

I - 293 Exits 6 and 7 Transportation Planning Study

(Manchester #16099)

Public Informational Meeting # 4
June 11, 2013

I-293 Exits 6 and 7

Transportation Planning Study

(Manchester #16099)

New Hampshire Department of
Transportation (NHDOT)

Study Team

Vanasse Hangen Brustlin, Inc. (VHB)

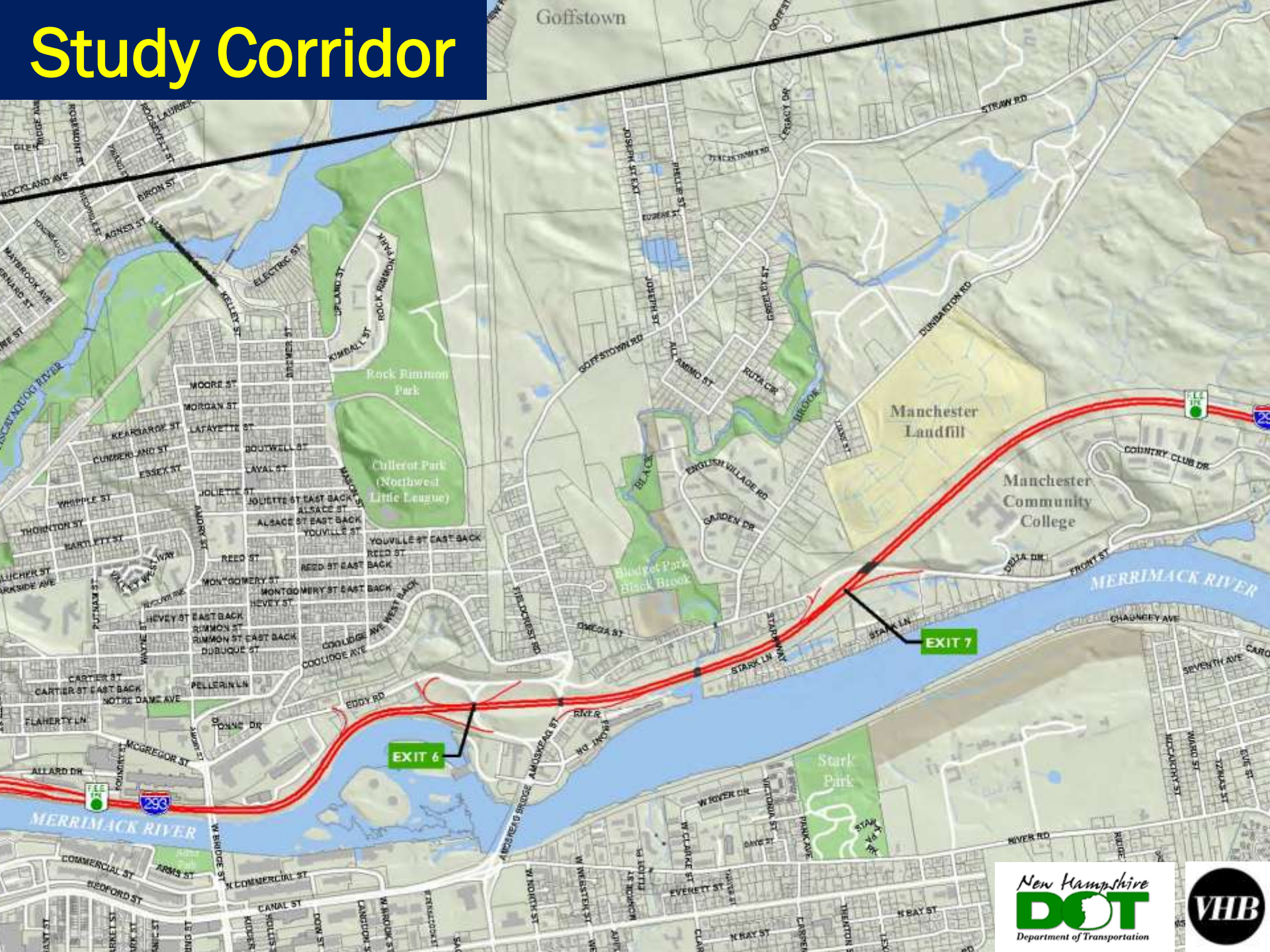
Southern New Hampshire Planning Commission (SNHPC)

RKG Associates

Study Purpose

The Purpose of this Planning Study is to consider transportation system modifications aimed at addressing **capacity** and **safety** related deficiencies along the mainline and at the interchanges (Exits 6 and 7) for a 3-mile segment of I-293 including consideration of relocating and reconfiguring Exit 7 into a fully directional interchange.

Study Corridor



Technical Advisory Committee

NHDOT

Town of Hooksett

FHWA

Greater Manchester
Chamber of Commerce

SNHPC

Hooksett Chamber of
Commerce

City of Manchester

Manchester Community
College

Town of Goffstown


State Senator Boutin

Project Meetings To-Date


- June 27, 2012 Advisory Committee Meeting
 - July 18, 2012 Initial Public Informational Meeting
 - August 13, 2012 Advisory Committee Meeting
 - September 18, 2012 Public Workshop
 - September 26, 2012 Advisory Committee Meeting
 - October 10, 2012 Hooksett Town Council Briefing
 - December 4, 2012 Advisory Committee Meeting
 - December 12, 2012 Public Informational Meeting
-
- January 31, 2013 Advisory Committee Meeting
 - February 7, 2013 SNHPC Briefing
 - February 28, 2013 Advisory Committee Meeting
 - March 26, 2013 Manchester Board of Mayor and Aldermen
 - April 10, 2013 Advisory Committee Meeting
 - May 29, 2013 Goffstown Selectmen Briefing
 - June 11, 2013 Public Informational Meeting

Project Website

www.293planningstudy.com



New Hampshire
DOT
Department of Transportation









I-293 Planning Study

Manchester, New Hampshire

NHDOT Homepage

- Home
- Study Schedule
- Documents
- Interactive Mapping
- Meetings
- Contacts
- Technical Advisory Committee
- Feedback

Share:      

Study Overview

Interstate Route 293 is a major, north-south, arterial circumferential highway extending through and around the City of Manchester. It also functions as a local connection to Interstate 93 (north and south), NH Route 101 (east and west) and US Route 3 (F.E. Everett Turnpike south to Nashua and into Massachusetts) and thus providing critical accessibility and mobility within the greater Manchester area as well as throughout southern New Hampshire.


The New Hampshire Department of Transportation (NHDOT) has initiated a project to address the transportation needs of a 3-mile segment of I-293 extending northerly from the Granite Street Interchange (Exit 5) to approximately one mile north of the NH Route 3A Interchange (Exit 7) in Manchester, NH. The project will be conducted in three phases:



Part A consists of a planning-level study.


Part B consists of preparing preliminary engineering plans and environmental documentation suitable for a Design Public Hearing and formal project approval, and

Part C consists of the preparation of final design

What's New


 **Next Public Meeting:**
June 11, 2013
Tuesday, June 11th at 7:00 pm
Manchester Community College
Room 125
1066 Front Street, Manchester, NH
[» Road map/directions](#)
[» Campus map/Room 125 location](#)

 **Project Newsletter Posted**
 [View the May 2013 newsletter »](#)





New Hampshire
DOT
Department of Transportation



Interactive Mapping

The screenshot displays a web-based interactive mapping application. The browser window at the top shows the URL <http://gis.vhb.com/1293/> and the page title "I-293 Planning Study - Exits 6-7 - Manchester, New Hampshire". The map area shows an aerial view of a residential and commercial area in Manchester, New Hampshire, with a river (Merrimack River) visible on the right. A yellow highlighted area indicates the project corridor, and an orange highlighted area indicates a specific site or intersection. The sidebar on the left contains a "Map Contents" panel with the following items:

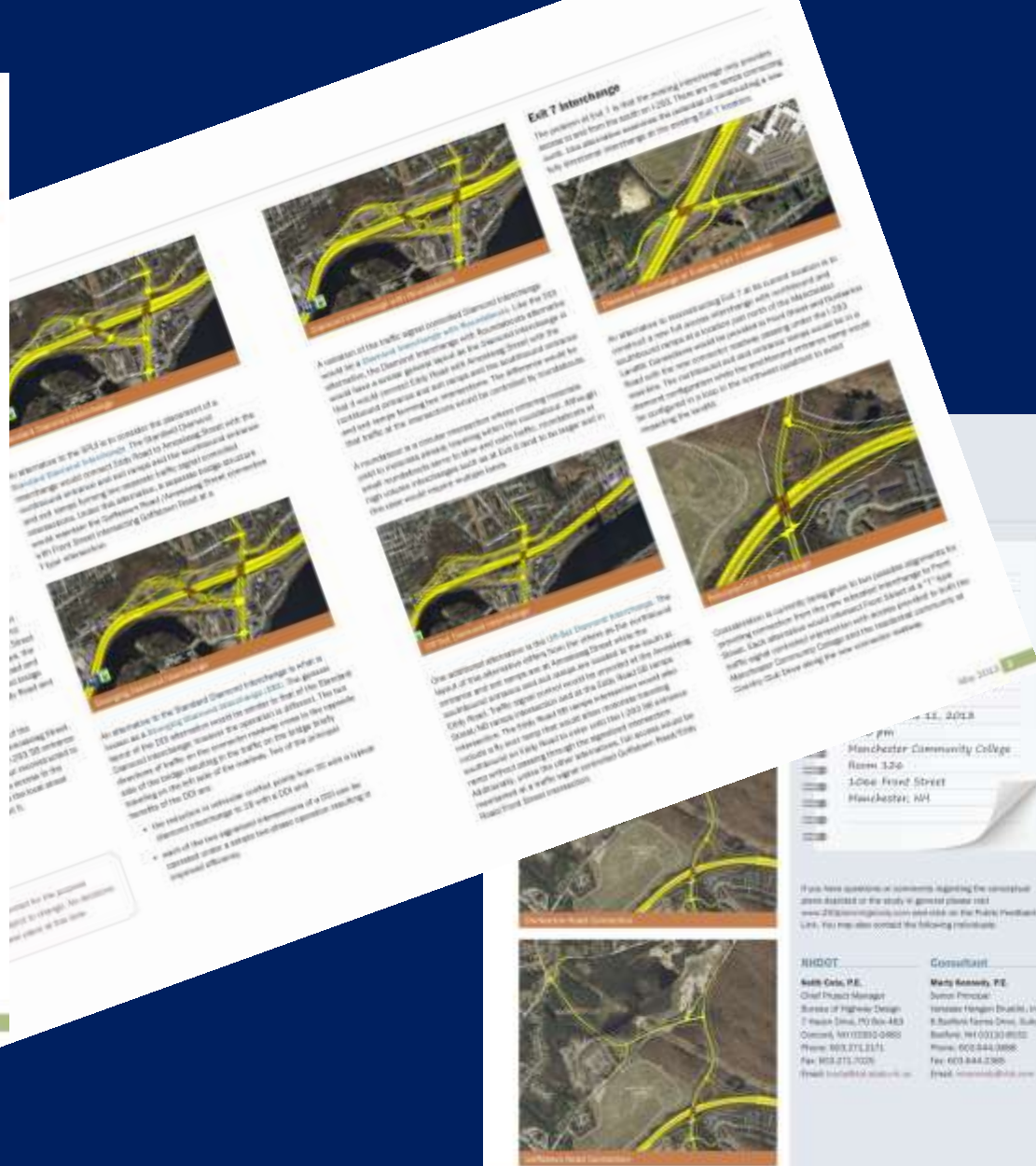
- ☒ 1293_MapService
 - ☒ NH Department of Safety Cr...
 - ☒ Labels
 - ☒ Town/City Boundary (Within 1...
 - ☒ Streets
 - ☒ Bridges
 - ☒ Historical Resources within th...
 - ☒ Parcels with Potential Hazards
 - ☒ NRCS Farmland Soils
 - ☒ Water Resources
 - ☒ Property Lines
 - ☒ Buildings
 - ☒ Conservation/Public Land
 - ☒ Manchester Parks
 - ☒ Topography ****Large File**
 - ☒ Alternative 4 Concept
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
 - ☒ 2010 Aerial Photography
 - ☒ Hillshade
 - ☒ DEM

The bottom of the screen shows a Windows taskbar with various application icons. In the bottom right corner, there are logos for the New Hampshire Department of Transportation (DOT) and VHB.

Manchester W16099



May 2013 5



Planning Study Schedule

Phase 1 – (Spring/Summer 2012)

Data Collection/Problem Identification

Phase 2 – (Fall 2012)

Screening Criteria & Brainstorming Alternatives

Phase 3 – (Winter/Spring 2013)

Develop, Evaluate, & Screen Alternatives

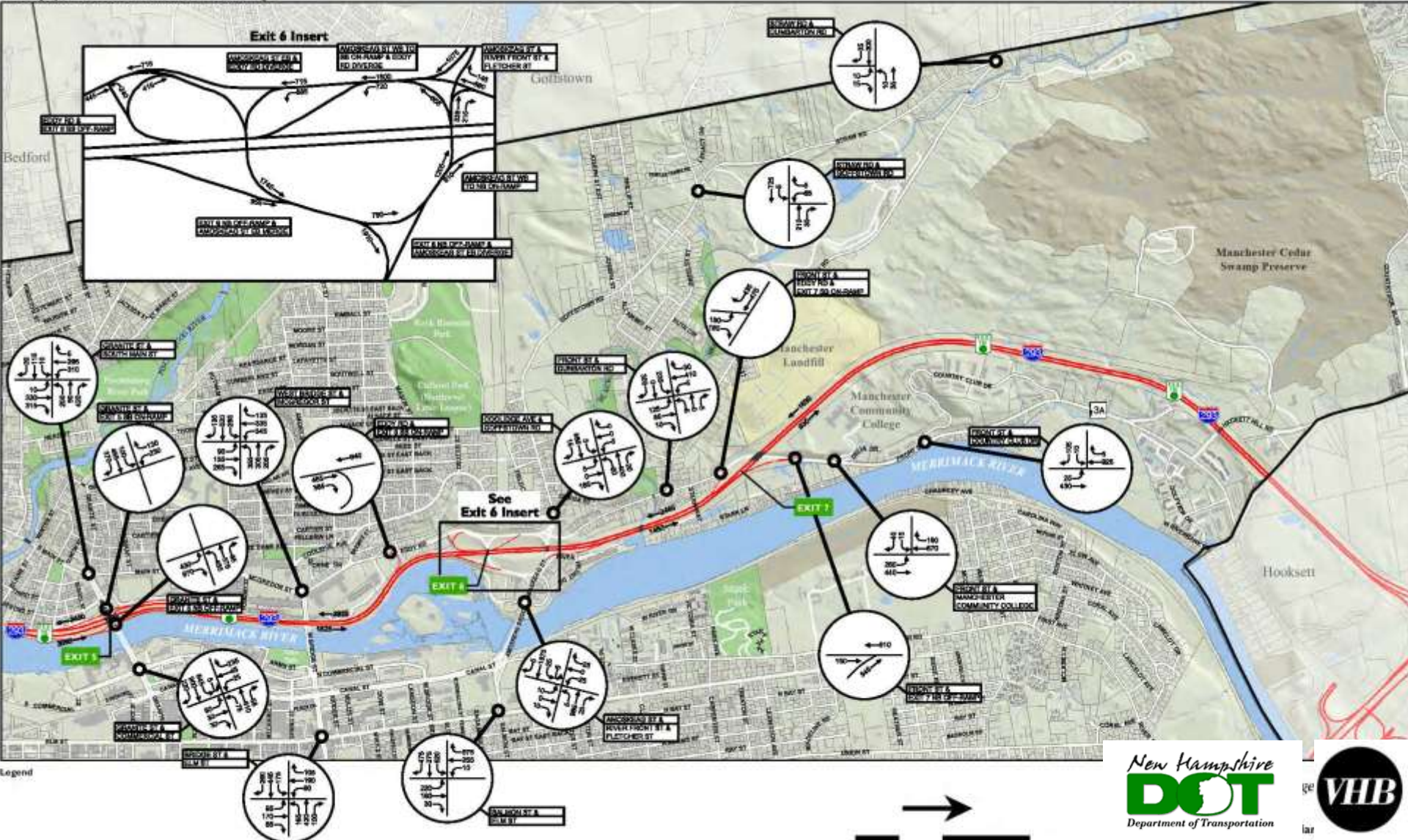
Phase 4 – (Summer 2013)

Documentation

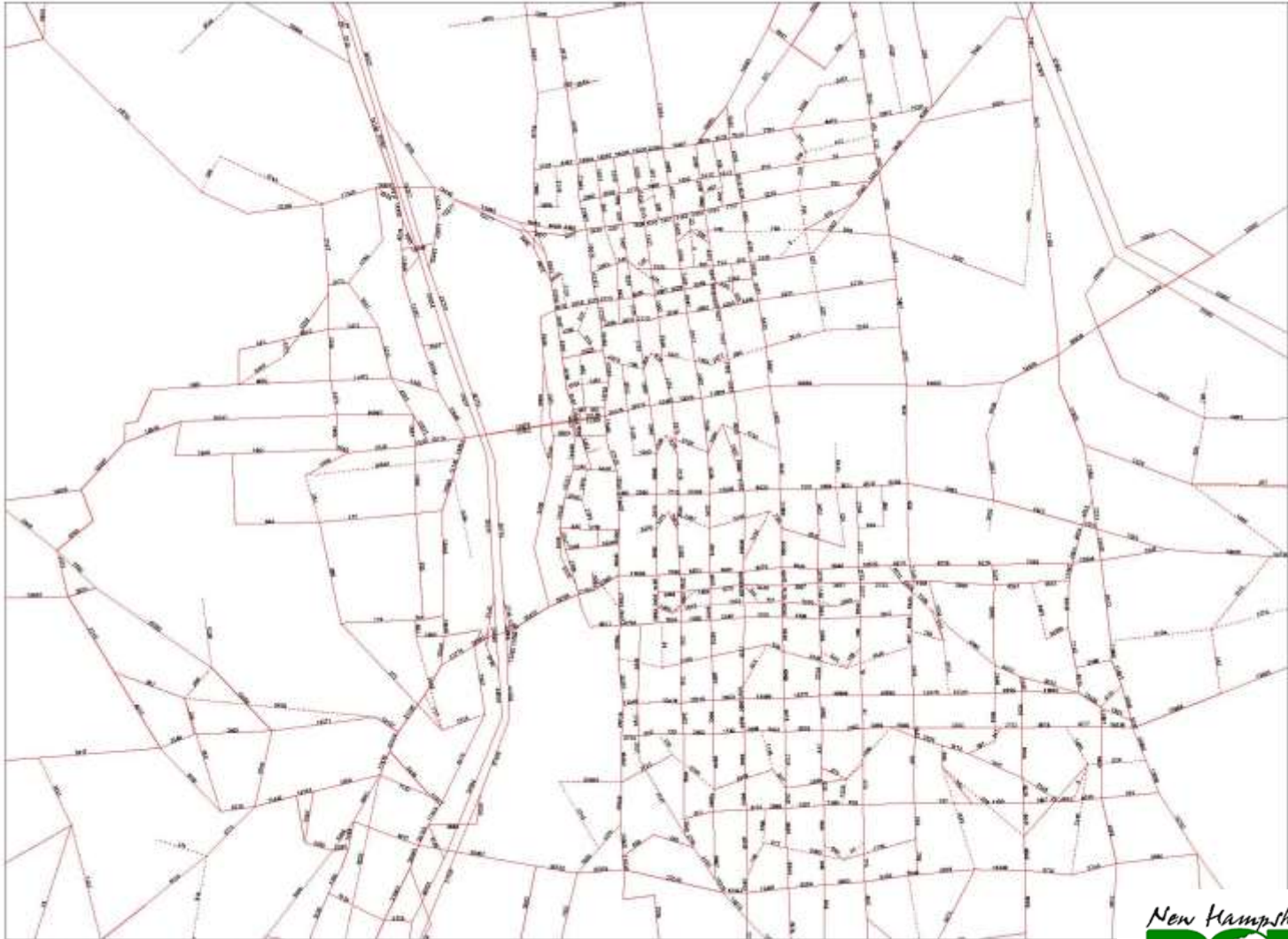
Background Information

Peak Period Traffic Counts (2013 Weekday AM Peak Hour)

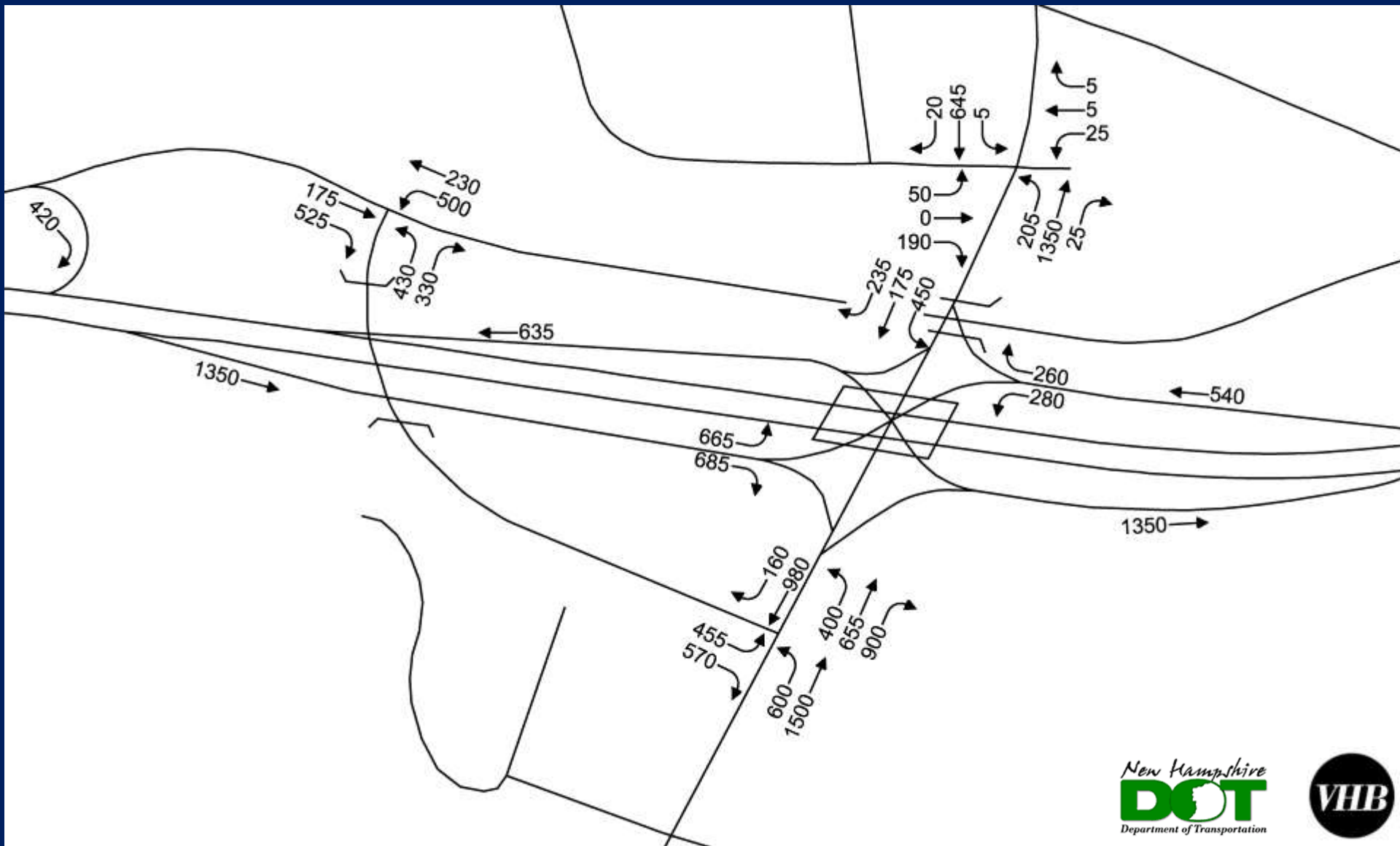
\\nh-bed\projects\52196-09\traffic\52196-TrafficNetwork.dgn



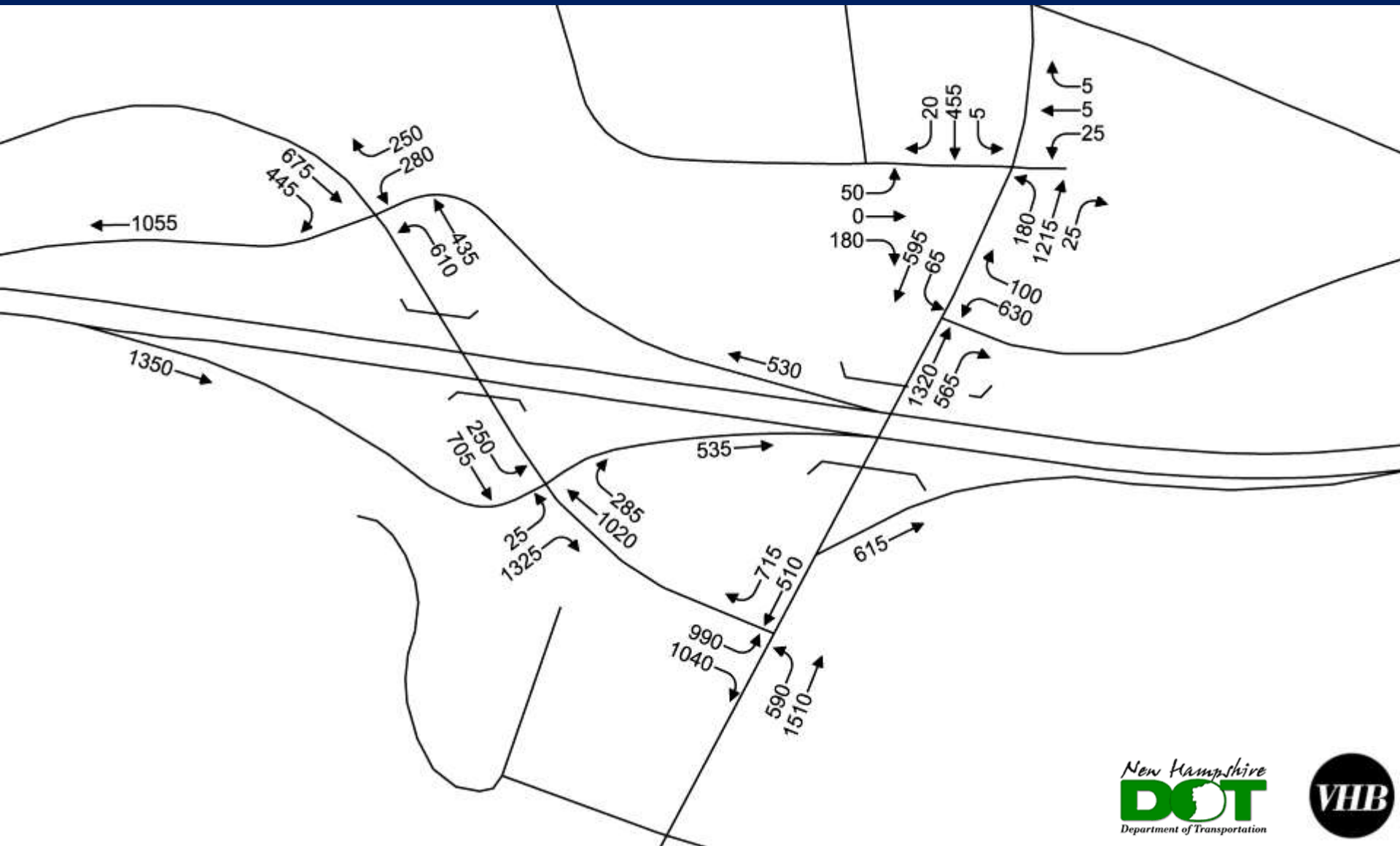
Traffic Model



Traffic Flow by Alternative (Alt 4 – 2035 PM Peak Hour)



Traffic Flow by Alternative (Alt 5 – 2035 PM Peak Hour)



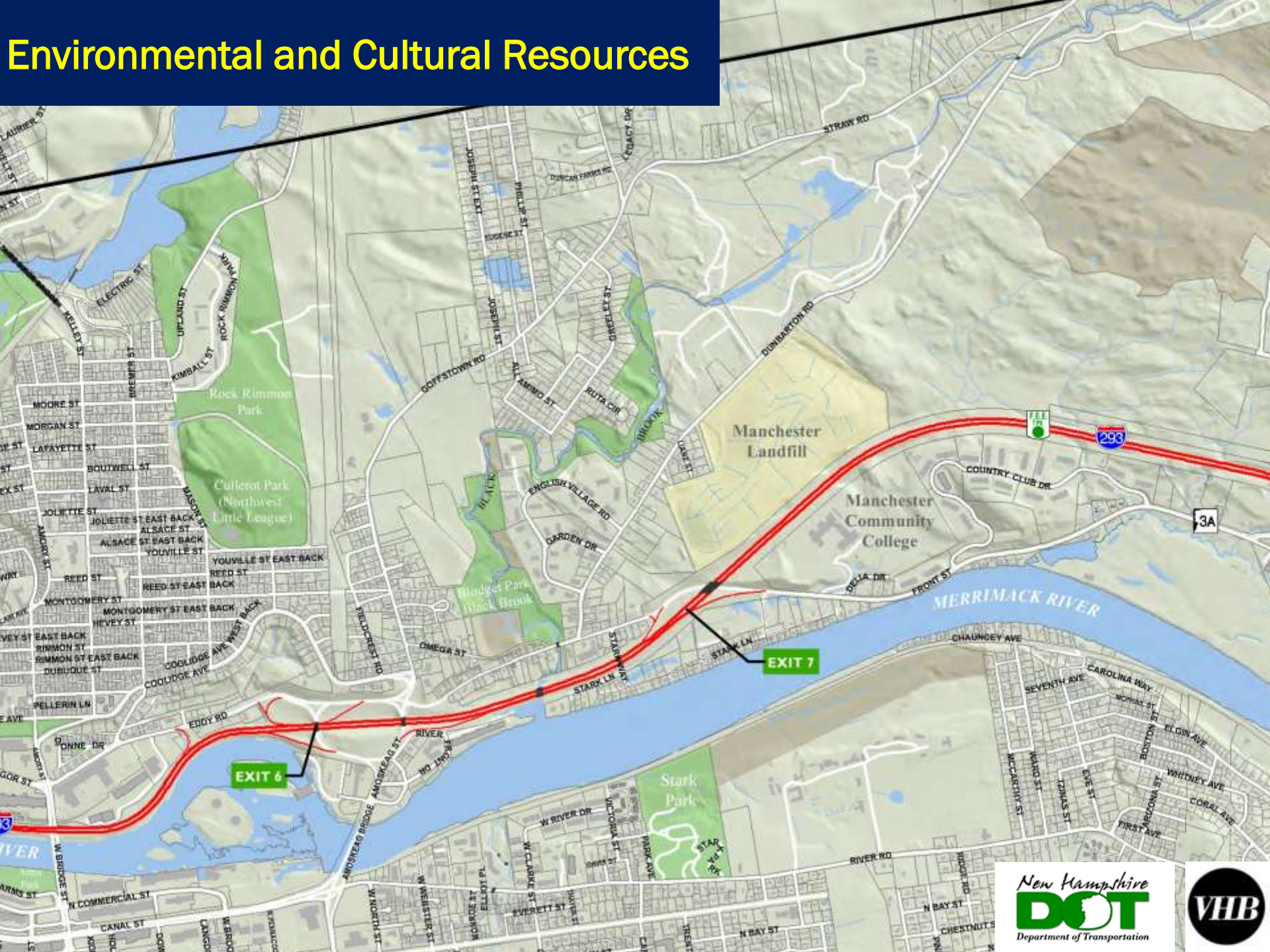
Traffic Flow by Alternative

(Alt 9 – 2035 PM Peak Hour)

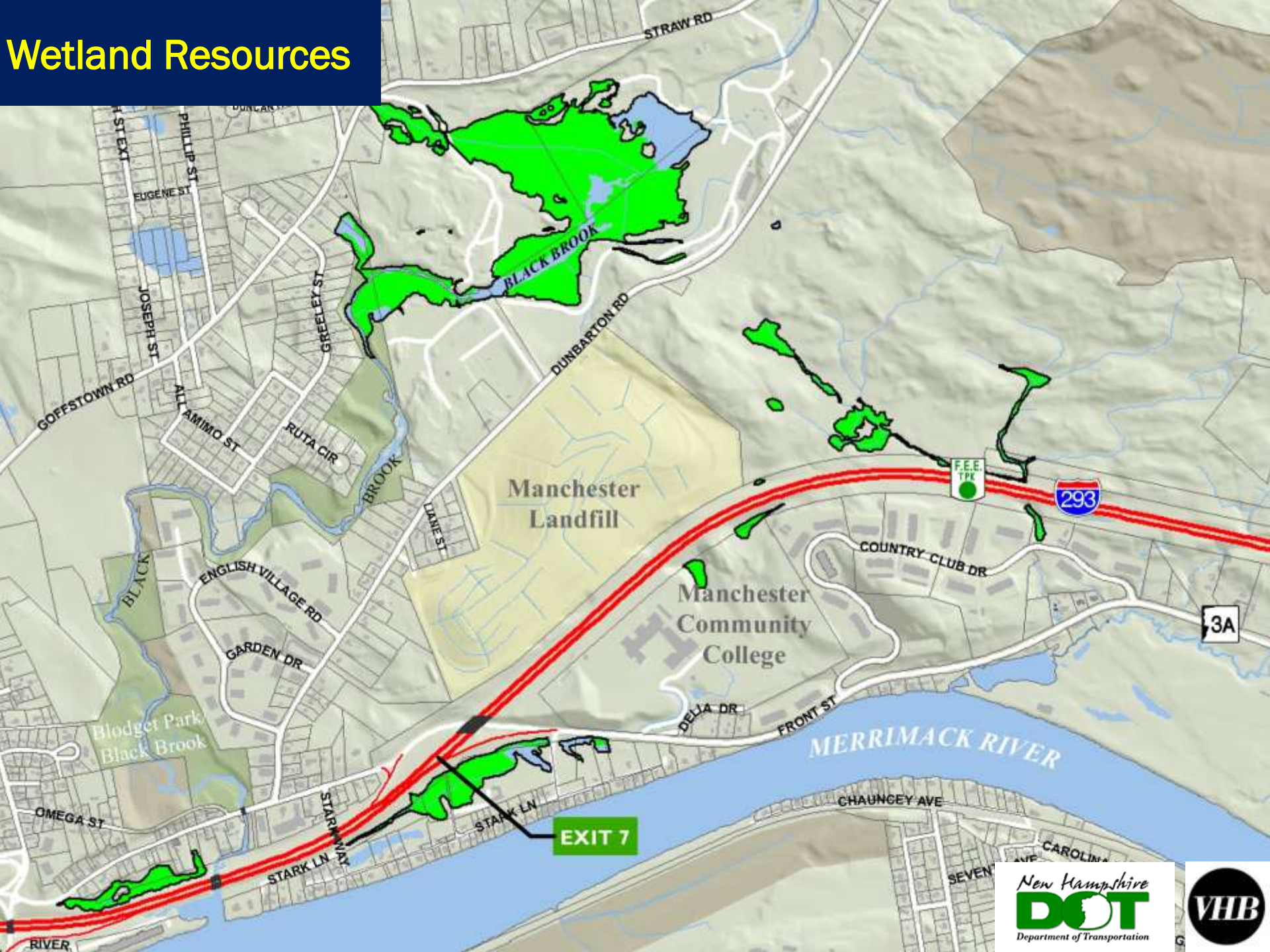


Environmental and Cultural Resources

Environmental and Cultural Resources



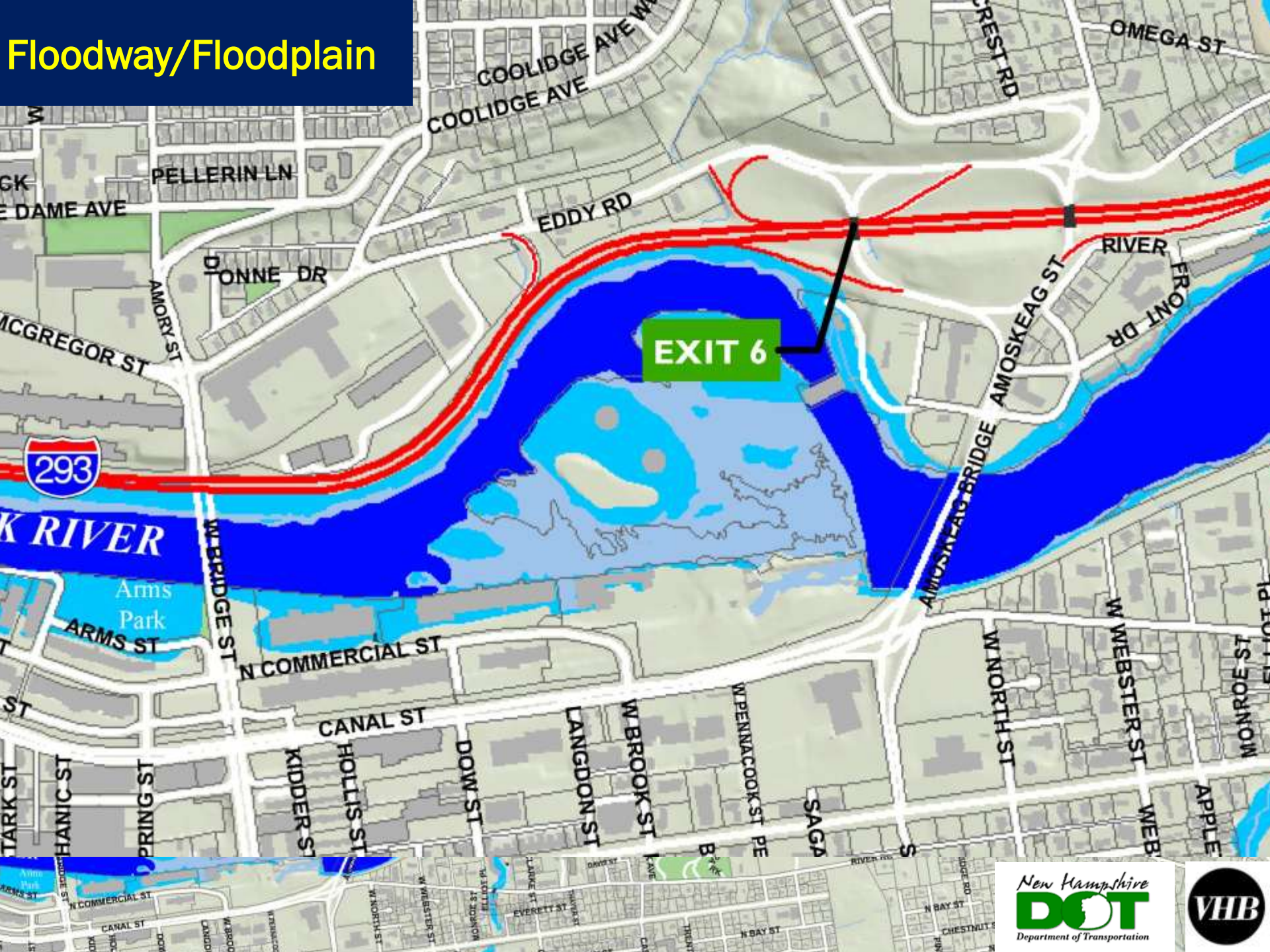
Wetland Resources



Historic Resources



Floodway/Floodplain



Sensitive Receptors to Highway Noise

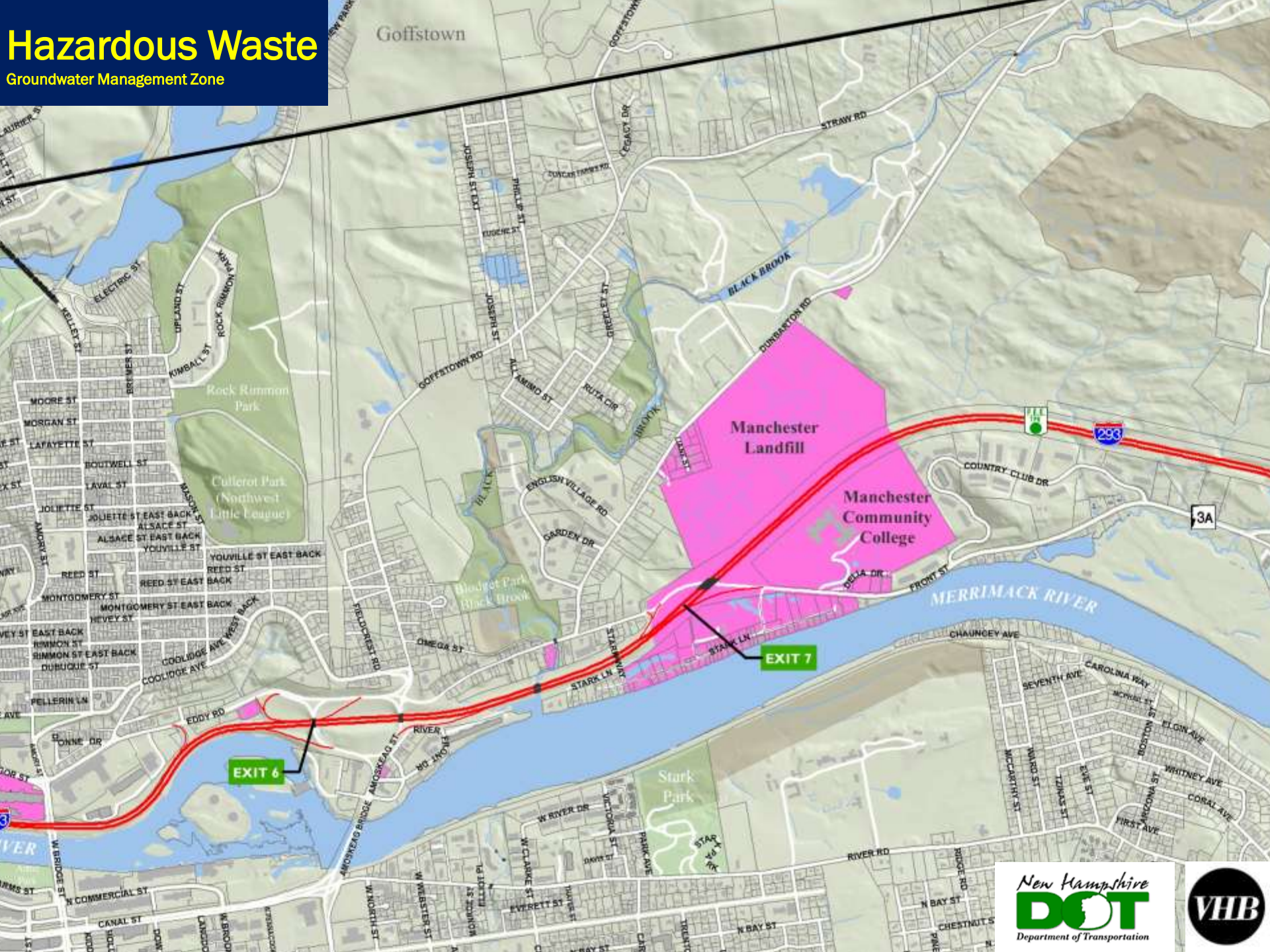


Rare, Threatened, Endangered Species/Habitat



Hazardous Waste

Groundwater Management Zone



Public Workshop Input

- Problems
- Issues and Constraints
- Potential Solutions

Problems/Issues

- Poor sight lines
- Queuing onto the highway
- High speed weaving
- Short on-ramps with limited acceleration length
- Vehicular crashes
- Confusion/congestion at Amoskeag Circle
- Highway noise
- Limited truck access between Goffstown and I-293
- Congestion/safety at MCC/Front St intersection
- Limited access at existing Exit 7 location

Conceptual Alternatives

Plans show conceptual ideas. No determinations regarding property acquisition have been made.

Conceptual Alternatives

- I-293 Mainline
 - Alts 1, 2, and 3
- Exit 6
 - Alts 4, 5, 5A, 6, and 7
- Exit 7
 - Alts 8, 9A, 9B, 10A and 10B

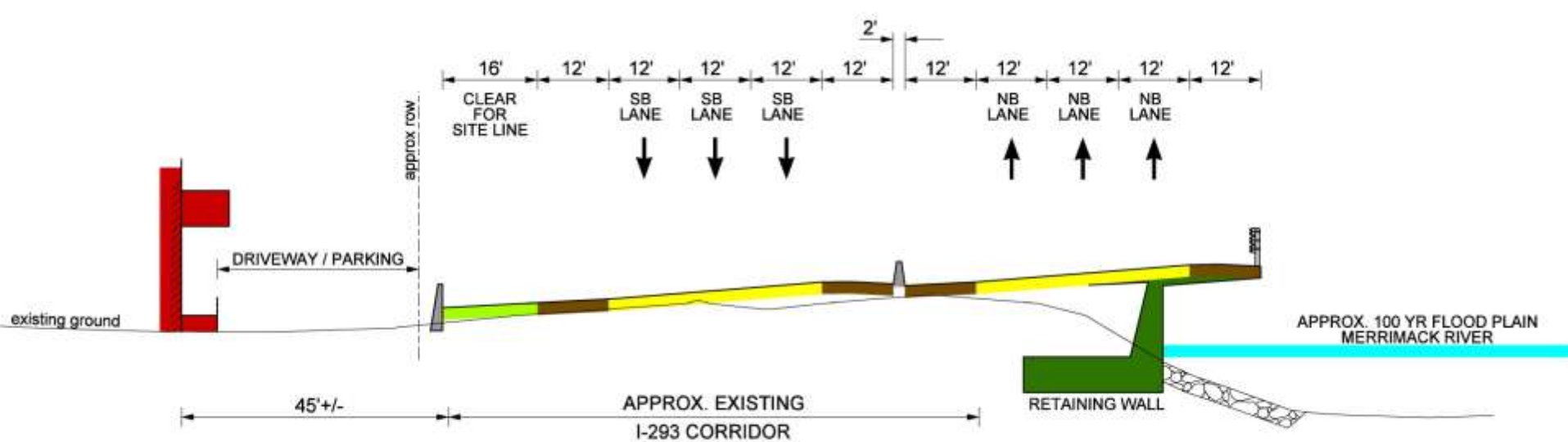
I-293 Mainline



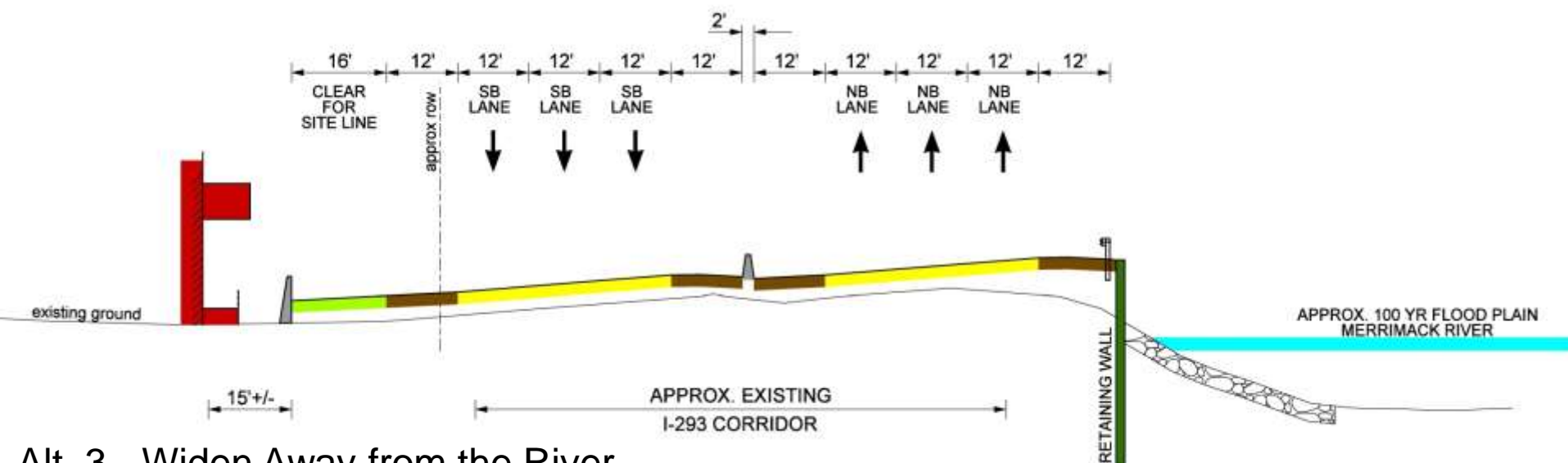








Alt. 2 - Widen Towards the River



Alt. 3 - Widen Away from the River

Exit 6

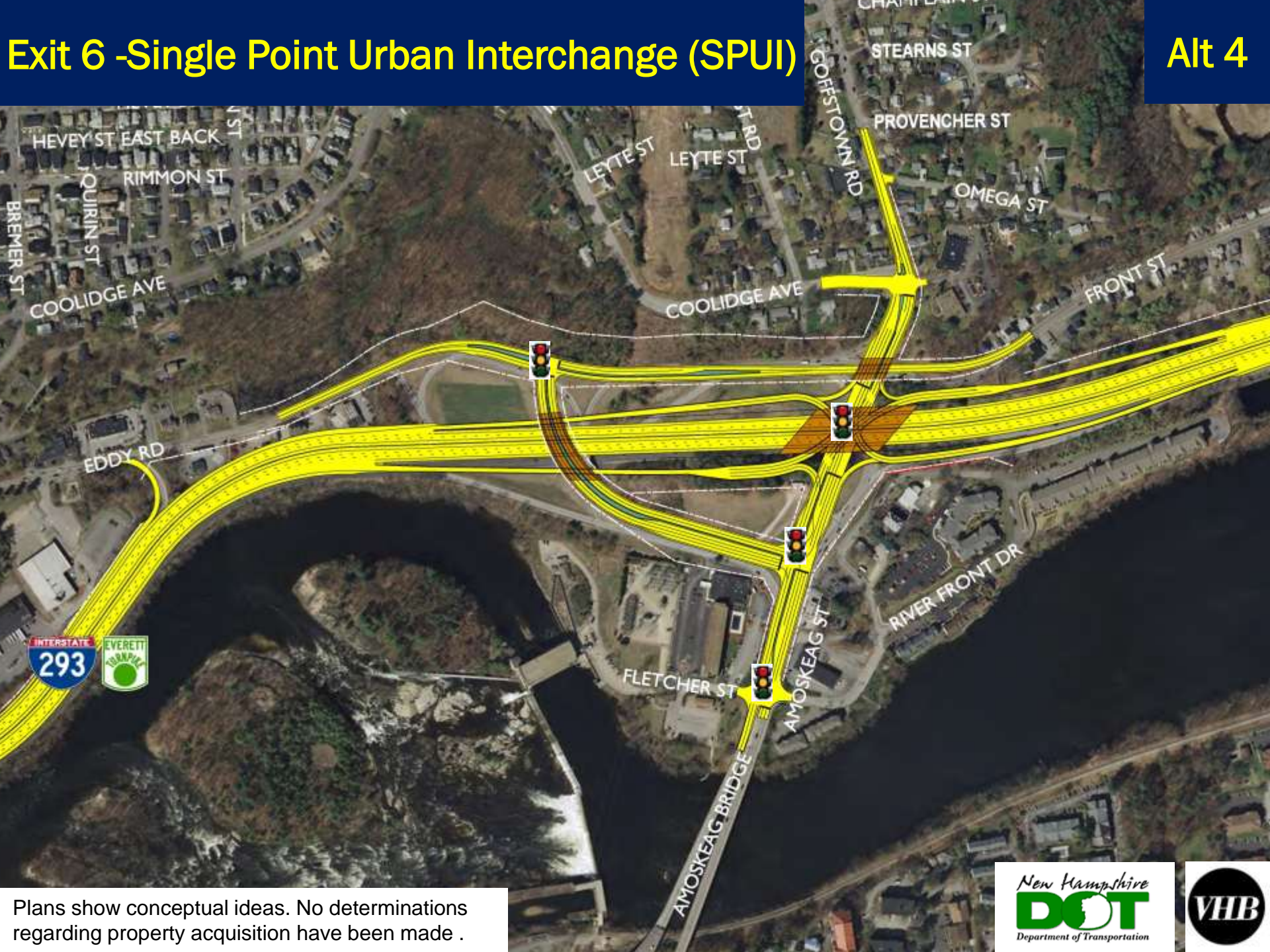
Exit 6



Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 6 -Single Point Urban Interchange (SPUI)

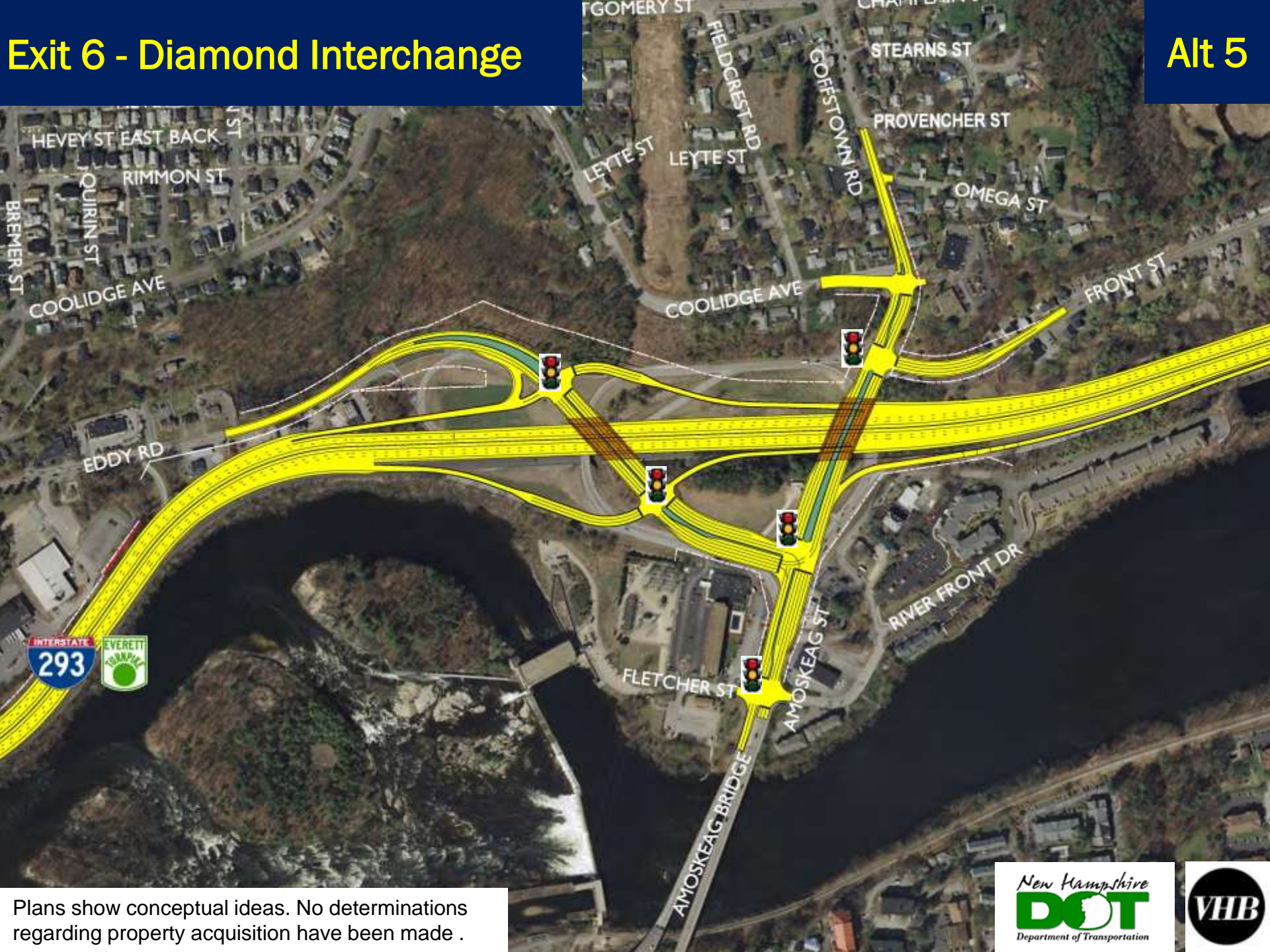
Alt 4



Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 6 - Diamond Interchange

Alt 5



Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 6 -Diverging Diamond Interchange (DDI)

Alt 6



Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 6 - Roundabout Diamond Interchange

Alt 7



Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 6 – Off-Set Diamond Interchange

Alt 5A



Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 7

Exit 7 –Current Location



Manchester
Community
College

Manchester
Landfill

DELIA DR

FRONT ST

STARK LN

STARK LN

FRONT ST

STARK LN

STARK LN

FARMER LN

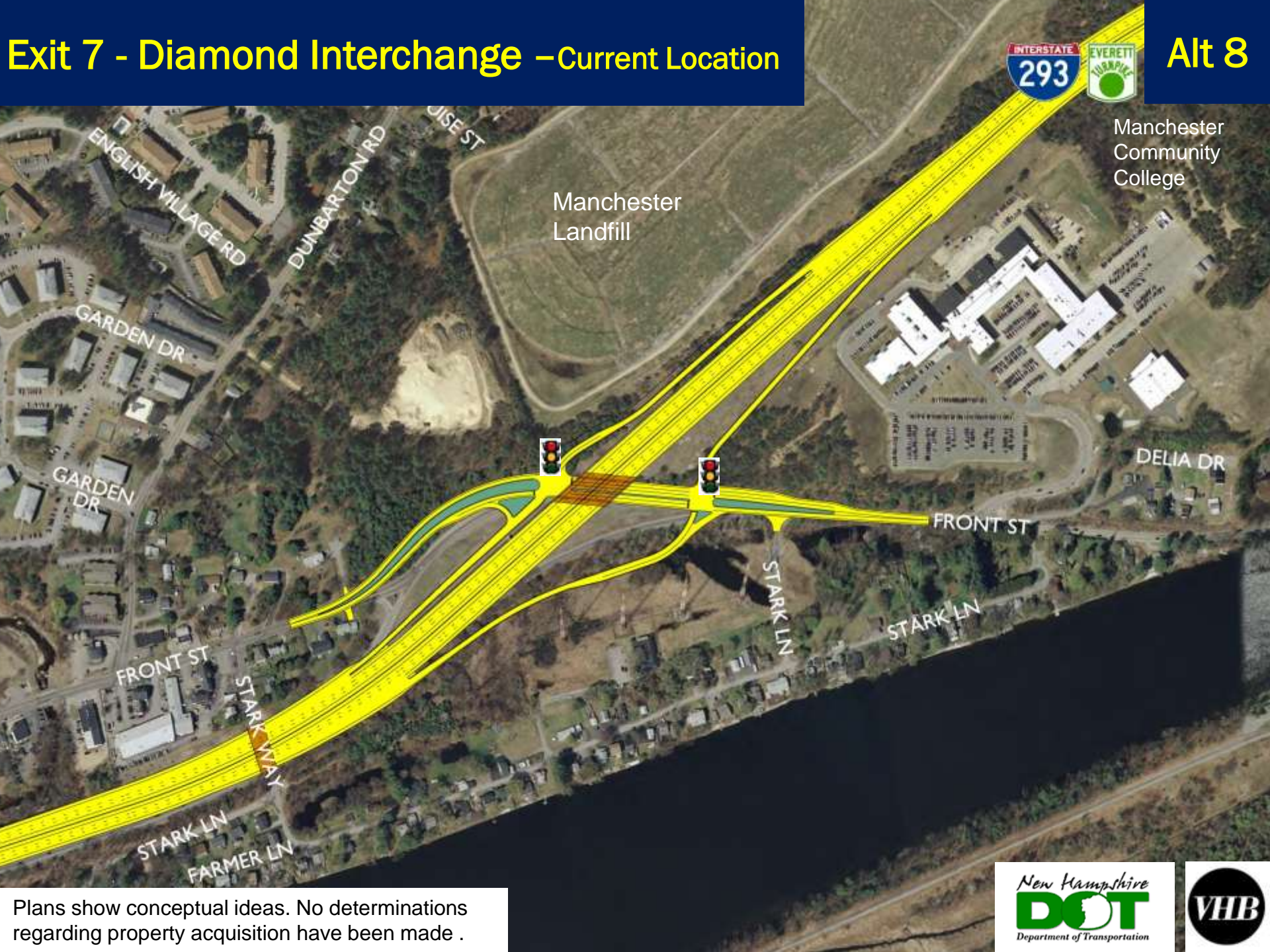


Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 7 - Diamond Interchange –Current Location



Alt 8



Manchester
Community
College

Manchester
Landfill

DELIA DR

FRONT ST

STARK LN

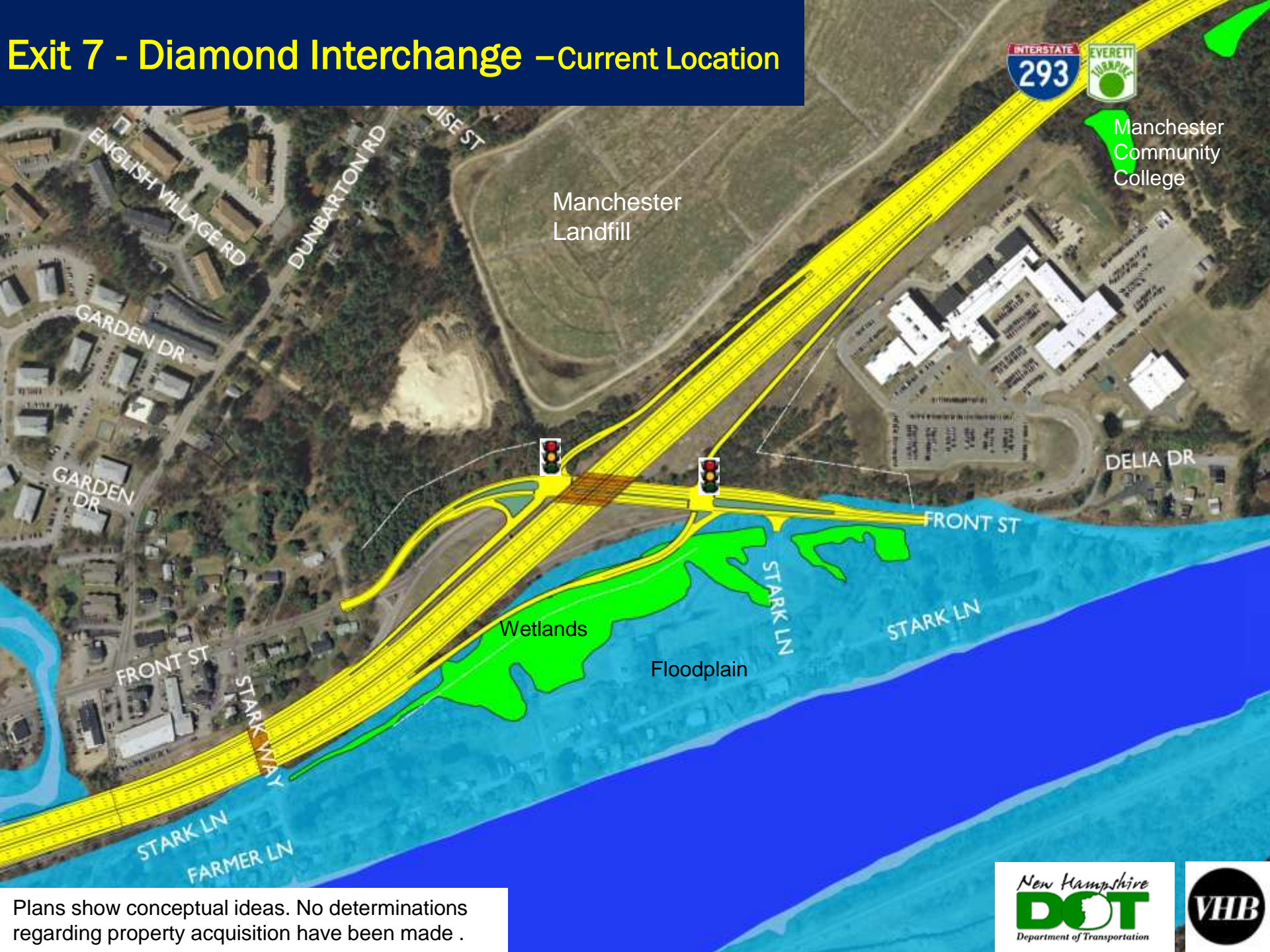
STARK LN

STARK LN

FARMER LN

Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 7 - Diamond Interchange –Current Location



Manchester
Landfill

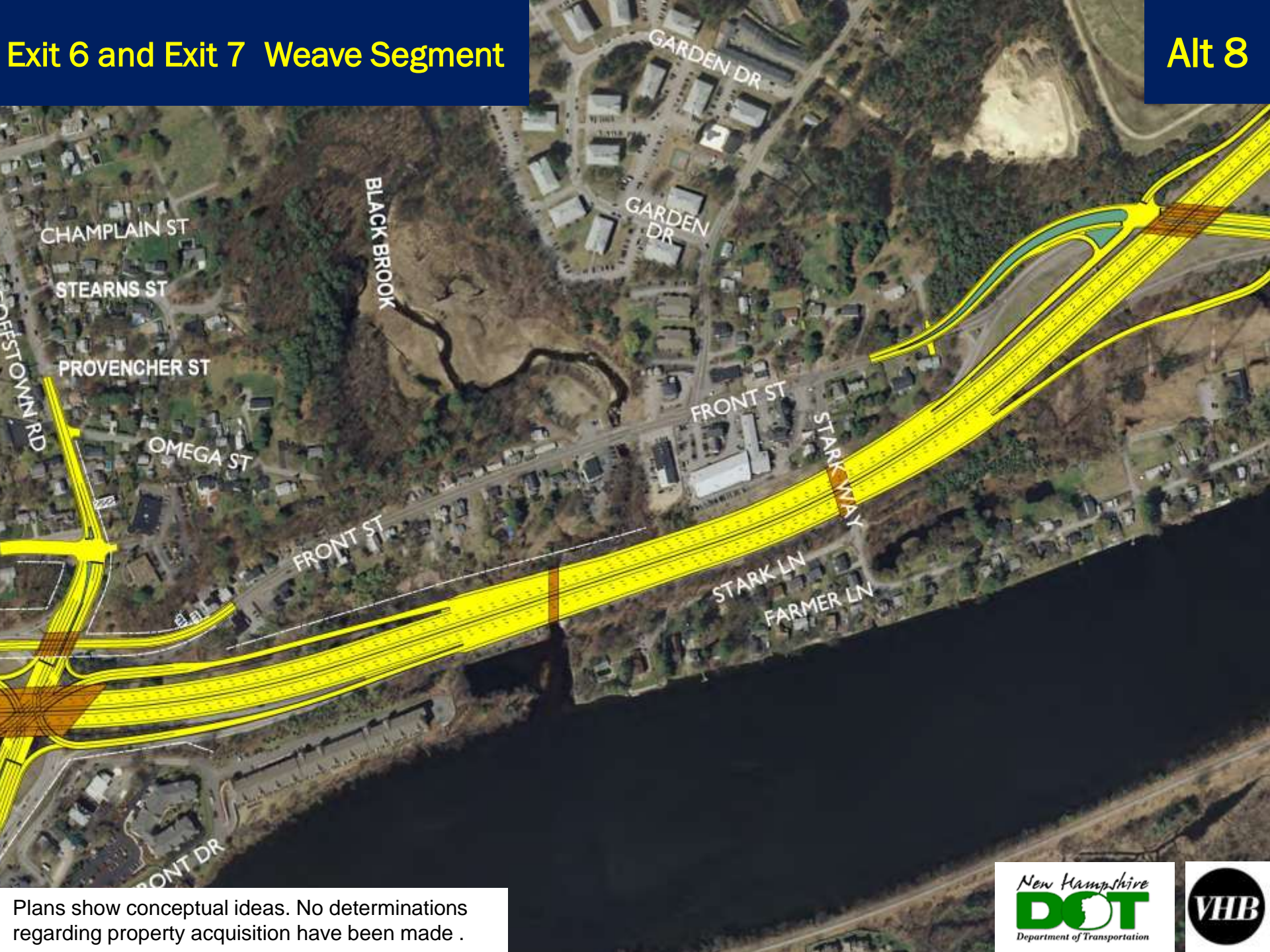
Manchester
Community
College

Wetlands

Floodplain

Exit 6 and Exit 7 Weave Segment

Alt 8



Plans show conceptual ideas. No determinations regarding property acquisition have been made .

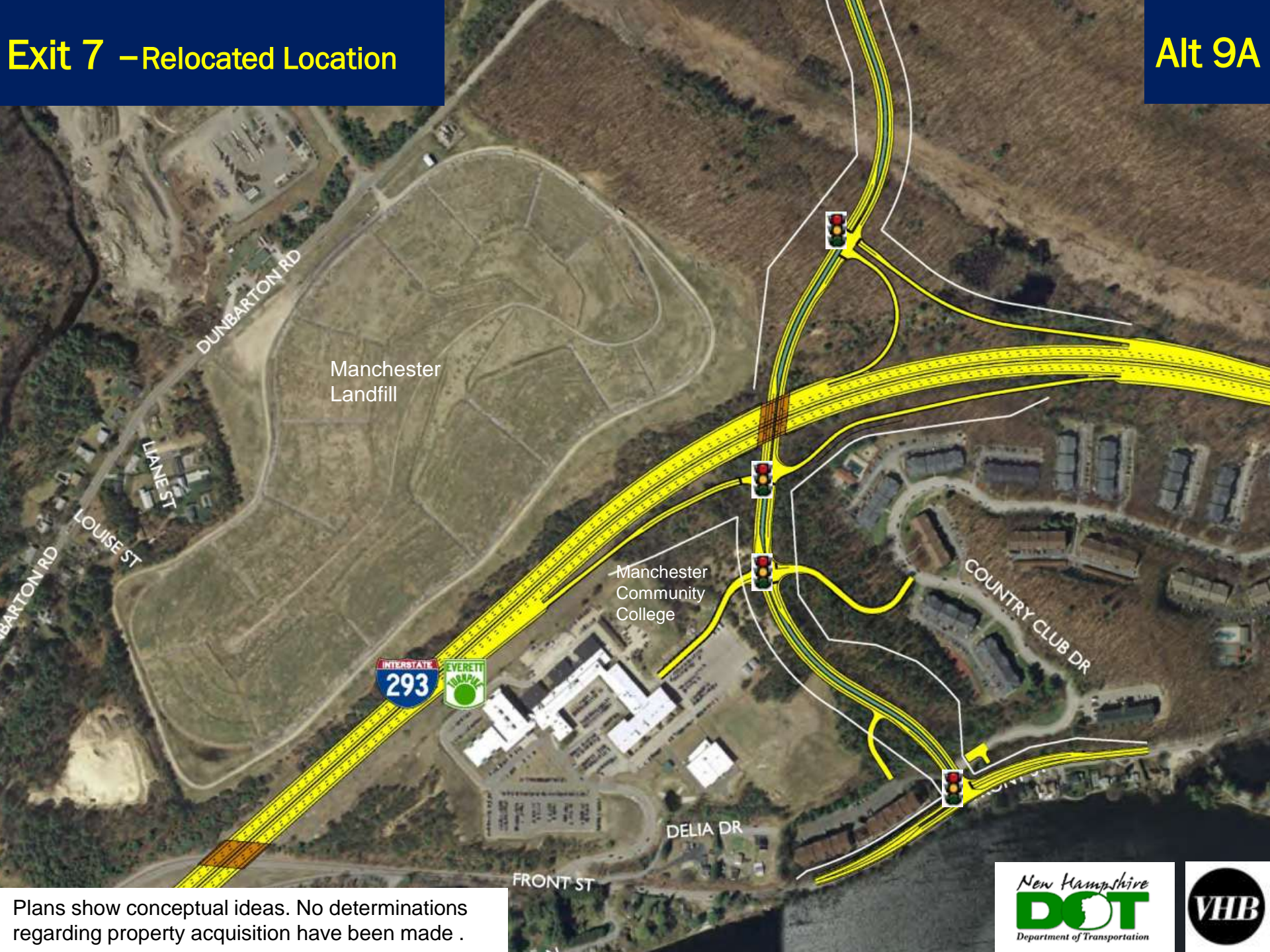
Exit 7 – Relocated Location



Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 7 – Relocated Location

Alt 9A



Manchester Landfill

Manchester Community College



COUNTRY CLUB DR

DELIA DR

FRONT ST

Plans show conceptual ideas. No determinations regarding property acquisition have been made .

Exit 7 – Relocated Location

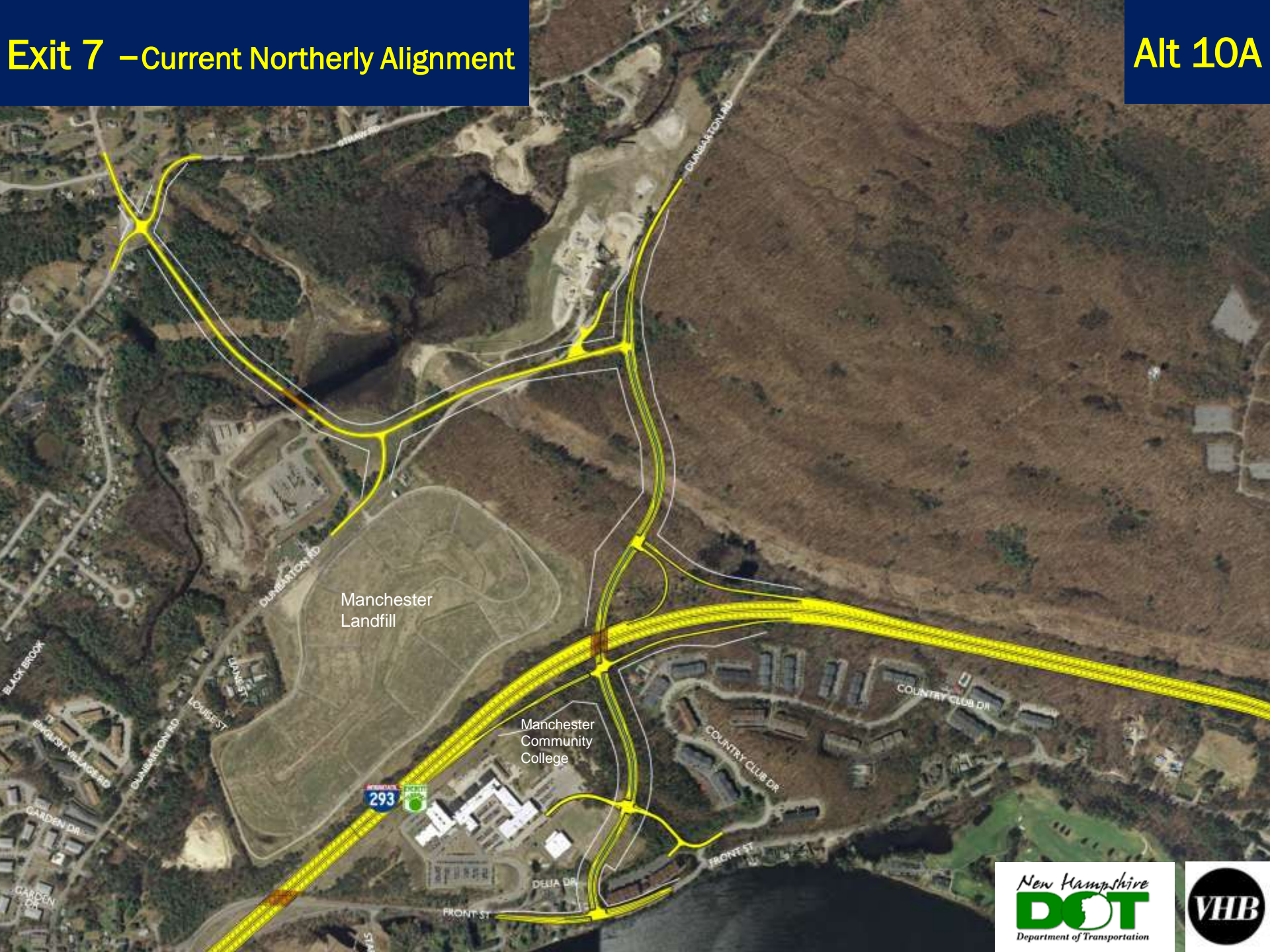
Alt 9B



Plans show conceptual ideas. No determinations regarding property acquisition have been made .

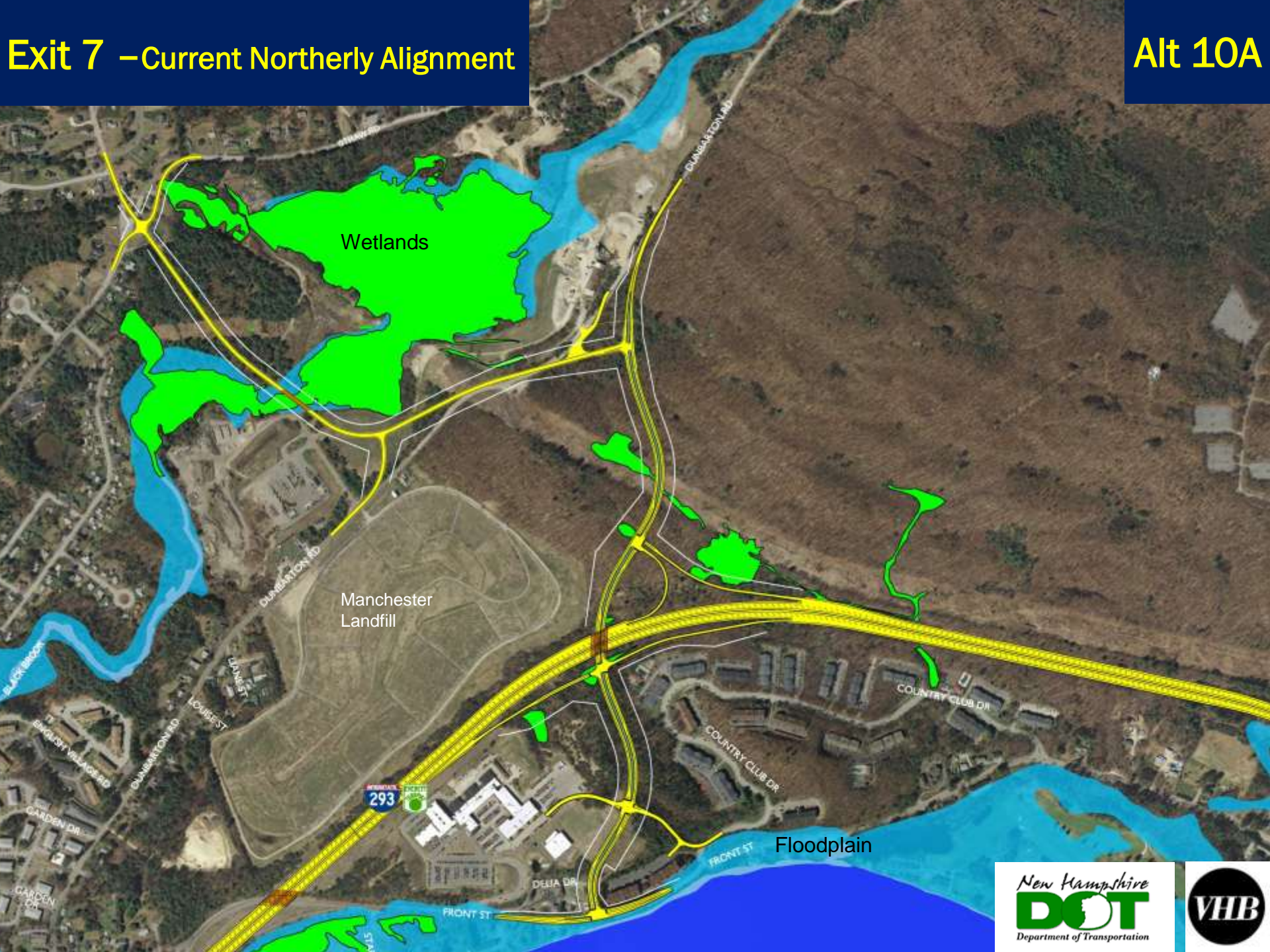
Exit 7 – Current Northerly Alignment

Alt 10A



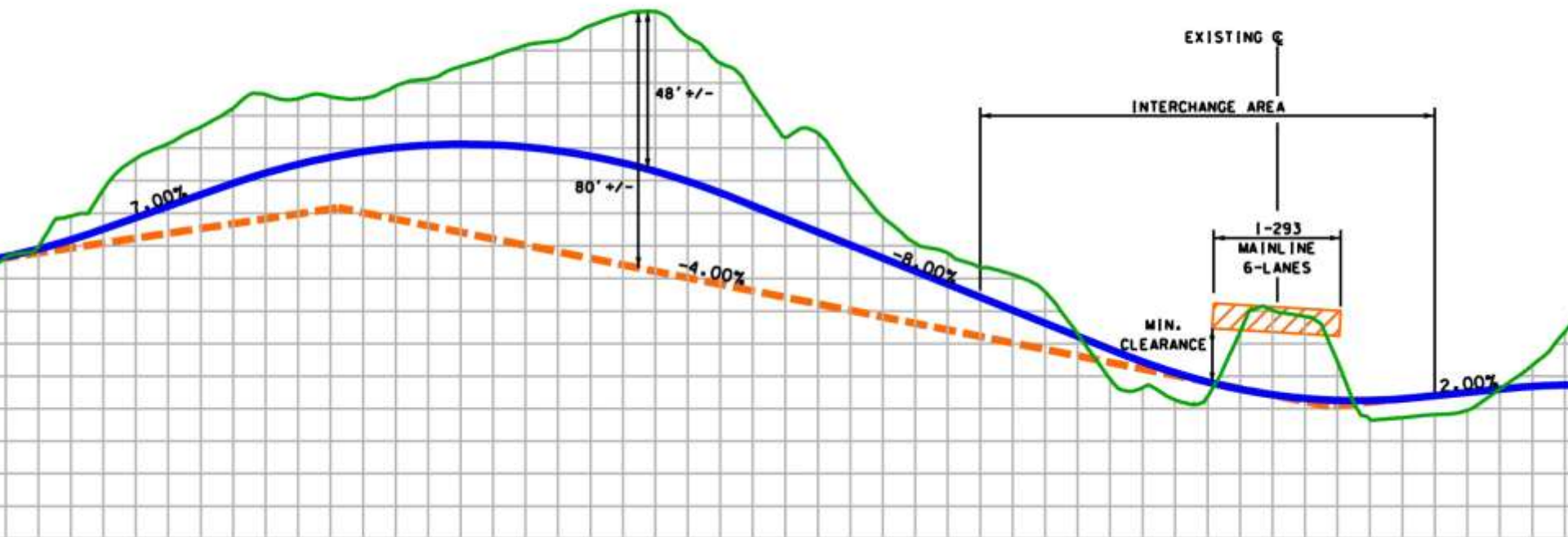
Exit 7 – Current Northerly Alignment

Alt 10A

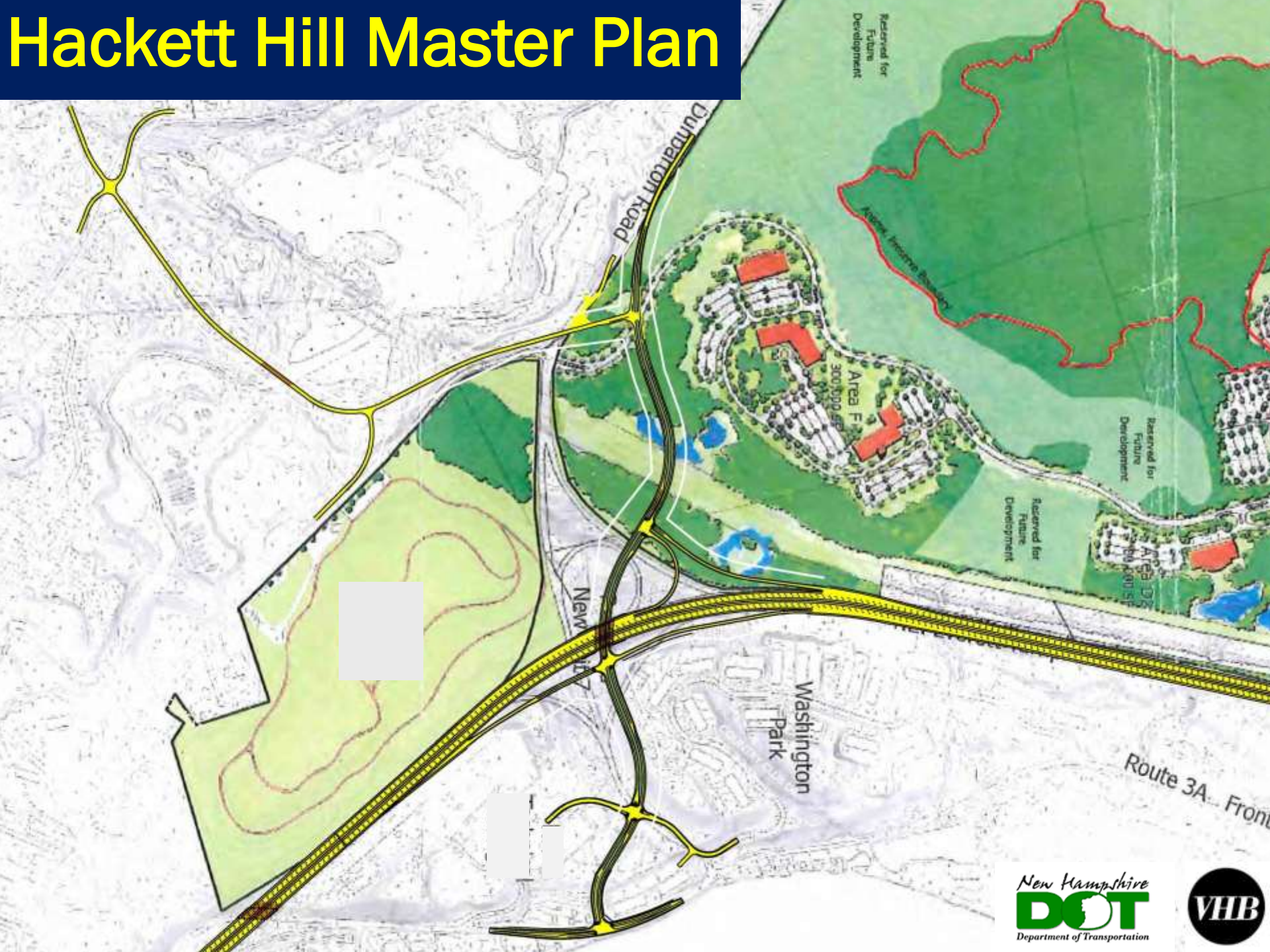


2009 Connector Road Profile

2009 CITY OF MANCHESTER
CONCEPTUAL OVERVIEW PROFILE

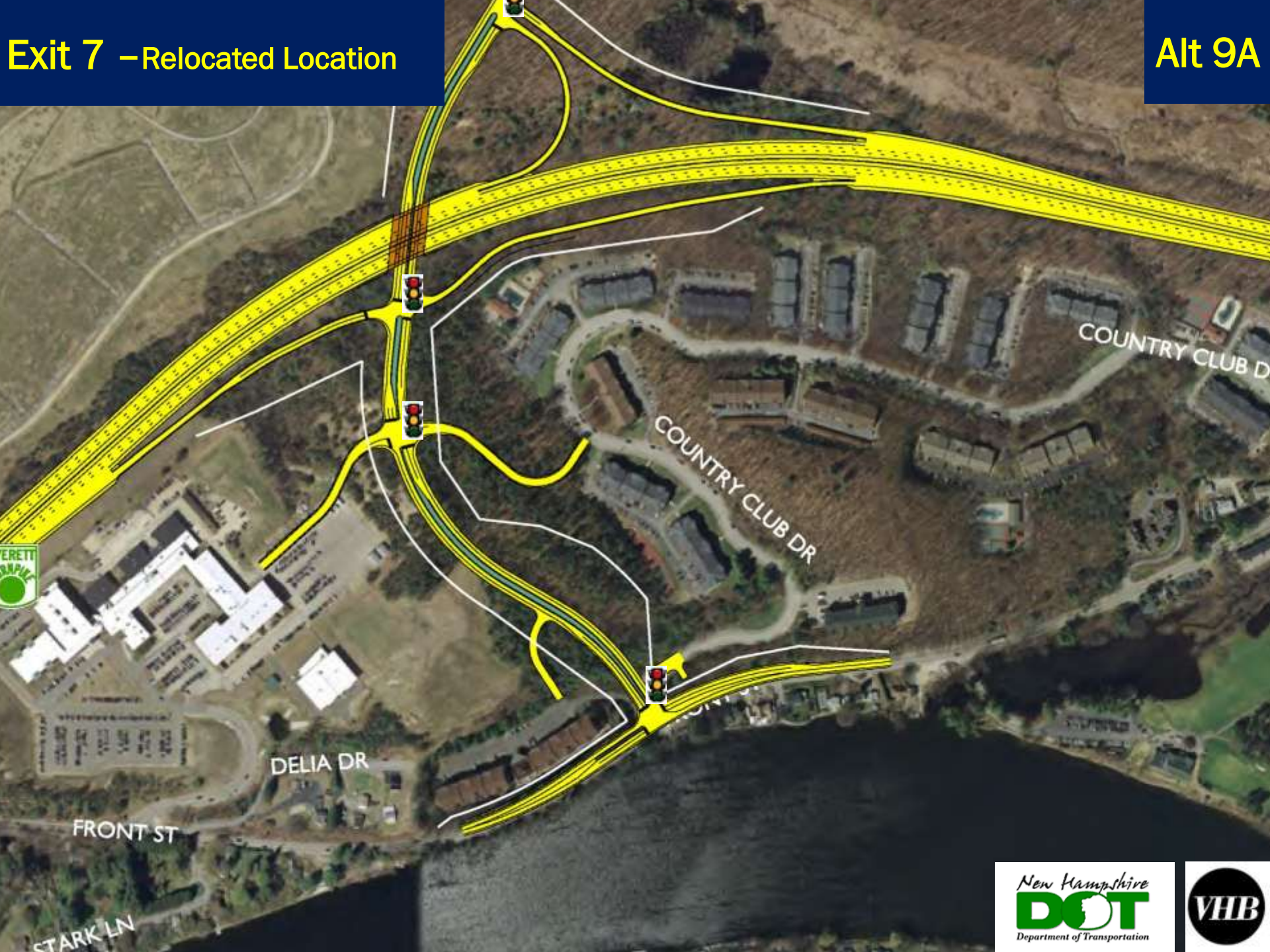


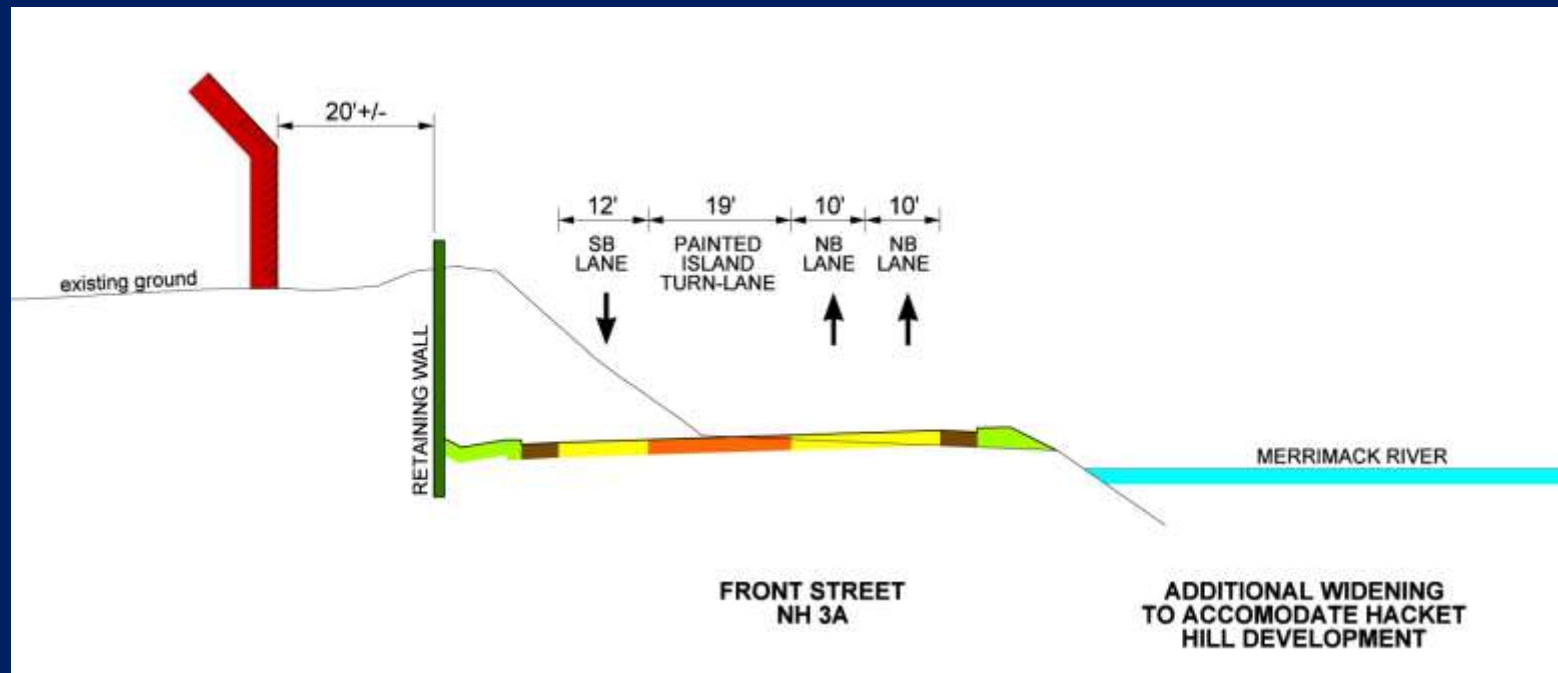
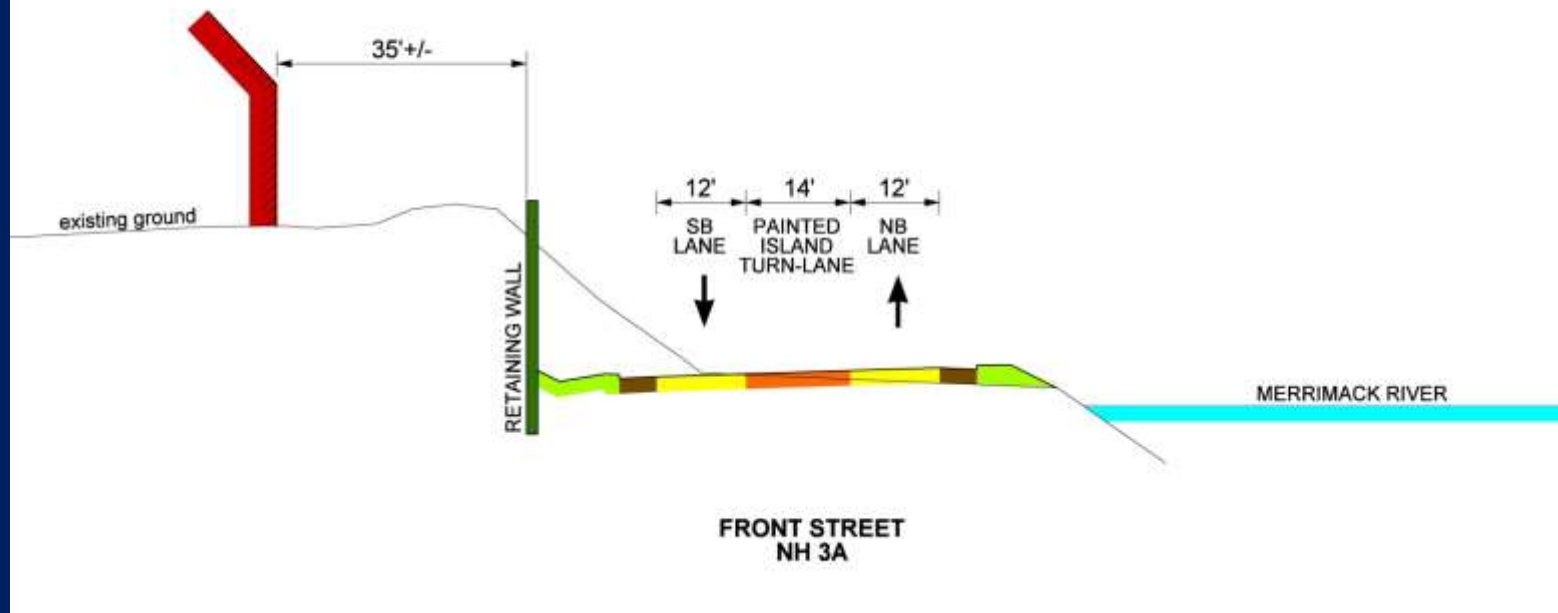
Hackett Hill Master Plan



Exit 7 – Relocated Location

Alt 9A





Traffic Simulations

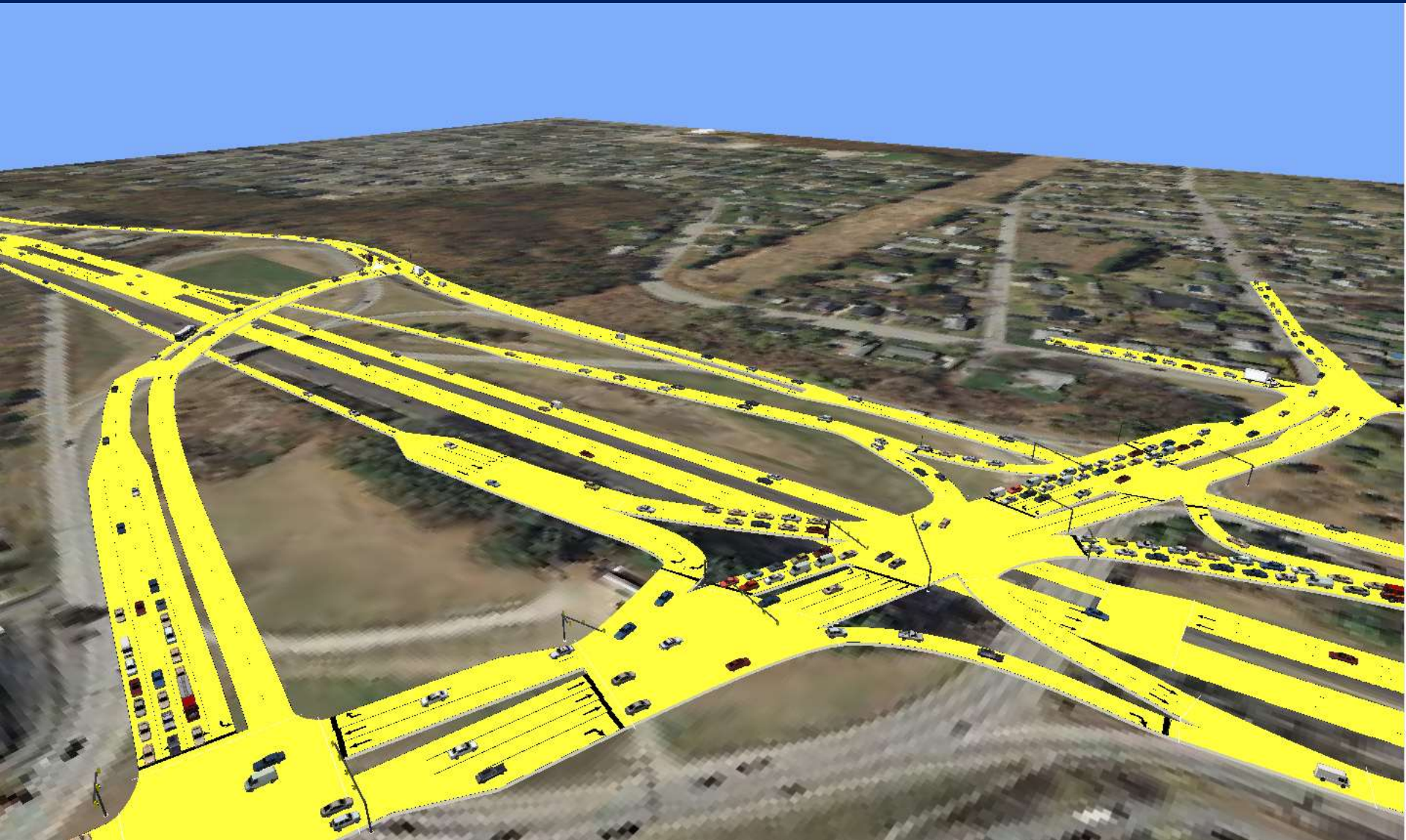
Exit 6 -Single Point Urban Interchange (SPUI)



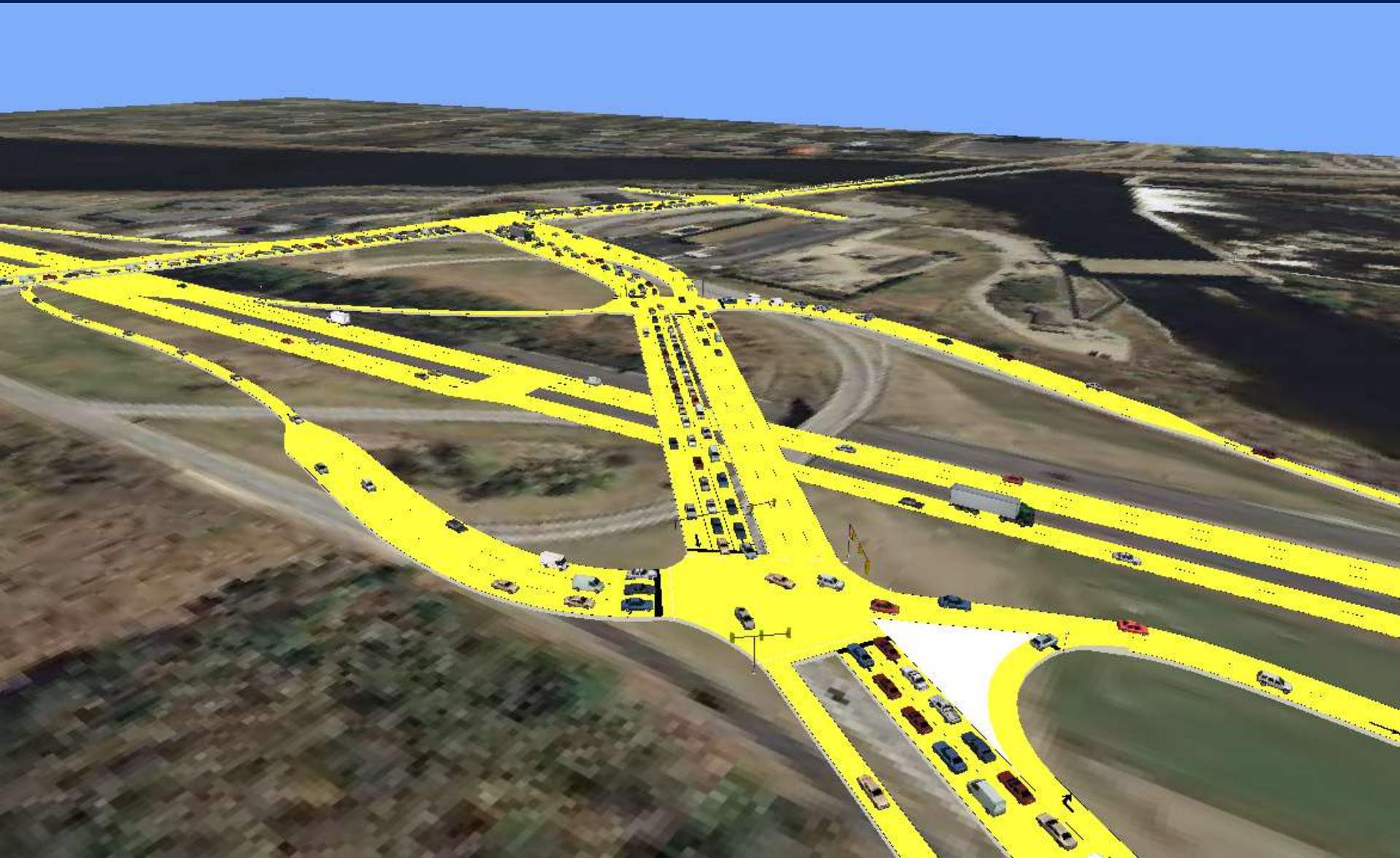
Exit 6 -Single Point Urban Interchange (SPUI)



Exit 6 -Single Point Urban Interchange (SPUI)



Exit 6 - Diamond Interchange



Exit 6 -Diverging Diamond Interchange (DDI)



Exit 7 – Relocated Location



Alternatives Evaluation

Evaluation Criteria

Highway Needs (Study Purpose)
Safety and Capacity

Community Needs
Socio-Economic Benefits

Impacts
Highway Noise, Wetlands, Historic/Archaeological,
Floodway, Floodplain, Aquifer, Farmland, Public
Parks/Recreation, Endangered Species/Habitat,
Property, and Costs

Evaluation Matrix

I-293 Exits 6 and 7 Transportation Planning Study Evaluation Matrix

Study purpose is to consider transportation system modifications aimed at addressing **capacity** and **safety** related deficiencies along the mainline and at the interchanges (Exits 6 and 7) for a 3-mile segment of I-293 including consideration of relocating and reconfiguring Exit 7 into a fully directional interchange.

		No Build	I-293 Mainline			Exit 6 Interchange					Exit 7 Interchange				
			Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 5A	Alt 6	Alt 7	Alt 8	Alt 9a	Alt 9b	Alt 10a	Alt 10b
Purpose			Maintain 4-lanes with interchange upgrades	5-lanes with interchange upgrades (heavily alignment)	5-lanes with interchange upgrades (centerly alignment)	Single Point Urban Interchange	Standard Diamond Interchange	Off-Set Diamond Interchange	Diverging Diamond Interchange	Diamond Interchange with Roundabouts	Tight Diamond Interchange at Existing Location	Relocated Interchange with access to Front St and Dunbar Rd	Relocated Interchange with access to Front St and Dunbar Rd	Relocated Interchange w/ access to Front St and Dunbar Rd	Relocated Interchange w/ access to Front St and Dunbar Rd
Addresses capacity deficiencies along I-293						N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Addresses safety deficiencies along I-293						N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Addresses capacity deficiencies at interchanges			N/A	N/A	N/A										
Addresses safety deficiencies at interchanges			N/A	N/A	N/A										
Community Needs (Economic Development)															
Supports Hackensack River Master Plan Connectivity			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
Supports Guttenberg/O-293 Connectivity			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
Impacts	Metric														
Wetlands	Area of Impact Number of Wetlands (Coverage)	0	0.4	0.1	0.4	2.9	2.9	2.9	2.9	2.9	2.2	1.1	1.5	3.8	3.7
Water Quality	Area of New Exposure	0	4.3	4	11.49	10.7	11.8	11.8	9.9	9.7	11.8	19.2	19.2	21.8	21.8
Floodway	Area of New Fill	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floodplain	Area of New Fill	0	2.8	1.9	2.0	1.8	1.8	1.8	1.7	1.8	2.3	0.7	0.4	1.3	0.7
Aquifer	Area of New Exposure	0	4.9 (U)	4.7 (U)	14.0 (U)	13.9 (U)	15.5 (U)	13.8 (U)	13.4 (U)	12.3 (U)	17 (U)	16.1 (U)	16.1 (U)	20 (U)	20.1 (U)
Farmland	Area of Disturbance	0	0	0	0	0	0	0	0	0	0.7	23.2	19.9	22.9	19.9
Rare, Threatened, Endangered Species/Habitat	# of Federally Listed Populations Impacted	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	# Populations Potentially Impacted	0	4 state listed "T" or "C"	4 state listed "T" or "C"	4 state listed "T" or "C"	4 state listed "T" or "C"	4 state listed "T" or "C"	4 state listed "T" or "C"	4 state listed "T" or "C"	4 state listed "T" or "C"	8 (4 state listed "T" or "C", 3 state listed "SC", 1 MHW tracked, not yet added)	8 state listed "T" or "C"	9 state listed "T" or "C"	7 state listed "T" or "C"	7 (5 state listed "T" or "C", 1 state listed "SC", 1 MHW tracked, not yet added)
Highway Noise	# of Sensitive Receptors	N/A	1	1	75	77	81	78	77	77	25	16	39	38	41
Public Parks & Recreation	# of Sites Impacted	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-of-Way	# of Parcels Affected	0	6	6	21	21	24	22	22	23	8	6	11	16	19
	Buildings Impacted by Land Use Type	0	2 Commercial	2 Commercial	7 (2 Single-Fam. Res., 1 Multi-Fam. Res., 4 Com.)	9 (2 Single-Fam. Res., 2 Multi-Fam. Res., 4 Com.)	11 (4 Single-Fam. Res., 3 Multi-Fam. Res., 4 Com.)	8 (3 Single-Fam. Res., 2 Multi-Fam. Res., 4 Com.)	9 (3 Single-Fam. Res., 2 Multi-Fam. Res., 4 Com.)	0	0	0	0	0	0
	Area of Acquisition	0	3.6	4.2	1.28	6	6.5	6.6	6.6	6.6	3.62	31.6	31.6	45.2	46.8
Historic/Archaeological Resources	# of Known Historic Properties Directly Impacted	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	# of Known Archaeological Sites Impacted	0	1	1	2	2	2	2	2	2	0	0	0	0	0
Hazardous Waste	# of Potential Sites Impacted	0	1	4	7	0	7	0	0	0	1	5	6	4	5
Construction Cost	2023 Dollars		\$27 - \$15 M	\$7 - \$8 M	\$52 - \$58 M	\$37 - \$41 M	\$36 - \$39 M	\$38 - \$44 M	\$33 - \$36 M	\$27 - \$29 M	\$25 - \$29 M	\$25 - \$29 M	\$27 - \$30 M	\$41 - \$45 M	\$43 - \$48 M

LEGEND



Substantially Meets Objective



Moderately Meets Objective



Minimally or Fails to Meet Objective

Notes:









(U) = Undisturbed, (D) = Disturbed

(T) = Threatened, (E) = Endangered, (SC) = Species of Concern




N/A = Not Applicable

I-293 Mainline Alternatives













(Capacity & Safety)

	No Build	Alt 1	Alt 2	Alt 3
		4 Lanes with Interchange Upgrades	6 Lanes with Interchange Upgrades (easterly alignment)	6 Lanes with Interchange Upgrades (westerly alignment)
Capacity				
Safety				

Legend

- Substantially Meets Objective 
- Moderately Meets Objective 
- Minimally or Fails to Meet Objective 

Exit 6 Alternatives (Capacity & Safety)

	No Build	Alt 4 Single Point Urban Interchange	Alt 5 Standard Diamond Interchange	Alt 5A Off-Set Diamond Interchange	Alt 6 Diverging Diamond Interchange	Alt 7 Diamond Interchange with Roundabouts
Capacity						
Safety						

Legend

Substantially Meets Objective















Moderately Meets Objective



Minimally or Fails to Meet Objective



Exit 7 Alternatives (Capacity & Safety)

	No Build	Alt 8 Diamond Interchange at Existing Location	Alt 9a Relocated Interchange w/ access to Front St and Dunbarton Rd	Alt 9b Relocated Interchange w/ access to Front St and Dunbarton Rd	Alt 10a Relocated Interchange w/ access to Front St and Goffstown Rd	Alt 10b Relocated Interchange w/ access to Front St and Goffstown Rd
Capacity						
Safety						

Legend

Substantially Meets Objective















Moderately Meets Objective



Minimally or Fails to Meet Objective



Exit 7 Alternatives (Economic Development)

	No Build	Alt 8 Diamond Interchange at Existing Location	Alt 9a Relocated Interchange w/ access to Front St and Dunbarton Rd	Alt 9b Relocated Interchange w/ access to Front St and Dunbarton Rd	Alt 10a Relocated Interchange w/ access to Front St and Goffstown Rd	Alt 10b Relocated Interchange w/ access to Front St and Goffstown Rd
Hackett Hill Master Plan						
Goffstown/I-293 Connectivity						

Legend

Substantially Meets Objective



Moderately Meets Objective



Minimally or Fails to Meet Objective



Planning Study Schedule

Phase 1 – (Spring/Summer 2012)

Data Collection/Problem Identification

Phase 2 – (Fall 2012)

Screening Criteria & Brainstorming Alternatives

Phase 3 – (Winter/Spring 2013)

Develop, Evaluate, & Screen Alternatives

Phase 4 – (Summer 2013)

Documentation

I-293 Exits 6 and 7

Transportation Planning Study

(Manchester #16099)

What are your thoughts?

www.293planningstudy.com