document
- Prepare Summary/Classification Report

Red List Bridges (2008 - 2016)

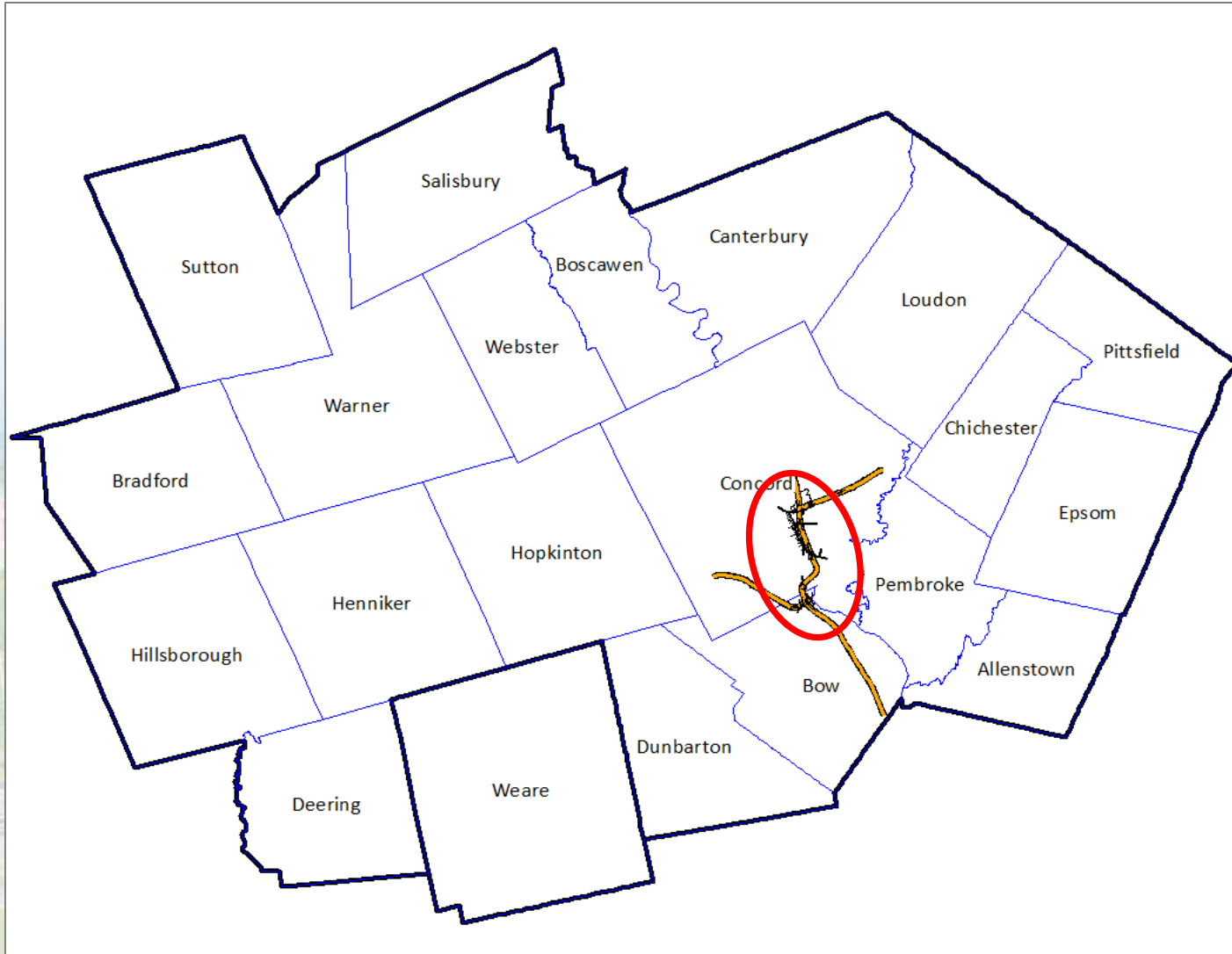
- Exit 14 Rehabilitation
- I-93 over I-89 Replacement
- Exit 12 Replacement

Part B – Scoping (2013 - 2017)

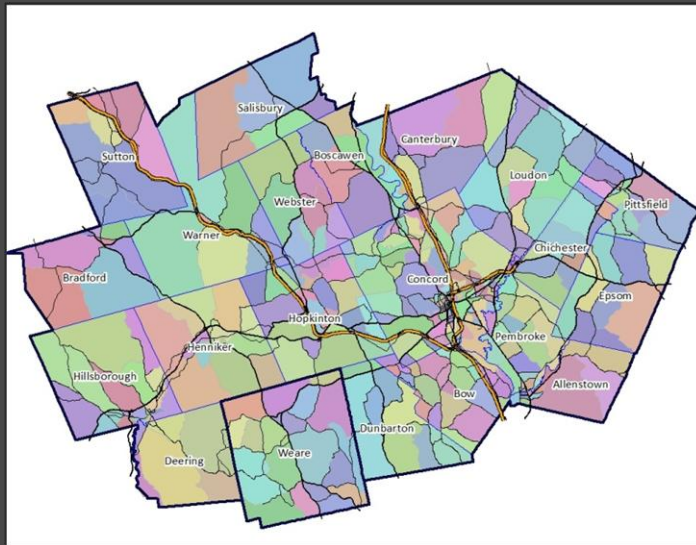
- Select Preferred Alternative
- Environmental Documentation (EA)
- Public Hearing



Traffic Modeling



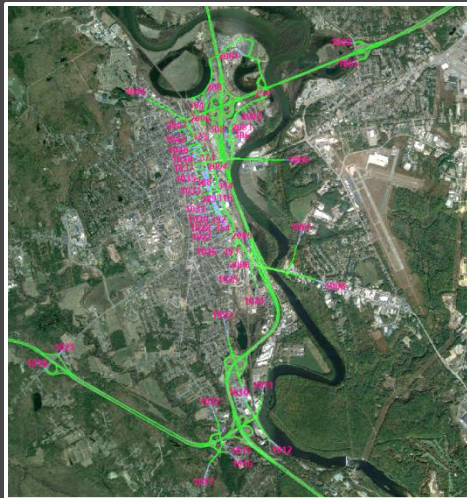
Traffic Modeling



Regional Model

- Inputs
- Process Overview
- Future Year Projections
- TransCAD (Caliper)

Traffic Modeling



Microsimulation Model

- Inputs
- Process Overview
- Future Year Projections
- Alternatives Testing
- TransModeler (Caliper)

Microsimulation Model – Details

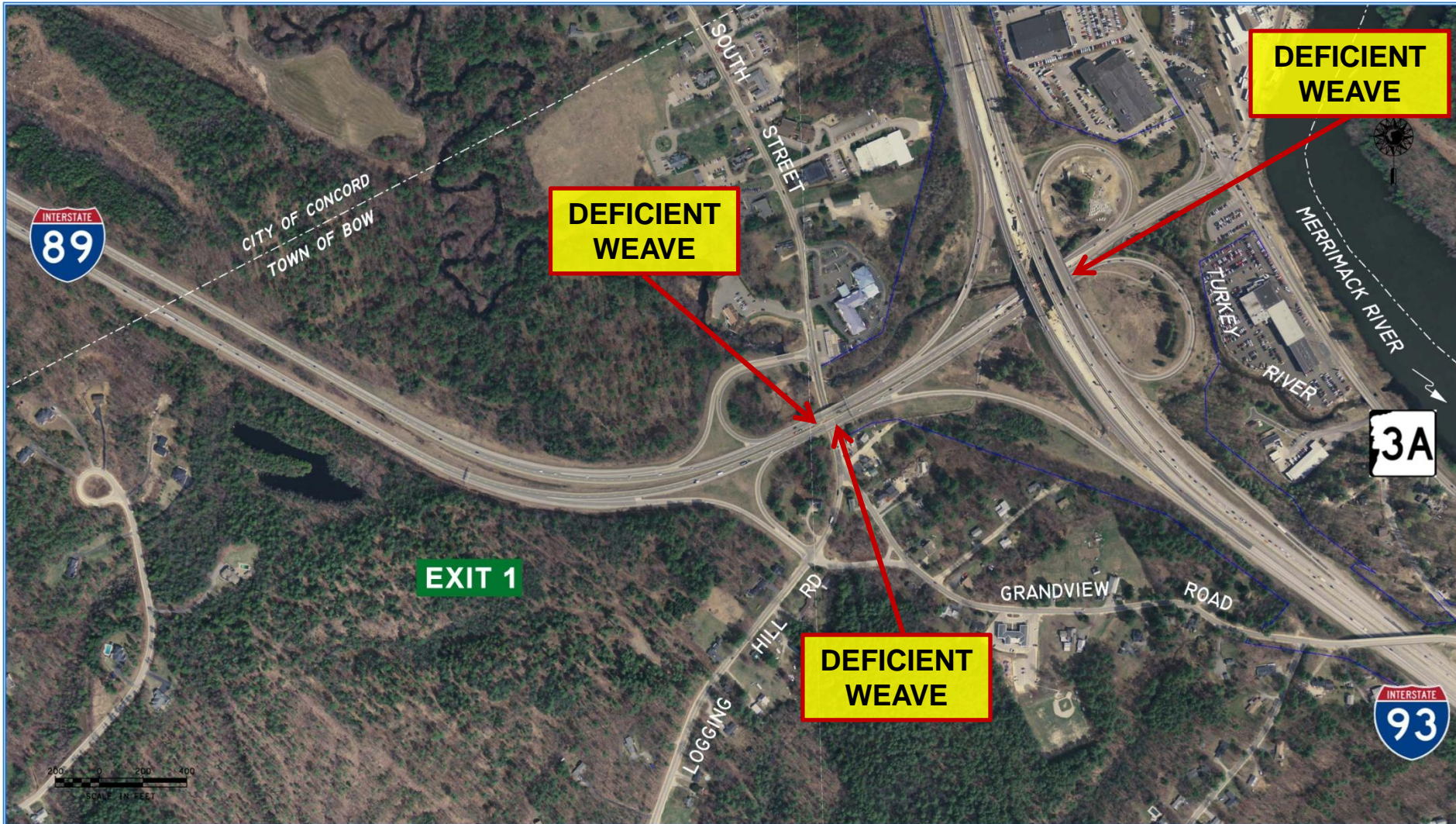
- Traffic Analysis Zones
 - TAZs built from census blocks
 - Overlap with regional model zones
 - Includes some additional detail
 - Traffic generated by OD matrix – informed by land use.
- Road Network
 - Links
 - Direction of Travel
 - Speed
 - Class
 - Lane Geometries
 - Storage lengths
 - Merge areas
 - Intersections
 - Control Types
 - Signal Timings
 - TOD Plans
 - Coordination

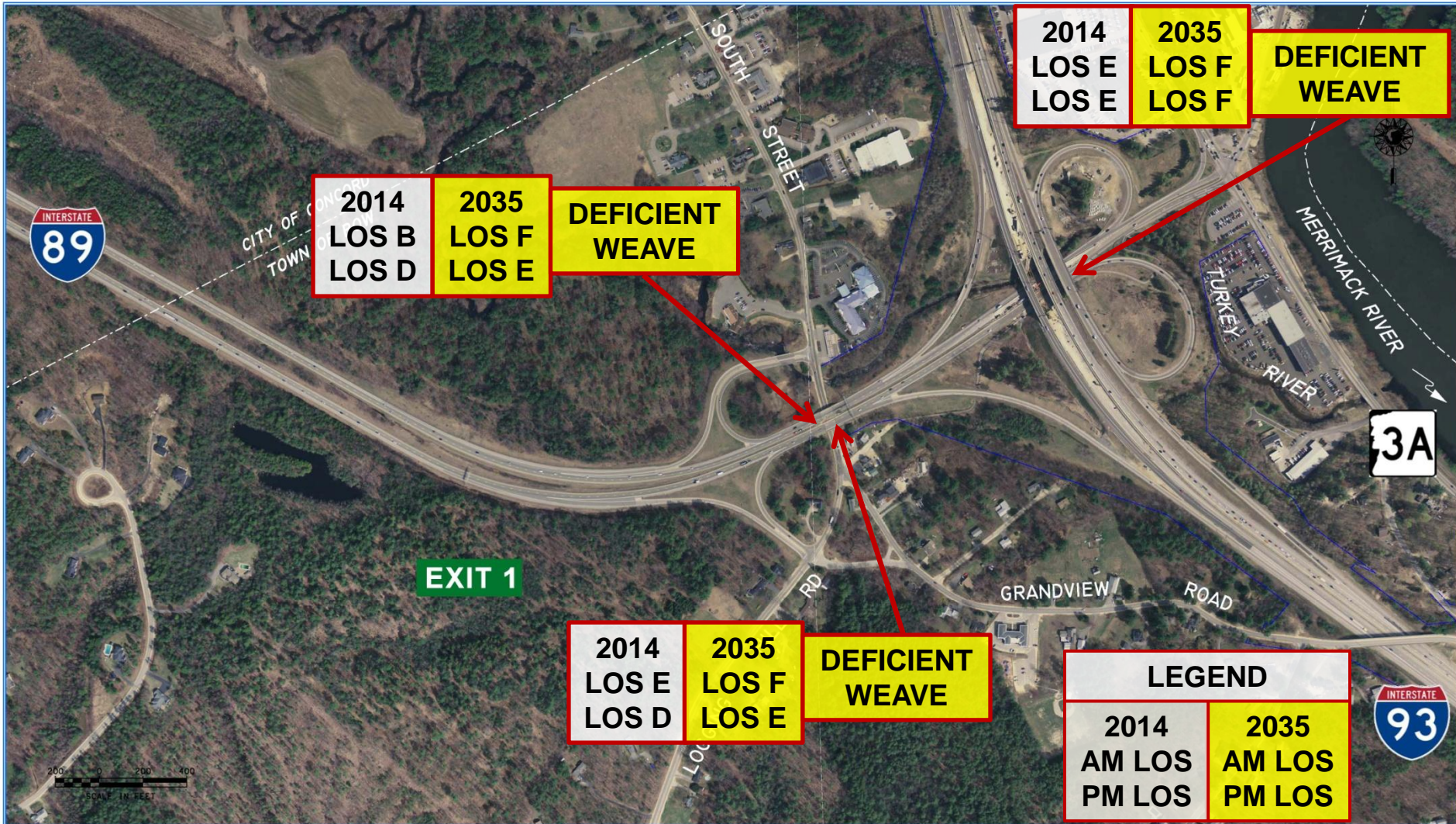


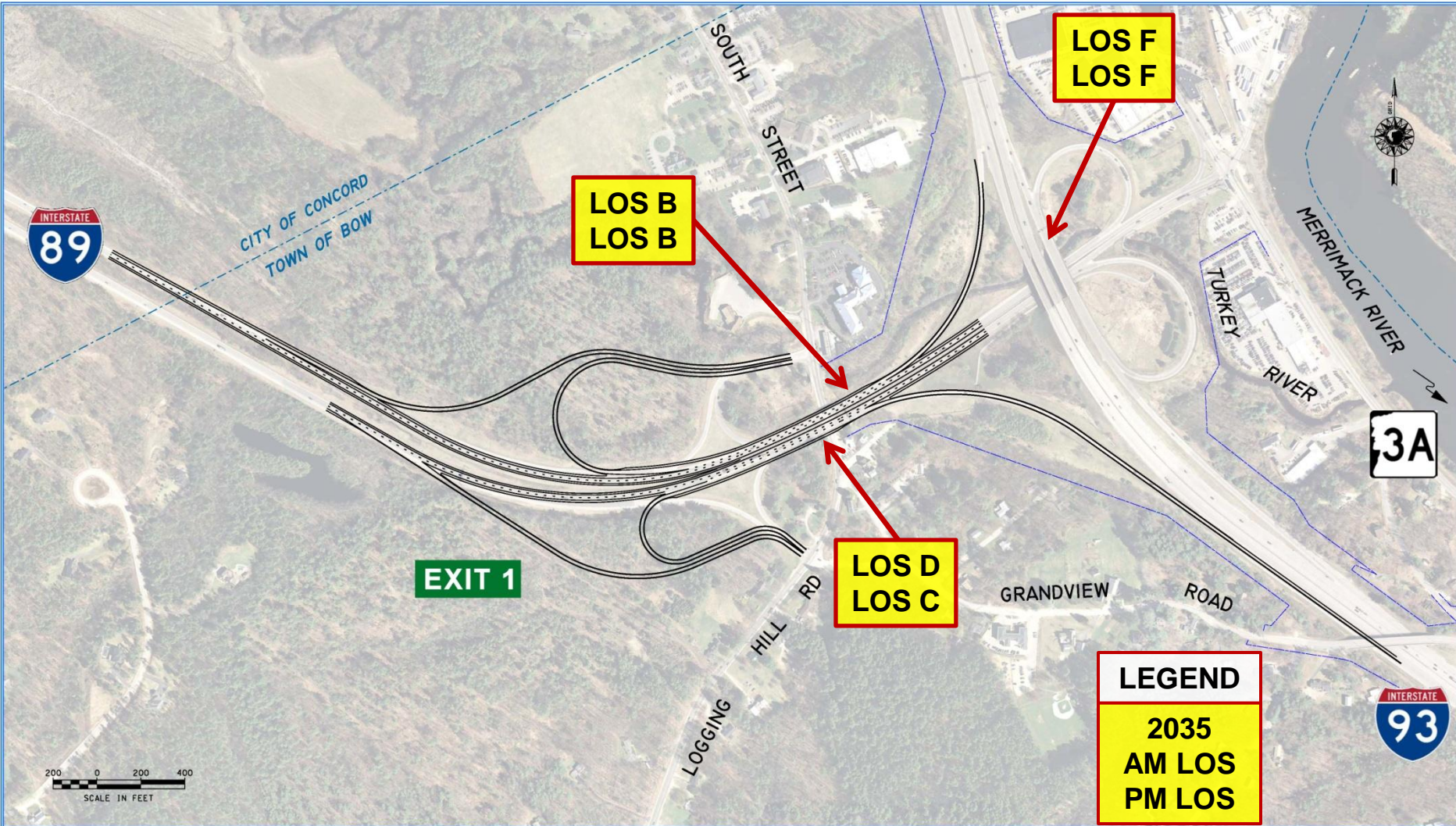
Alternatives Development

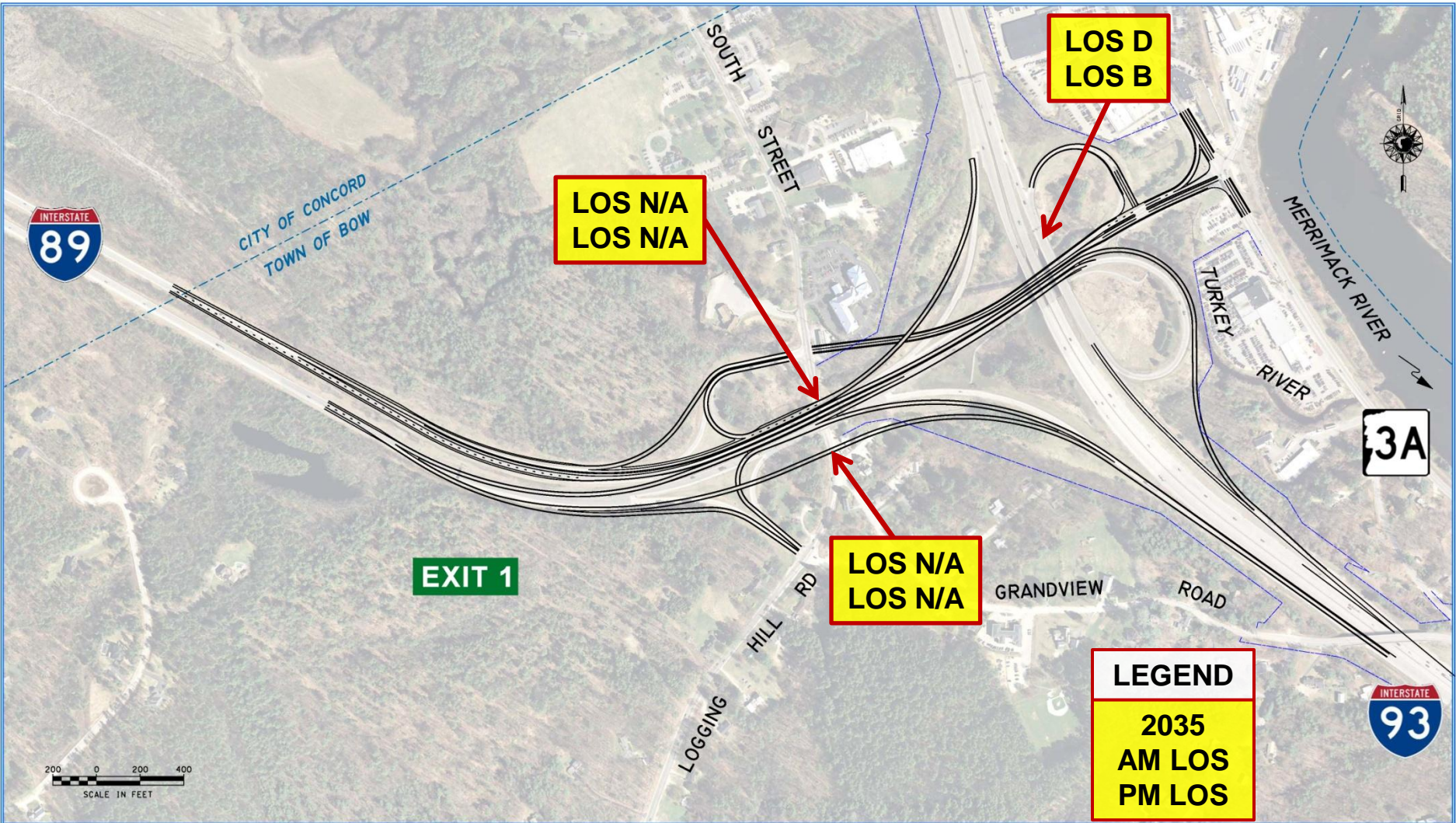


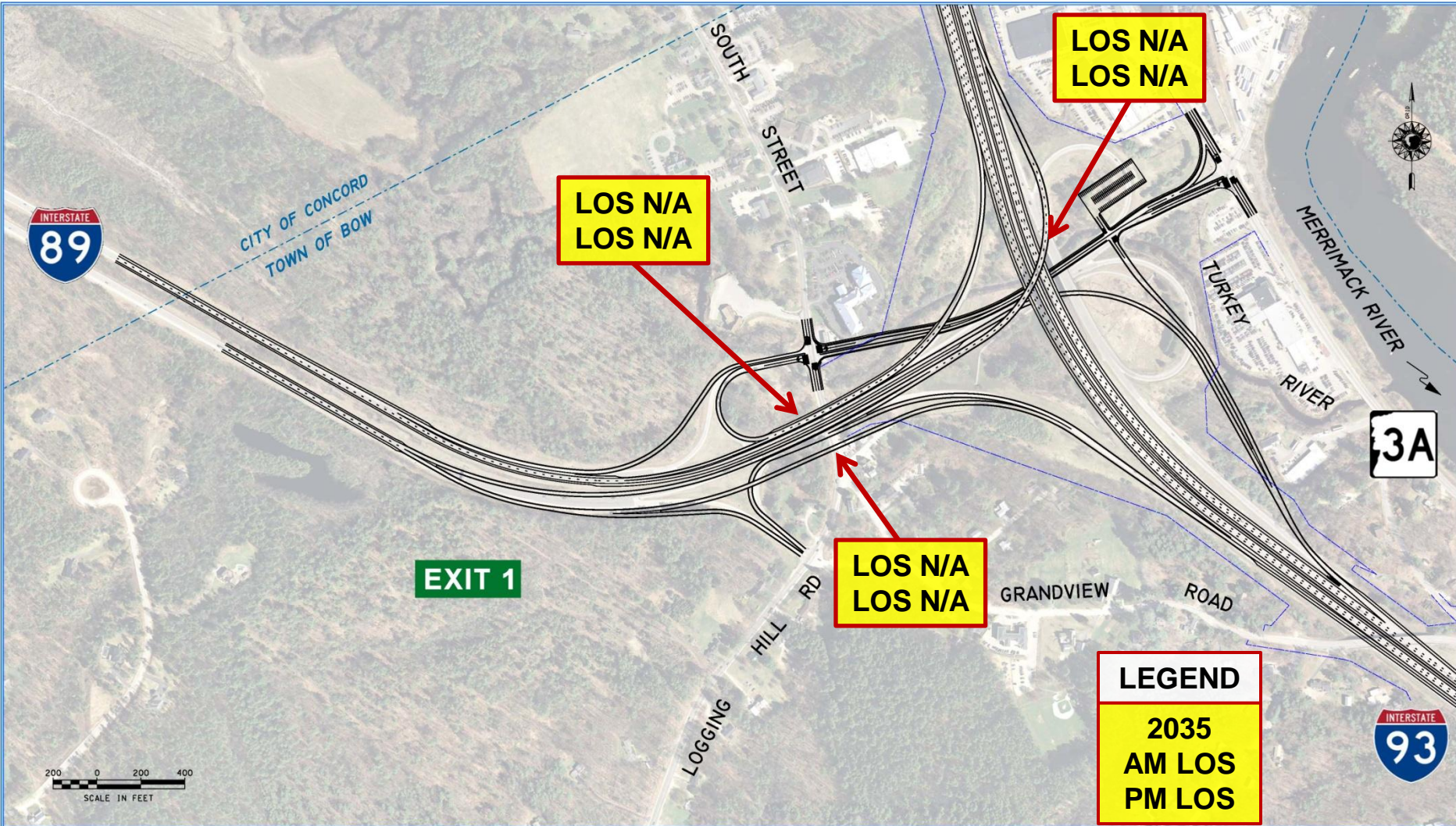




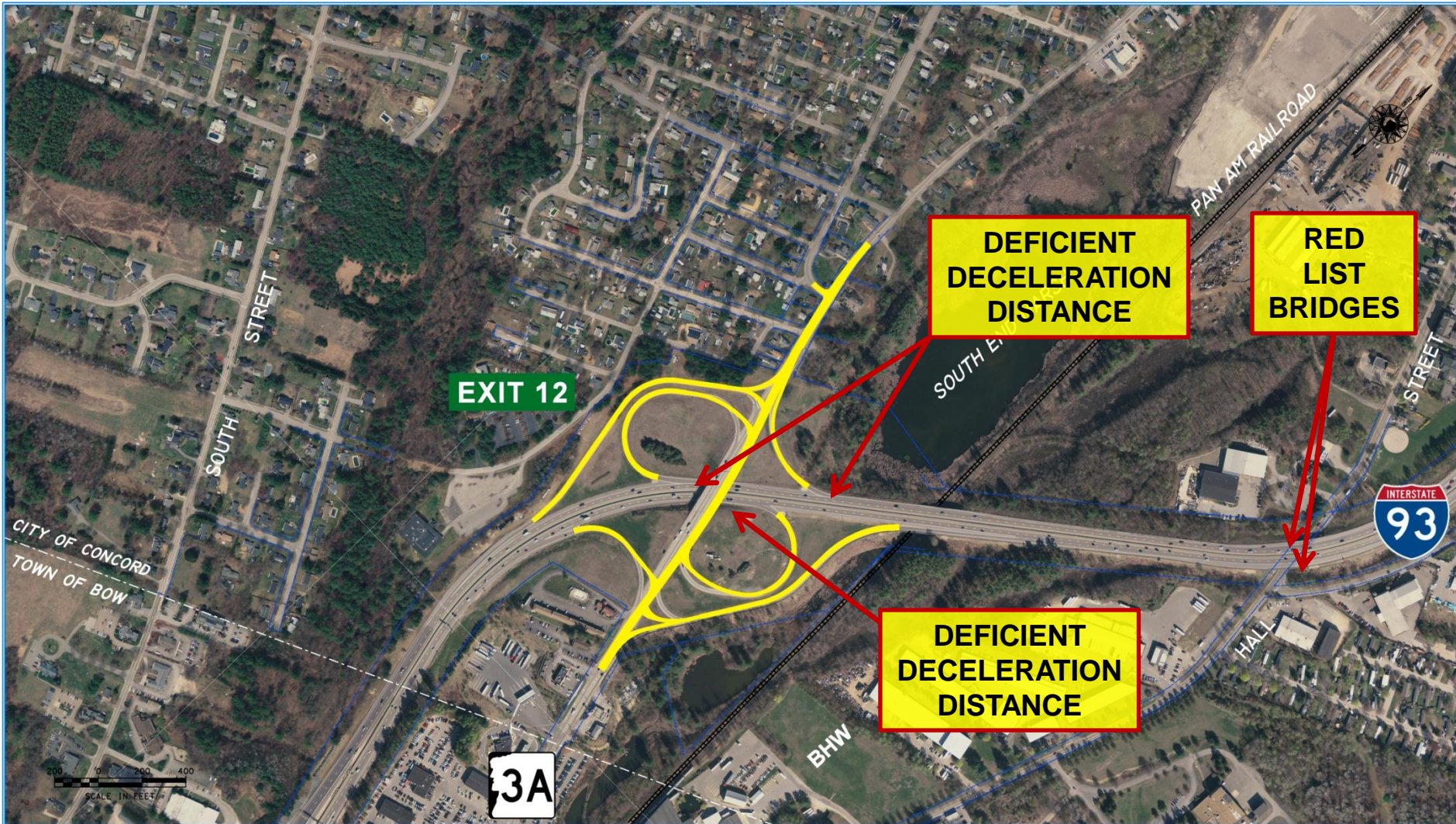


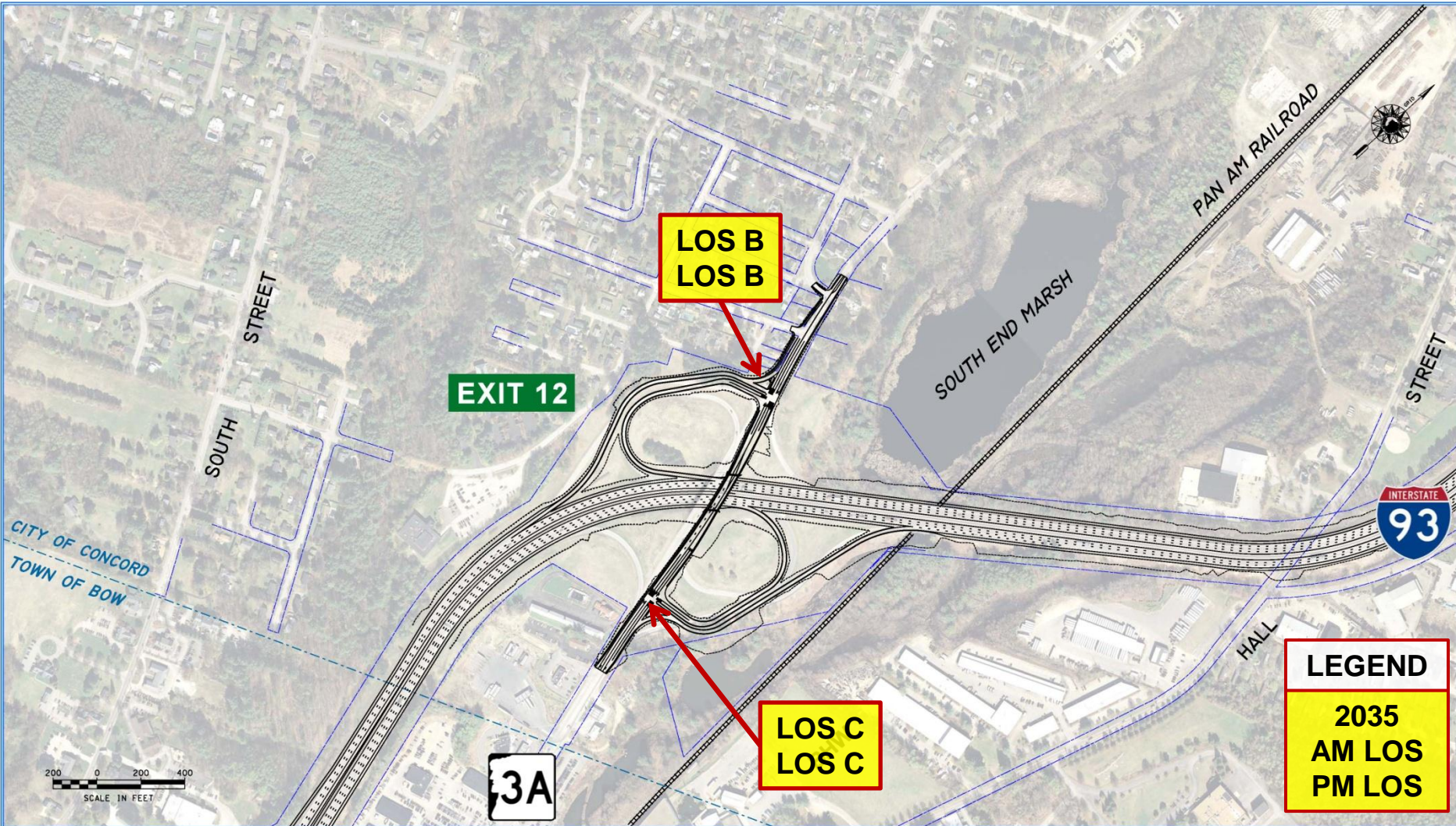


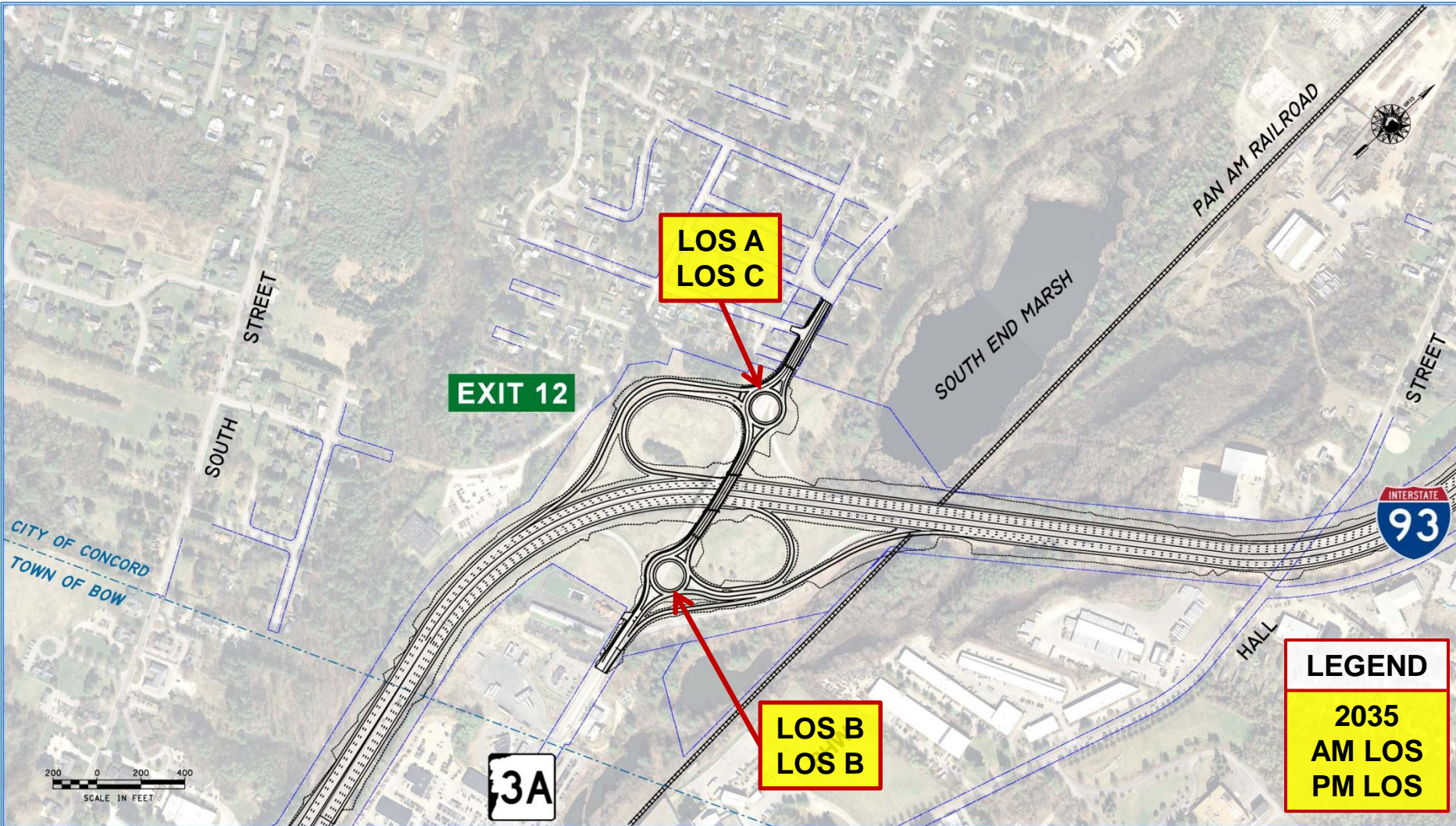












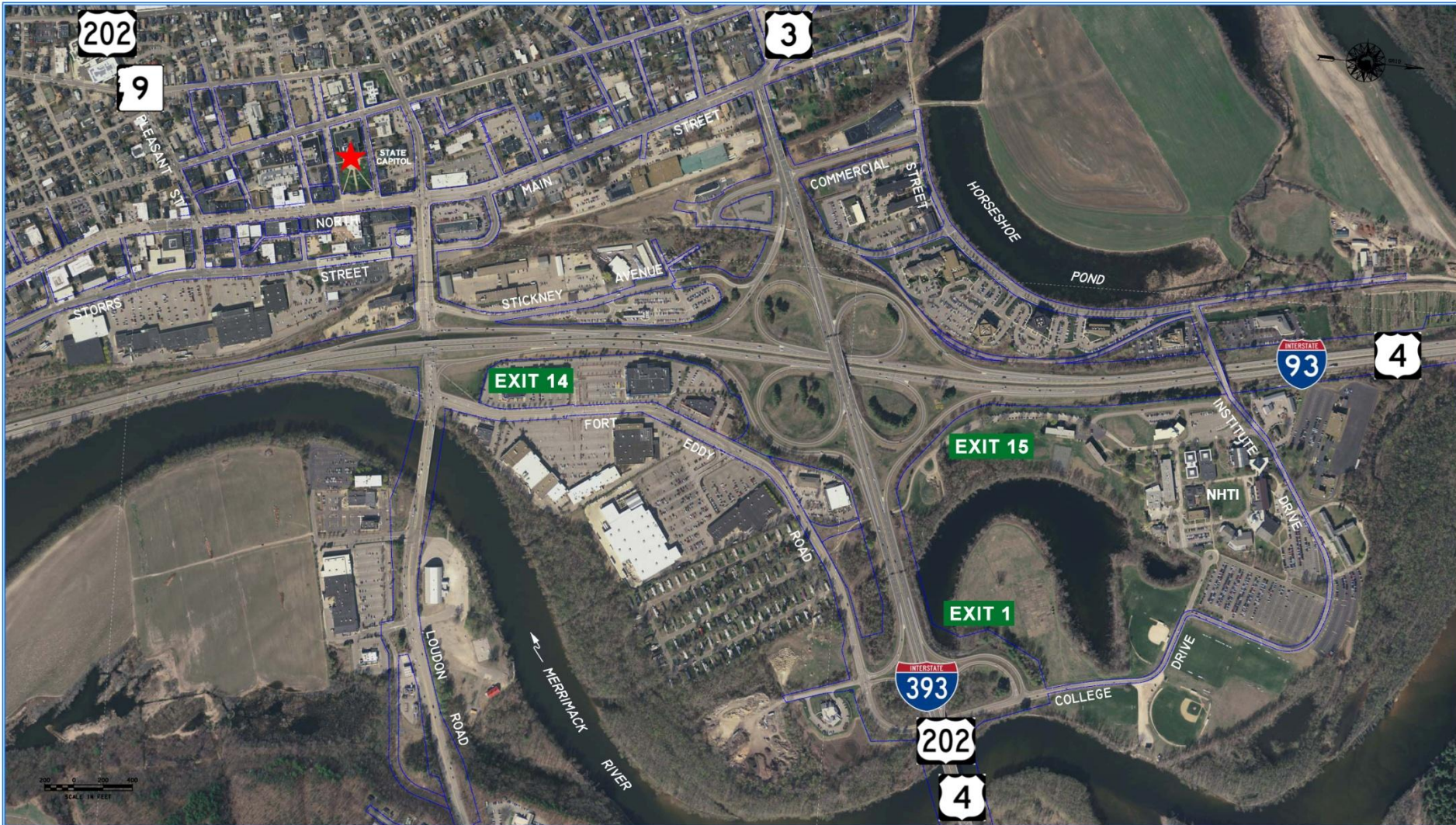




BOW-CONCORD I-93 CORRIDOR PROJECT

**EXIT 13 AREA
CONCEPT A**



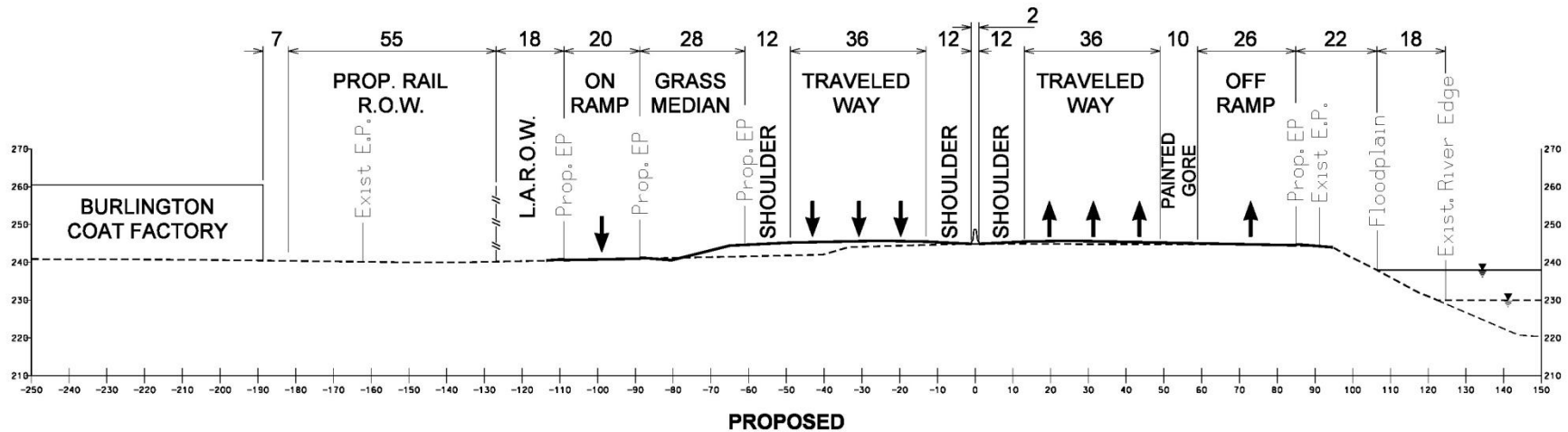
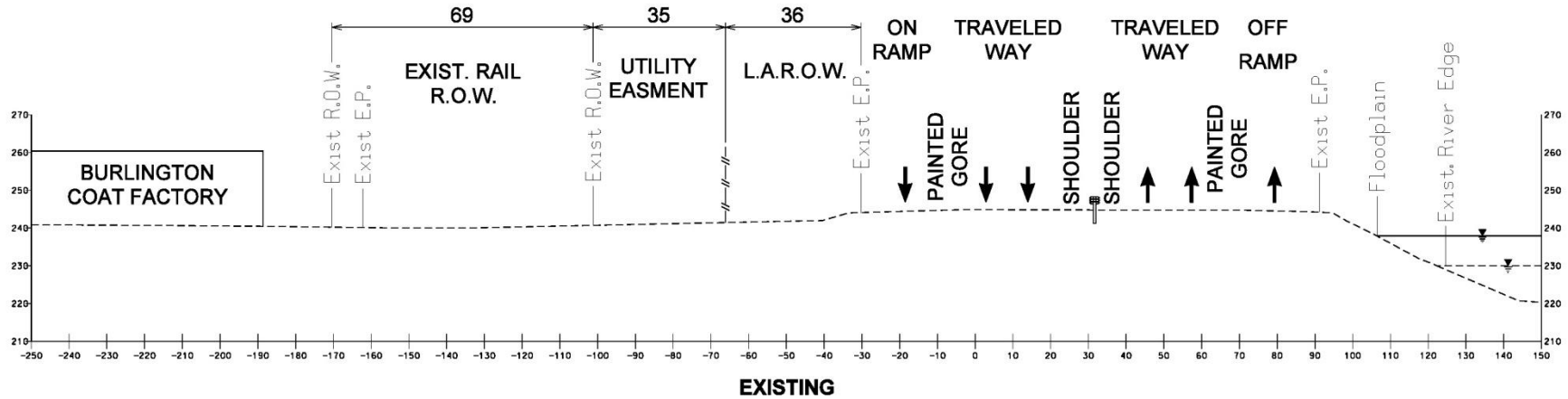




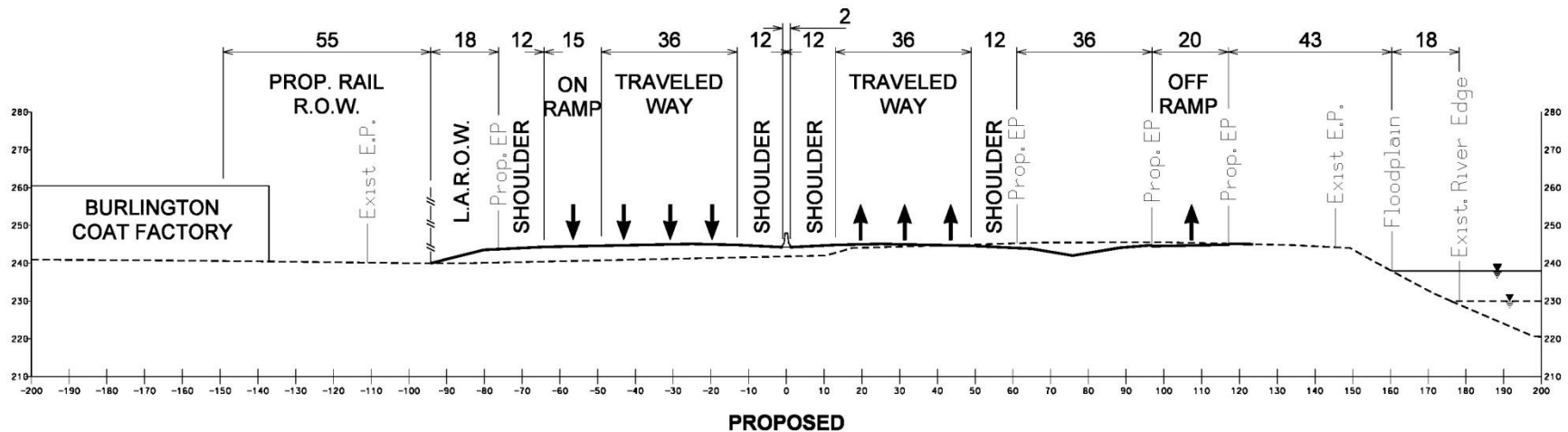
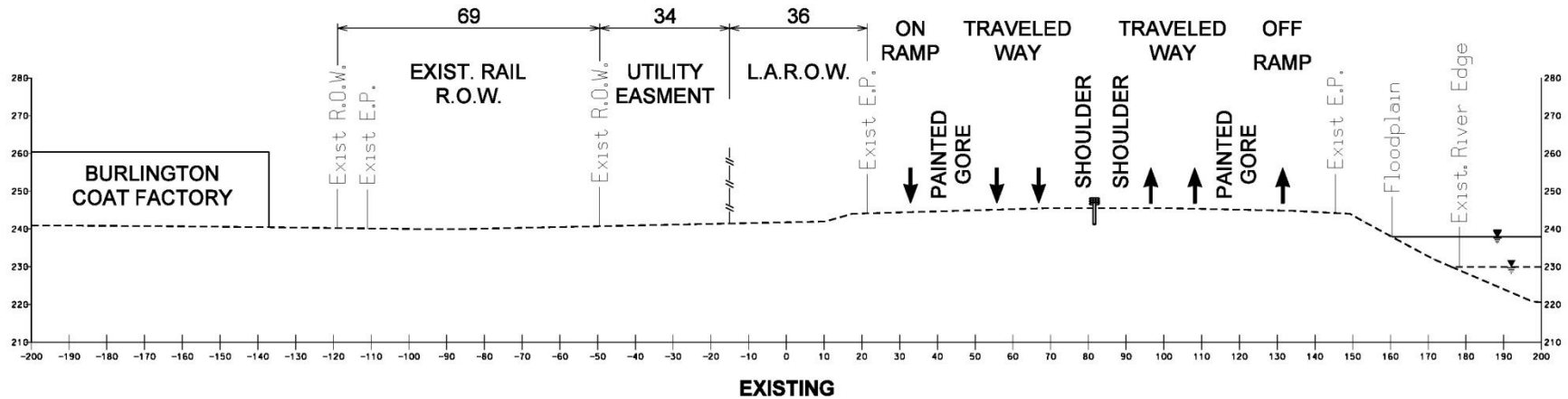
Pinch Point

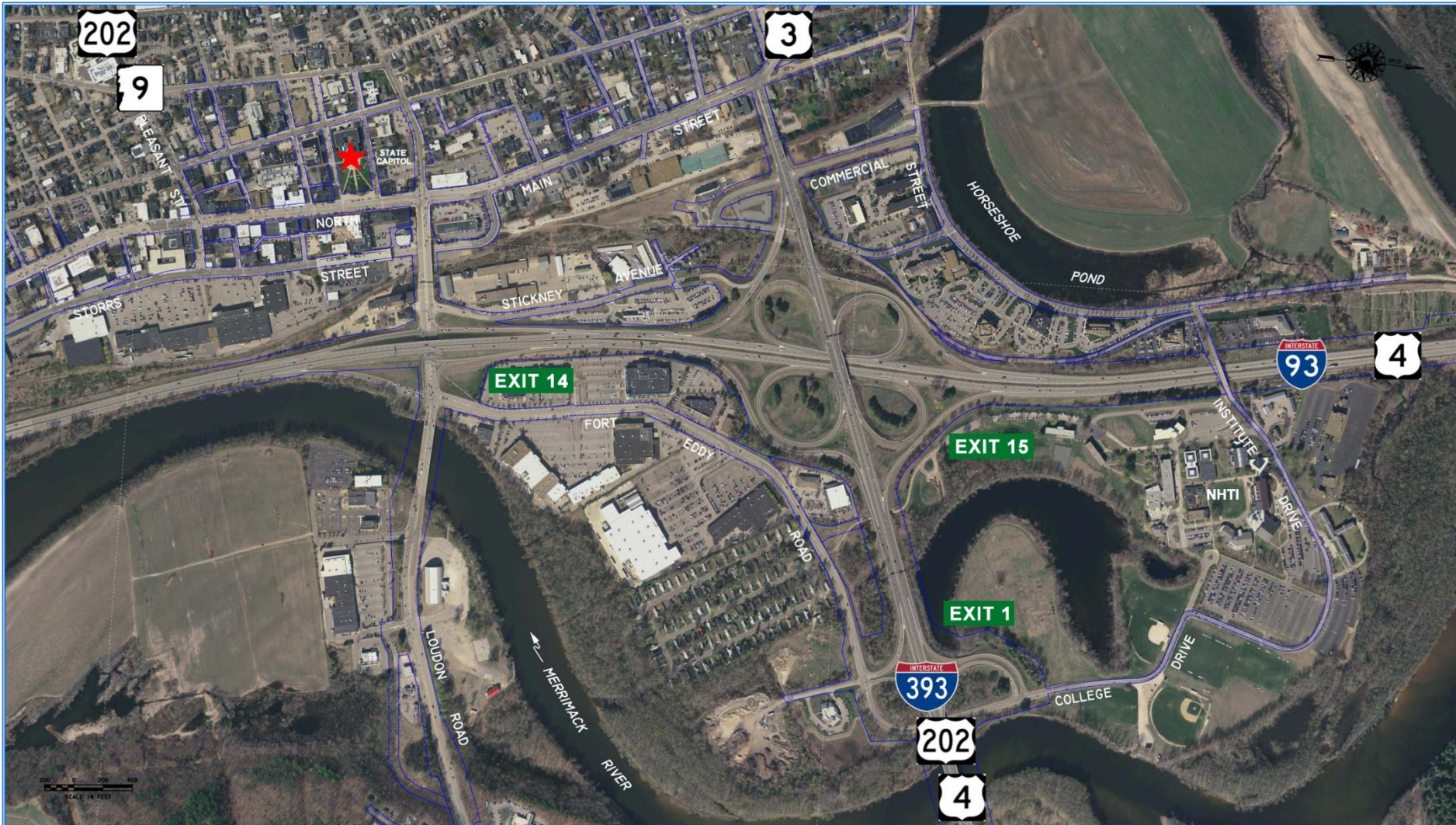


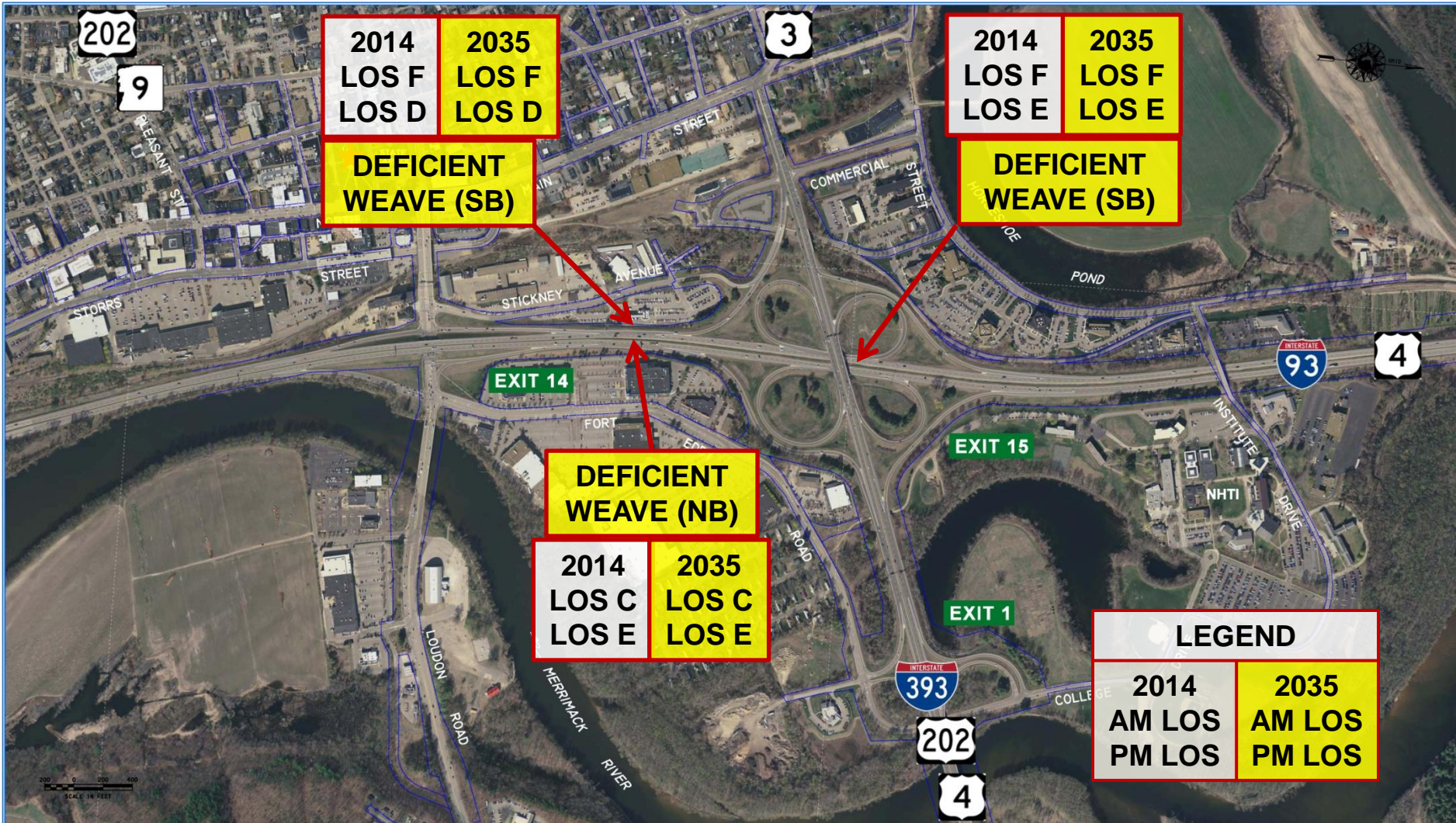
Pinch Point



Pinch Point







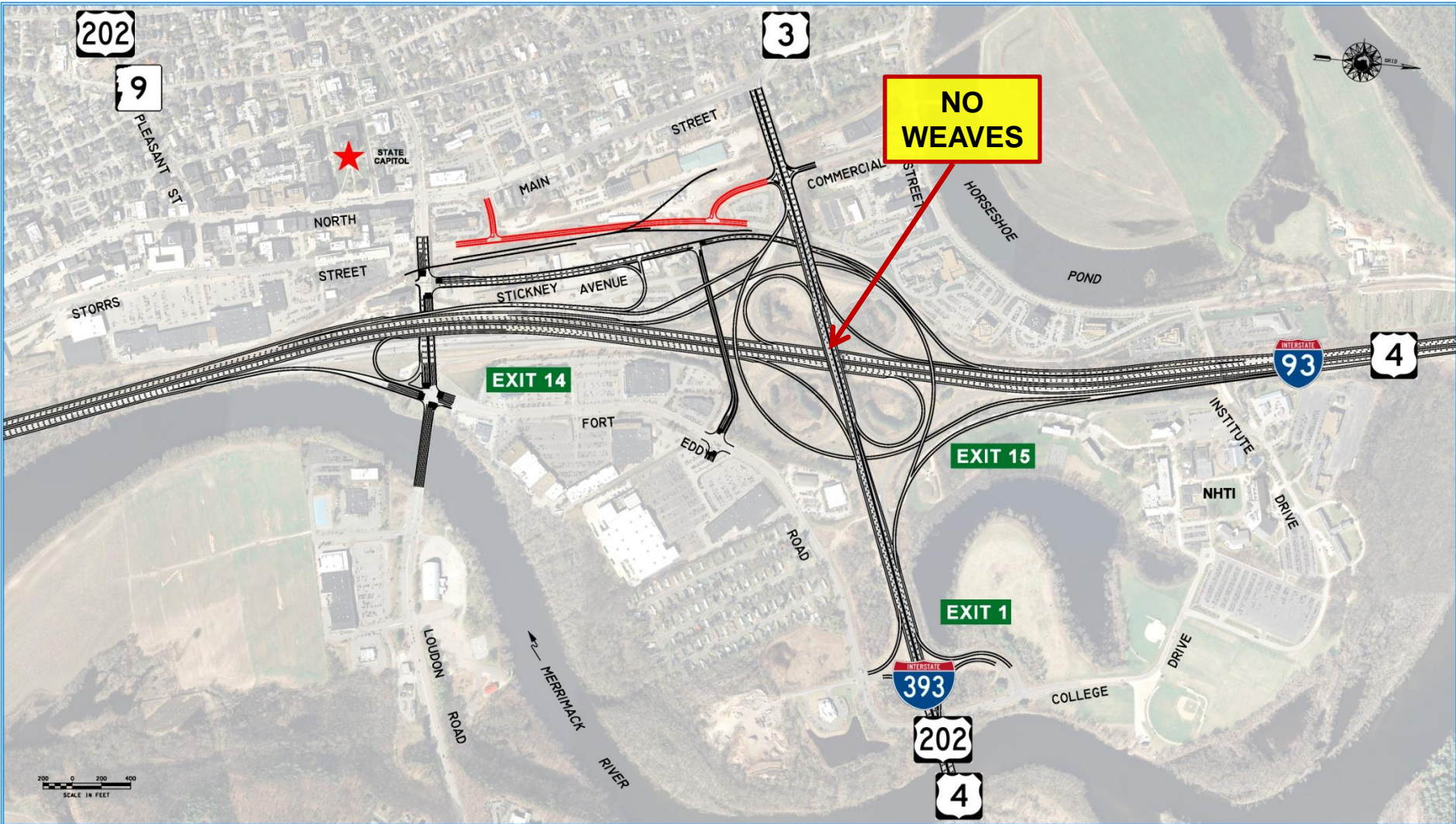




LEGEND

**2035
AM LOS
PM LOS**





Opportunity Corridor Concept

KEY ELEMENTS

REGIONAL COMPONENTS

- > REDUCED ACCESS TO I-93 FROM DOWNTOWN VIA EXIT 15
- > NO ACCESS FROM NB I-93 TO DOWNTOWN AT EXIT 15
- > CD ROADS BETWEEN EXITS 14 & 15
- > ONE WEAVE REMAINS

OPPORTUNITY CORRIDOR COMPONENTS

- > NEW LOCAL CROSSING TO FORT EDDY ROAD
- > EXTENSION OF STORRS STREET
- > PRESERVATION OF RAIL CORRIDOR
- > DEPRESSED I-93
- > ENHANCED RIVER ACCESS
- > FOUR BRIDGES REQUIRED

NOTE: ALL OPPORTUNITY CORRIDOR COMPONENTS HIGHLIGHTED IN YELLOW





Next Steps

- Determine Alternatives for Consideration
- Public Outreach



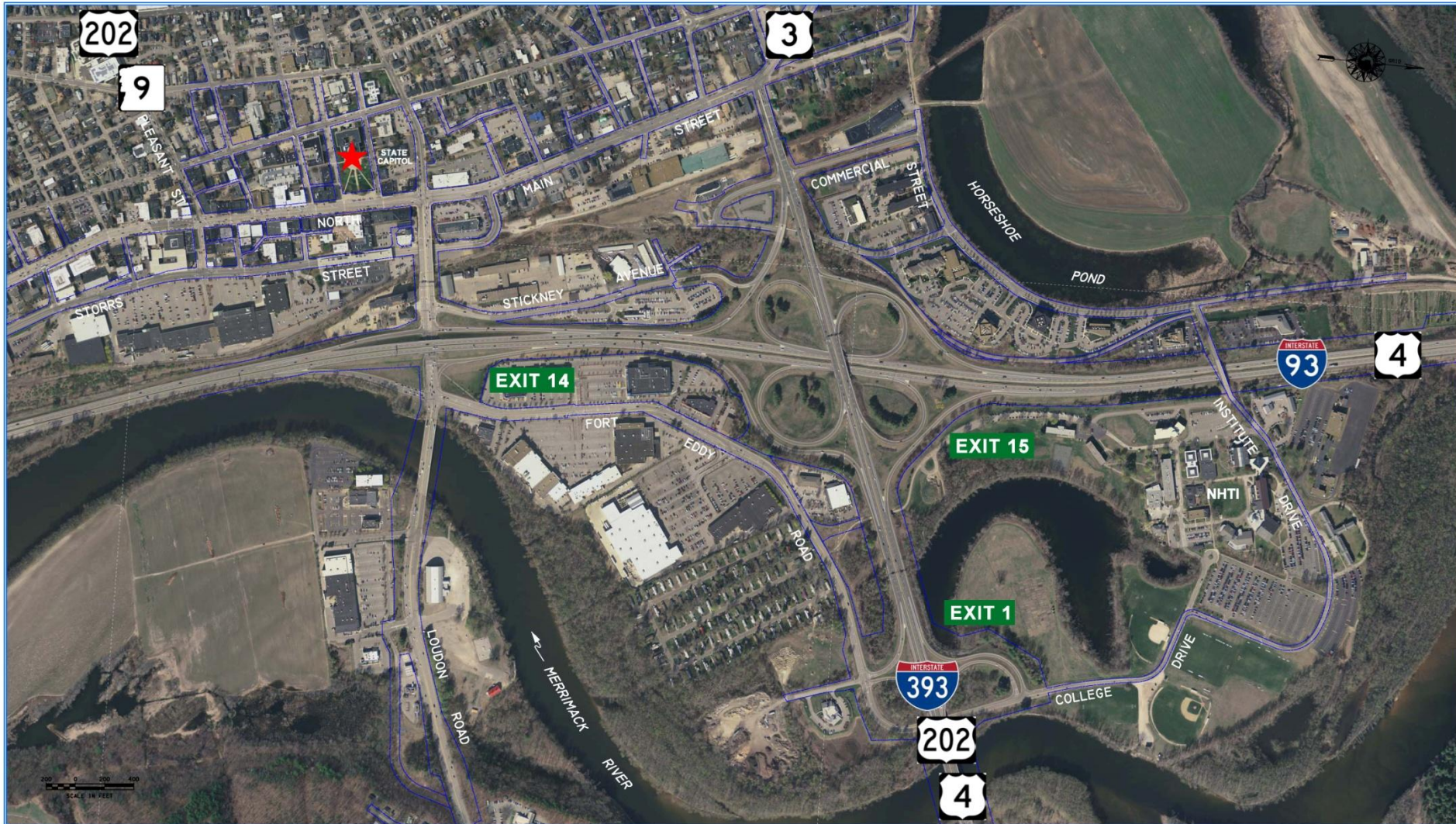
Questions & Answers

www.i93bowconcord.com





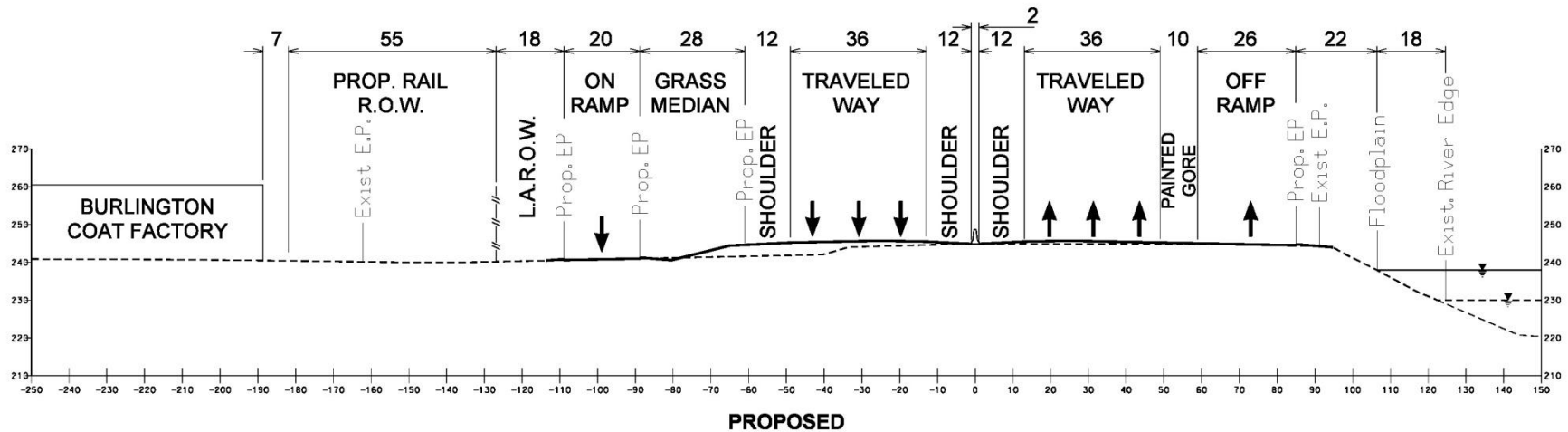
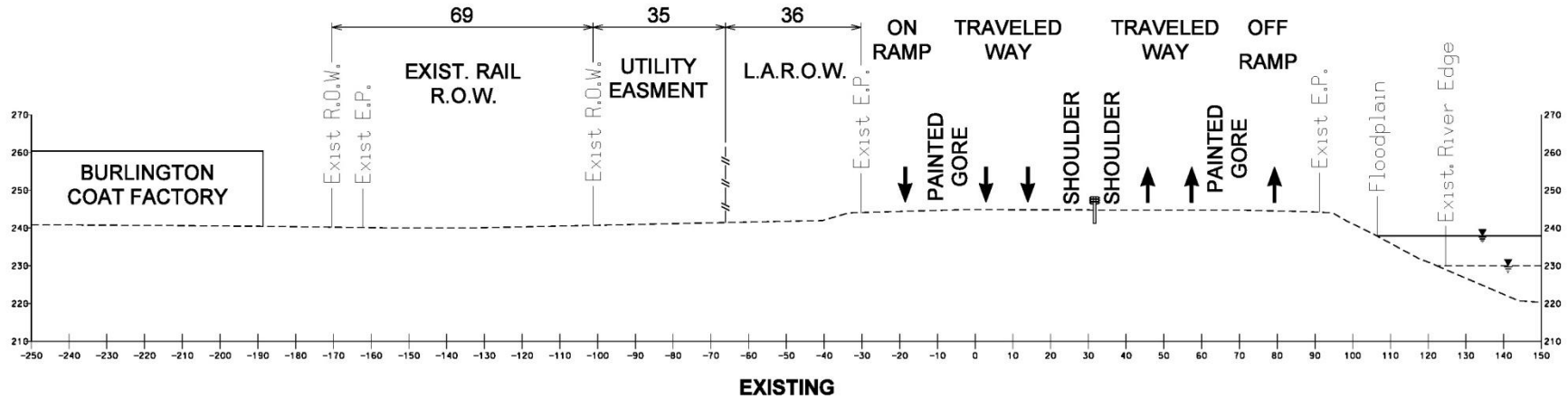
Bow Concord I-93 Improvements Project



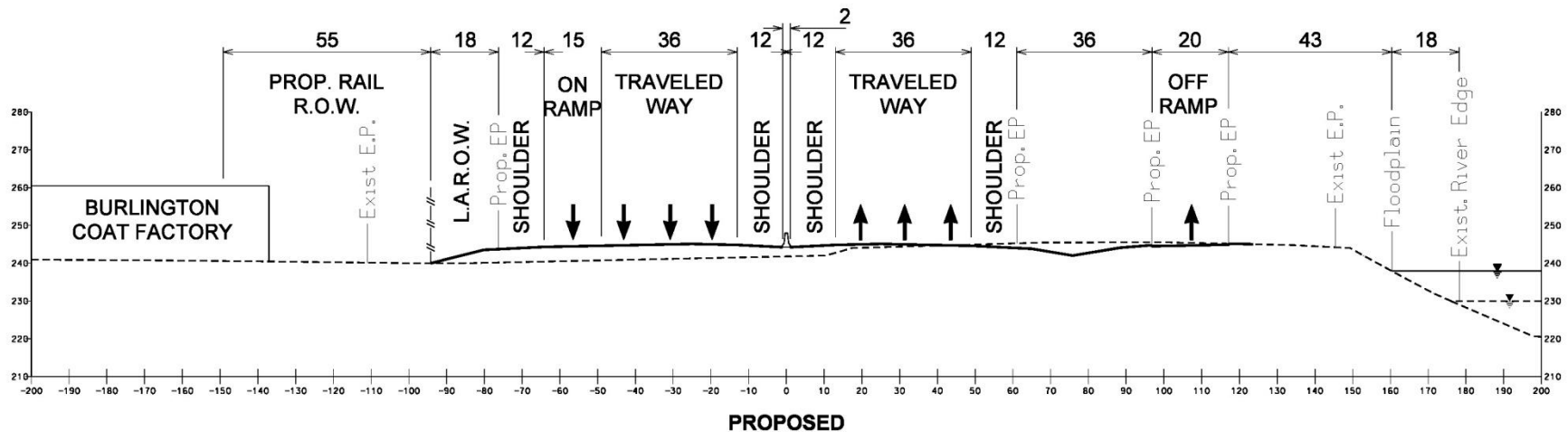
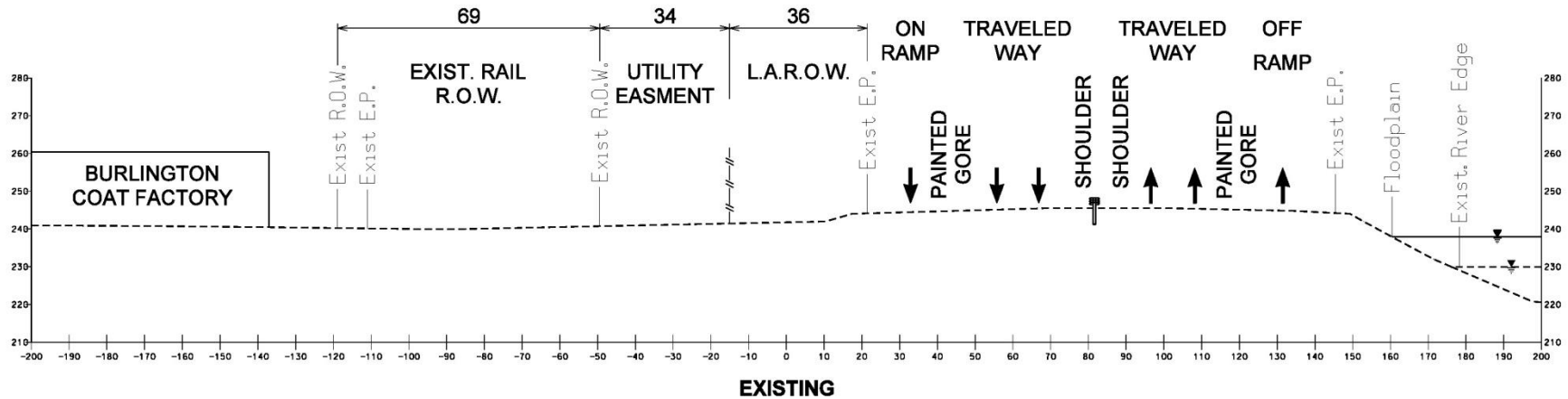
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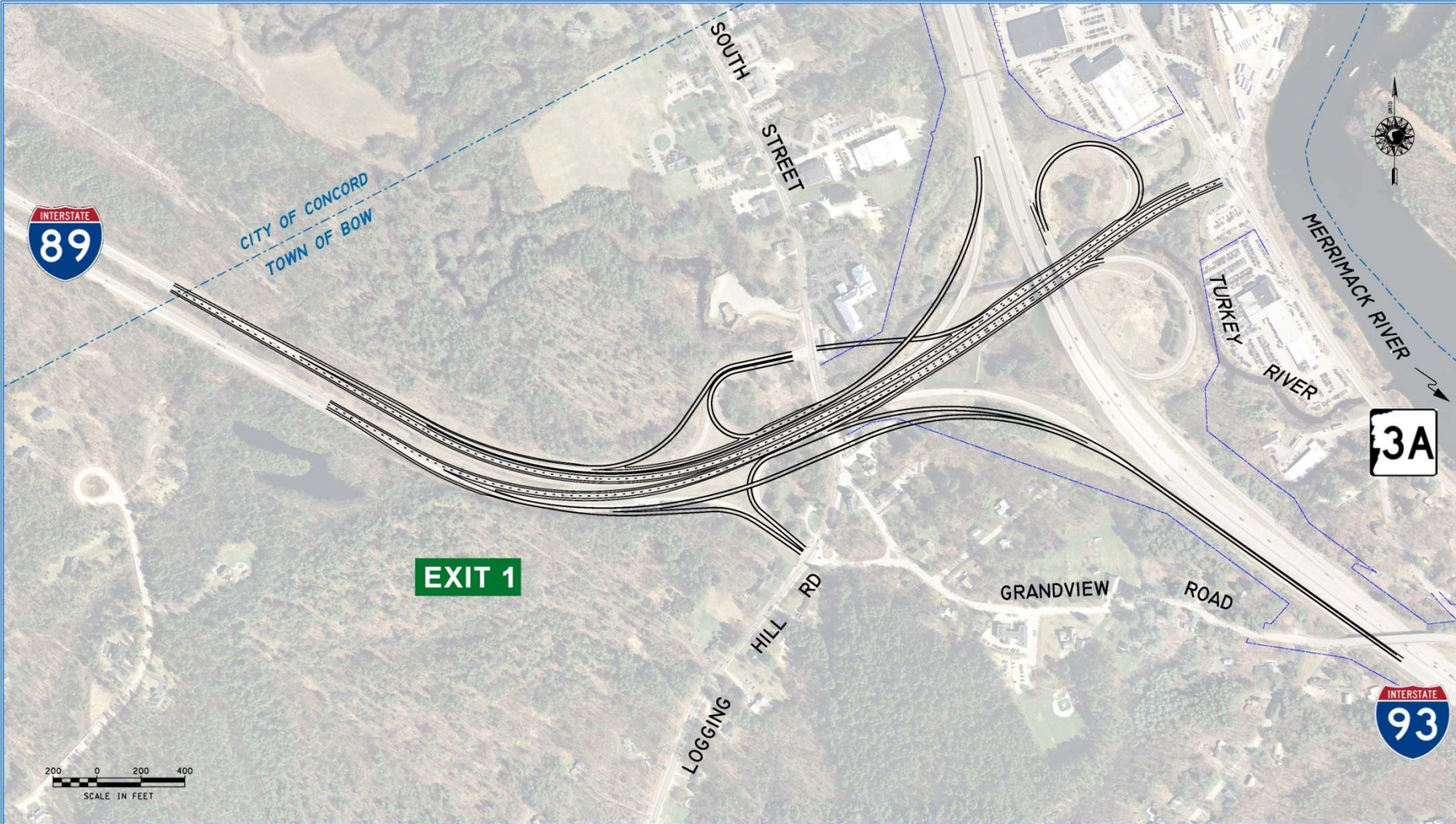
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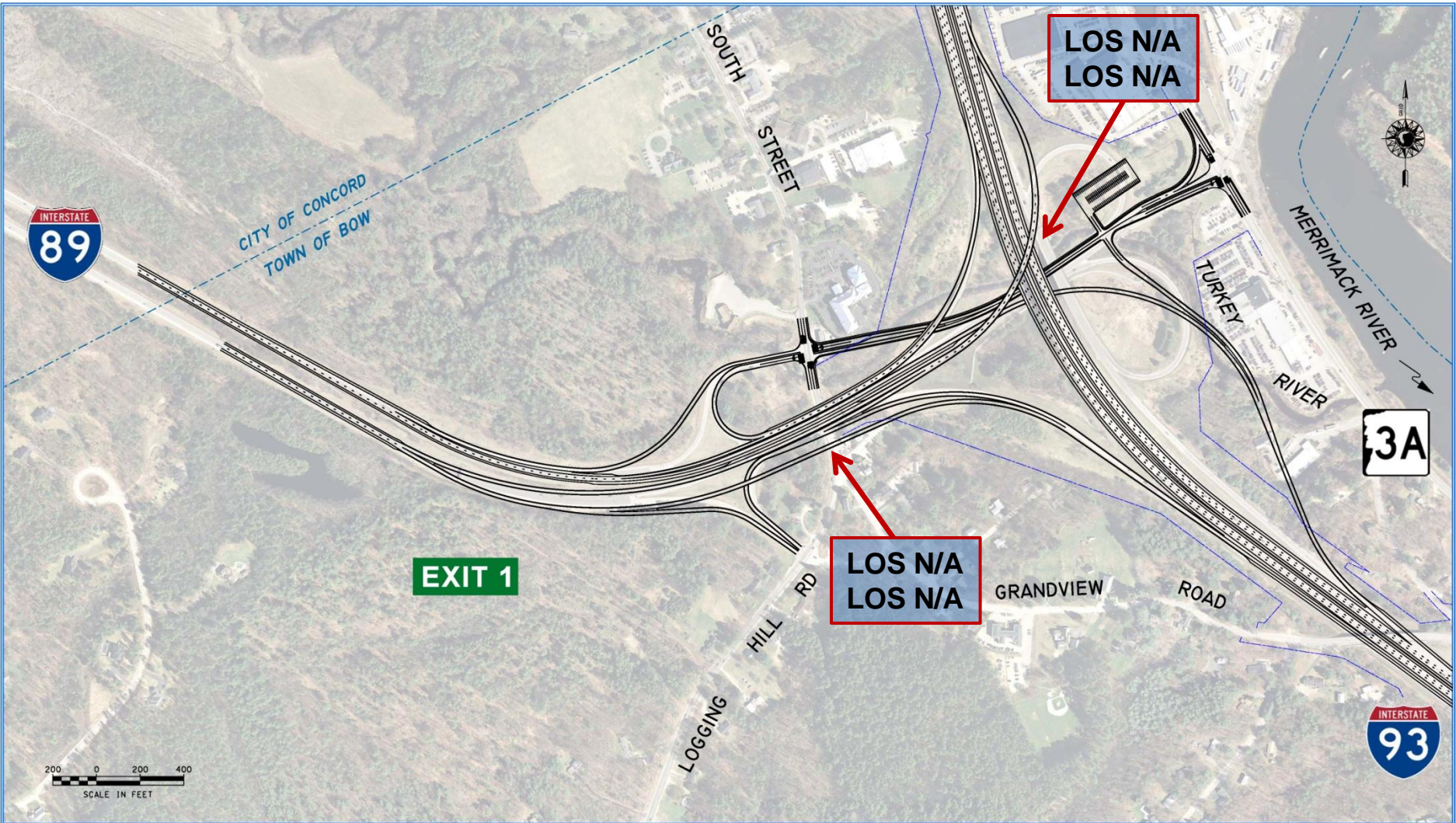


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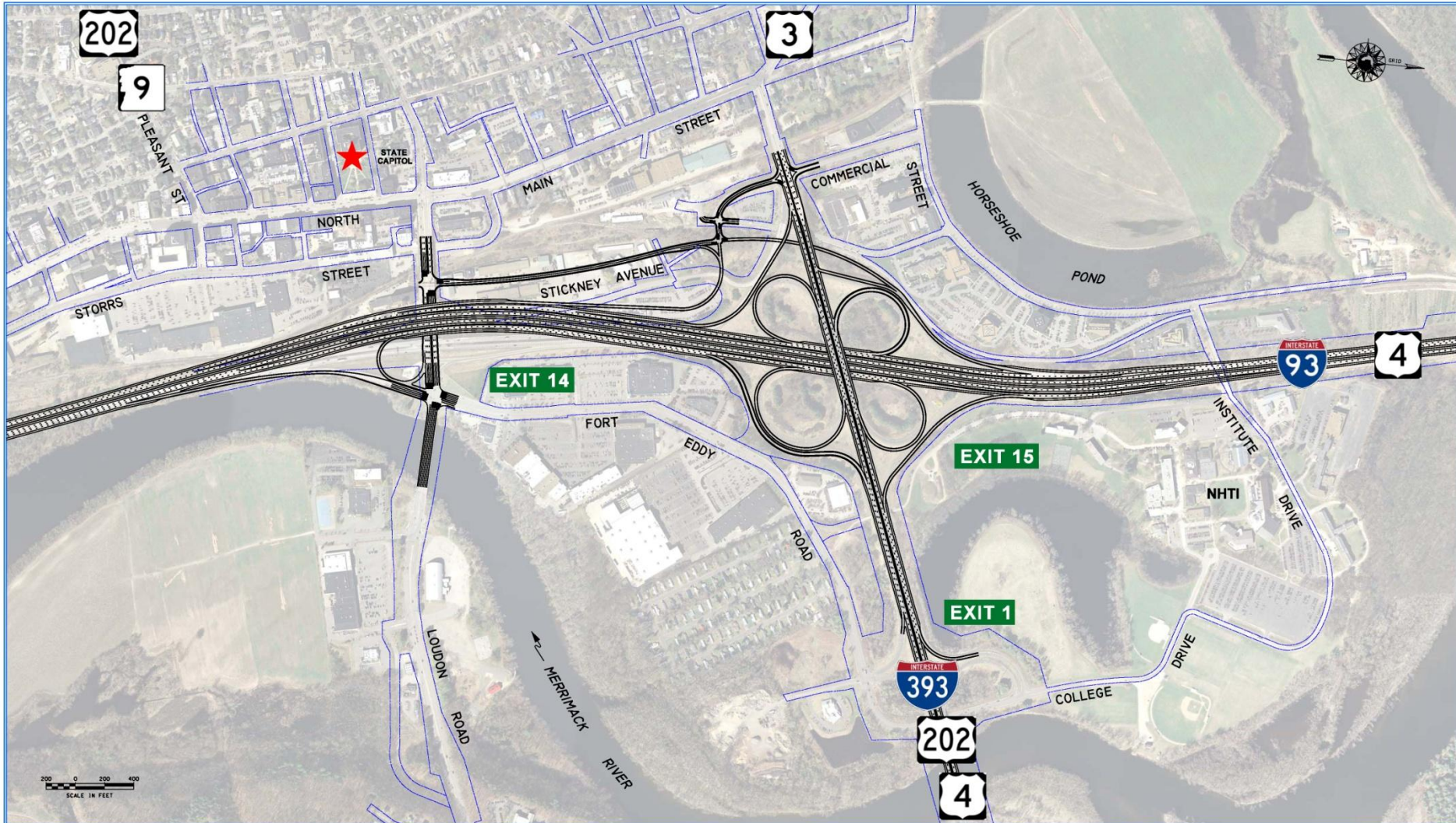








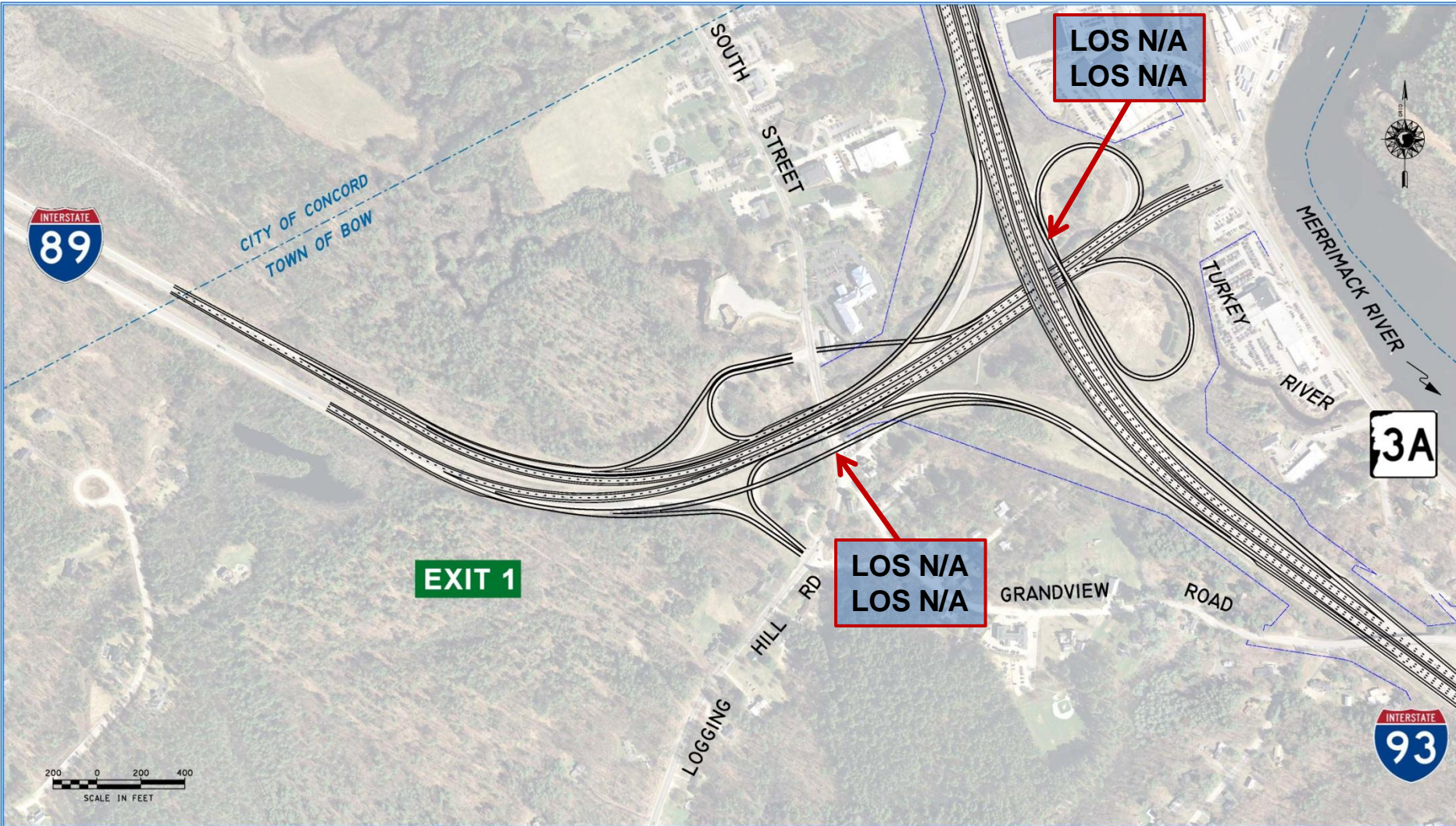












***Draft* Project Purpose and Need**

Purpose

The purpose of the Interstate 93 Bow-Concord project is to address the existing and future transportation needs for all users of this four-mile segment of I-93, while balancing the needs of the surrounding communities, by providing a safe and efficient transportation corridor for people, goods and services.

***Draft* Project Purpose and Need**

Need

Mobility

Interstate 93 is a principal north-south arterial Interstate highway within the State of New Hampshire and is part of the National System of Interstate and Defense Highways. The segment of Interstate 93 under study intersects two other Interstate highways, Interstate 89 and Interstate 393, providing a vital link for east/west travel, and passes through the City of Concord, the state capital. Interstates 93, 89 and 393 carry a mix of traffic including trucks, cars and buses. The Interstate 93 corridor serves as an important link for New England wide tourist travel to the White Mountains, Lakes Region and Vermont, a regional commuting route for the Concord area, as well as an important local route. As one of the main arterials in the New Hampshire highway system, it is important to maintain the mobility of people, goods and services through this corridor.

Capacity

Interstate 93 was constructed in the 1960's and now serves more than 70,000 vehicles per day with peak summer travel at over 85,000 vehicles per day. Traffic volumes on Interstate 93 through Bow and Concord tripled from 1980 to 2004. However, since 2004, traffic volumes have remained steady. Growth in the region is expected to occur in the coming years and place a greater burden on the transportation system. With an estimated 80,000 vehicle trips per day by the year 2035, increased congestion and increased travel times are expected, unless there is a reduction in demand, implementation of management strategies or improvements to this important regional travel corridor.

***Draft* Project Purpose and Need**

Need

Regional Plans

The project corridor is recognized by the State of New Hampshire and the Central New Hampshire Regional Planning Commission (CNHRPC) as a vital link for statewide travel as well as an important local route within Concord and the Central New Hampshire region. In recognition of these deficiencies, the project has been included in the State's Ten-Year Transportation Improvement Plan for years 2015 to 2024 as an unfunded priority, and is a top long-term transportation priority for the Central New Hampshire Regional Planning Commission (CNHRPC).

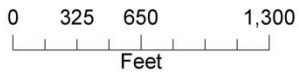
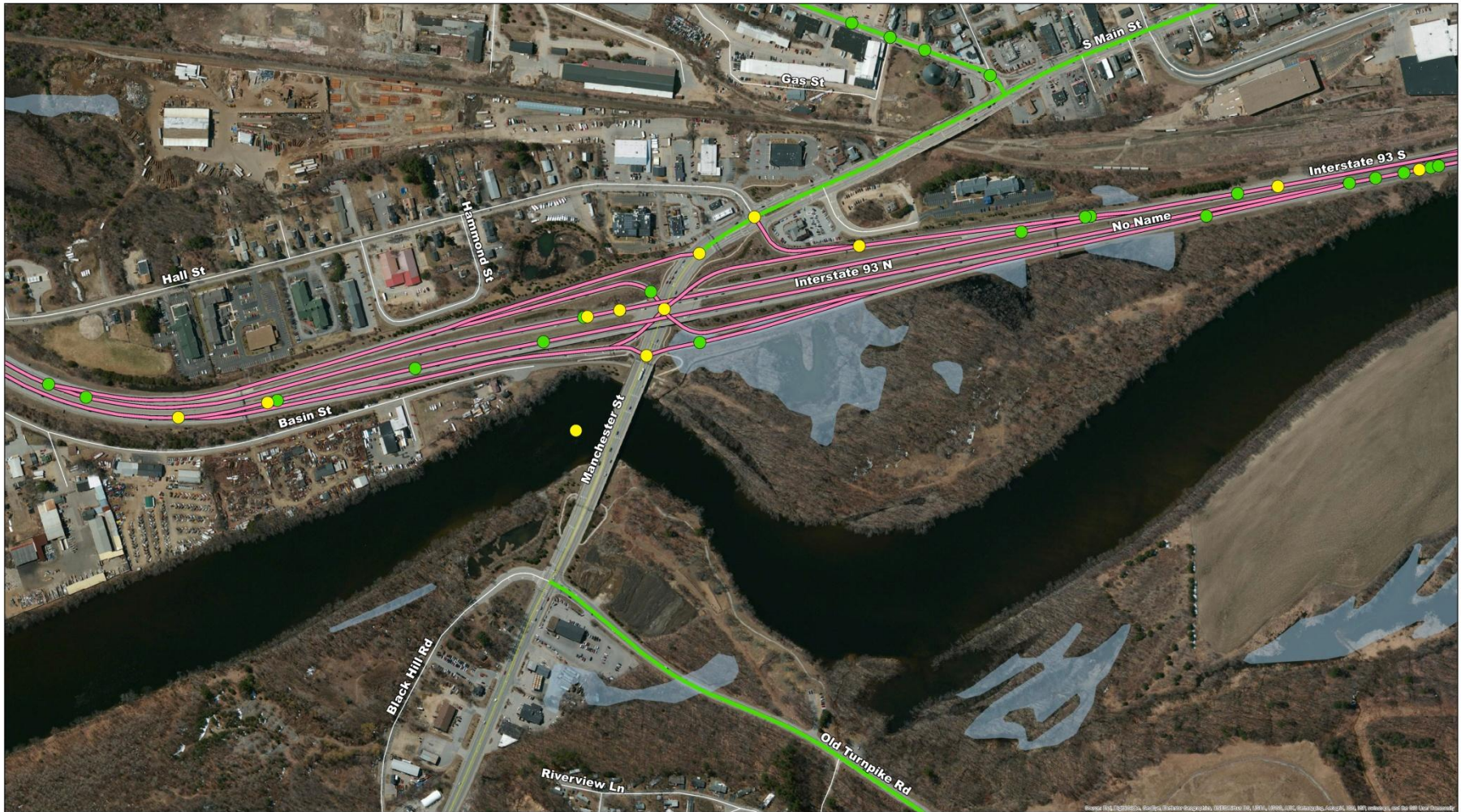
Safety

The approximately four-mile project corridor currently contains numerous geometric deficiencies based upon current highway design standards. The deficiencies include: inadequate distances between entrance and exit ramps (causing weaving), short deceleration distances at exit ramps and short acceleration distances at entrance ramps. A review of the crash data for the period between 2002 and 2012 indicates many of the crashes occur at ramps or between ramps where the deficiencies exist, causing both property damage as well as injuries to drivers. As traffic volumes increase on Interstate 93, these geometric deficiencies will become more of a problem and crashes are anticipated to increase.

The corridor also contains three bridges currently on the "Red List" of state bridges which indicate the critical need for their replacement due to deterioration. Red-listed bridges are defined as those with "known structural deficiencies, poor structural conditions or weight restrictions."

Transportation Choice

This project corridor accommodates various modes of transportation, but could improve access to those modes or accommodate additional modes. This in turn would make travel more efficient for all users. Commuter rail service is a possibility and bus service continues to expand in the region. Bow and Concord have networks of public trails within and near the project corridor and are actively expanding their networks in an effort to complete the Heritage Trail along the Merrimack River. The project has considered access to and augmentation of these trail systems.

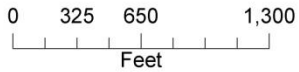


Legend

- Fatal
- Injuries
- Property Only

Crash History

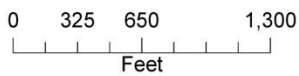
2009-2013



Legend

- Fatal
- Injuries
- Property Only

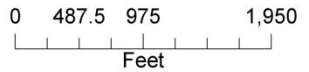
Crash History



Legend

- Fatal
- Injuries
- Property Only

Crash History



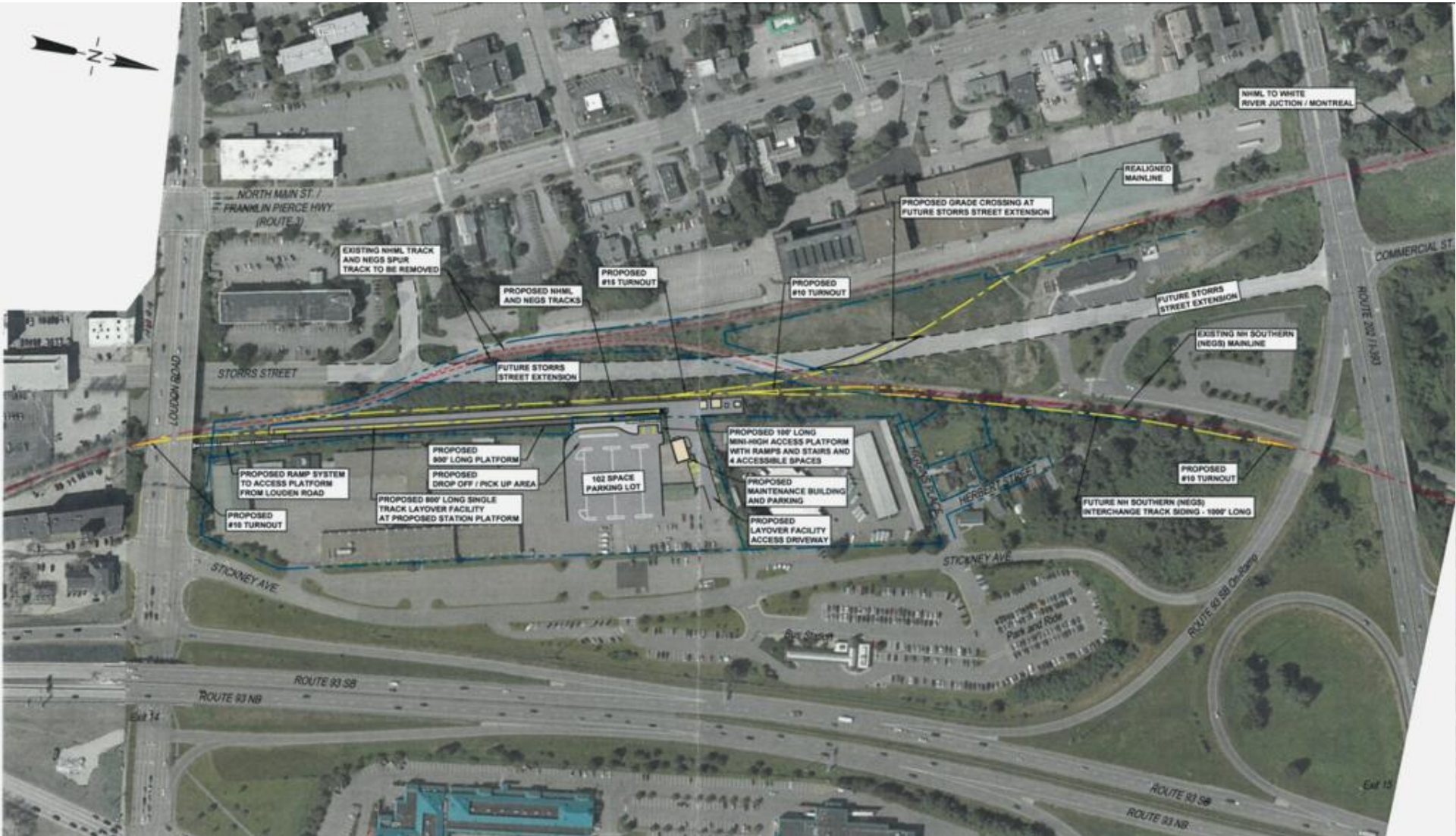
Legend

- Fatal
- Injuries
- Property Only

Crash History



Capitol Corridor Study



Part B Scope

Preliminary Engineering

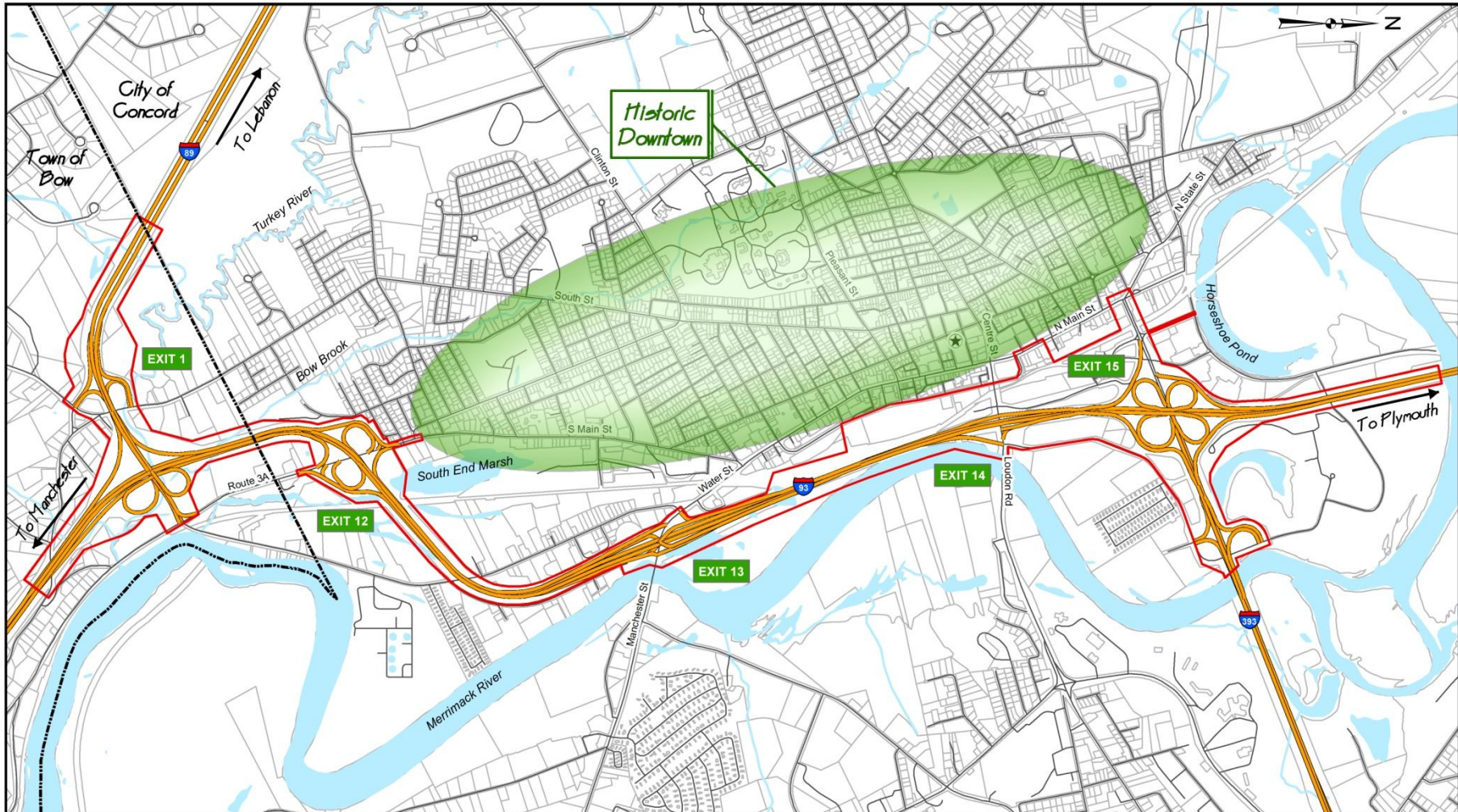
- Traffic Modeling
- Alternatives Development
- Cost Estimates
- Rail & Transit Assessment Report
- Corridor Report
- Engineering Report

Public Participation

- Public Meetings
- Project Website
- Public Hearing

NEPA Document

- Prepare Purpose and Need
- Environmental Assessment
- FONSI



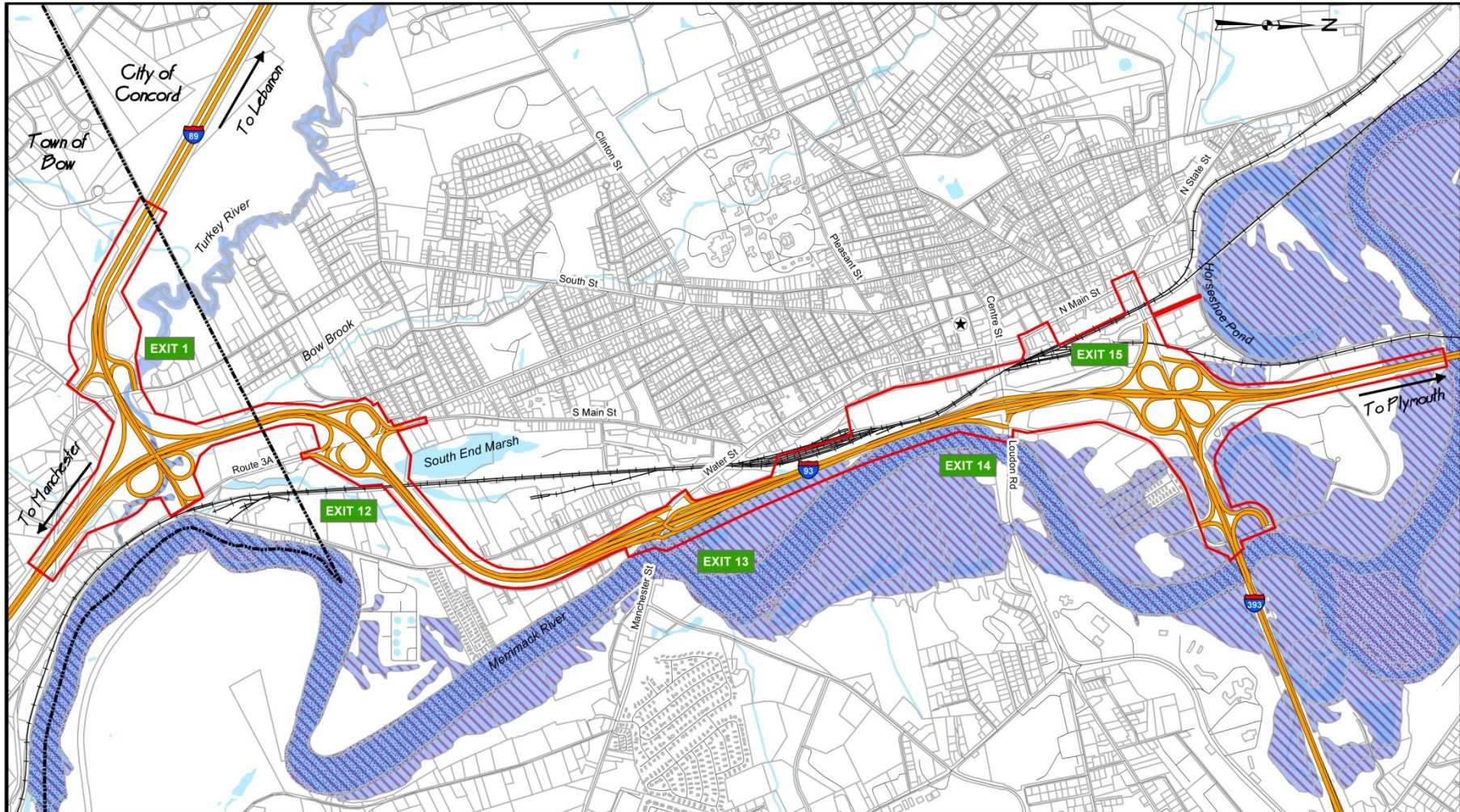
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Legend

- State Capital
- Study Area
- Parcels
- Streams
- Rivers and Ponds
- Roadways
- Rural - Principal Arterial -- Interstate
- Urban - Principal Arterial -- Interstate
- Urban - Principal Arterial -- Other Freeways and Expressways

New Hampshire
DOT
U.S. Department of Transportation
Federal Highway Administration
McFarland Johnson

BOW-CONCORD I-93 IMPROVEMENTS	
STUDY AREA OVERVIEW	
DATE: DECEMBER 2015	SCALE: 1"=1500'
FIGURE 1.1	

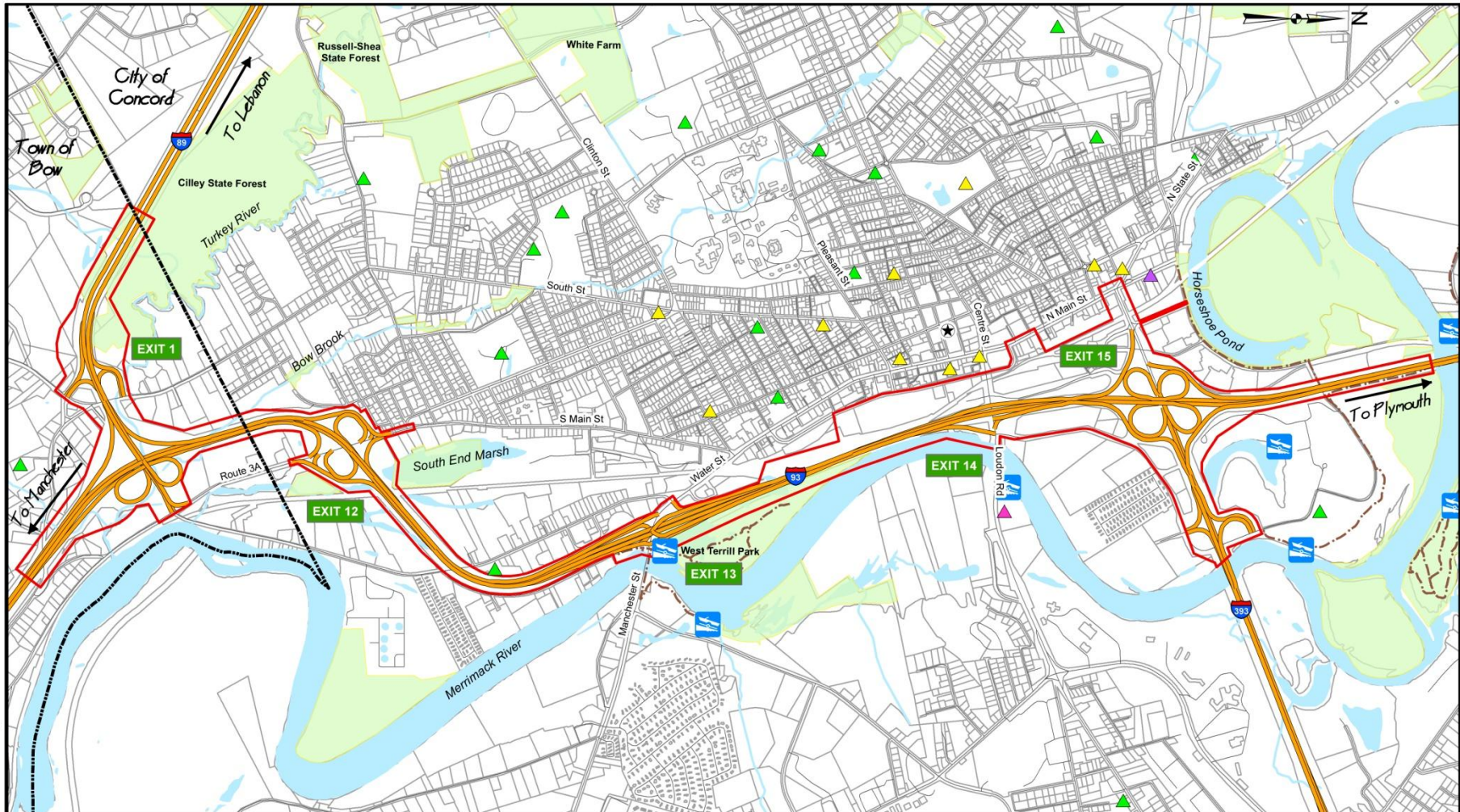


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Legend

- Study Area
- Parcels
- Railroad
- Streams
- Rivers and Ponds
- Regulatory Floodway
- ZONE A - No Base Flood Elevation
- ZONE AE - Base Flood Elevation Provided

 	BOW-CONCORD I-93 IMPROVEMENTS	
	FLOOD HAZARD AREAS OVERVIEW	
	DATE: DECEMBER 2015	SCALE: 1"=1500'
	FIGURE 1.2	



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Legend

- ★ State Capital
- ▭ Study Area
- ▭ Parcels
- Streams
- ▭ Rivers and Ponds
- Trails
- Public Water Access
- ▭ Conservation Lands
- ▲ Field Sports
- ▲ Historic Site
- ▲ Park
- ▲ Winter Sports Area

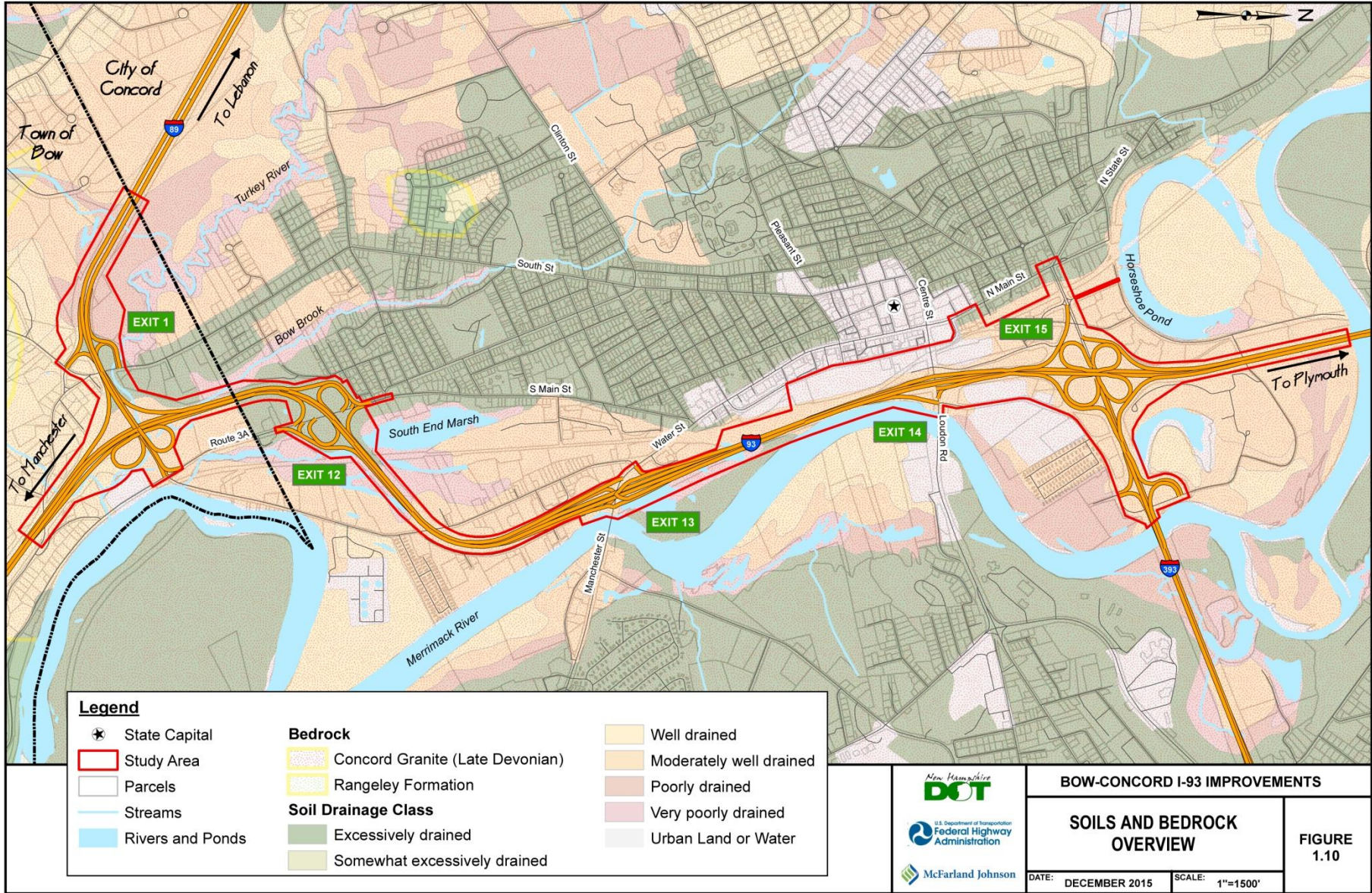
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BOW-CONCORD I-93 IMPROVEMENTS

CONSERVATION AND PUBLIC LANDS

FIGURE 1.3

DATE: DECEMBER 2015 SCALE: 1"=1500'



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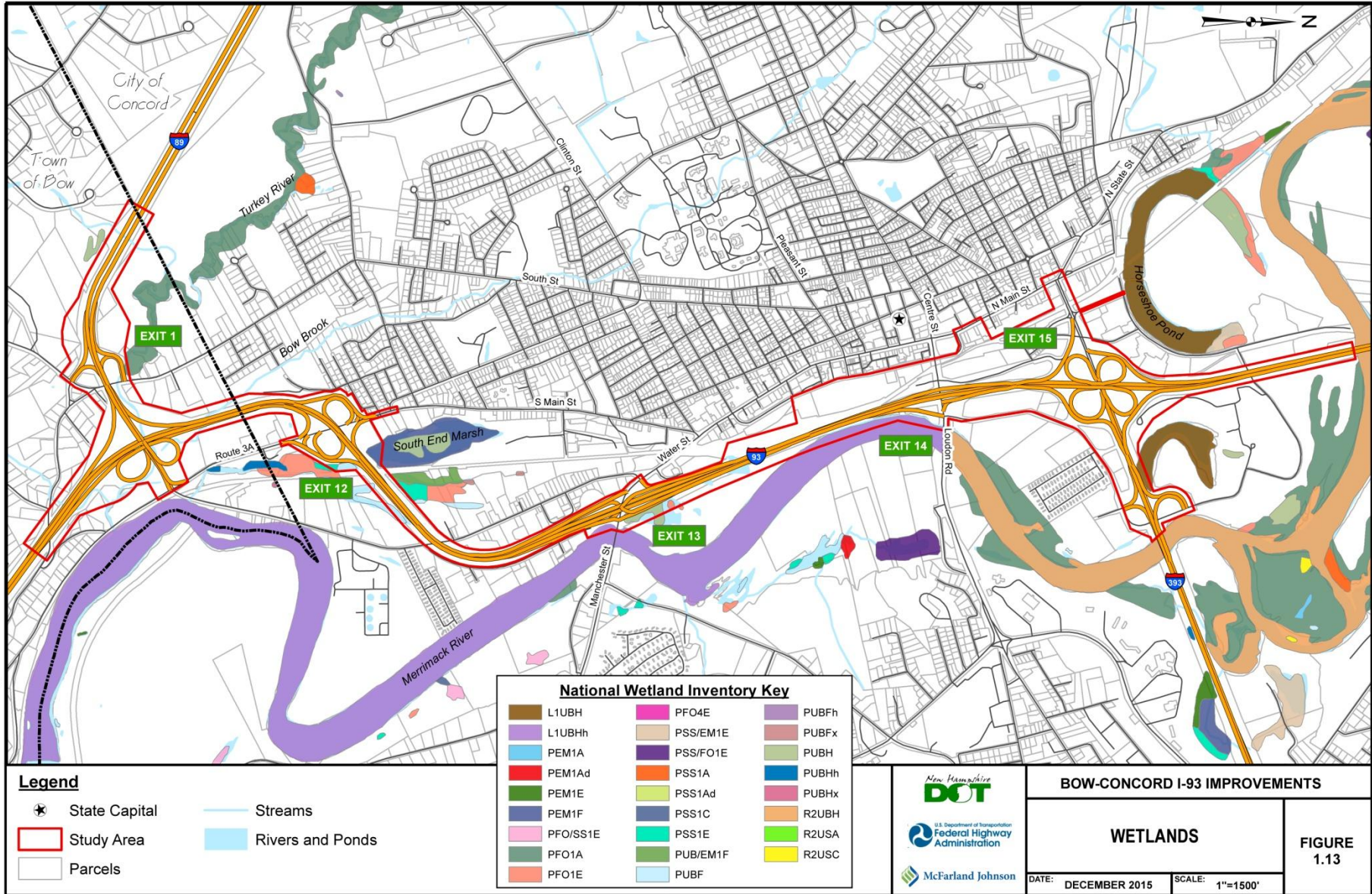
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BOW-CONCORD I-93 IMPROVEMENTS

SOILS AND BEDROCK OVERVIEW

FIGURE 1.10

DATE: DECEMBER 2015 SCALE: 1"=1500'



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