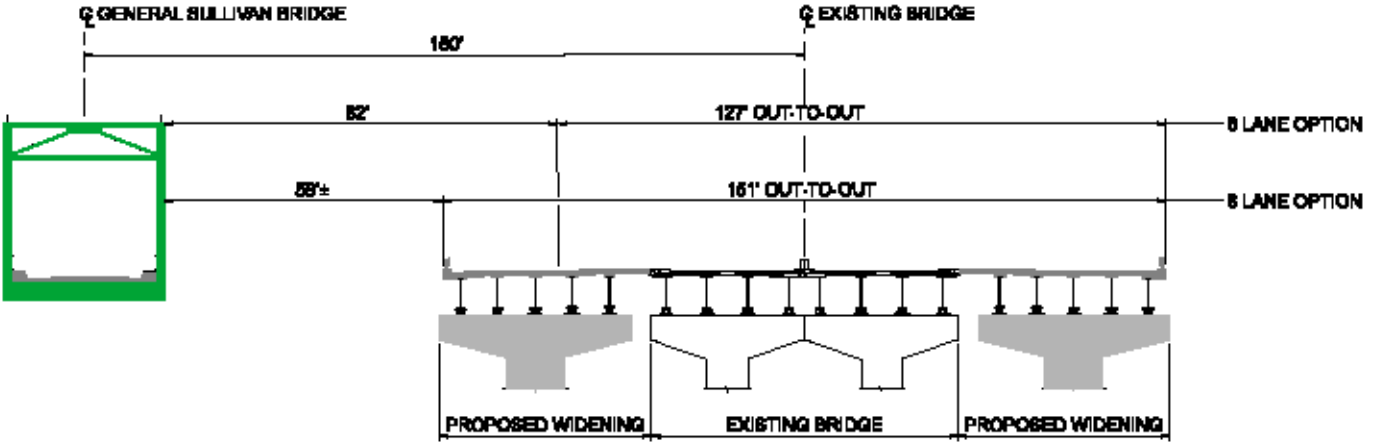
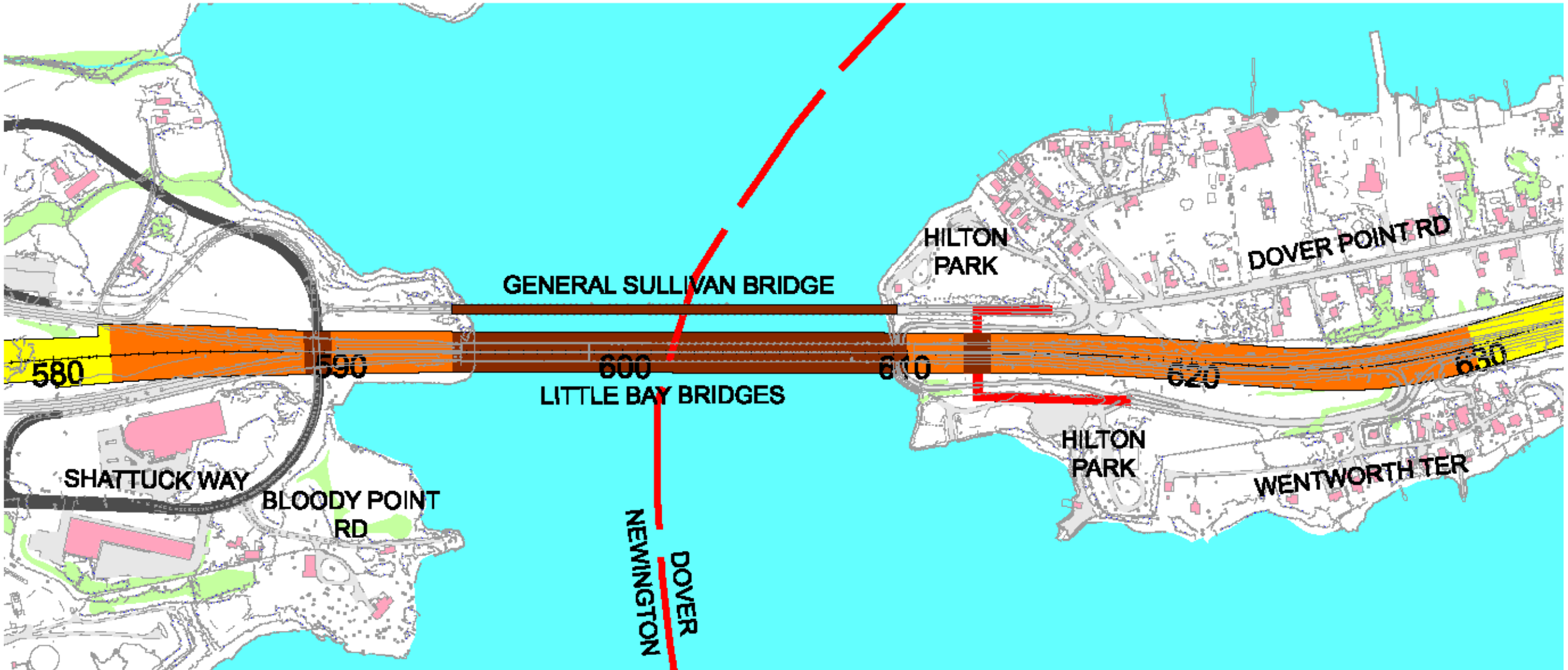


Conceptual Cross-Section



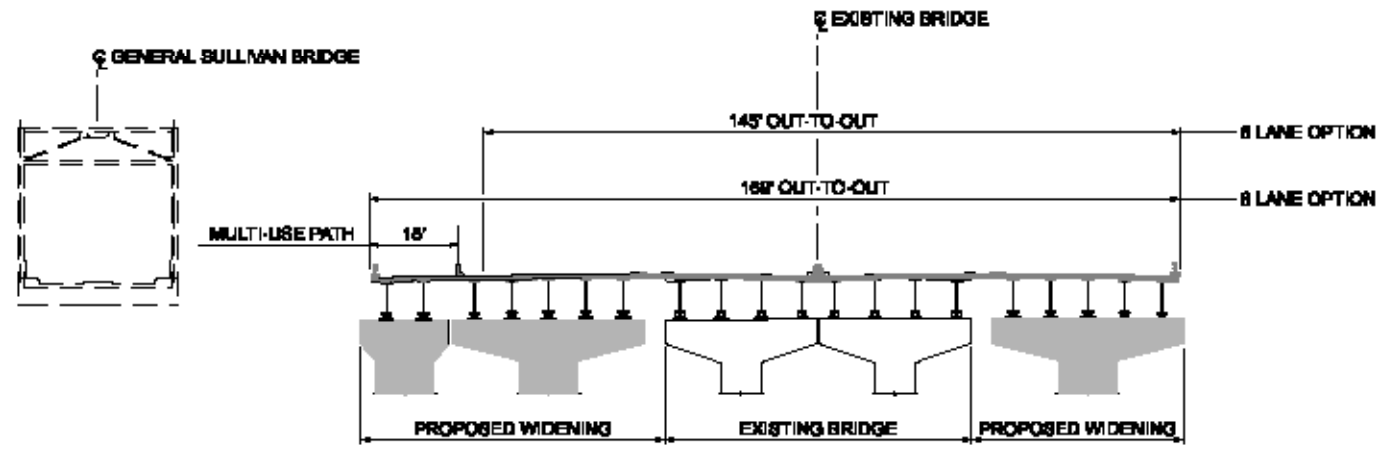
- Legend:**
- Existing Pavement
 - Building
 - Water
 - Wetlands
 - Conceptual Roadway Improvements
 - 1 or 2 Lane Conceptual Roadway
 - Proposed Bridge Improvements
 - Newington Interim Safety Improvements



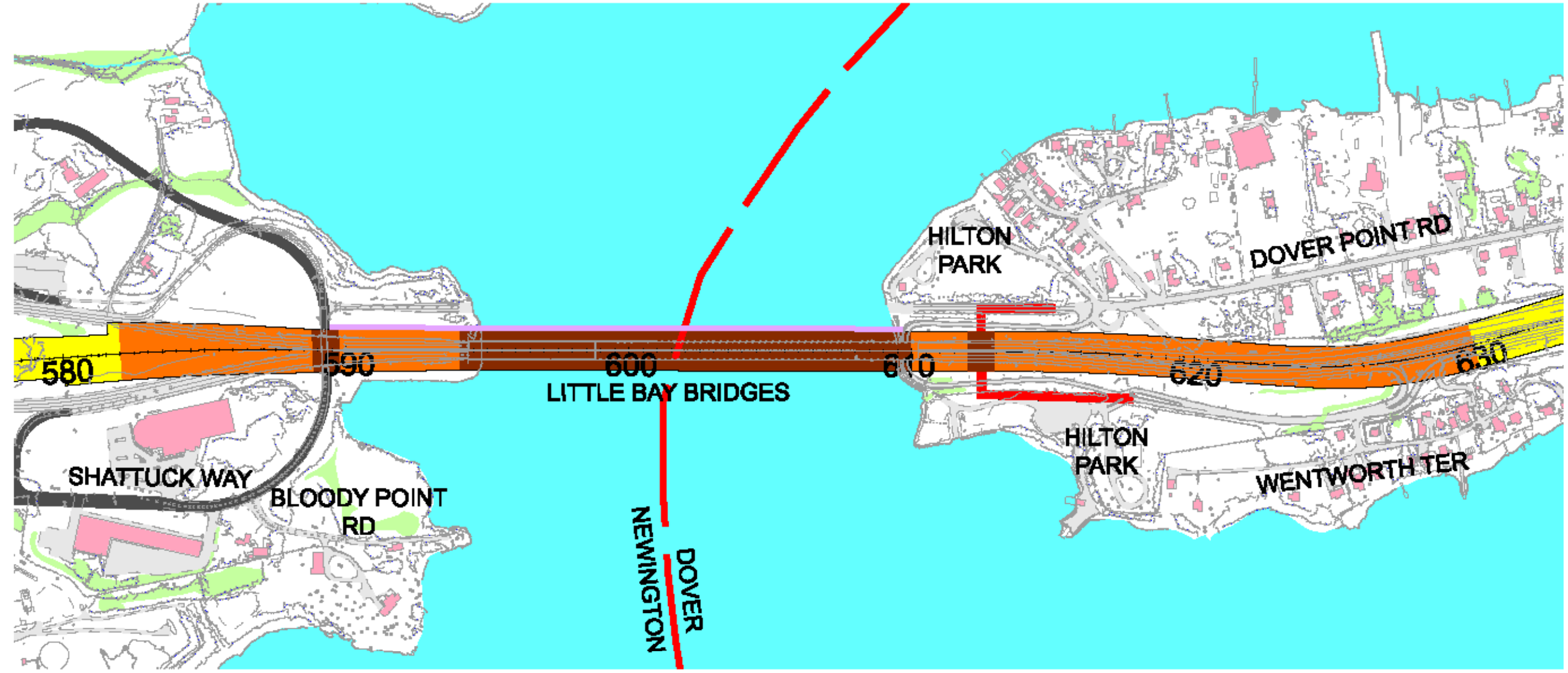
Vannoy Hangen Brustlin, Inc.

Figure 2.4-33
Widen Little Bay Bridges to Both Sides and Rehabilitate General Sullivan Bridge

Conceptual Cross-Section



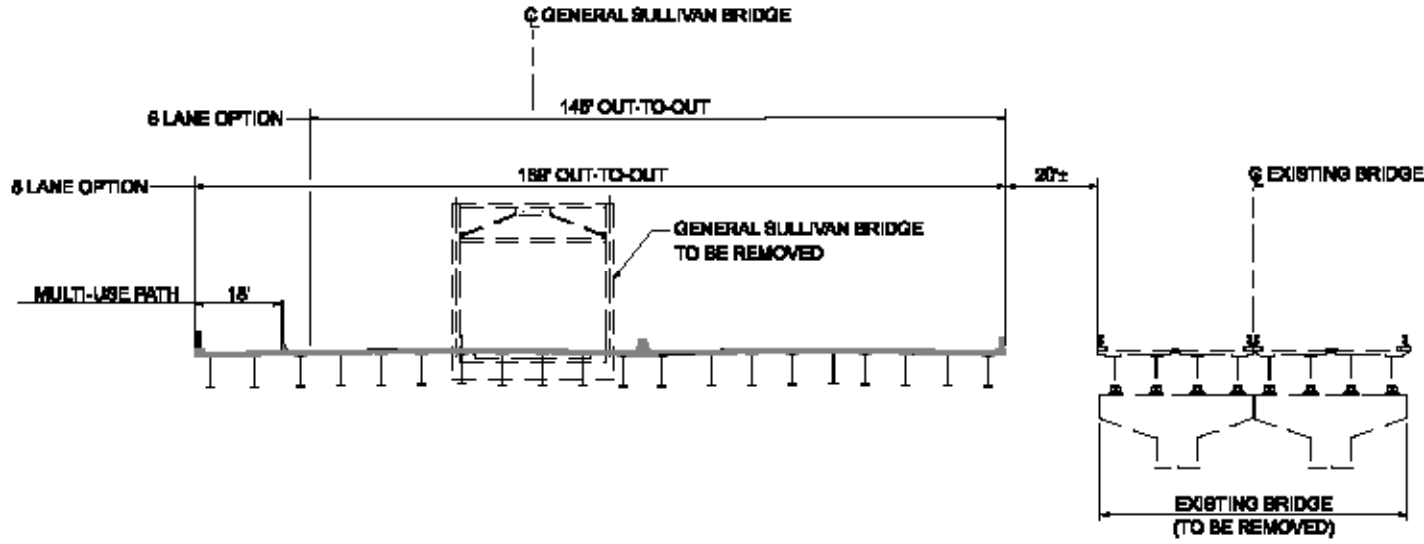
- Legend:**
- Existing Pavement
 - Building
 - Water
 - Wetlands
 - Conceptual Roadway Improvements
 - 1 or 2 Lane Conceptual Roadway
 - Proposed Bridge Improvements
 - Multi-use Pathway
 - Newington Interim Safety Improvements



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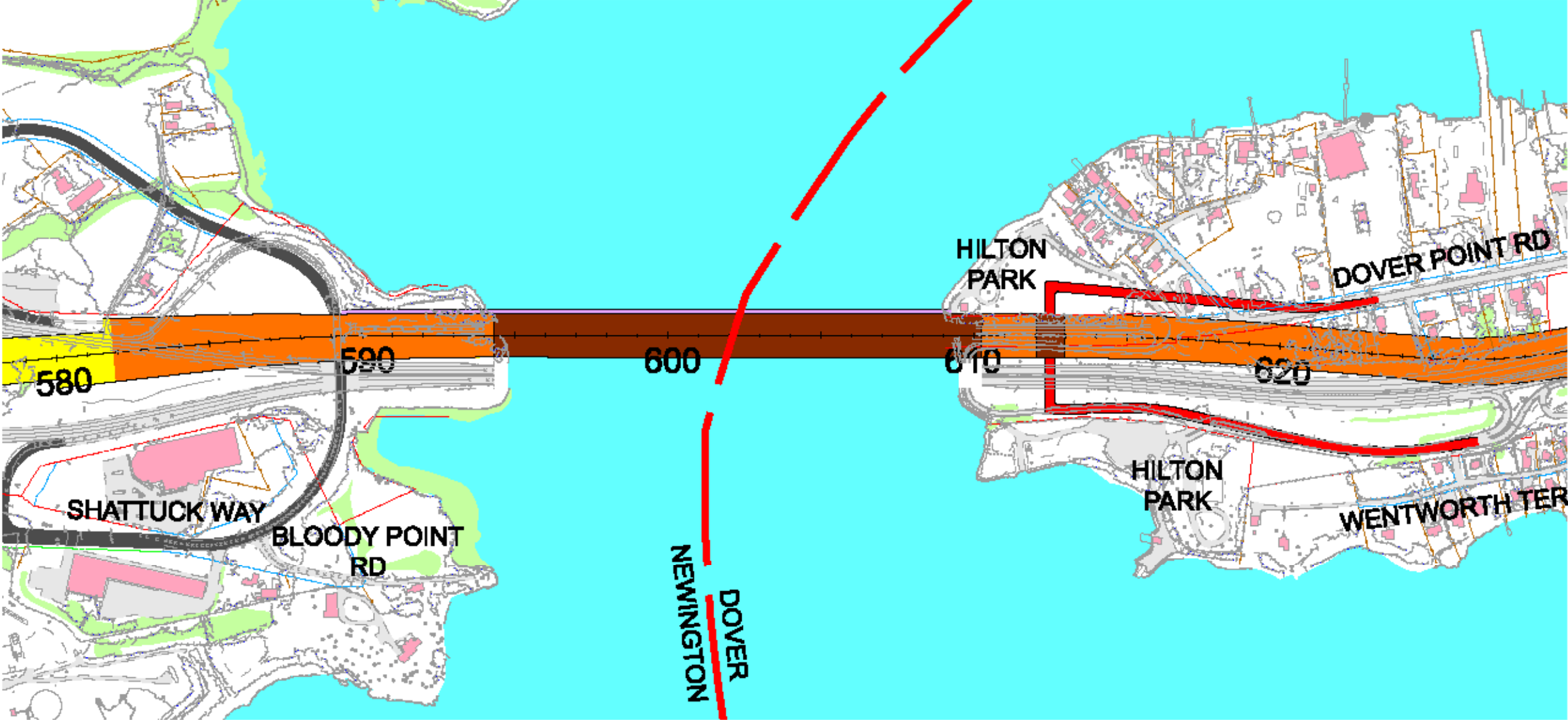
Figure 2.4-34
Widen Little Bay Bridges to Both Sides with Multi-Use Path and Remove General Sullivan Bridge

Conceptual Cross-Section



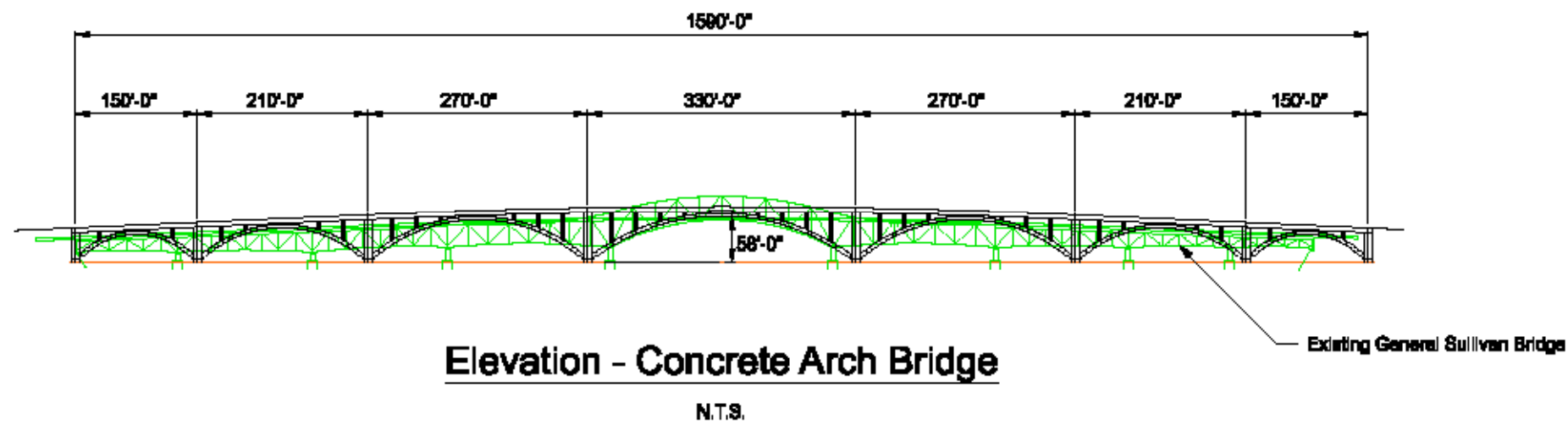
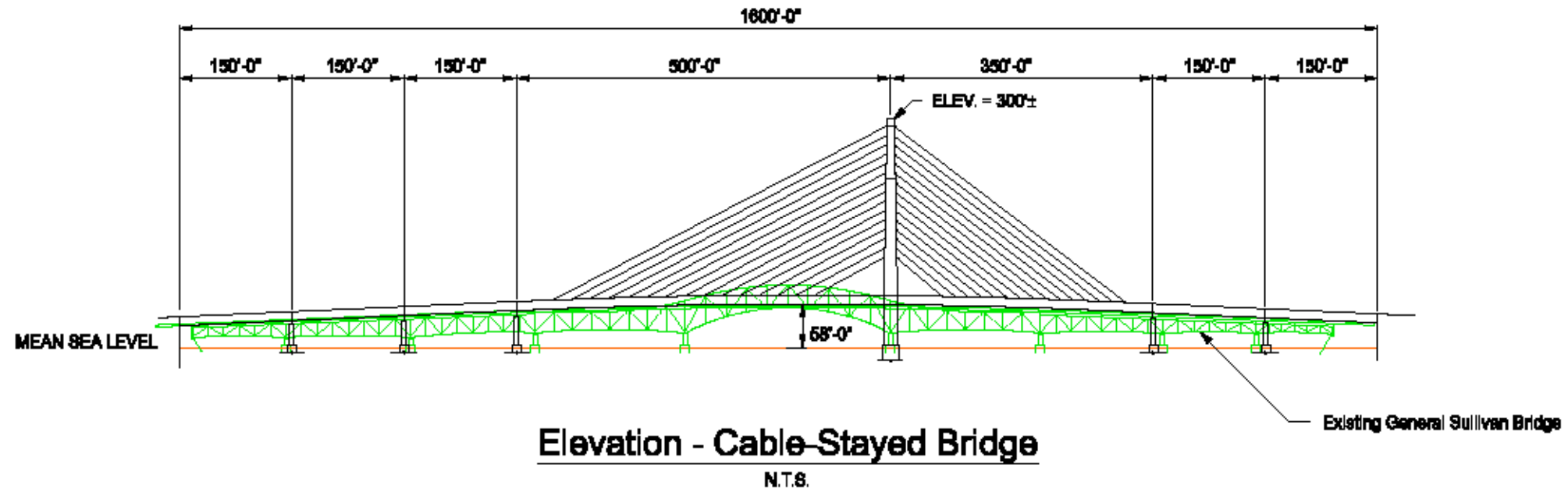
Legend:

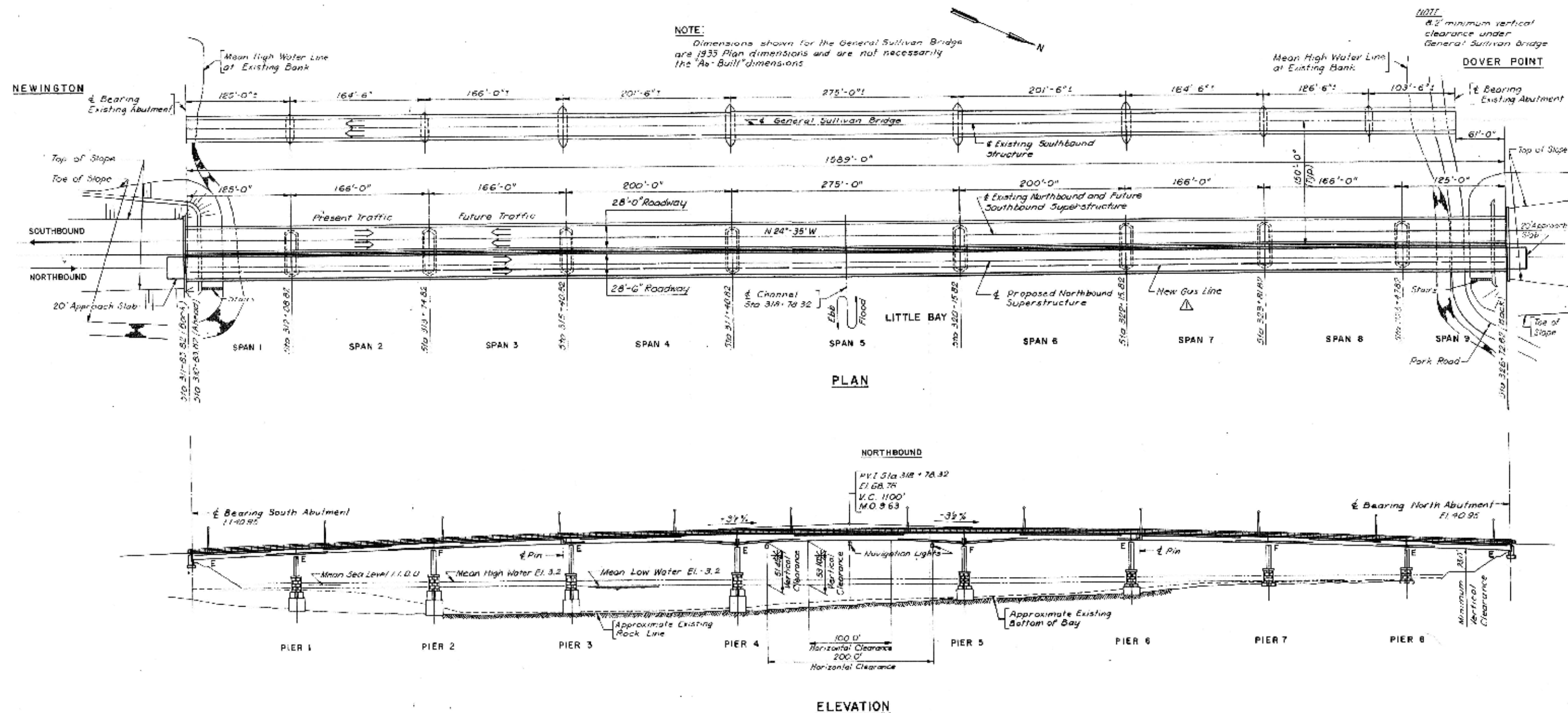
- Existing Pavement
- Building
- Water
- Wetlands
- Conceptual Roadway Improvements
- 1 or 2 Lane Conceptual Roadway
- Proposed Bridge Improvements
- Multi-use Pathway
- Newington Interim Safety Improvements



Vannic Hangen Brustlin, Inc.

Figure 2.4-35
 Construct New Bridge with
 Multi-Use Path - Replace Little Bay
 Bridges and General Sullivan Bridge





* Clearance dimensions in this figure shown to mean low water.

Note:
Figures on this sheet are from the General Plan and Elevation, NHDOT Project No. P-2221-D, Contract #1, U.S. Route 4, N.H. Rte 16 and Spaulding Turnpike over Little Bay prepared by Hamby & Hamore, Inc. dated March, 1962.


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Figure 2.4-37
Existing Little Bay Bridges
Plan and Elevation



Newington - Dover, NH NHS-027-1(37)/11238
Summary of Roadway and Bridge Impacts (Eight Lanes)

IMPACTS	UNIT OF MEASUREMENT	NO BUILD	ROADWAY SEGMENT			BRIDGE SEGMENT		ROADWAY SEGMENT		
			NEWINGTON			WIDEN WEST		DOVER		
			ALT 10A	ALT 12A	ALT 13	Remove GSB	Rehab GSB	ALT 2	ALT 3	
WATER QUALITY, AQUATIC LIFE, & FISHERIES	Number of Perennial Stream Crossings	0	1	1	1	0	0	0	0	
	Length of Perennial Stream Crossings (Feet)	0	420	330	230	0	0	0	0	
	Number of Intermittent Stream Crossings	0	0	0	0	0	0	0	0	
	Length of Intermittent Stream Crossings (Feet)	0	0	0	0	0	0	0	0	
GROUNDWATER QUALITY	Stratified-Drift Aquifer Under New Roadway Area (Acres)	0	4.0	4.0	4.6	1.2	1.2	8.1	8.3	
	Number of Well Head Protection Area (WHPA) crossings	0	0	0	0	0	0	0	0	
FLOODPLAINS	Floodplain Area Impacted (Acres)	0	0	0	0	0.4	0.4	1.5	0.8	
	Floodplain Volume Impacts (Acre-feet)	0	0	0	0	2.7	2.7	1.5	1.2	
WETLANDS	TOTAL Wetland Impacted (Acres)	0	13.6	12.8	11.8	1.1	0.9	8.2	7.9	
	PEM	0	4.7	4.7	3.2	0.2	0.2	2.6	2.5	
	PFO	0	6.7	6.4	6.8	0.2	0.2	5.4	5.4	
	POW	0	0	0	0	0	0	0	0	
	PSS	0	2.2	1.7	1.6	0	0	0.1	0	
	E1/E2	0	0	0	0	0.6	0.5	0.1	0	
THREATENED & ENDANGERED SPECIES	Number of Populations Impacted	0	0	0	0	0	0	0	0	
VISUAL	Impacts to Views from and to the Highway (Qualitative)	N/A	Mod	Mod	Low/Mod	Low	Low	Mod	Mod	
ARCHAEOLOGICAL	Number of Sensitive Areas Affected (Native American / Historic)	0	9	11	8	5	8	9	8	
	Verified Sites and Cemeteries (ac)	0	0	0.03	0	0.2	0.2	0.01	0	
	Exhibits Sensitivity (ac)	0	6.6	9.5	5.3	1.8	1.9	12.6	14.4	
	Exhibits Probable Sensitivity (ac)	0	23.1	23.9	20.4	3.5	2.8	0.6	0.6	
HISTORICAL	Number of Potentially Eligible or Listed Sites Impacted (Adverse Effect)	0	3	3	3	1	1	1	1	
RIGHT-OF-WAY DISPLACEMENT	Number of Residential Total Property Acquisitions	0	1	0	0	0	0	0	0	
	Number of Business Total Property Acquisitions	0	0	0	0	1	1	1	1	
PUBLIC PARKS & RECREATIONAL LAND¹	Number of Affected Recreational 4(f) Properties	0	0	0	0	1	1	1	1	
	Area of Affected Recreational 4(f) Properties (Acres)	0	0	0	0	0.002	0.002	0.4	0.4	
PETROLEUM & HAZARDOUS MATERIALS	Number of Potentially Contaminated Properties Impacted	0	19	19	19	0	0	1	1	
FARMLANDS	Active Farmlands Impacted (Acres)	0	0	0	0	0	0	0	0	
	Important Farmland Soils (Acres)	Prime	0	3.8	7.8	2.7	0	0	0	0
	Unique	0	0	0	0	0	0	0	0	
	Statewide	0	0	1.5	0	0	0	0	0	
	Local	0	0.01	0.01	0.01	0	0	0	0	
WILDLIFE HABITAT²	High Value Habitat Impacted (Acres)	0	24.9	26.7	20.8	2.3	2.6	3.6	3.7	
	Riparian Areas	Riparian Impact Areas (Acres)	0	6.8	6.9	4.6	0	0	0	0
	Unfragmented Lands (>25 acres)	Impacts to Unfragmented Lands (Acres)	0	12.0	13.1	9.0	0	0	0	0
HYDRODYNAMICS	Change in Tidal Flow Characteristics	0				Minimal	Minimal			
AIR	Microscale CO Exceedances (2025)	0	0	0	0	0	0	0	0	
NOISE	Number of Receptors Exceeding FHWA Abatement Criteria	0	1	1	1	0	0	85	85	

NOTES:
 1 Hills Park is located in the Bridge Segment of the study area. Bayview Park is located in the Dover portion.
 2 High Value Habitat and other wildlife habitat measures are based on mapping by NH F&G D (Coarse Filter Analysis).
 Selected Alternative

**Figure 2.5-1
 Summary of Environmental Impacts**

Newington - Dover, NH 11238
Summary of Costs (FY 2007) for the Newington - Dover 6-lane Alternatives

COST FACTORS AND TRANSPORTATION DATA		ROADWAY SEGMENT			BRIDGE SEGMENT		ROADWAY SEGMENT		COMBINED SEGMENT COMPARISON RANGE		
		NEWINGTON			WIDEN LITTLE BAY BRIDGE (LBB) TO THE WEST & REHABILITATE GENERAL SULLIVAN BRIDGE (GSB) FOR USE AS MULTI-USE PATH	WIDEN LITTLE BAY BRIDGE (LBB) TO THE WEST, INCLUDE MULTI-USE PATH AND REMOVE GENERAL SULLIVAN BRIDGE (GSB)	DOVER		MINIMUM ROADWAY LENGTH / NUMBER OF BRIDGES	MAXIMUM ROADWAY LENGTH / NUMBER OF BRIDGES	UNIT
		ALT 10A	ALT 12A	ALT 13	LBB w/GSB	LBB w/o GSB	ALT 2	ALT 3	(ALT 13, LBB w/o GSB, ALT 2)	(ALT 12A, LBB w/o GSB, ALT 3)	
TRANSPORTATION DATA	LENGTH OF FREEWAY (LANE MILES)	9.5	9.5	9.5	3.7	3.7	6.8	6.8	20.0	20.0	LANE MILES
	LENGTH OF RAMPS (LANE MILES)	2.3	2.3	2.5	0	0	2.3	2.4	4.8	4.7	LANE MILES
	LENGTH OF LOCAL ROADWAYS (LANE MILES)	6.2	6.6	5.0	1.1	1.1	4.0	4.6	10.1	12.3	LANE MILES
	TOTAL LENGTH OF IMPROVEMENTS (LANE MILES)	18.0	18.4	17.0	4.8	4.8	13.1	13.8	34.9	37.0	LANE MILES
	NUMBER OF BRIDGES	3	7	1	1	1	1	2	3	10	EACH
COST FACTORS	ALL COSTS ARE IN MILLIONS OF DOLLARS (FY 2007)										
ROADWAY COST	ALL ROADWAY COSTS ASSOCIATED w/ FREEWAY, RAMPS & LOCAL ROADS	39.3	41.8	36.3	12.2	12.2	32.0	32.2	80.5	86.2	MILLIONS
	COST ASSOCIATED WITH INTELLIGENT TRANSPORTATION SYSTEM DEPLOYMENT	0.9	0.9	0.9	0.5	0.5	0.6	0.6	2.0	2.0	MILLIONS
RAIL ACCOMMODATION COST (1)	ALL ROADWAY AND BRIDGE COSTS ASSOCIATED WITH ACCOMMODATING PEASE SPUR	1.3	2.3	0.1					0.1	2.3	MILLIONS
	TOTAL ROADWAY AND PEASE SPUR ACCOMMODATION COSTS	41.5	45.0	37.3	12.7	12.7	32.6	32.8	82.6	90.5	MILLIONS
BRIDGE COST	COST FOR ALL BRIDGES (EXCEPT LITTLE BAY, GENERAL SULLIVAN, AND PEASE SPUR)	13.2	16.3	9.4	1.2	1.2	6.9	10.0	17.5	27.6	MILLIONS
	WIDEN LITTLE BAY BRIDGE TO SIX LANES				52.8	62.1			62.1	52.8	MILLIONS
	REHABILITATE GENERAL SULLIVAN BRIDGE FOR PEDESTRIAN / BICYCLE USE				26.0				0.0	26.0	MILLIONS
	REMOVE GENERAL SULLIVAN BRIDGE					5.7			5.7	0.0	MILLIONS
	TOTAL BRIDGE COST	13.2	16.3	9.4	80.0	69.0	6.9	10.0	85.2	106.3	MILLIONS
ROADWAY AND BRIDGE COST TOTAL		54.7	61.3	46.7	92.7	81.6	39.5	42.8	167.8	196.8	MILLIONS
PRELIMINARY ENGINEERING	COST ASSOCIATED WITH DESIGN ENGINEERING, GEOTECHNICAL EVALUATION	3.8	4.3	3.3	6.5	5.7	2.8	3.0	11.7	13.8	MILLIONS
RIGHT OF WAY COSTS (2)	ESTIMATED COST FOR RIGHT OF WAY ACQUISITIONS	2.1	2.2	1.0	0.0	0.0	1.1	1.2	2.1	3.4	MILLIONS
TOTAL SEGMENT COST		60.6	67.8	51.0	99.1	87.3	43.3	47.0	181.7	214.0	MILLIONS
BUS COSTS (3)	COMBINATION OF THREE BUS ALTERNATIVES (ALTERNATIVES 1,2,3)						5.5		5.5	5.5	MILLIONS
RAIL COSTS (4)	RANGE OF RECOMMENDED NEAR TERM AND FUTURE RAIL SERVICE						1.7 TO 13.5		1.7 #	1.7 #	MILLIONS
PARK AND RIDE COSTS (5)	COMBINATION OF TWO PARK AND RIDE LOTS IN ROCHESTER AND DOVER						4.7		4.7	4.7	MILLIONS
MITIGATION AND ENHANCEMENT COSTS	WETLAND CREATION, RESTORATION, PRESERVATION. (INCLUDING RIGHT OF WAY AND CONST COST)						4.6		4.6	4.6	MILLIONS
RANGE OF TOTAL COSTS									198.2	230.5	MILLIONS

w/ NEAR TERM RAIL COST ALTERNATIVE 1 C

- (1) THE RAIL ACCOMMODATION COST FOR NEWINGTON ALTERNATIVES 10A, 12A AND 13 ARE FOR ONLY THOSE NECESSARY ROADWAY ELEMENTS (BRIDGE, EXCAVATION AND DRAINAGE COSTS) THAT NEED TO BE CONSTRUCTED AS PART OF THESE ALTERNATIVES TO ALLOW FOR THE OPERATION OF THE PEASE SPUR, IF REACTIVATED. FOR ALTERNATIVE 13, THE COST TO ACCOMMODATE THE SPUR IS THE COST ASSOCIATED WITH THE MEDIAN PIER SUBSTRUCTURE ONLY (\$120,000), NO OTHER ROADWAY ELEMENTS NEED TO BE CONSTRUCTED AS PART OF ALTERNATIVE 13 TO ACCOMMODATE THE RR SPUR. IF THE SPUR IS REACTIVATED, THE RAIL CAN BE ELEVATED (OVERPASS) WITHOUT SIGNIFICANTLY IMPACTING THE OPERATION OF THE TURNPIKE (ESTIMATED COST IS \$5.0 MILLION).
- (2) ESTIMATED COST FOR RIGHT OF WAY ACQUISITIONS (BASED UPON 2004 MUNICIPAL ASSESSMENT RECORDS AND AVERAGE LAND VALUES IN NEWINGTON AND DOVER.) THE ESTIMATED COSTS DO NOT REPRESENT ACTUAL APPRAISED VALUES OF ACQUISITIONS OR OTHER RIGHT OF WAY DAMAGES, AND ALSO DO NOT INCLUDE APPRAISAL, RELOCATION, OR OTHER ADMINISTRATIVE COSTS.
- (3) COSTS ASSOCIATED WITH IMPROVING BUS SERVICE IN SEACOAST AREA INCLUDE A COMBINATION OF ALTERNATIVES: BUS ALTERNATIVE 1 @ \$0.4 MILLION; BUS ALTERNATIVE 2 @ \$440,000; BUS ALTERNATIVE 3 @ \$4.5 MILLION. IN ADDITION, THE COST ASSOCIATED WITH AN ENHANCEMENT OF THE EXISTING BUS TRANSFER POINT AT THE FOX RUN MALL IS \$115,000.
- (4) COSTS ASSOCIATED WITH IMPROVING RAIL SERVICE INCLUDE A RANGE OF ALTERNATIVES: FOR NEAR TERM, ALTERNATIVE 1C IS RECOMMENDED WHICH EXPANDS THE EXISTING DOWNEASTER SERVICE (\$1.7 MILLION); ALTERNATIVES 1A&1B INVOLVE FUTURE EXPANSION OF SERVICE INTO DOVER AND ROCHESTER (RANGE OF FUTURE COSTS ARE \$1.6 TO \$12.1 MILLION)
- (5) THE COSTS ASSOCIATED WITH THE CONSTRUCTION OF A PARK AND RIDE LOT IN DOVER ARE \$3.4 MILLION. THE COSTS FOR THE PARK AND RIDE LOT IN ROCHESTER RANGE FROM \$1.2 TO \$1.3 MILLION DEPENDING UPON WHICH SITE IS SELECTED.

**SUMMARY OF COSTS (FY 2007) SIX-LANE ALTERNATIVES
 FIGURE 2.6-1**

Summary of Costs (FY 2007) for the Newington - Dover 8-lane Alternatives

COST FACTORS AND TRANSPORTATION DATA		ROADWAY SEGMENT			BRIDGE SEGMENT		ROADWAY SEGMENT		COMBINED SEGMENT COMPARISON RANGE			
		NEWINGTON			WIDEN LITTLE BAY BRIDGE (LBB) TO THE WEST & REHABILITATE GENERAL SULLIVAN BRIDGE (GSB) FOR USE AS MULTI-USE PATH	WIDEN LITTLE BAY BRIDGE (LBB) TO THE WEST, INCLUDE MULTI-USE PATH AND REMOVE GENERAL SULLIVAN BRIDGE (GSB)	DOVER		MINIMUM ROADWAY LENGTH / NUMBER OF BRIDGES	MAXIMUM ROADWAY LENGTH / NUMBER OF BRIDGES		
		ALT 10A	ALT 12A	ALT 13	LBB w/GSB	LBB w/o GSB	ALT 2	ALT 3	(ALT 13, LBB w/o GSB, ALT 2)	(ALT 12A, LBB w/o GSB, ALT 3)		
TRANSPORTATION DATA	LENGTH OF FREEWAY (LANE MILES)	10.6	10.6	10.6	5.0	5	7.6	7.6	23.2	23.2	LANE MILES	
	LENGTH OF RAMPS (LANE MILES)	2.3	2.1	2.5	0	0	2.5	2.4	5.0	4.5	LANE MILES	
	LENGTH OF LOCAL ROADWAYS (LANE MILES)	6.2	6.6	5.0	1.1	1.1	4.1	4.6	10.2	12.3	LANE MILES	
	TOTAL LENGTH OF IMPROVEMENTS (LANE MILES)	19.1	19.3	18.1	6.1	6.1	14.2	14.6	38.4	40.0	LANE MILES	
	NUMBER OF BRIDGES	3	7	1	1	1	1	2	3	10	EACH	
COST FACTORS	ALL COSTS ARE IN MILLIONS OF DOLLARS (FY 2007)											
ROADWAY COST	ALL ROADWAY COSTS ASSOCIATED w/ FREEWAY, RAMPS & LOCAL ROADS	40.3	42.9	37.5	13.1	13.1	32.9	33.1	83.5	83.1	MILLIONS	
	COST ASSOCIATED WITH INTELLIGENT TRANSPORTATION SYSTEM DEPLOYMENT	0.9	0.9	0.9	0.5	0.5	0.6	0.6	2.0	2.0	MILLIONS	
RAIL ACCOMMODATION COST (1)	ALL ROADWAY AND BRIDGE COSTS ASSOCIATED WITH ACCOMMODATING PEASE SPUR	1.3	2.3	0.1					0.1	2.3	MILLIONS	
BRIDGE COST	TOTAL ROADWAY COST	42.5	46.1	38.5	13.6	13.6	33.5	33.7	85.7	93.4	MILLIONS	
	COST FOR ALL BRIDGES (EXCEPT LITTLE BAY, GENERAL SULLIVAN, AND PEASE SPUR)	13.2	16.4	9.4	2.0	2.0	6.9	10.0	18.3	28.4	MILLIONS	
	WIDEN LITTLE BAY BRIDGE TO EIGHT LANES				63.0	72.4			72.4	63.0	MILLIONS	
	REHABILITATE GENERAL SULLIVAN BRIDGE FOR PEDESTRIAN / BICYCLE USE				26.0				0.0	26.0	MILLIONS	
	REMOVE GENERAL SULLIVAN BRIDGE					5.7			5.7	0.0	MILLIONS	
	TOTAL BRIDGE COST	13.2	16.4	9.4	91.0	80.1	6.9	10.0	96.3	117.4	MILLIONS	
	ROADWAY AND BRIDGE COST TOTAL	55.7	62.5	47.9	104.6	93.7	40.4	43.7	182.0	210.8	MILLIONS	
PRELIMINARY ENGINEERING	COST ASSOCIATED WITH DESIGN ENGINEERING, GEOTECHNICAL EVALUATION	3.9	4.4	3.4	7.3	6.6	2.8	3.1	12.6	14.7	MILLIONS	
RIGHT OF WAY COSTS (2)	ESTIMATED COST FOR RIGHT OF WAY ACQUISITIONS	2.1	2.2	1.0	0.0	0.0	1.1	1.2	2.1	3.4	MILLIONS	
	TOTAL SEGMENT COST	61.7	69.1	52.3	111.9	100.2	44.3	48.0	196.7	228.9	MILLIONS	
BUS COSTS (3)	COMBINATION OF THREE BUS ALTERNATIVES AND ENHANCED TRANSFER POINT						5.5			5.5	5.5	MILLIONS
RAIL COSTS (4)	RECOMMENDED NEAR TERM AND FUTURE RAIL SERVICE						1.7			1.7 #	1.7 #	MILLIONS
PARK AND RIDE COSTS (5)	COMBINATION OF TWO PARK AND RIDE LOTS IN ROCHESTER AND DOVER						4.7			4.7	4.7	MILLIONS
MITIGATION AND ENHANCEMENT COSTS	WETLAND CREATION, RESTORATION, PRESERVATION, (INCLUDING RIGHT OF WAY AND CONST COST)						4.6			4.6	4.6	MILLIONS
	RANGE OF TOTAL COSTS									213.2	245.4	MILLIONS

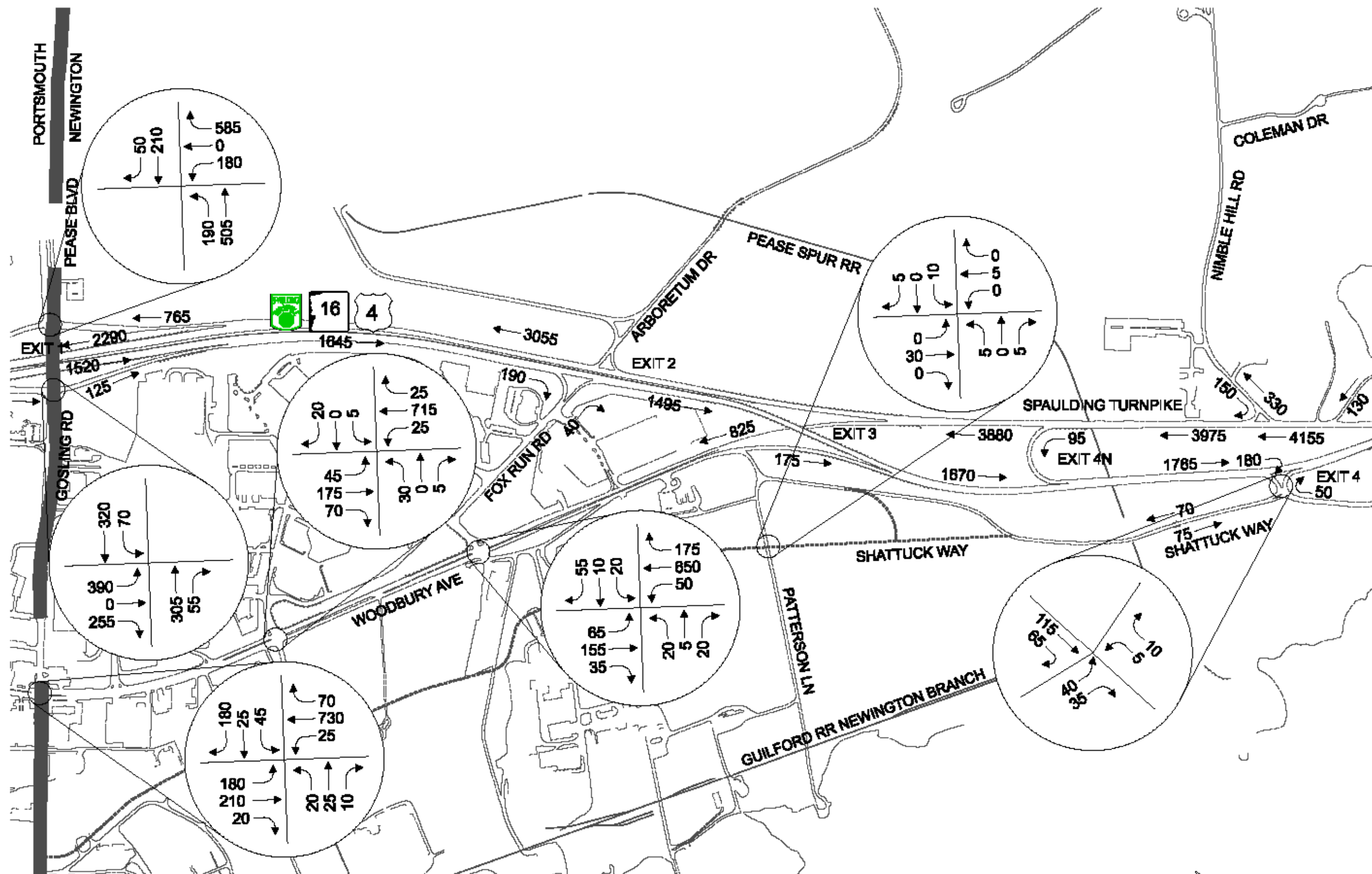
THE COLOR SHOWN IN THE SEGMENT COLUMNS ABOVE IDENTIFIES THE DEPARTMENT'S SELECTED ALTERNATIVE

w/ NEAR TERM RAIL COST ALTERNATIVE 1 C

- (1) THE RAIL ACCOMMODATION COST FOR NEWINGTON ALTERNATIVES 10A, 12A AND 13 ARE FOR ONLY THOSE NECESSARY ROADWAY ELEMENTS (BRIDGE, EXCAVATION AND DRAINAGE COSTS) THAT NEED TO BE CONSTRUCTED AS PART OF THESE ALTERNATIVES TO ALLOW FOR THE OPERATION OF THE PEASE SPUR, IF REACTIVATED. FOR ALTERNATIVE 13, THE COST TO ACCOMMODATE THE SPUR IS THE COST ASSOCIATED WITH THE MEDIAN PIER SUBSTRUCTURE ONLY (\$120,000). NO OTHER ROADWAY ELEMENTS NEED TO BE CONSTRUCTED AS PART OF ALTERNATIVE 13 TO ACCOMMODATE THE RR SPUR. IF THE SPUR IS REACTIVATED, THE RAIL CAN BE ELEVATED (OVERPASS) WITHOUT SIGNIFICANTLY IMPACTING THE OPERATION OF THE TURNPIKE (ESTIMATED COST IS \$6.0 MILLION).
- (2) ESTIMATED COST FOR RIGHT OF WAY ACQUISITIONS (BASED UPON 2004 MUNICIPAL ASSESSMENT RECORDS AND AVERAGE LAND VALUES IN NEWINGTON AND DOVER) THE ESTIMATED COSTS DO NOT REPRESENT ACTUAL APPRAISED VALUES OF ACQUISITIONS OR OTHER RIGHT OF WAY DAMAGES, AND ALSO DO NOT INCLUDE APPRAISAL, RELOCATION, OR OTHER ADMINISTRATIVE COSTS
- (3) COSTS ASSOCIATED WITH IMPROVING BUS SERVICE IN SEACOAST AREA INCLUDE A COMBINATION OF ALTERNATIVES: BUS ALTERNATIVE 1 @ \$0.4 MILLION; BUS ALTERNATIVE 2 @ \$4.0 MILLION; BUS ALTERNATIVE 3 @ \$4.5 MILLION. IN ADDITION, THE COST ASSOCIATED WITH AN ENHANCEMENT OF THE EXISTING BUS TRANSFER POINT AT THE FOX RUN MALL IS \$115,000.
- (4) COSTS ASSOCIATED WITH IMPROVING RAIL SERVICE INCLUDE A RANGE OF ALTERNATIVES: FOR NEAR TERM, ALTERNATIVE 1C IS RECOMMENDED WHICH EXPANDS THE EXISTING DOWNEASTERN SERVICE (\$1.7 MILLION); ALTERNATIVES 1A & 1B INVOLVE FUTURE EXPANSION OF SERVICE INTO DOVER AND ROCHESTER (RANGE OF FUTURE COSTS ARE \$11.6 TO \$21.1 MILLION)
- (5) THE COSTS ASSOCIATED WITH THE CONSTRUCTION OF A PARK AND RIDE LOT IN DOVER ARE \$3.4 MILLION. THE COSTS FOR THE PARK AND RIDE LOT IN ROCHESTER RANGES FROM \$1.2 TO \$1.3 MILLION DEPENDING UPON WHICH SITE IS SELECTED.

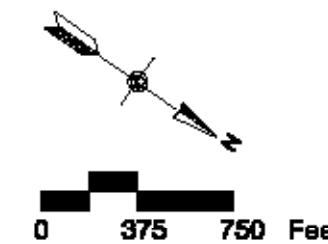
SELECTED ALTERNATIVE COST (MILLIONS)	
NEWINGTON SEGMENT (ALT 13)	52.3
BRIDGE SEGMENT (LBB w/ GSB)	111.9
DOVER SEGMENT (ALT 3)	48.0
BUS SERVICE	5.5
RAIL SERVICE	1.7
PARK AND RIDE LOTS	4.7
MITIGATION	4.6
TOTAL	228.7

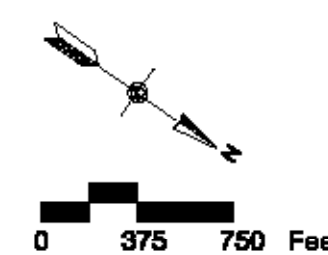
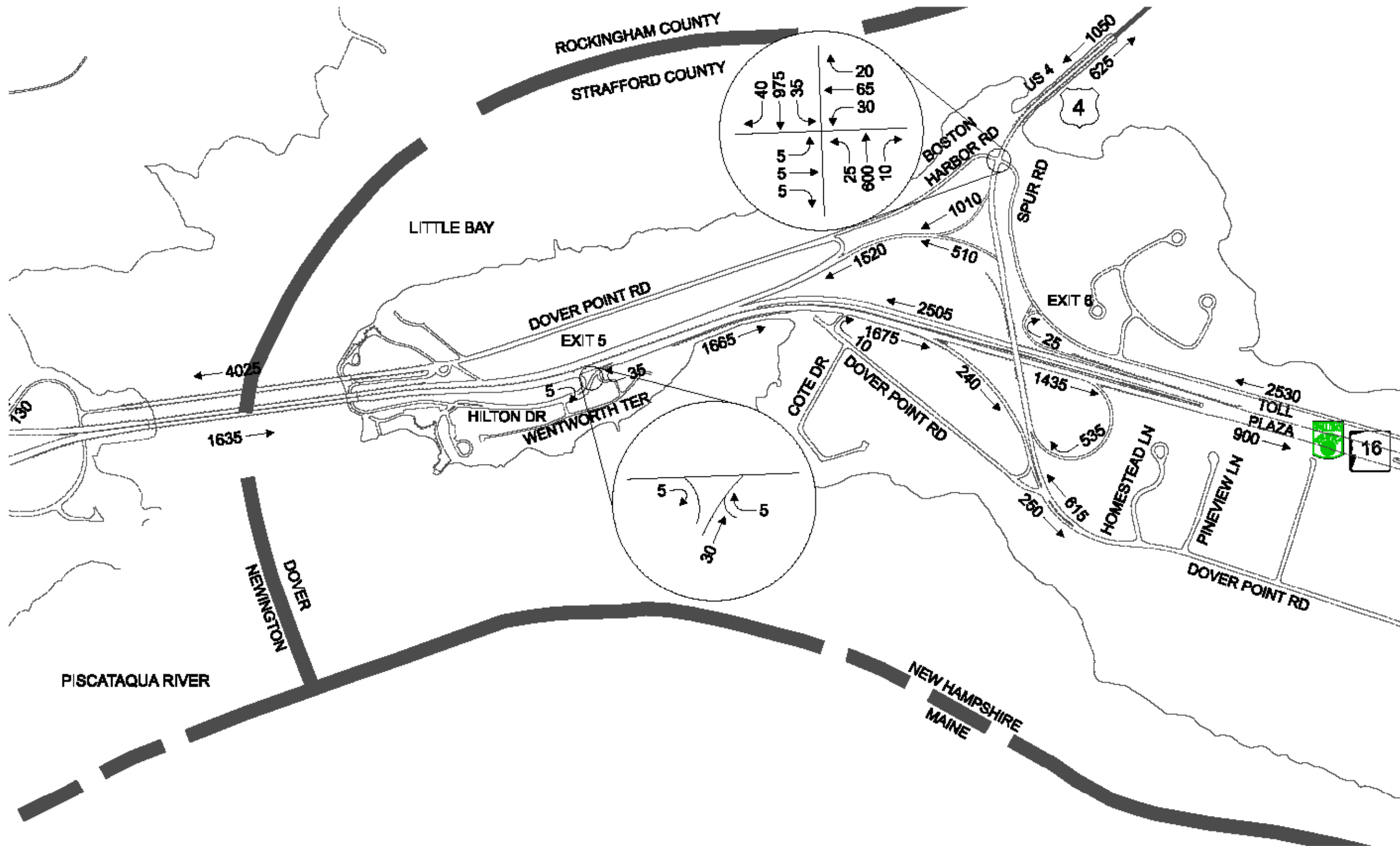
SUMMARY OF COSTS (FY 2007) EIGHT-LANE ALTERNATIVES
FIGURE 2.6-2



Vanasse Hangen Brustlin, Inc.

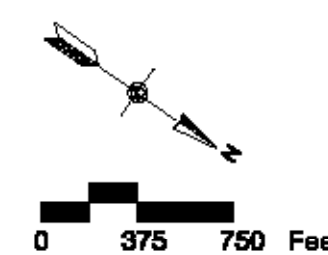
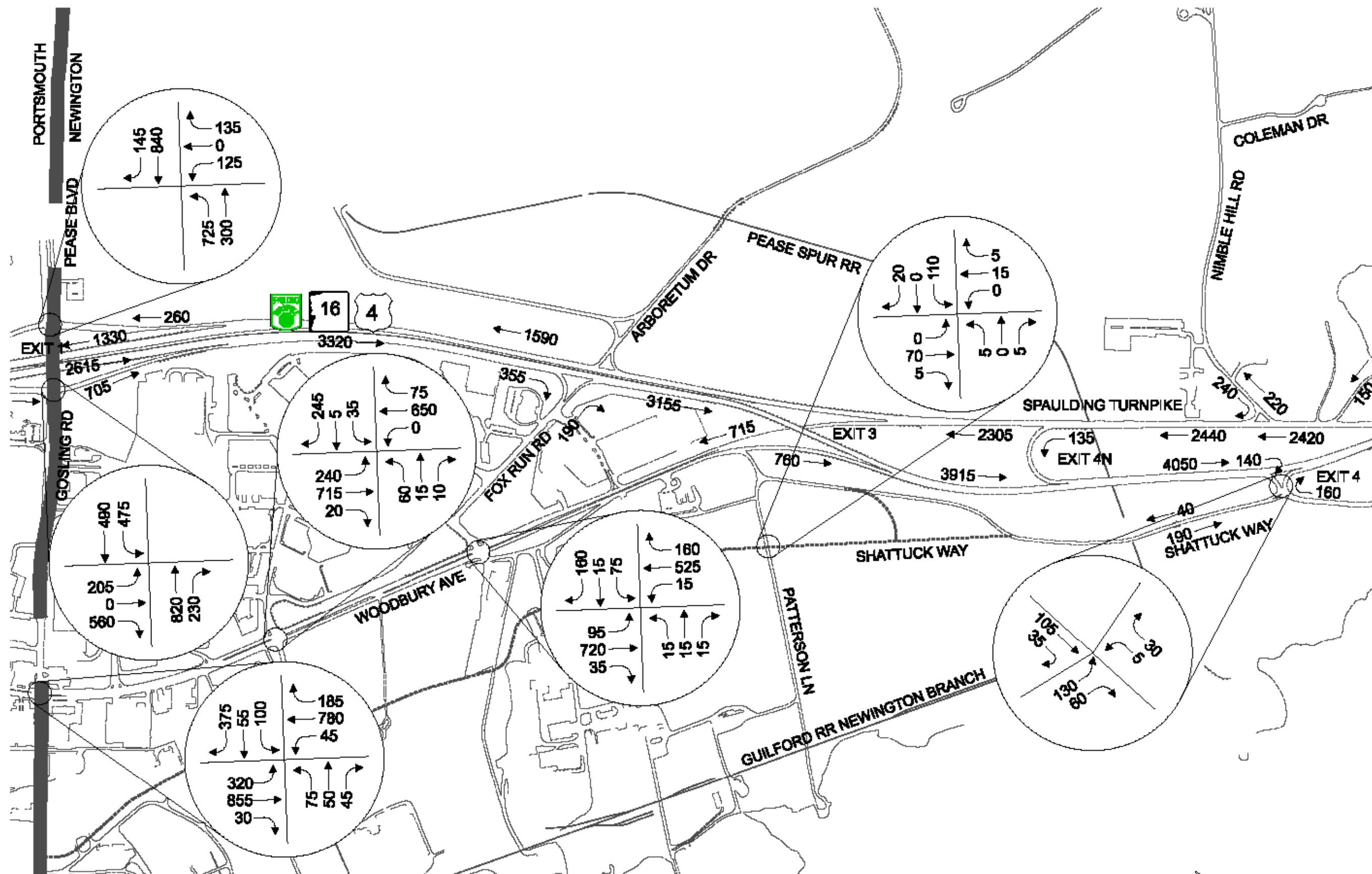
Figure 3.2-1 - Newington
 2003 Existing Conditions
 Weekday AM Peak Hour
 Sheet 1 of 2





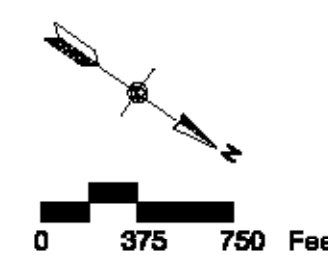
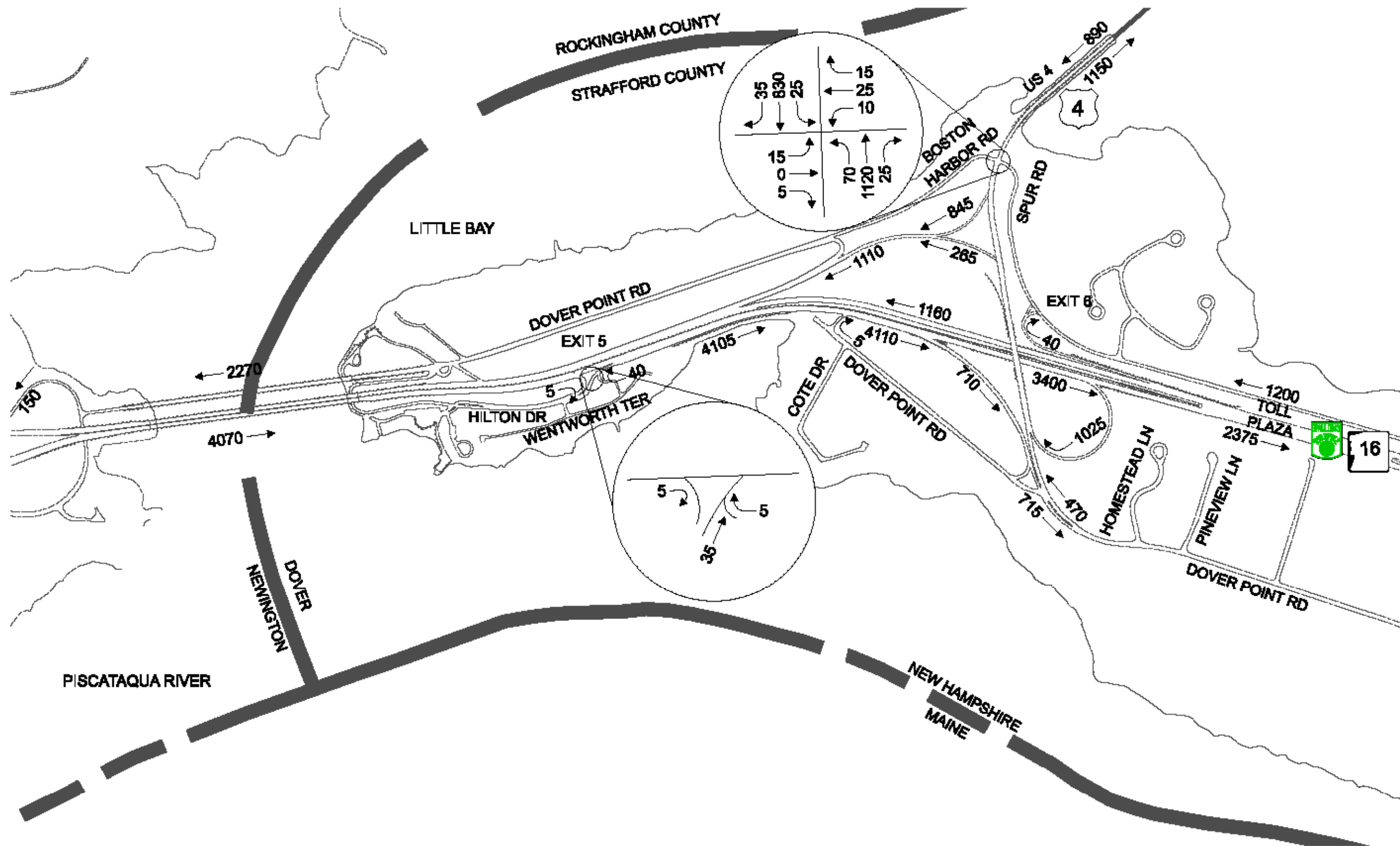
Vannese Hangen Brustlin, Inc.

Figure 3.2-1 - Dover
2003 Existing Conditions
Weekday AM Peak Hour
Sheet 2 of 2



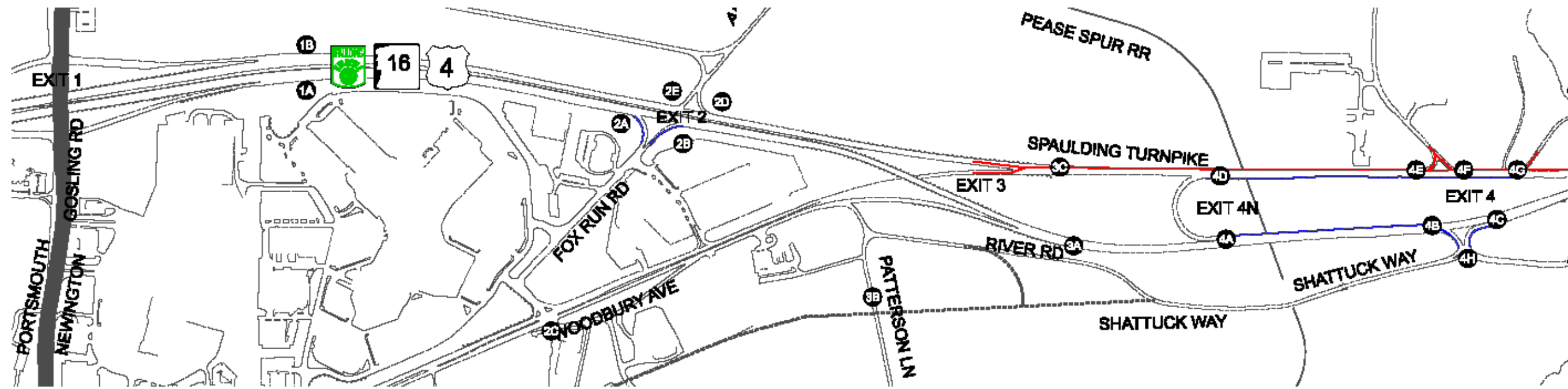
Vanasse Hangen Brustlin, Inc.

Figure 3.2-2 - Newington
 2003 Existing Conditions
 Weekday PM Peak Hour
 Sheet 1 of 2



Vannse Hangen Brustlin, Inc.

Figure 3.2-2 - Dover
 2003 Existing Conditions
 Weekday PM Peak Hour
 Sheet 2 of 2



Arterial LOS

Node		2003 LOS
From	To	
2C	3C	D
3B	4H	A
7	NORTH	D
8	WEST	E

Signalized Intersection LOS

Node	2003 LOS
2C	B
8	C

Unsignalized Intersection LOS

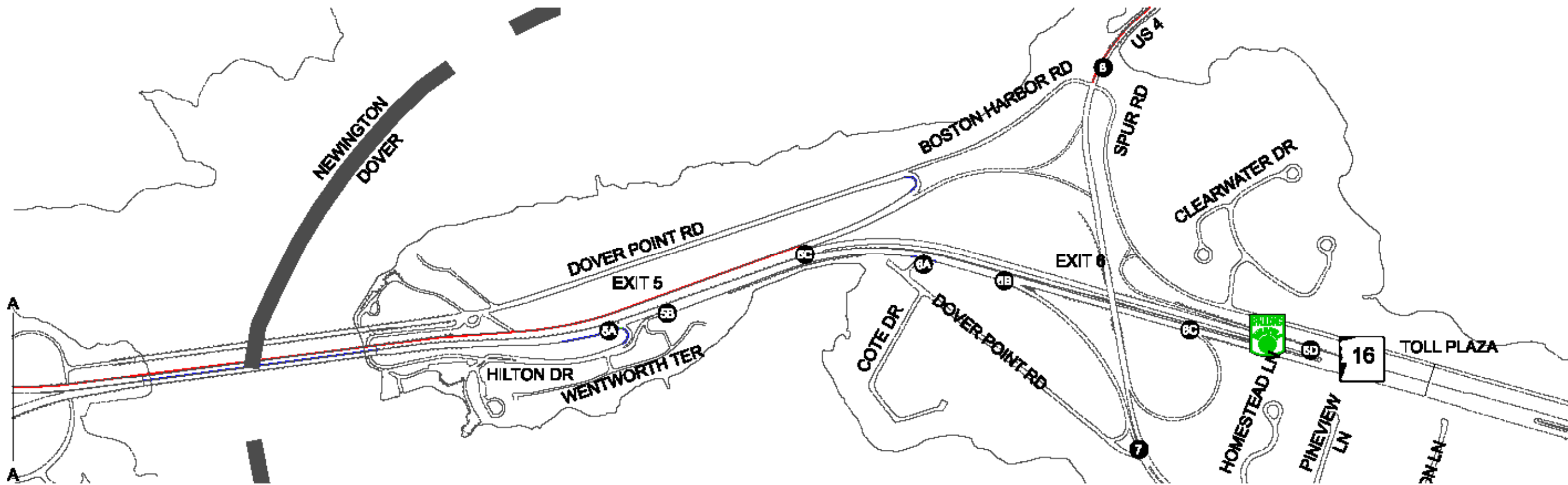
Node	2003 LOS
3B	A
4H	B

Weave Analysis LOS

Node		2003 LOS
From	To	
4G	4F	E
4E	4D	F
4A	4B	B
6A	6B	B

Ramp Junction LOS

Node	2003 LOS
2A	B
2B	B
3A	B
3C	E
4A	B
4B	B
4C	B
4D	D
4E	E
4F	F
4G	F
5A	B
5B	B
6A	B
6B	B
6C	B
6D	B



Legend:

- CAPACITY DEFICIENCY
- SUBSTANDARD GEOMETRICS

Freeway LOS

Node		2003 LOS
From	To	
Spaulding Turnpike NB		
1A	2A	B
2B	3A	B
4A	4B	C
4C	5A	B
5B	6A	B
6C	TOLL	A

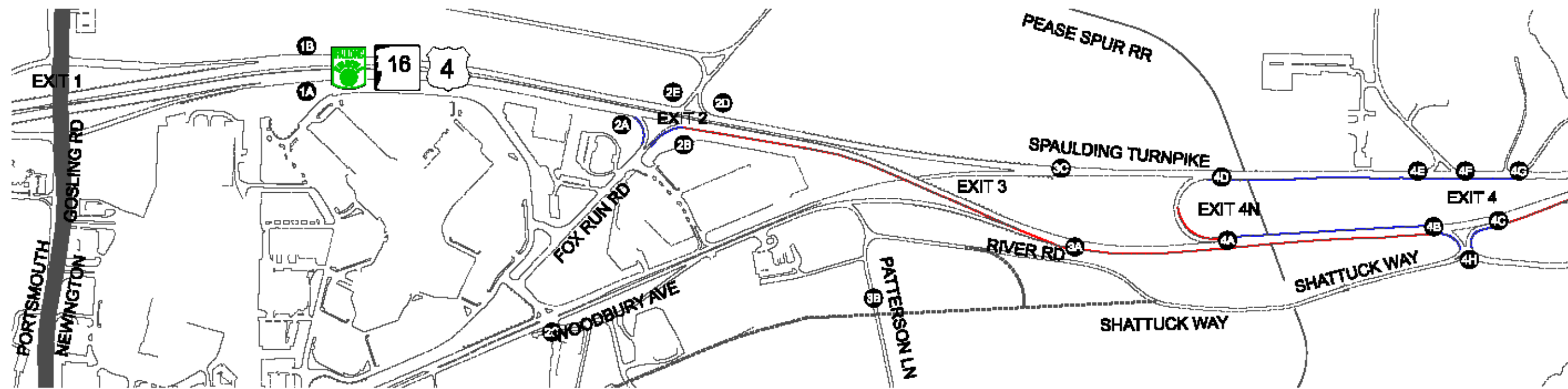
Freeway LOS

Node		2003 LOS
From	To	
Spaulding Turnpike SB		
TOLL	6D	C
6D	5C	C
5C	4G	E
4E	3C	E
3C	2D	D
2E	1B	D



Vannse Hangen Brustlin, Inc.

Figure 3.2-3
Level of Service Summary
2003 Existing Conditions
Weekday AM Peak Hour



Arterial LOS

Node		2003 LOS
From	To	
2C	3C	D
3B	4H	C
7	NORTH	D
8	WEST	E

Signalized Intersection LOS

Node	2003 LOS
2C	B
8	C

Unsignalized Intersection LOS

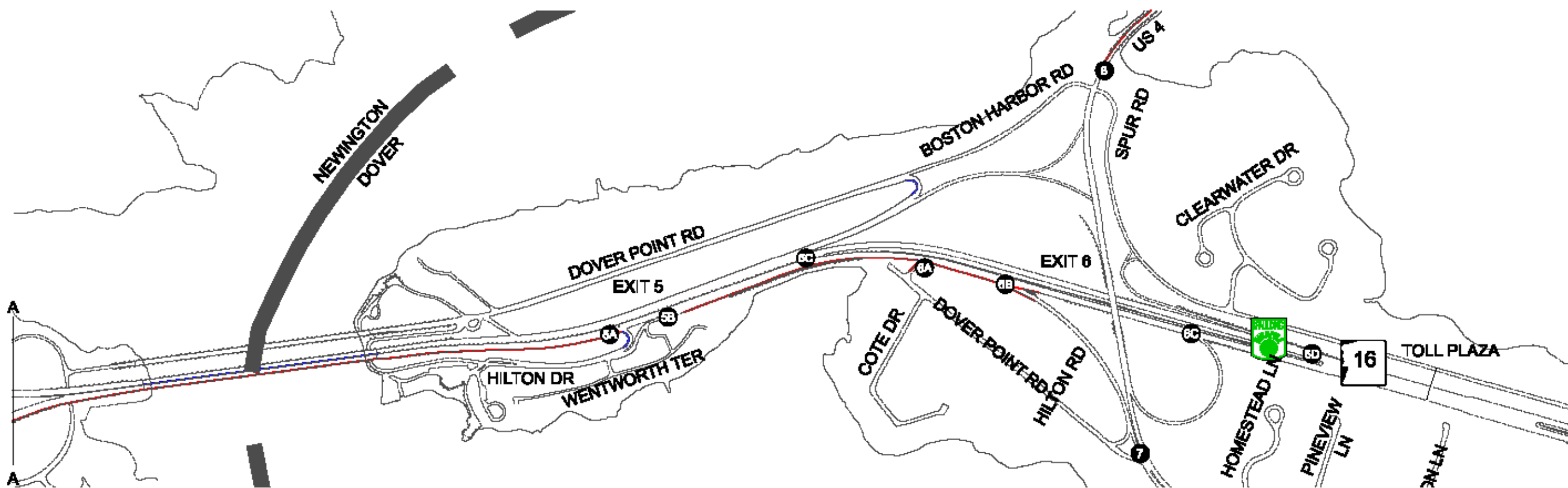
Node	2003 LOS
3B	B
4H	B

Weave Analysis LOS

Node		2003 LOS
From	To	
4G	4F	C
4E	4D	D
4A	4B	E
6A	6B	E

Ramp Junction LOS

Node	2003 LOS
2A	D
2B	C (F)*
3A	D (F)*
3C	C
4A	F
4B	D
4C	D
4D	C
4E	C
4F	C
4G	C
5A	D
5B	D
6A	E
6B	E
6C	D
6D	A



Legend:

- CAPACITY DEFICIENCY
- SUBSTANDARD GEOMETRICS

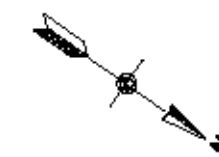
* Isolated facility analyses do not account for impacts associated with system deficiencies and failures. Field observations have confirmed that ramp nodes 2B & 3A and freeway segment 2B to 3A are regularly blocked by the rolling queue on the Turnpike, resulting from system capacity issues at Exits 4 through 6

Freeway LOS

Node		2003 LOS
From	To	
Spaulding Turnpike NB		
1A	2A	D
2B	3A	D (E)*
4A	4B	E
4C	5A	E
5B	6A	E
6C	TOLL	C

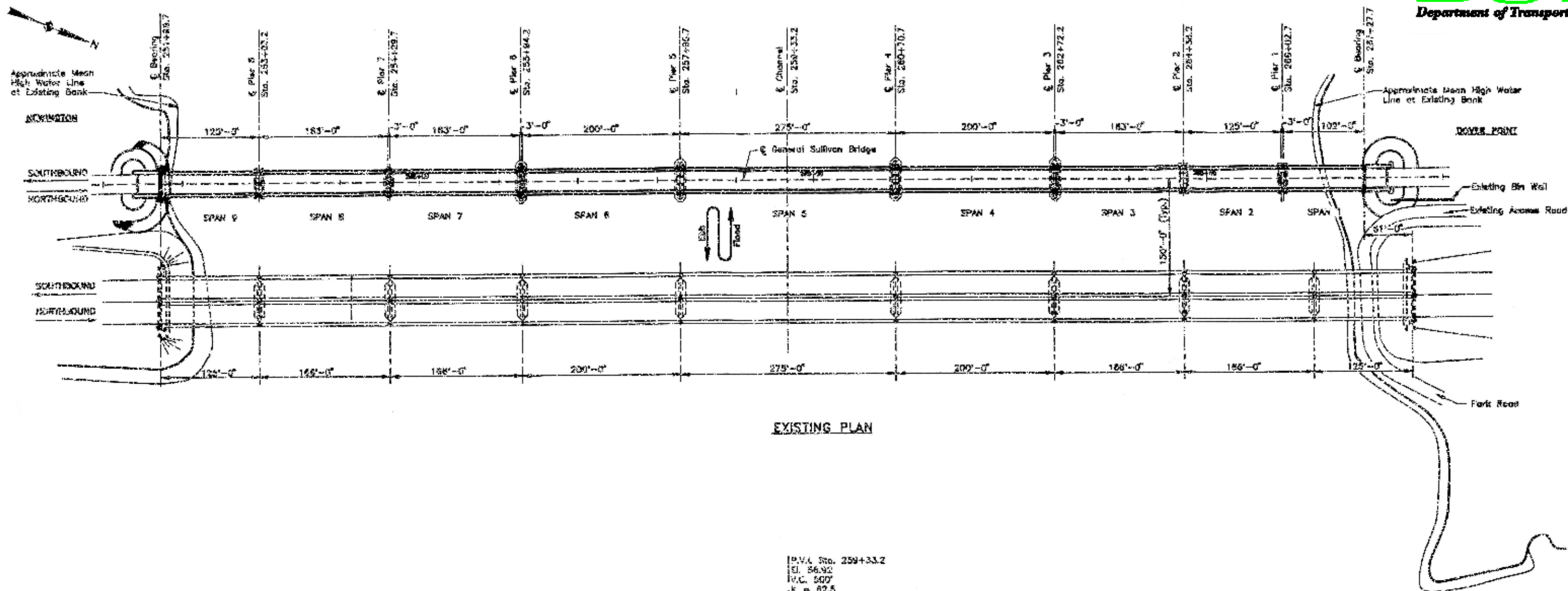
Freeway LOS

Node		2003 LOS
From	To	
Spaulding Turnpike SB		
TOLL	6D	B
6D	5C	B
5C	4G	C
4E	3C	C
3C	2D	B
2E	1B	B

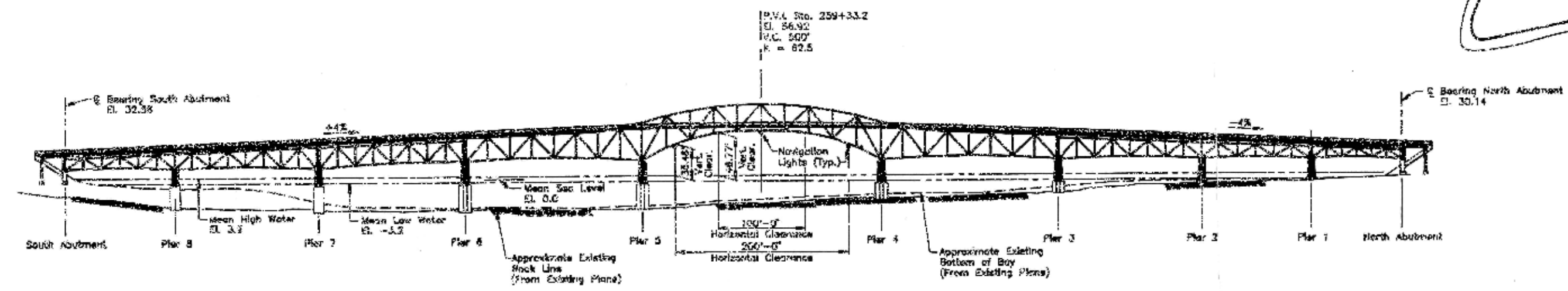


Vannese Hangen Brustlin, Inc.

Figure 3.2-4
Level of Service Summary
2003 Existing Conditions
Weekday PM Peak Hour



EXISTING PLAN

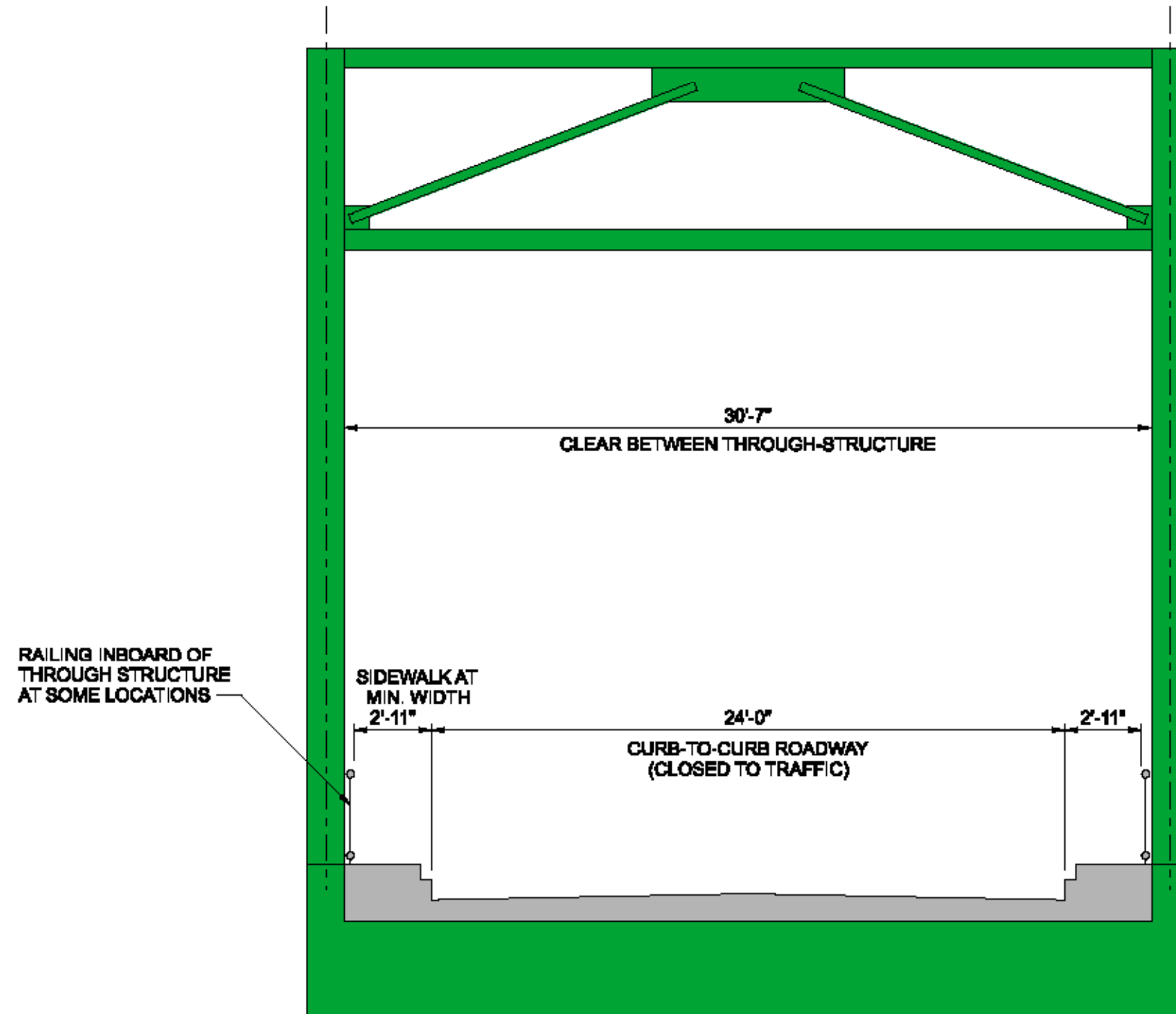


EXISTING ELEVATION

Note:
Figures on this sheet are from the Existing Plan and Elevation figure in the report: General Sullivan Bridge over Little Bay Bridges Rehabilitation Final Report prepared by Kimball Chase, Inc. dated June, 1991.



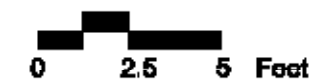
Vanasse Hangen Brustlin, Inc.
Figure 3.2-6
Existing General Sullivan Bridge
Plan and Elevation

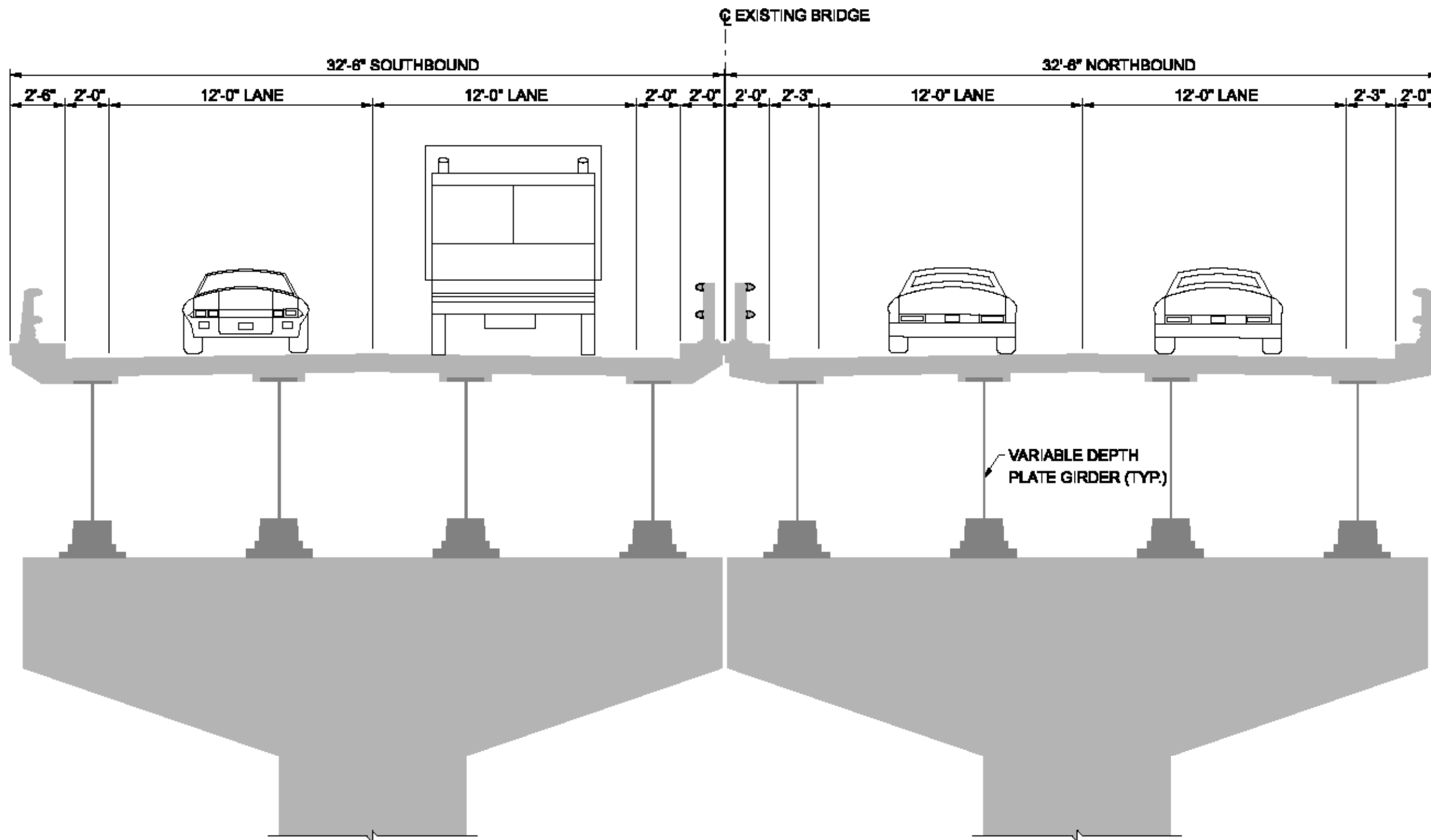


EXISTING CROSS SECTION
GENERAL SULLIVAN BRIDGE

Vanasse Hangen Brustlin, Inc.

Figure 3.2-7
Existing General Sullivan Bridge
Cross Section





EXISTING CROSS SECTION
LITTLE BAY BRIDGES

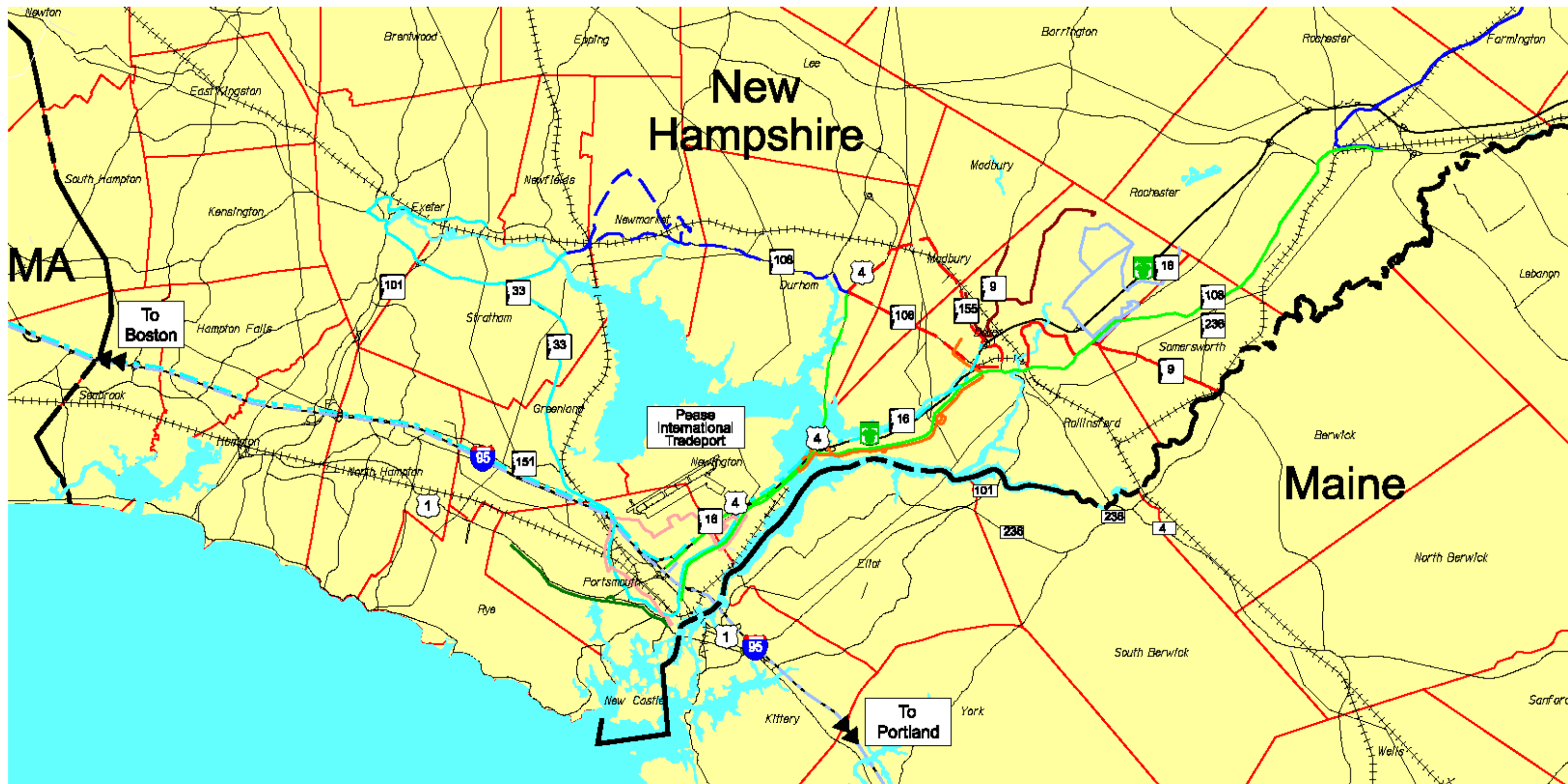
Figure 3.2-8
 Existing Little Bay Bridges
 Cross Section





Vanasse Hangen Brustlin, Inc.

Figure 3.2-9
 Existing Park-and-Ride Facilities



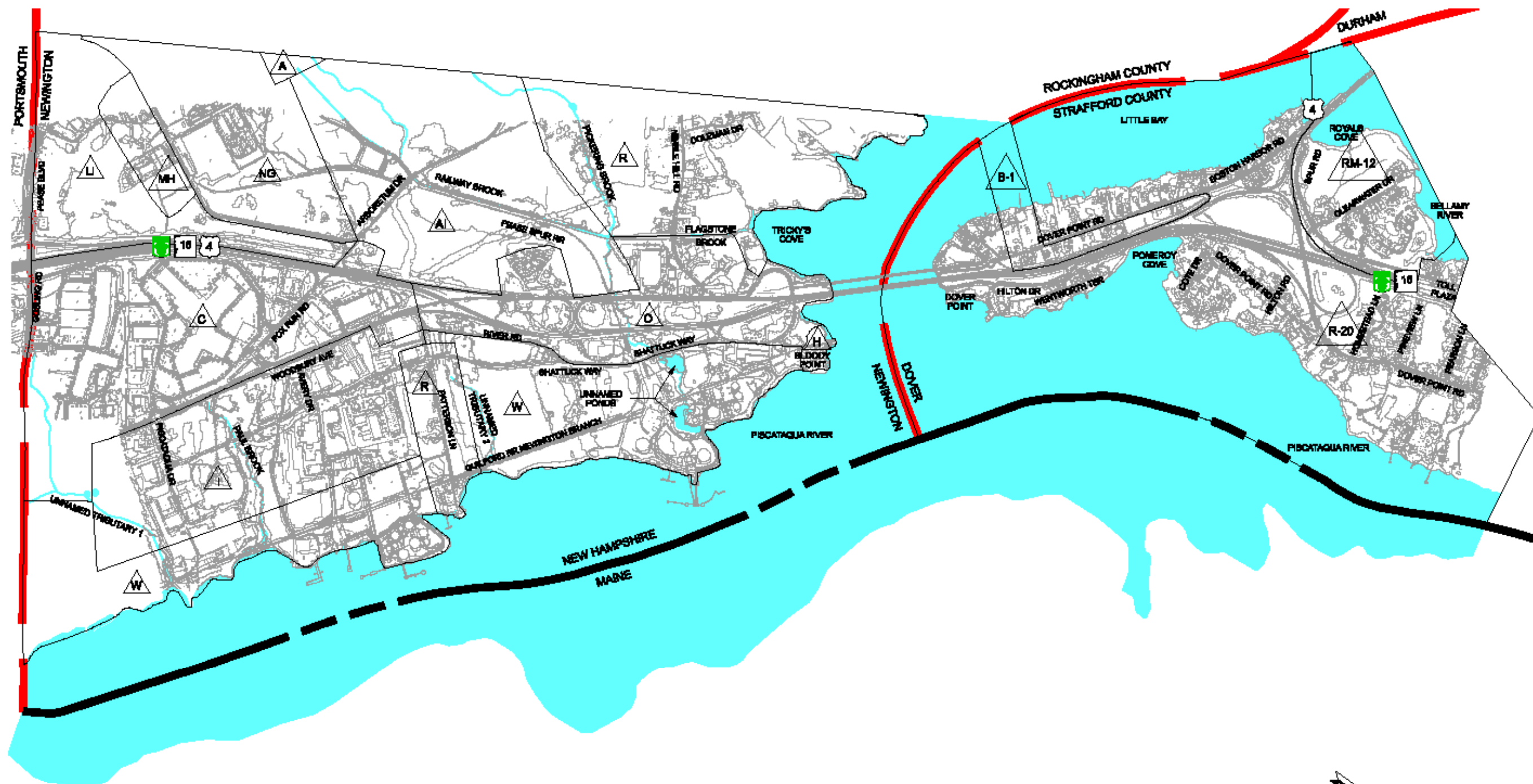
Legend:

- | | | | | |
|--|--|--|---|---|
| <ul style="list-style-type: none"> — Route 1 — Route 2 — Route 6 — Route 7 | <p>COAST Services</p> <ul style="list-style-type: none"> — Dover Points North — Dover Points South — Dover Points West — Lafayette Road Trolley — Pease Tradeport Trolley | <p>Wildcat Transit Services</p> <ul style="list-style-type: none"> — Route 3 — Route 4 — Route 5 | <p>Commuter/Intercity Services</p> <ul style="list-style-type: none"> — C&J — Vermont Transit | <ul style="list-style-type: none"> - - - State Line — Town Line |
|--|--|--|---|---|



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Figure 3.2-10
Existing Bus Services



Legend:

- SURFACE WATERS
- TOWNLINE
- STATELINE

NEWINGTON ZONING

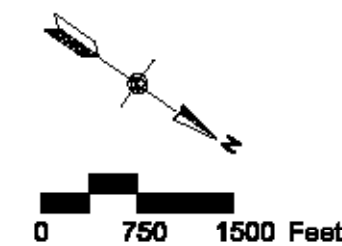
- R RESIDENTIAL DISTRICT
- C COMMERCIAL DISTRICT
- AI AIRPORT INDUSTRIAL DISTRICT
- I INDUSTRIAL DISTRICT
- MH MOBILE HOME DISTRICT
- H HISTORIC DISTRICT
- W WATERFRONT INDUSTRIAL DISTRICT
- A AIRPORT DISTRICT
- O OFFICE DISTRICT
- LI LIGHT INDUSTRIAL
- NG NEW HAMPSHIRE NATIONAL GUARD (NOT LOCALLY ZONED)

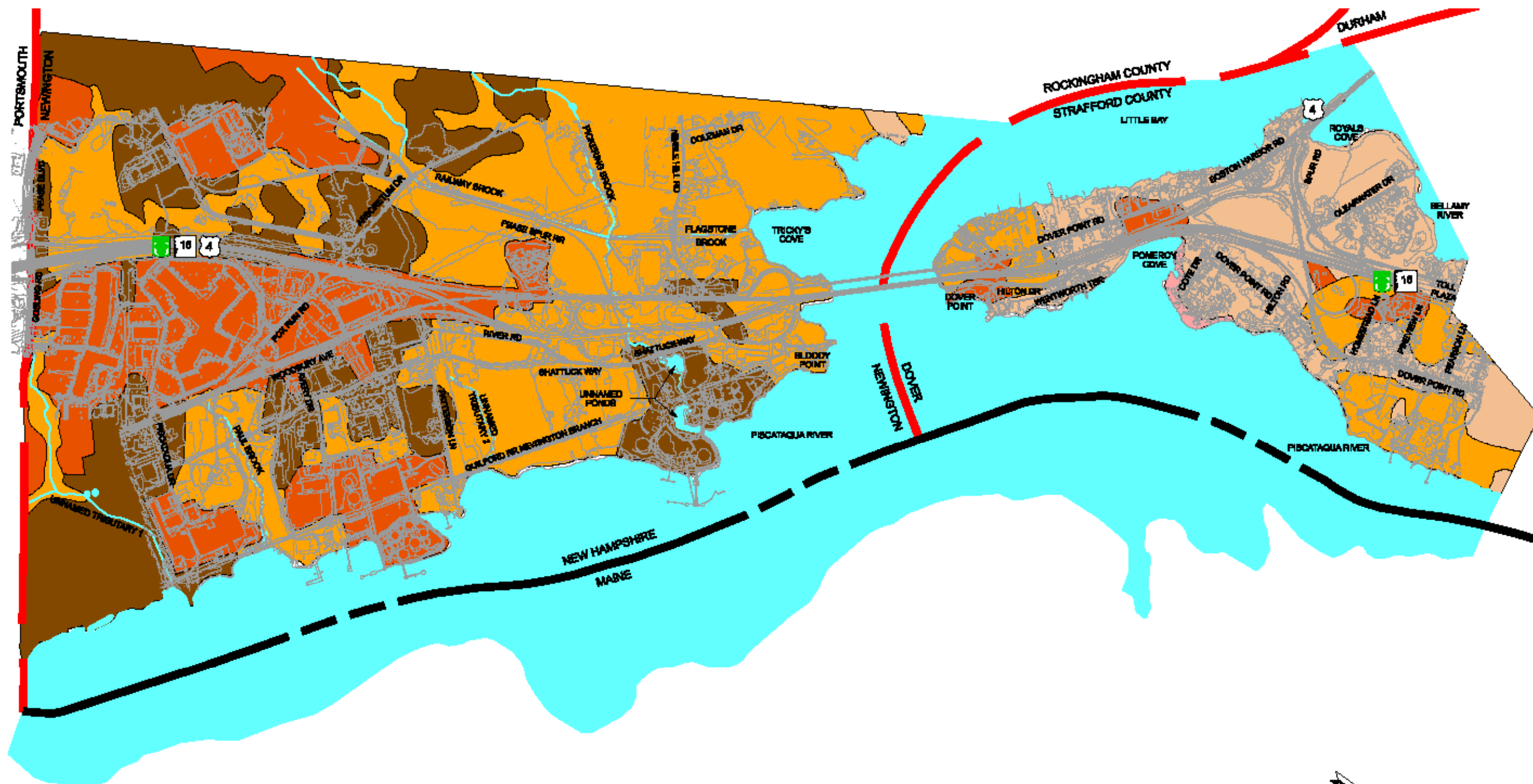
DOVER ZONING

- B-1 NEIGHBORHOOD BUSINESS DISTRICT
- RM-12 LOW-DENSITY MULTIRESIDENTIAL DISTRICT
- R-20 LOW-DENSITY RESIDENTIAL DISTRICT

Vanasse Hangen Brustlin, Inc.

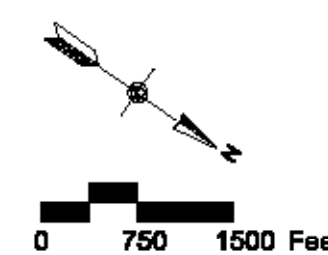
Figure 3.3-1
 Zoning Districts,
 Newington and Dover





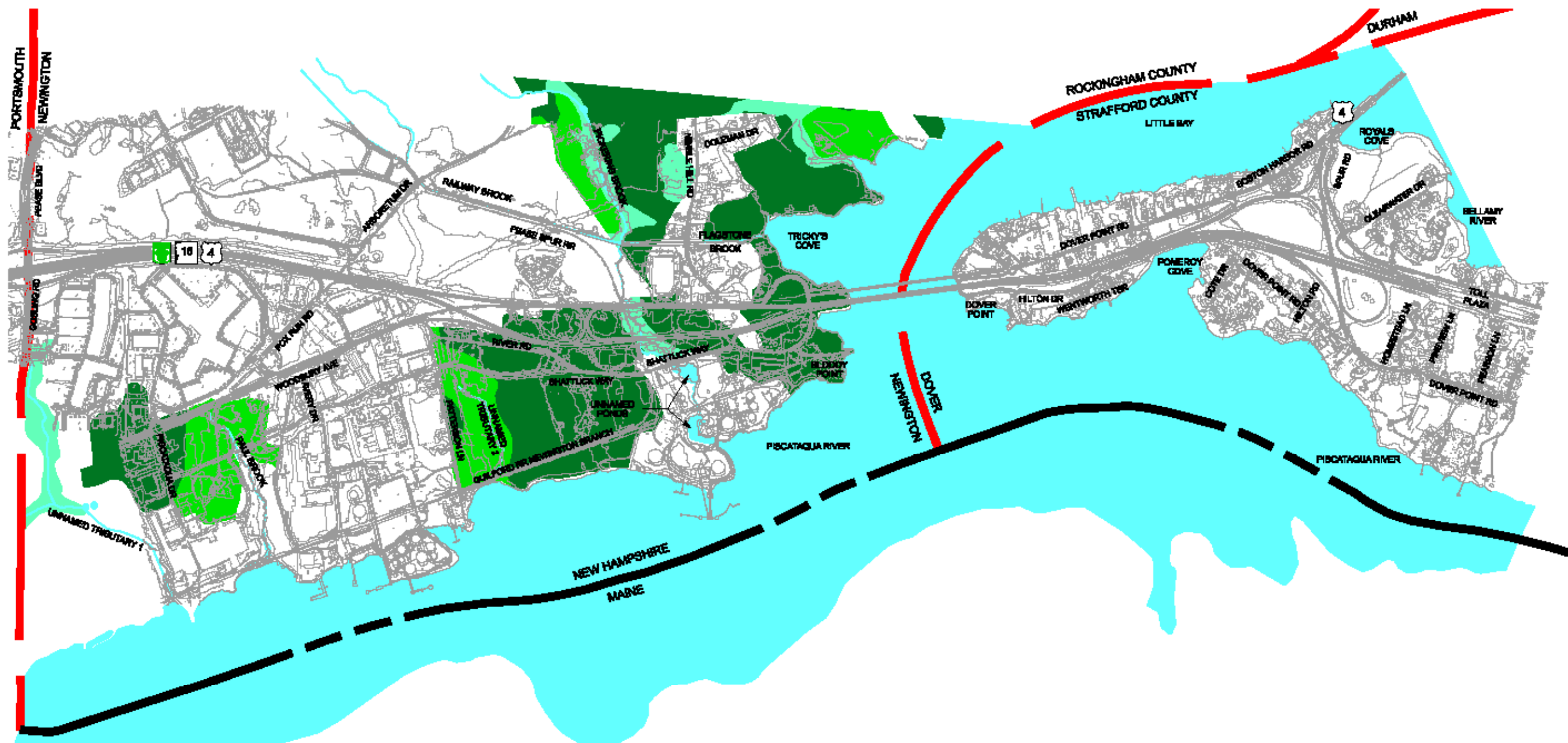
Legend:

- SURFACE WATERS
- TOWNLINE
- STATELINE
- MARINE/LACUSTRINE
- GLACIOFLUVIAL
- ANTHROPOGENIC
- ORGANIC MATERIAL
- TILL

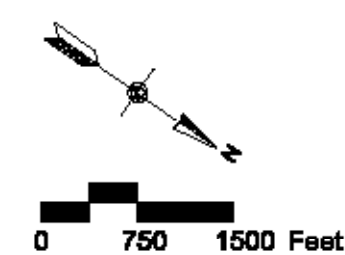


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Figure 3.4-1
 Major Soil Associations



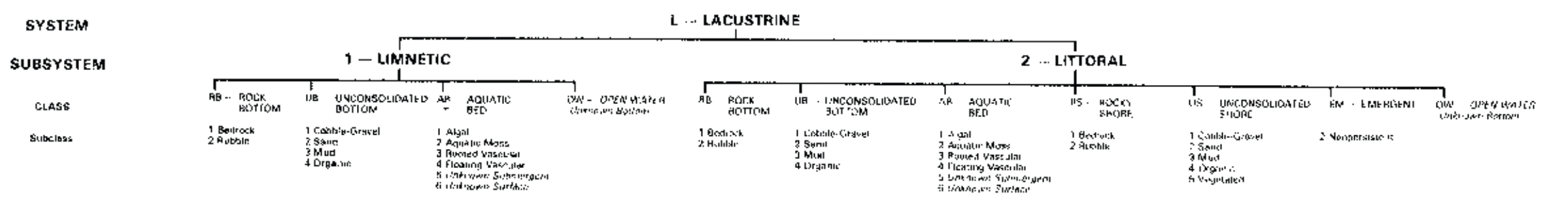
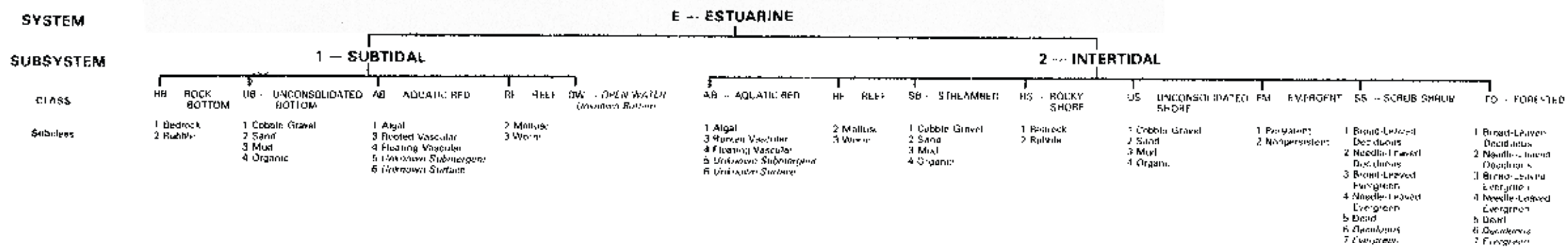
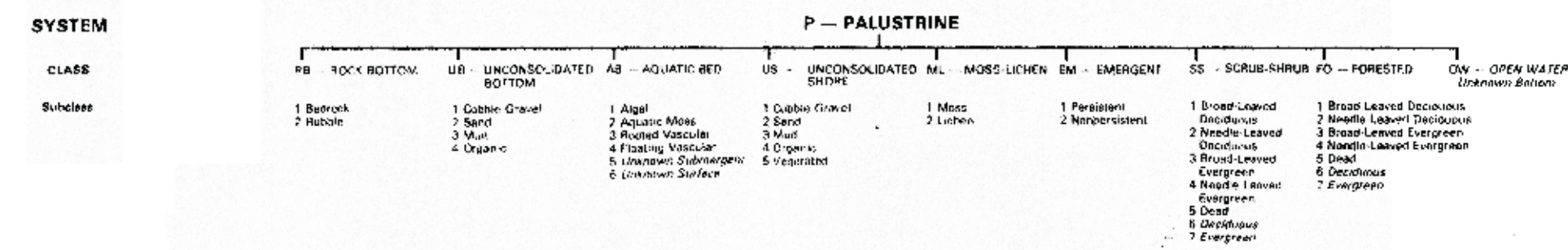
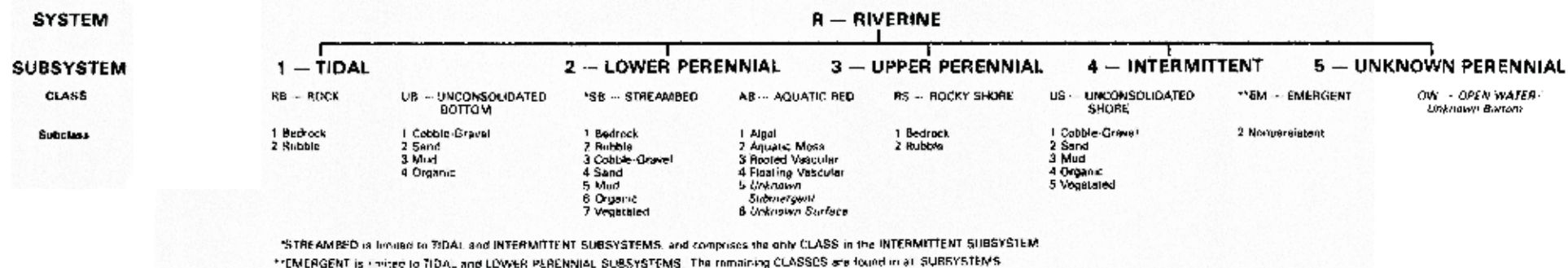
- Legend:**
- SURFACE WATERS
 - TOWNLINE
 - STATELINE
 - PRIME FARMLANDS
 - FARMLANDS OF STATEWIDE IMPORTANCE
 - FARMLANDS OF LOCAL IMPORTANCE



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Figure 3.5-1
 Important Farmland Soils

Source: NRCS soil survey, Rockingham & Strafford counties. Farmland soils in urbanized areas of Dover and Newington (US Census Bureau) are not shown, as per Farmland Protection Policy Act.



MODIFIERS			
In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The former modifier may also be applied to the ecological system.			
WATER REGIME		WATER CHEMISTRY	
Non-Tidal	Tidal	Coastal Salinity	Inland Salinity
A: Temporarily Flooded R: Saturated C: Seasonally Flooded D: Seasonally Flooded/ Wet-Dominated E: Seasonally Flooded/ Saturated F: Sempereannally Flooded G: Intermittently Exposed	H: Permanently Flooded J: Intermittently Flooded K: Artificially Flooded W: Intermittently Flooded/Temporary Y: Saturated/Stratification/ Seasonal Z: Intermittently Exposed/Temporary Unknown	K: Artificially Flooded L: Subirrigated M: Irregularly Exposed N: Regularly Flooded P: Irregularly Flooded	S: Temporary Tidal T: Seasonally Tidal U: Semipermanently-Tidal V: Permanently Tidal W: Unknown
		1: Hypohaline 2: Euthaline 3: Mesohaline 4: Polyhaline 5: Mesohaline 6: Oligohaline 7: Fresh	7: Hypersaline 8: Euhaline 9: Mesohaline 0: Fresh
		pH Modifiers for all Fresh Water a: Acid c: Circumneutral b: Alkaline	
		SOIL	SPECIAL MODIFIERS
		g: Organic m: Mineral	h: Beaver i: Partially Open/Drained l: Farmed n: Directly Irrigated o: Artificial Substrate p: Spill q: Exposed

*These water regimes are only used in tidal and intertidal freshwater systems

Vanasse Hangen Brustlin, Inc.

Figure 3.6-1
Wetland Classification System
(Cowardin, et al. 1979)



Legend:

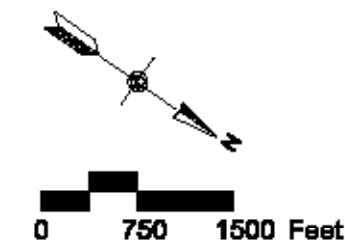
- TOWNLINE
- STATELINE








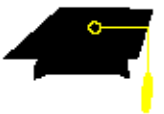

DOMINANT WETLAND COVER TYPE

- PALUSTRINE, FORESTED
- PALUSTRINE, SCRUB-SHRUB
- PALUSTRINE, EMERGENT
- PALUSTRINE, UNCONSOLIDATED BOTTOM
- ESTUARINE, INTERTIDAL
- ESTUARINE, SUBTIDAL
- POTENTIAL VERNAL POOLS
- RIVERINE, LOWER OR UPPER PERENNIAL










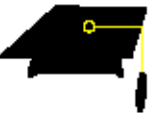



Vanasse Hangen Brustlin, Inc.

Figure 3.6-2
 Terrestrial Wetland Resources



Wetland I.D.		Approximate Total Acres
		
		
		

ES

-  Ground Water Recharge / Discharge
-  Floodflow Alteration (Storage & Desynchronization)
-  Fish & Shellfish Habitat
-  Sediment / Toxicant Retention
-  Nutrient Removal / Retention / Transformation
-  Production Export (Nutrient)
-  Sediment / Shoreline Stabilization
-  Wildlife Habitat
-  Recreation (Consumptive & Non-Consumptive)
-  Education Scientific Value
-  Uniqueness / Heritage
-  Visual Quality Aesthetics
-  Endangered Species



Indicates Principal Function or Value

Vanasse Hangen Brustlin, Inc.

Figure 3.6-3
Wetland Systems
Functions and Values
Sheet 1 of 8

NEWINGTON

PEASE BLVD















ARBORETUM DR

SPALDING
PARKWAY

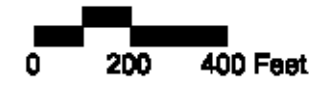
16

4

Legend:

-  Existing Roadway
-  Existing Building
-  Existing Property Lines
-  Existing LAROW
-  Existing CAROW
-  Existing ROW
-  FFO Wetland
-  PSS Wetland
-  PEM Wetland
-  POW Wetland
-  Estuarine Wetland
-  Potential Vernal Pool
-  Riverine Wetland
-  Wetland System

Note:
Unlabeled wetlands are isolated and/or not impacted by any alternative.



Vannote Hagen Brustlin, Inc.















Figure 3.6-3
Wetland Systems Functions
and Values
Sheet 2 of 8

Wetland I.D. N-1	Approximate Total Acres 26.19
	
	
	

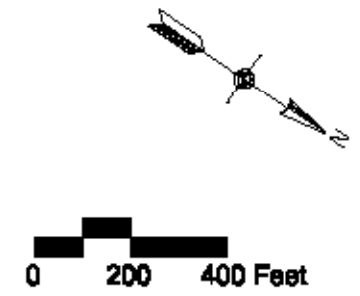
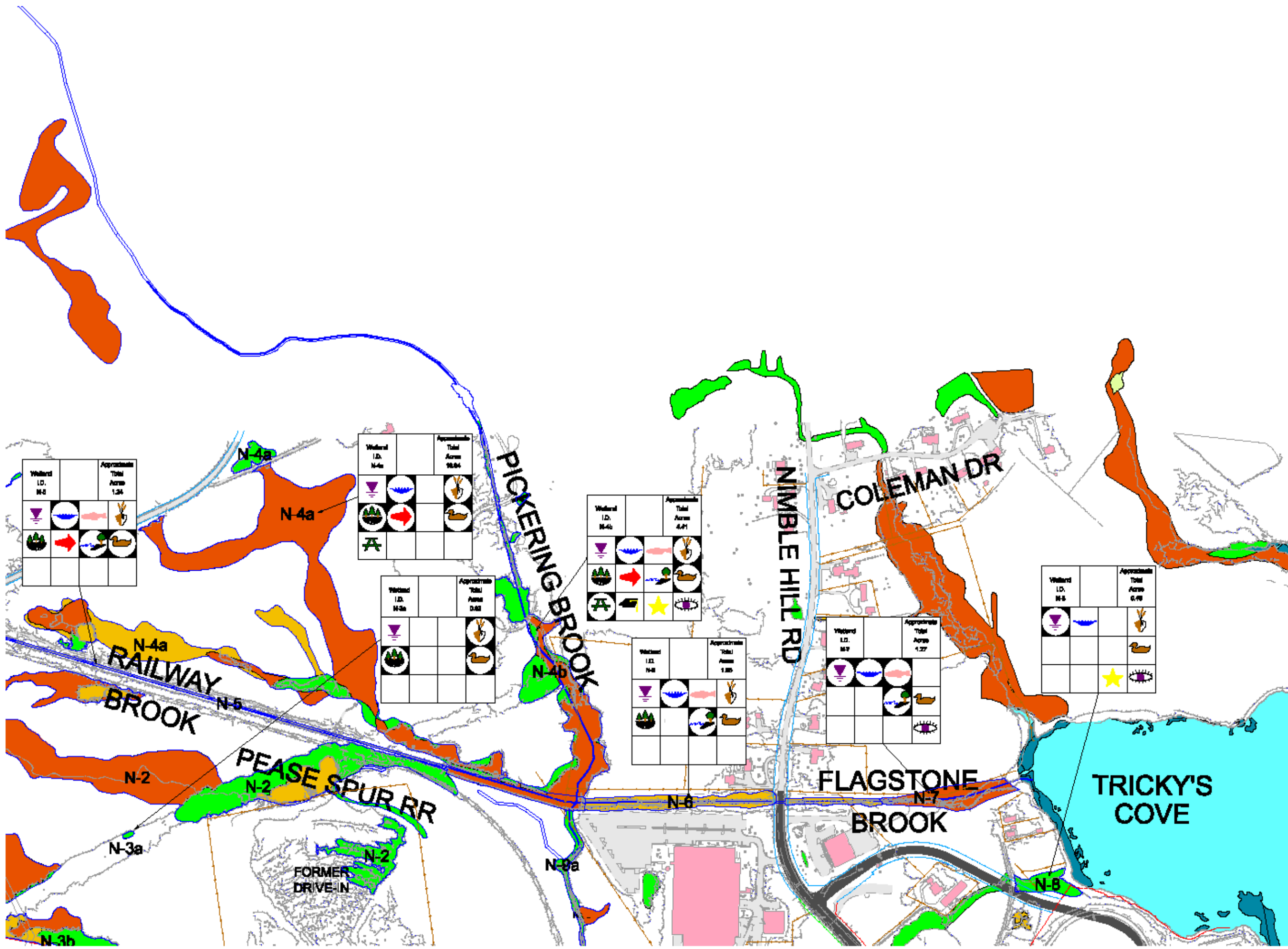
Wetland I.D. N-2	Approximate Total Acres 26.19
	
	
	

Wetland I.D. N-3b	Approximate Total Acres 1.0
	
	
	

Legend:

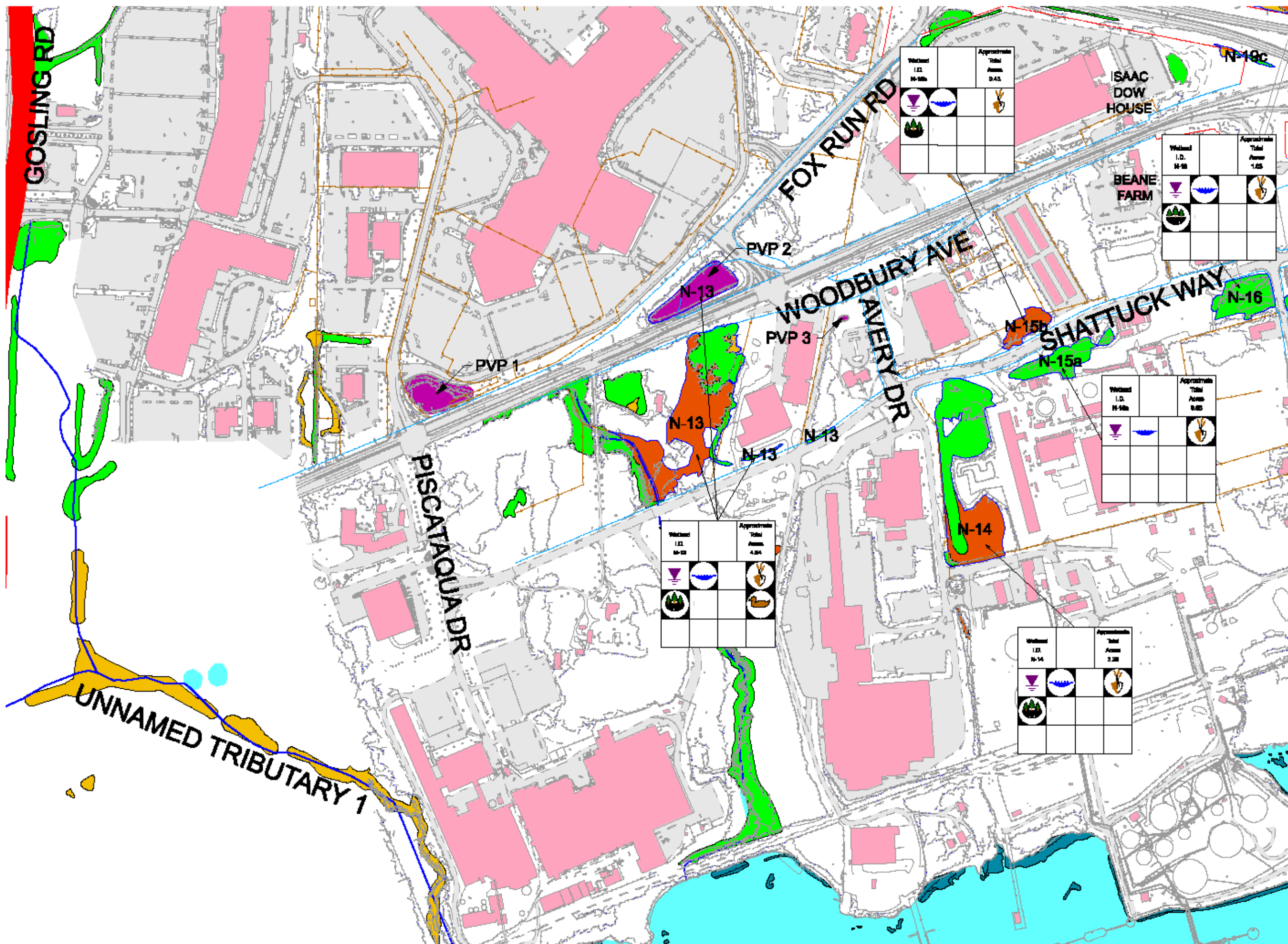
-  Existing Roadway
-  Existing Building
-  Existing Property Lines
-  Existing LAROW
-  Existing CAROW
-  Existing ROW
-  PFO Wetland
-  PSS Wetland
-  PEM Wetland
-  POW Wetland
-  Estuarine Wetland
-  Potential Vernal Pool
-  Riverine Wetland
-  Wetland System

Note:
Unlabeled wetlands are isolated and/or not impacted by any alternative.



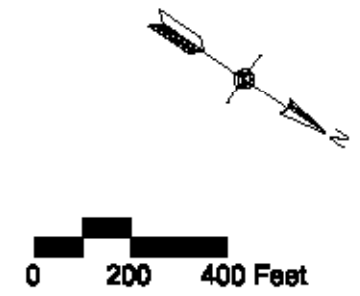
Vannote Hangen Brustlin, Inc.

Figure 3.6-3
Wetland Systems Functions and Values
Sheet 3 of 8



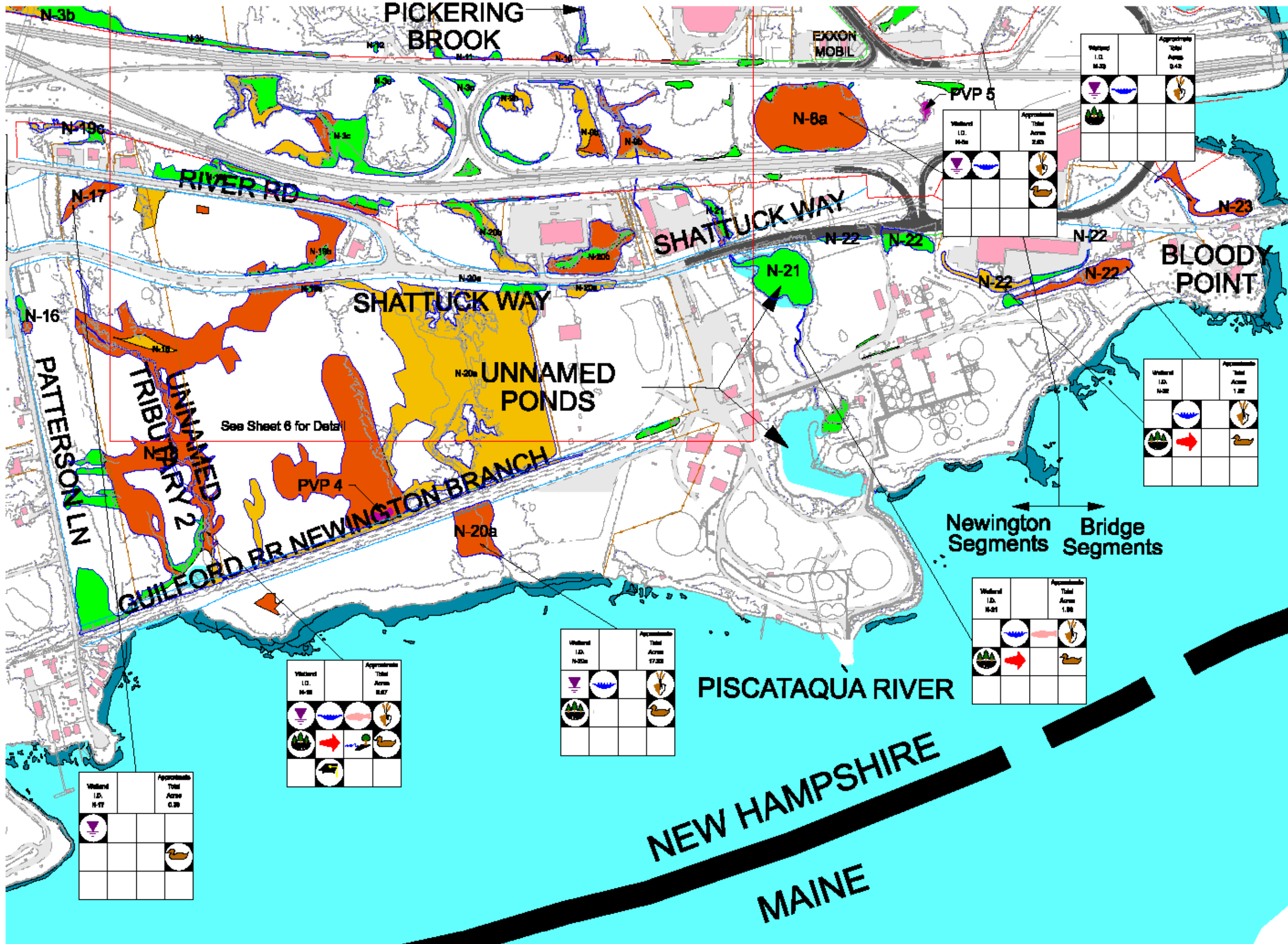
- Legend:**
- Existing Roadway
 - Existing Building
 - Existing Property Lines
 - Existing LAROW
 - Existing CAROW
 - Existing ROW
 - PFO Wetland
 - PSS Wetland
 - PEM Wetland
 - POW Wetland
 - Estuarine Wetland
 - Potential Vernal Pool
 - Riverine Wetland
 - Wetland System

Note:
Unlabeled wetlands are isolated and/or not impacted by any alternative.



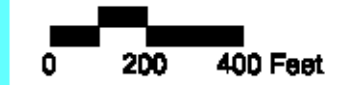
Vannote Hangen Brustlin, Inc.

Figure 3.6-3
Wetland Systems Functions and Values
Sheet 4 of 8



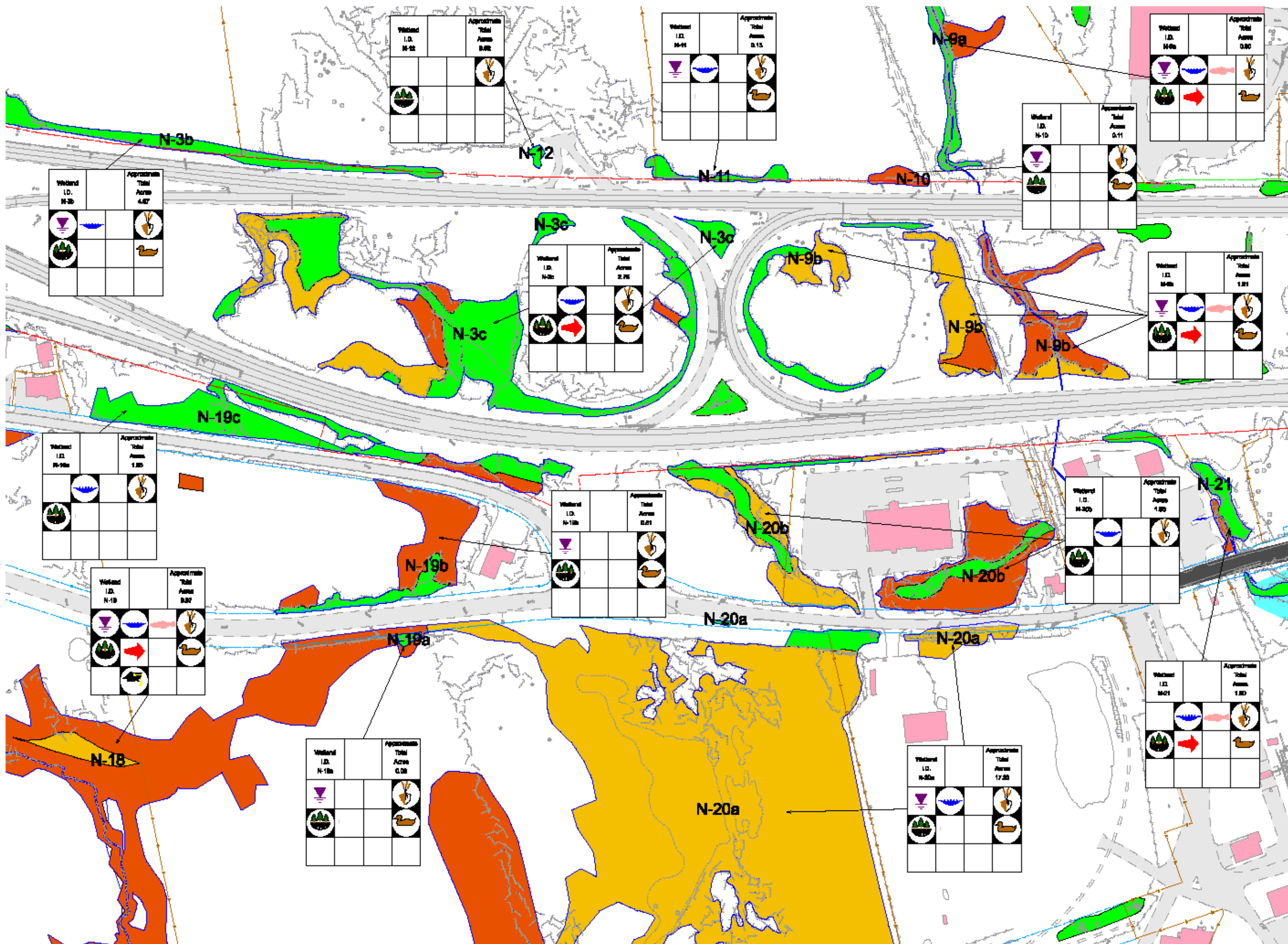
- Legend:**
- Existing Roadway
 - Existing Building
 - Existing Property Lines
 - Existing LAROW
 - Existing CAROW
 - Existing ROW
 - FFO Wetland
 - PSS Wetland
 - PEM Wetland
 - POW Wetland
 - Estuarine Wetland
 - Potential Vernal Pool
 - Riverine Wetland
 - Wetland System

Note:
Unlabeled wetlands are isolated and/or not impacted by any alternative.



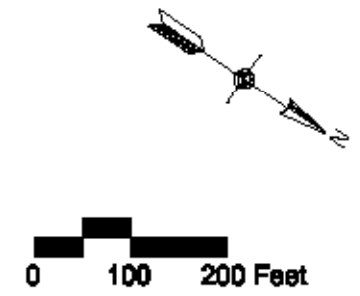
Vannote Hangen Brustlin, Inc.

Figure 3.6-3
Wetland Systems Functions
and Values
Sheet 5 of 8



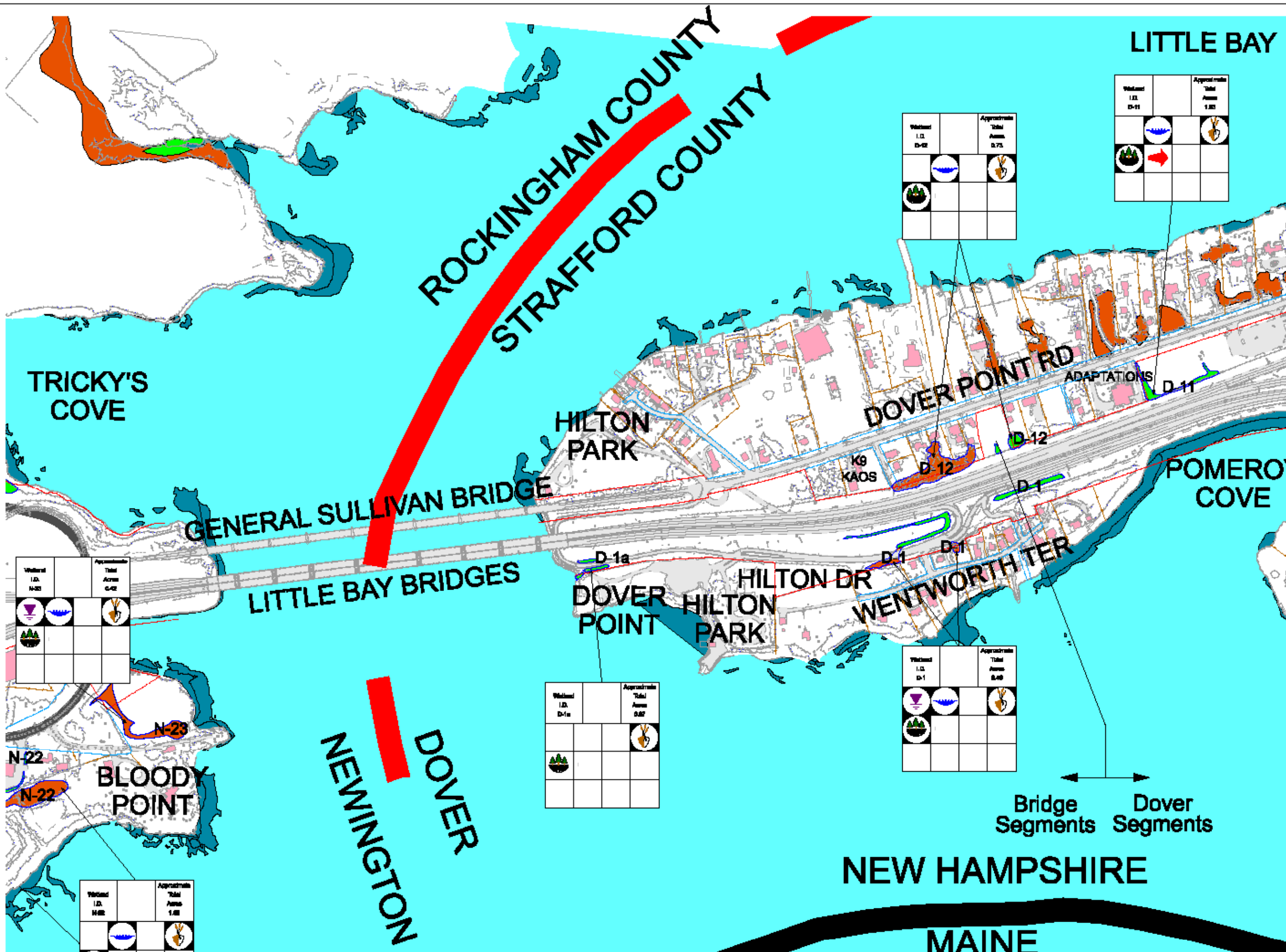
- Legend:**
- Existing Roadway
 - Existing Building
 - Existing Property Lines
 - Existing LAROW
 - Existing CAROW
 - Existing ROW
 - FFO Wetland
 - PSS Wetland
 - PEM Wetland
 - POW Wetland
 - Estuarine Wetland
 - Potential Vernal Pool
 - Riverine Wetland
 - Wetland System

Note:
Unlabeled wetlands are isolated and/or not impacted by any alternative.



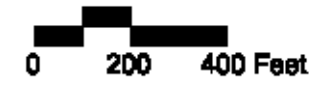
Vannose Hangen Brustlin, Inc.

Figure 3.6-3
Wetland Systems Functions and Values
Sheet 6 of 8



- Legend:**
- Existing Roadway
 - Existing Building
 - Existing Property Lines
 - Existing LAROW
 - Existing CAROW
 - Existing ROW
 - FFO Wetland
 - PSS Wetland
 - PEM Wetland
 - POW Wetland
 - Estuarine Wetland
 - Potential Vernal Pool
 - Riverine Wetland
 - Wetland System

Note:
Unlabeled wetlands are isolated and/or not impacted by any alternative.



Vannote Hangen Brustlin, Inc.

Figure 3.6-3
Wetland Systems Functions
and Values
Sheet 7 of 8



- Legend:**
- Existing Roadway
 - Existing Building
 - Existing Property Lines
 - Existing LAROW
 - Existing CAROW
 - Existing ROW
 - FFO Wetland
 - PSS Wetland
 - PEM Wetland
 - POW Wetland
 - Estuarine Wetland
 - Potential Vernal Pool
 - Riverine Wetland
 - Wetland System

Note:
Unlabeled wetlands are isolated and/or not impacted by any alternative.



Vannote Hangen Brustlin, Inc.

Figure 3.6-3
Wetland Systems Functions
and Values
Sheet 8 of 8

Wetland Number	Wetland Name	Watershed	Total Wetland Area (acres)	Cover Type(s)	Groundwater Recharge/Discharge	Floodflow Alteration	Fish and Shellfish Habitat	Sediment/Toxicant Retention	Nutrient Removal	Production Export	Sediment/Shoreline Stabilization	Wildlife Habitat	Recreation	Educational/Scientific Value	Uniqueness/Heritage	Visual Quality/Aesthetics
N-1	Newington 1	Coastal Drainage	9.1	PF01E	✓	0		0	0	✓		0				
N-2	Newington 2	Great Bay	36.2	PSS1E & PF01/4E & PEM/SS1E	✓	0		0	0	0		0	✓		0	
N-3a	Newington 3a	Coastal Drainage	0.0	PEM/SS1C	✓			0	0			0				
N-3b	Newington 3b	Coastal Drainage	4.9	PEM1E	0	✓		0	0			✓				
N-3c	Newington 3c	Coastal Drainage	2.8	PEM1E & PF01E & PSS1E		0		0	0	0		0				
N-4a	Newington 4a	Great Bay	10.6	PF01E & PEM1E & PSS1E	✓	0		0	0	0		0	✓			
N-4b	Newington 4b	Great Bay	4.4	PF05H & PEM1E & R2UB3Hb	✓	0	✓	0	✓	✓	✓	0	0	✓	✓	✓
N-5	Newington 5	Great Bay	1.2	R2UB2/1Hbx & PSS1E & PF01E	✓	0	✓	✓	✓	✓	0	0				
N-6	Newington 6	Great Bay	1.1	PSS1E & R3UB3H	✓	0	✓	✓	✓		0	✓				
N-7	Newington 7	Great Bay	1.3	PF01E & R3UB1Hh & E2EM & E2US3	0	0	0				0	✓				✓
N-8	Newington 8	Great Bay	0.5	PEM1C & E2EM1	0	✓		✓				✓			✓	✓
N-8a	Newington 8a	Coastal Drainage	2.9	PF01C & PEM1E	0	0		0				0				
N-9a	Newington 9a	Coastal Drainage	0.8	R2UB3Hb & PF01E & PEM1E	0	0	✓	✓	✓	✓		✓				
N-9b	Newington 9b	Coastal Drainage	1.8	R2UB3Hb & PF01E & PEM1E	✓	0	✓	0	0	✓		0				
N-10	Newington 10	Coastal Drainage	0.1	PF01C	0			0	✓			0				
N-11	Newington 11	Coastal Drainage	0.1	PF0/EM1E	✓	0		0				0				
N-12	Newington 12	Coastal Drainage	0.0	PEM1E				0	0							
N-13	Newington 13	Coastal Drainage	4.5	PEM1E & PSS1E & PF01E & R2UB1H	✓	0		0	0			0				
N-14	Newington 14	Coastal Drainage	3.2	PEM1C & PF01C	✓	0		0	0							
N-15a	Newington 15a	Coastal Drainage	0.9	PEM1C	✓	✓		0								
N-15b	Newington 15b	Coastal Drainage	0.4	PF01E	0	0		✓	✓							
N-16	Newington 16	Coastal Drainage	1.0	PEM1E	✓	0		0	0							
N-17	Newington 17	Coastal Drainage	0.3	PF01C	0							0				
N-18	Newington 18	Coastal Drainage	9.0	PF01E & PEM1E	0	0	0	0	0	✓	✓	0		0		
N-19a	Newington 19a	Coastal Drainage	0.0	PF01C	✓			0	0			0				
N-19b	Newington 19b	Coastal Drainage	0.8	PEM1E	✓			0	0			0				
N-19c	Newington 19c	Coastal Drainage	1.6	PEM1E		0		0	0							
N-20a	Newington 20a	Coastal Drainage	17.3	PSS/EM1E	✓	0		0	0			0				
N-20b	Newington 20b	Coastal Drainage	1.9	PSS/EM1E & PF01E		0		0	0							
N-21	Newington 21	Coastal Drainage	1.5	PEM1E & R2UB3Hb		0	✓	0	0	✓		✓				
N-22	Newington 22	Coastal Drainage	1.5	PEM1E & PF01E		0		0	0	✓		✓				
N-23	Newington 23	Coastal Drainage	0.4	PF01C	0	0		0	✓							

Figure 3.6-4
Summary of Wetland Resources (Sheet 1 of 2)

Wetland Number	Wetland Name	Watershed	Total Wetland Area (acres)	Cover Type(s)	Groundwater Recharge/ Discharge	Floodflow Alteration	Fish and Shellfish Habitat	Sediment/ Toxicant Retention	Nutrient Removal	Production Export	Sediment/ Shoreline Stabilization	Wildlife Habitat	Recreation	Educational/ Scientific Value	Uniqueness/ Heritage	Visual Quality/ Aesthetics
D-1	Dover 1	Coastal Drainage	0.5	PEM1E & PFO1E	0	0		0	0							
D-1a	Dover 1a	Coastal Drainage	0.1	PEM1A				0	✓							
D-2	Dover 2	Coastal Drainage	2.6	PFO1E & PSS1E & PEM1E	0	0		0	0			0		✓		
D-3	Dover 3	Coastal Drainage	0.1	PEM1E	✓	0		0	0			✓				
D-4	Dover 4	Bellamy River	0.2	PFO1E & PEM1E	✓	✓		0	0			✓				
D-5	Dover 5	Coastal Drainage	0.5	PFO1B	0							0				
D-6	Dover 6	Bellamy River	0.1	PEM1E	✓	0		0	✓			✓				
D-7	Dover 7	Bellamy River	0.2	PFO1B	0			✓	✓			0				
D-7a	Dover 7a	Bellamy River	14.3	PFO1/4E	0	✓		0	0			0	0	✓		
D-8	Dover 8	Bellamy River	0.8	PFO1/4E	0	0		✓	✓			0				
D-9	Dover 9	Coastal Drainage	1.4	PFO1E & PEM1E	✓	0		0	0			✓				
D-10	Dover 10	Coastal Drainage	9.0	PFO1E/ & PEM1E	0	0		0	0			0				
D-11	Dover 11	Coastal Drainage	1.8	PEM1E		0		0	0	✓						
D-12	Dover 12	Coastal Drainage	0.7	PEM1E & PFO1E		0		0	0							

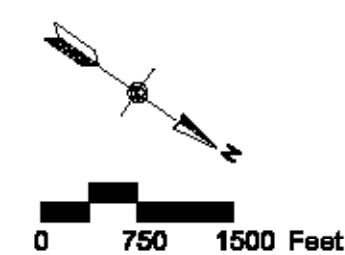
✓ = Function Present
0 = Principal Function

Note: No known populations of wetland-dependent threatened or endangered species are present in the study area wetlands that are subject to impact from the proposed alternatives.

Figure 3.6-4
Summary of Wetland Resources (Sheet 2 of 2)

Legend:






- SURFACE WATERS
- TOWNLINE
- STATELINE
- TW Tidal Wetland
- UI Urban Industrial
- UC Urban Commercial
- OW Open Water
- UU Urban Undeveloped
- US Upland Shrub
- FM Forested Mixed
- FH Forested Hardwood
- FS Forested Softwood
- RR Railroad
- UR Urban Residential
- PF Pasture, Field
- OR Orchard
- AF Agriculture Field
- OF Old Field
- RL Recreational Land
- WS Wooded Swamp
- SS Scrub-Shrub Swamp
- EM Emergent Marsh

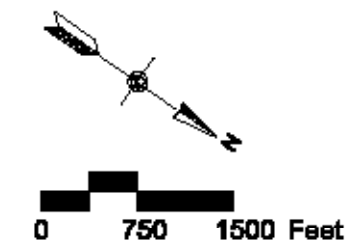
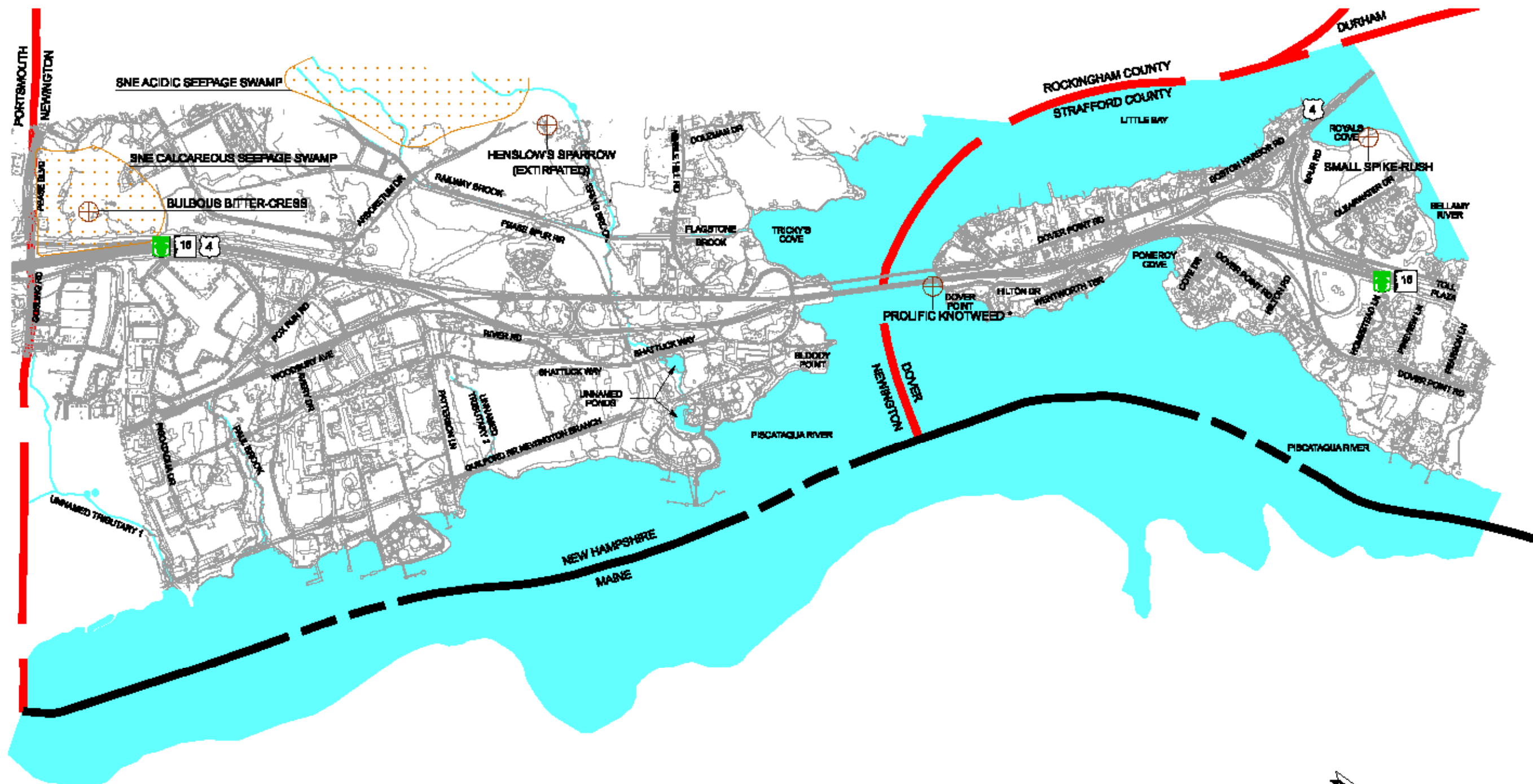


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Figure 3.7-1
 Wildlife Habitat Cover Types

Legend:

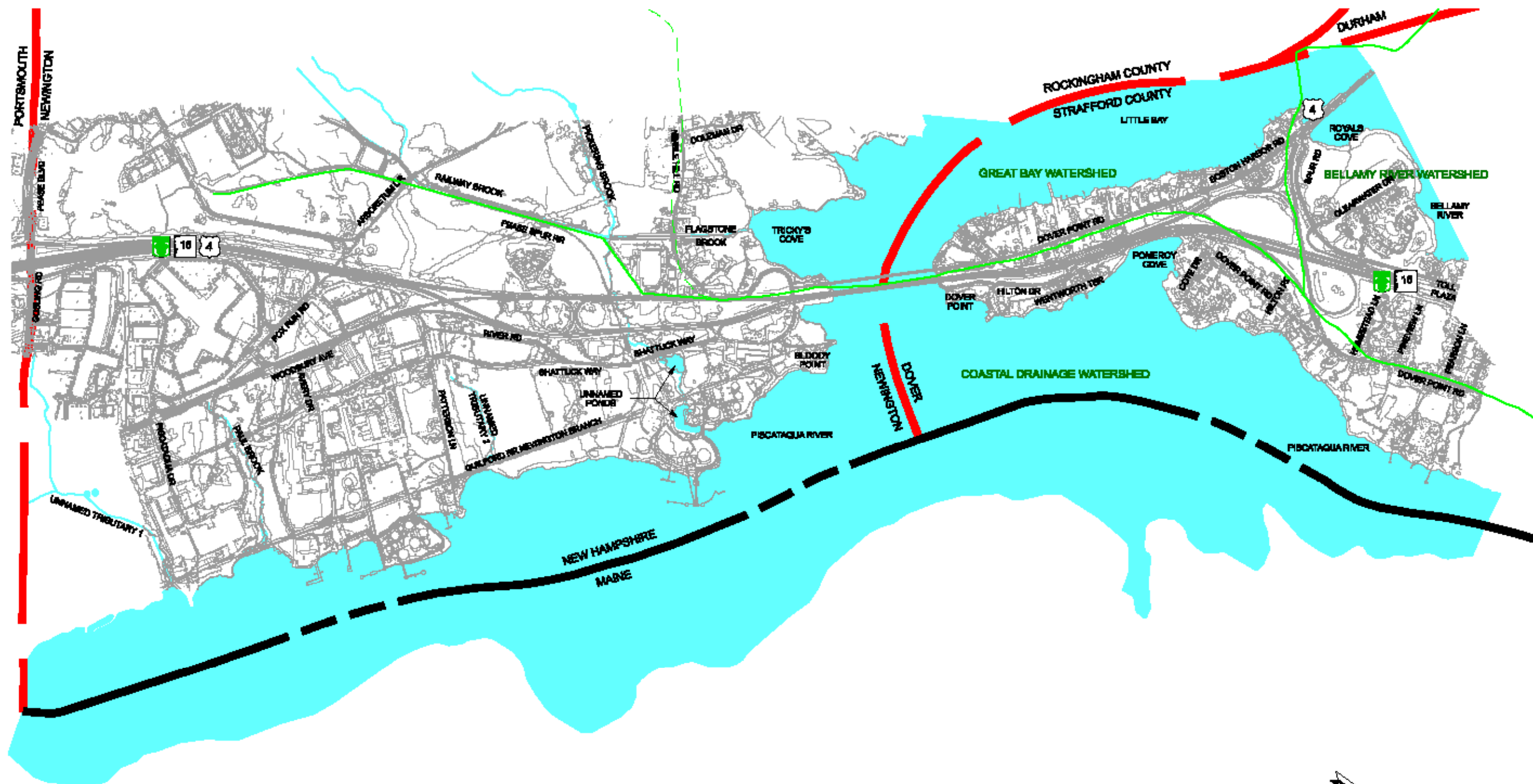
-  SURFACE WATERS
-  TOWNLINE
-  STATELINE
-  POPULATION OF PROTECTED SPECIES
-  EXEMPLARY NATURAL COMMUNITY (NHNHE)



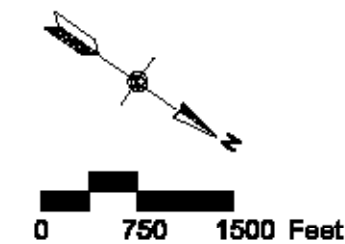
Vannote Hangen Brustlin, Inc.

Figure 3.8-1
 Threatened and Endangered Species

* Prolific knotweed population known only from an historic record.



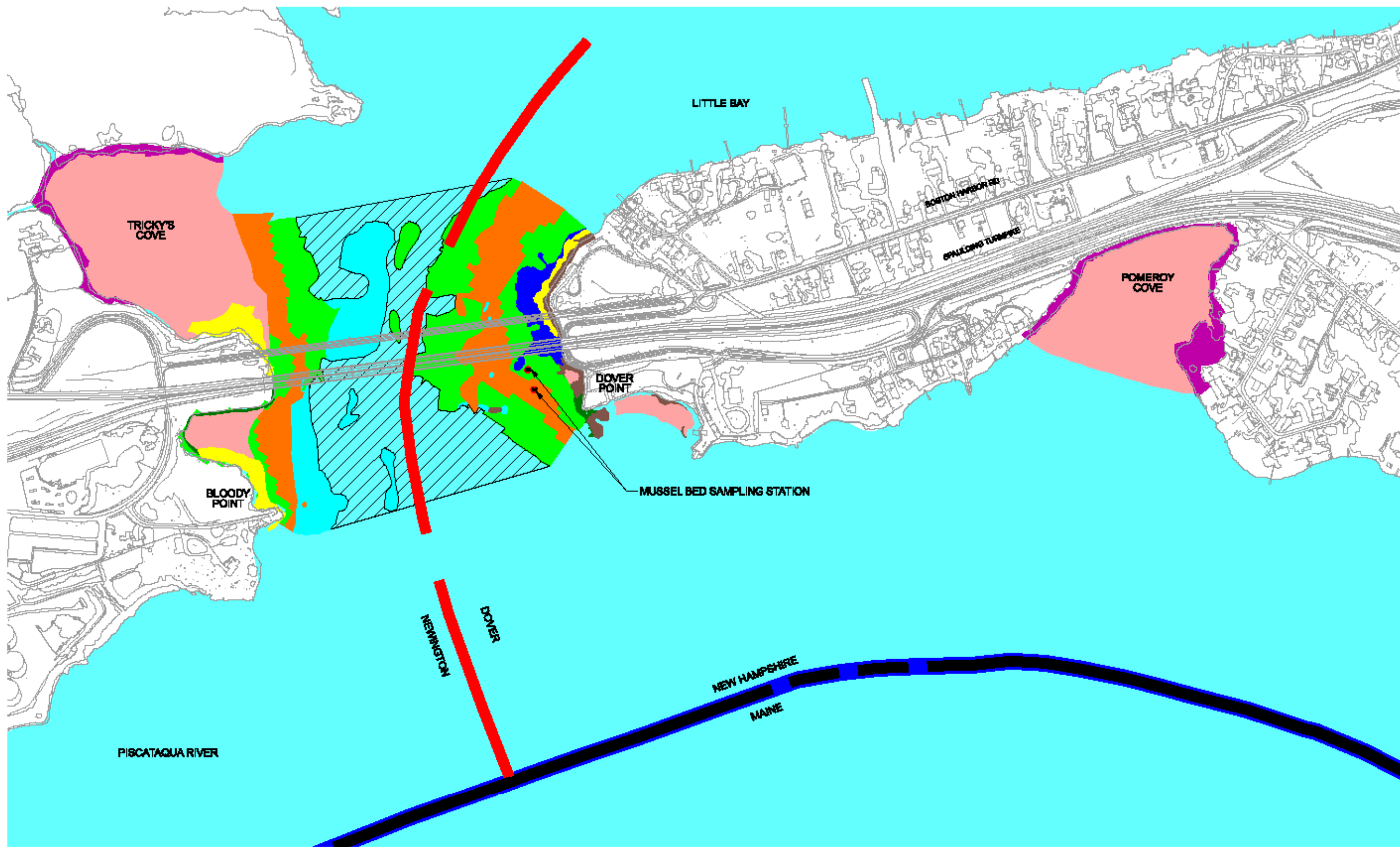
- Legend:**
- SURFACE WATERS
 - TOWNLINE
 - STATELINE
 - WATERSHED BOUNDARY



Vannse Hangen Brustlin, Inc.

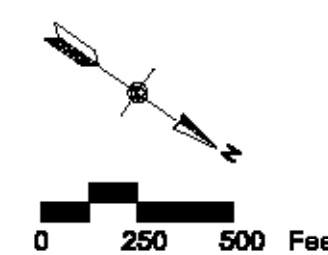
Figure 3.9-1
 Watersheds and Surface
 Water Resources

Note: The watershed boundaries shown here are taken from the USGS HUC 12-digit code (from GRANIT). The break between the Great Bay watershed and the Coastal Drainage was modified based on field observations of the Railway / Flagstone / Pickering Brook system with the USGS boundary shown as a dashed line and the modified boundary shown as a solid line.



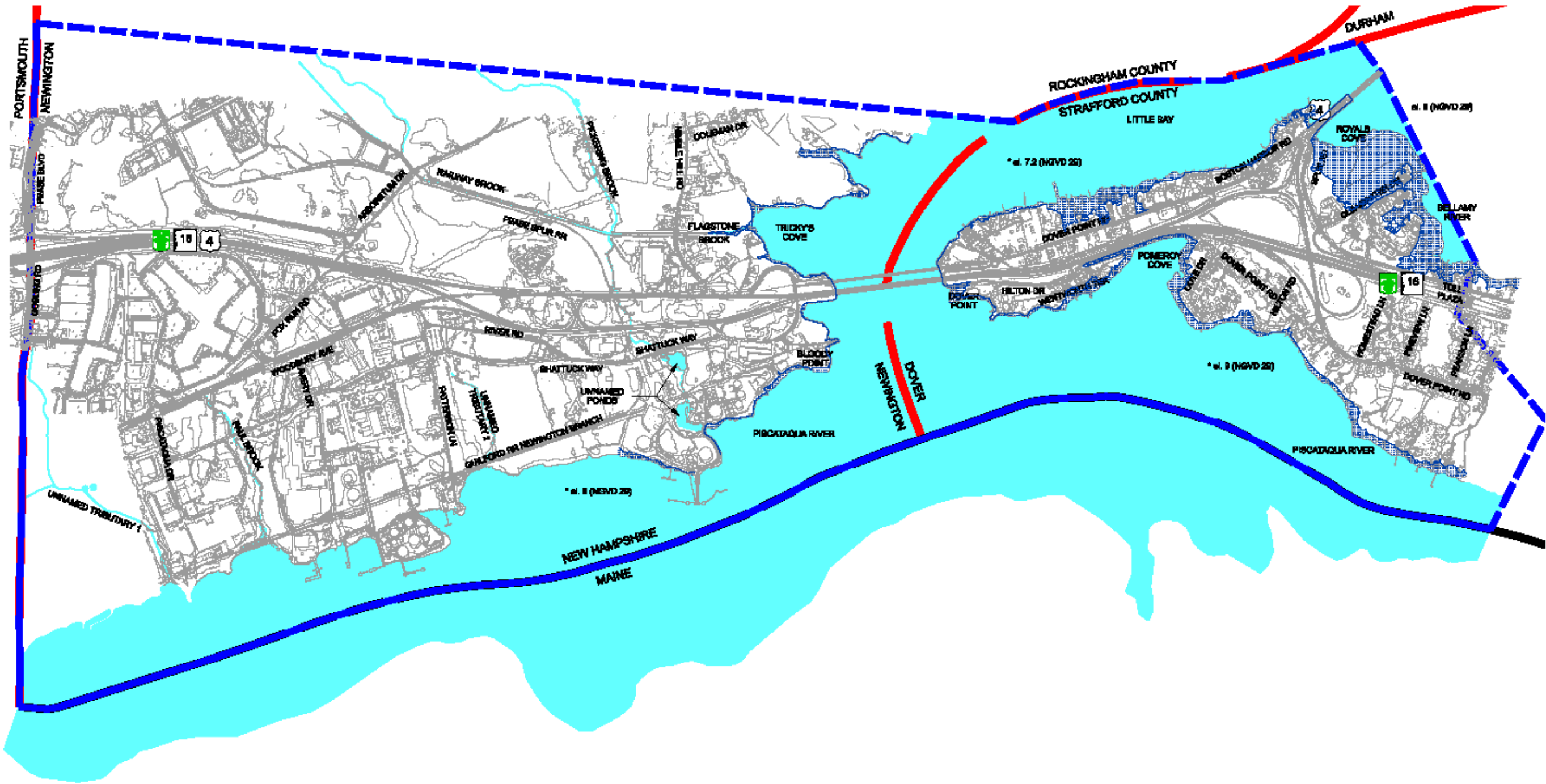
Legend:




- SURFACE WATERS
 - TOWNLINE
 - STATELINE
- INTERTIDAL HABITATS**
- HARD BOTTOM WITH ROCKWEED
 - MUDFLAT
 - ROCK / ALGAL / ABUNDANT MUSSEL
 - ROCK / ALGAL / SPARSE MUSSEL
 - SALT MARSH
 - SCATTERED ROCK / ALGAL / SOFT SEDIMENT
- SUBTIDAL HABITATS**
- KELP BED
 - MACROALGAL (NON-KELP) BED
 - MUSSEL REEF
 - OTHER
 - MUSSEL BED SAMPLING STATION

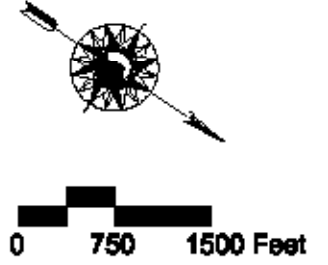


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Figure 3.10-1
 Intertidal and Subtidal Habitats



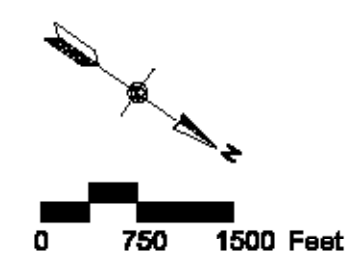
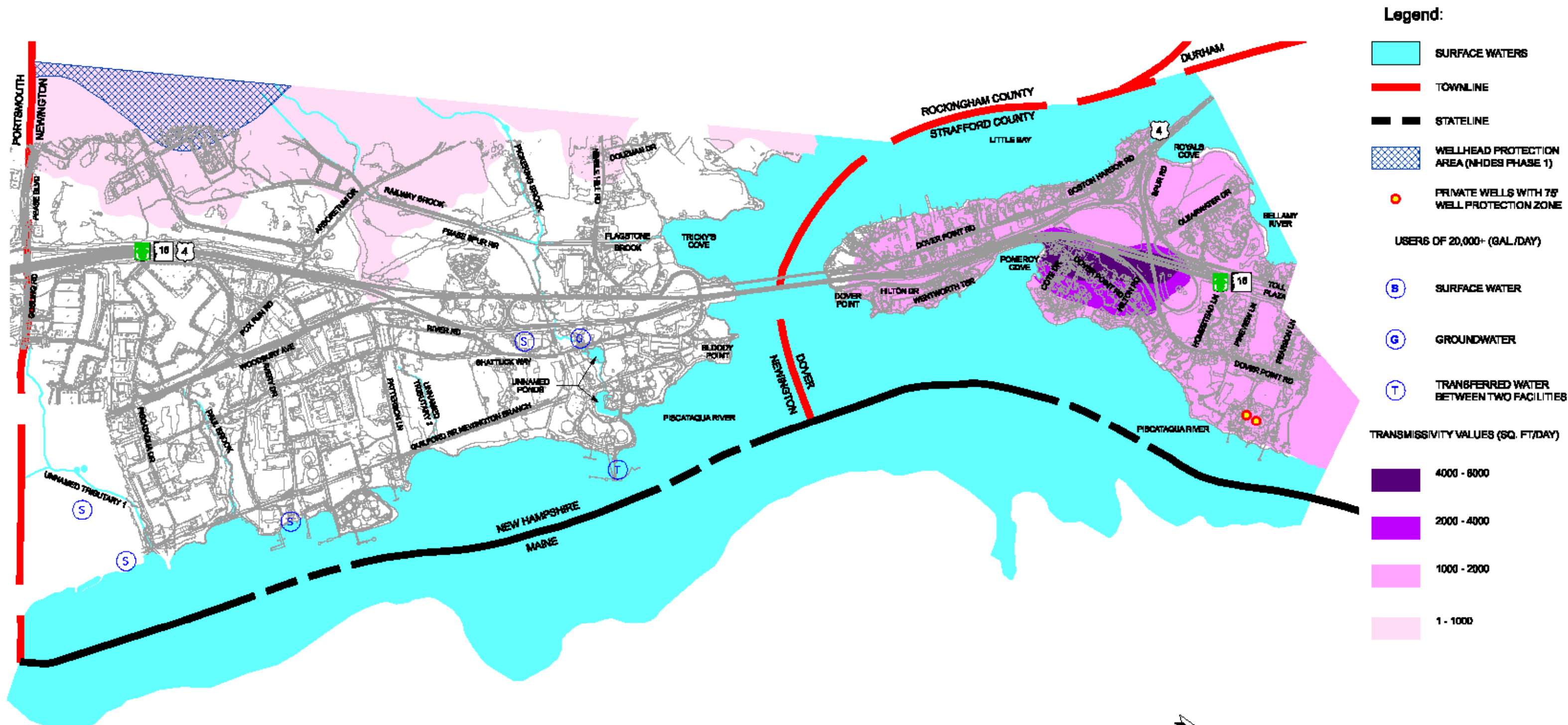
- Legend:
-  STREAM
 -  OPEN WATER
 -  100-YEAR FLOODPLAIN



* 100-Year Flood Elevation
 Source: FEMA Flood Insurance Study
 Rockingham County Study #33015CZ001A (May 3, 2005)
 Strafford County Study #33017CZ000A (May 17, 2005)

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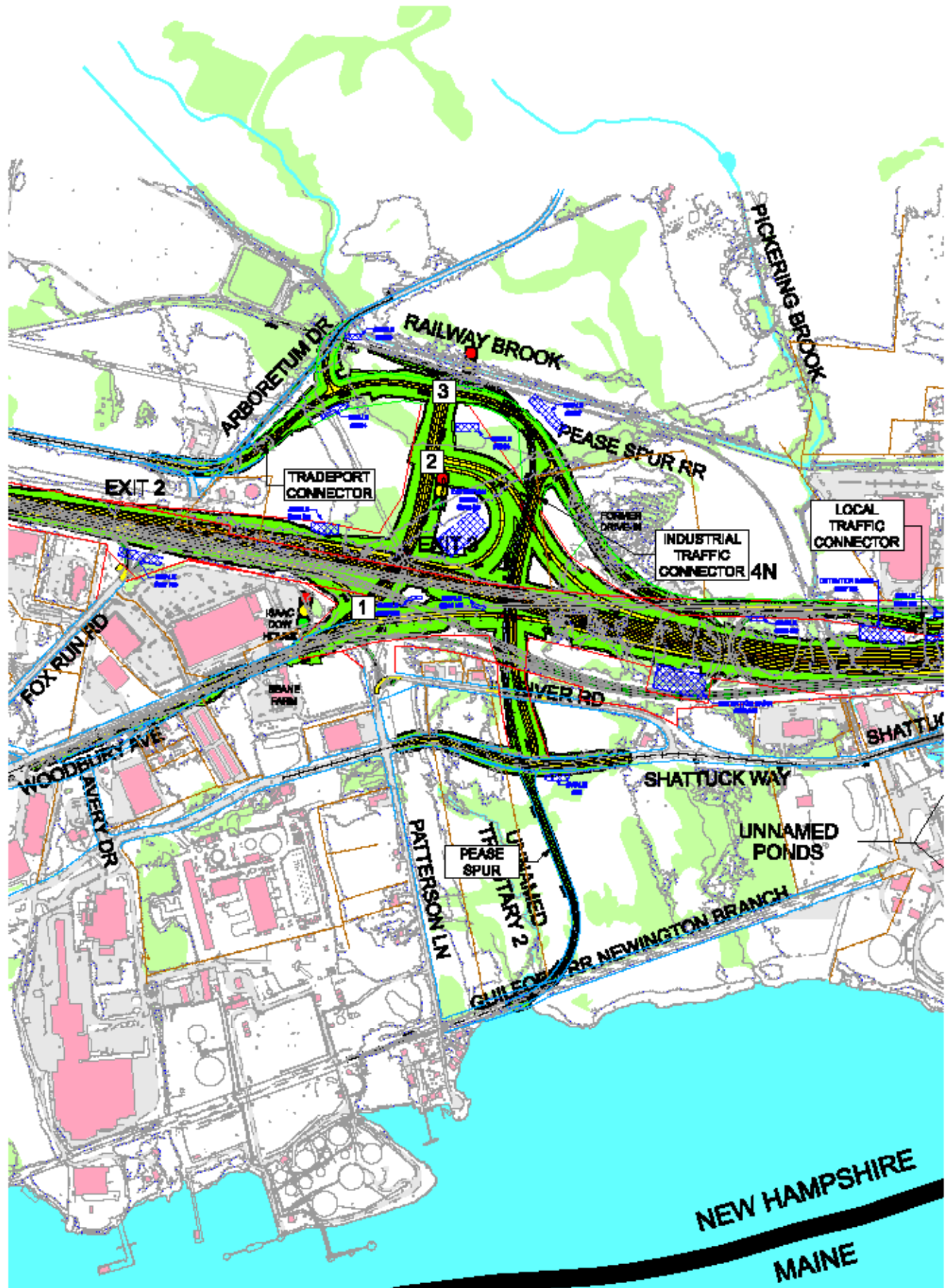
Figure 3.11-1
 Study Area Floodplain Map



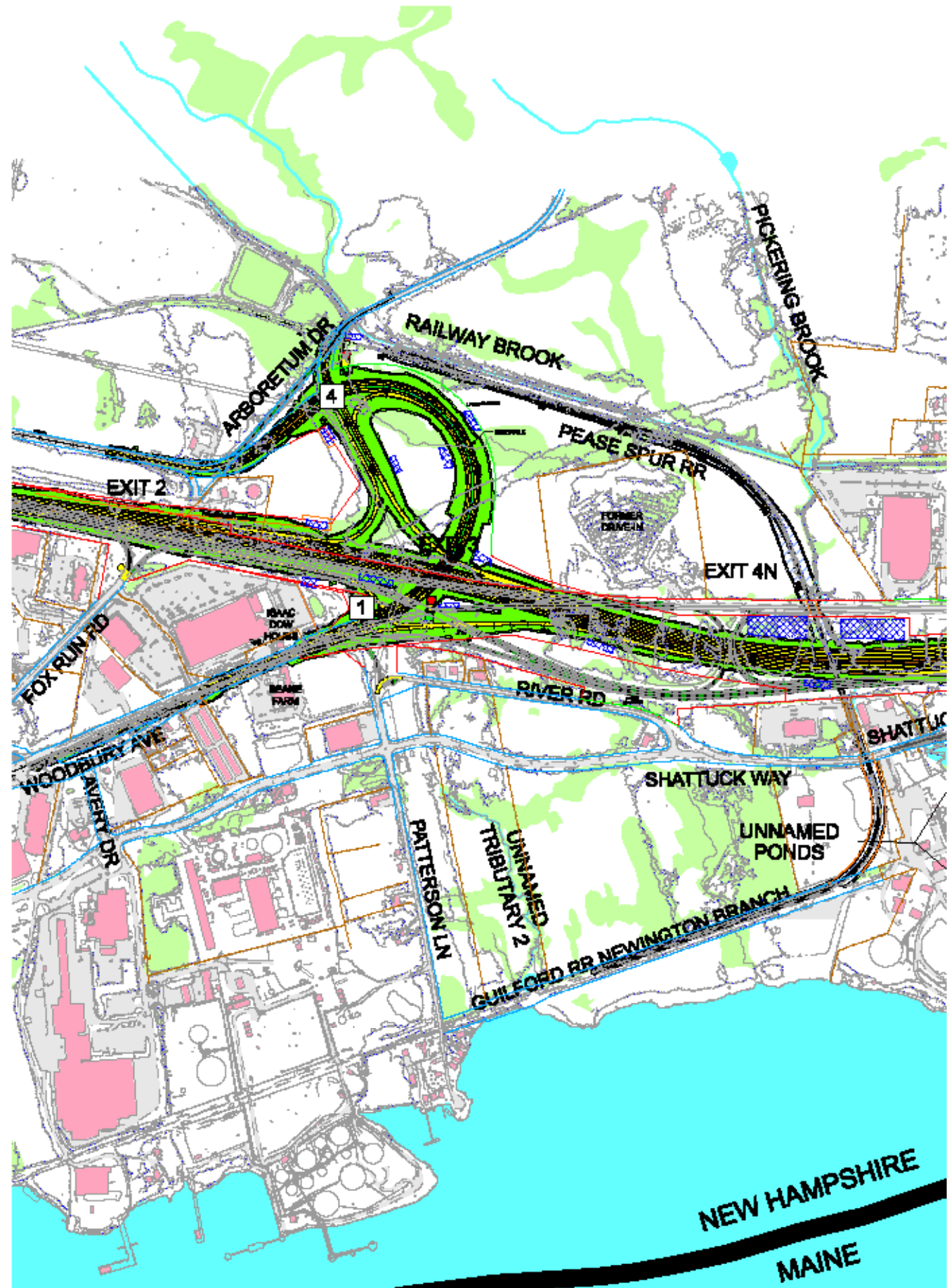
Vanasse Hangen Brustlin, Inc.

Figure 3.12-1
Groundwater Resources

NEWINGTON ALTERNATIVE 12A*

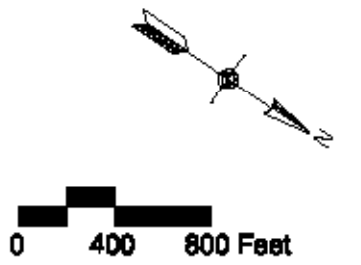


NEWINGTON ALTERNATIVE 13



Legend:

- Existing Roadway
- Existing Building
- Existing Wetland
- Existing Property Lines
- Proposed Roadway
- Proposed Bridge
- Proposed Rail Corridor
- Proposed Acquisition
- Pavement Removal
- Existing LAROW
- Existing CAROW
- Existing ROW
- Proposed LAROW
- Proposed CAROW
- Proposed ROW
- Newington Interim Safety Improvements
- Microscale Study Area Intersection Location

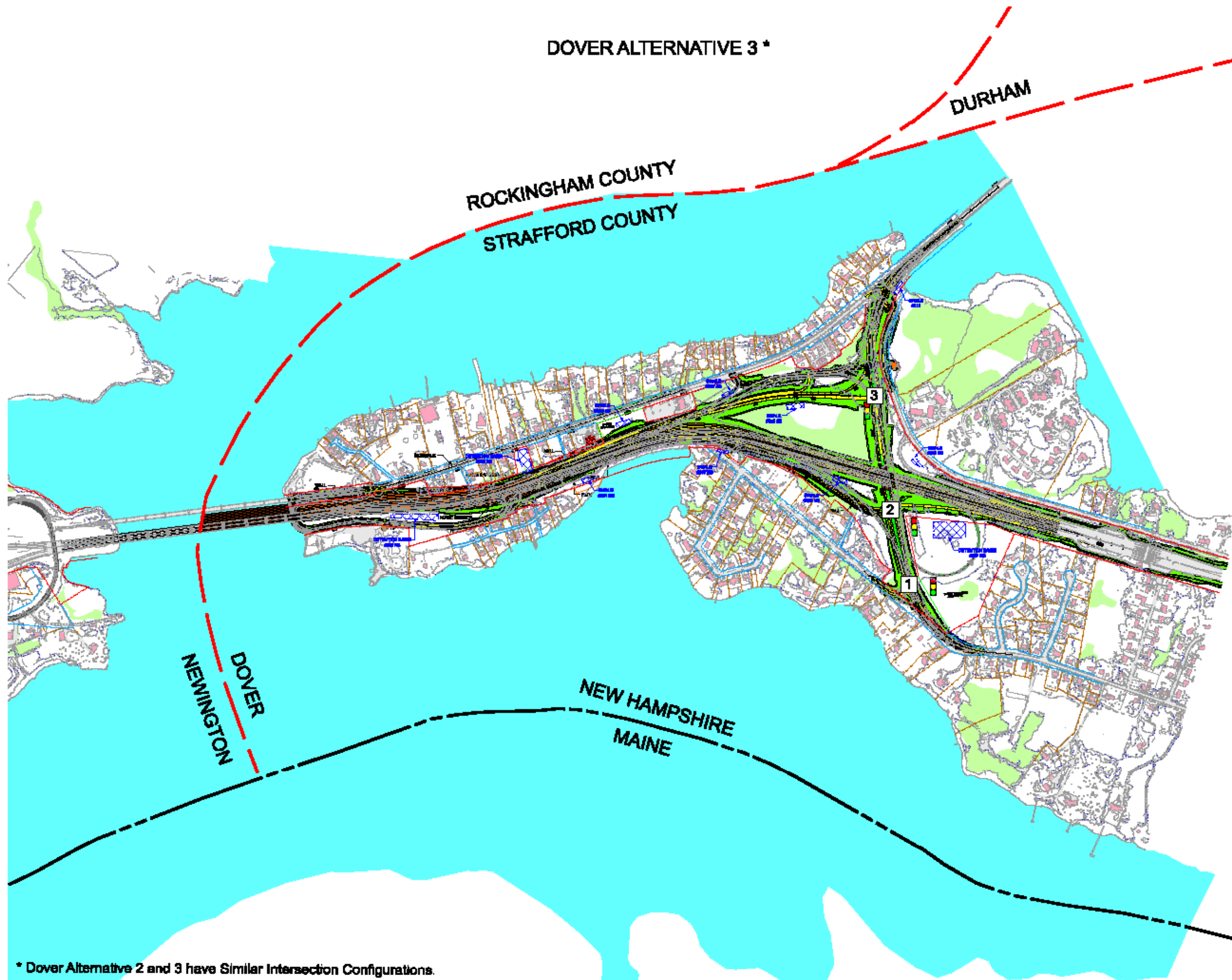


Vansse Hangen Braslin, Inc.

Figure 3.13-1
Microscale Study Area
Intersections,
Newington Alternatives

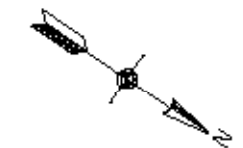
* Newington Alternative 10A and 12A have Similar Signalized Intersection Configurations.

DOVER ALTERNATIVE 3 *



Legend:

- Existing Roadway
- Existing Building
- Existing Wetland
- Existing Property Lines
- Proposed Roadway
- Proposed Bridge
- Proposed Rail Corridor
- Proposed Acquisition
- Pavement Removal
- Existing LAROW
- Existing CAROW
- Existing ROW
- Proposed LAROW
- Proposed CAROW
- Proposed ROW
- Newington Interim Safety Improvements
- Microscale Study Area Intersection Location

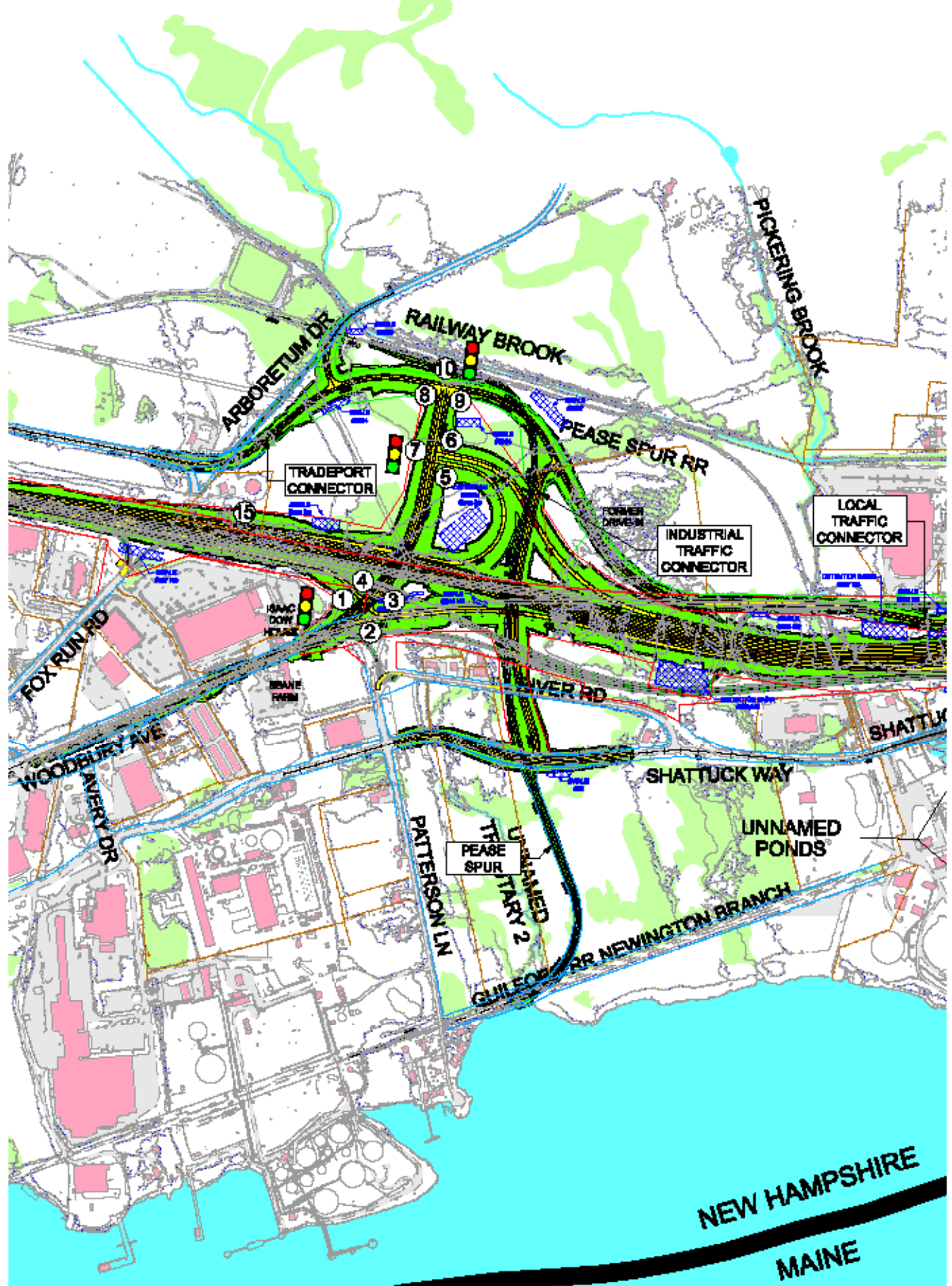


Vannote Hangen Brustlin, Inc.

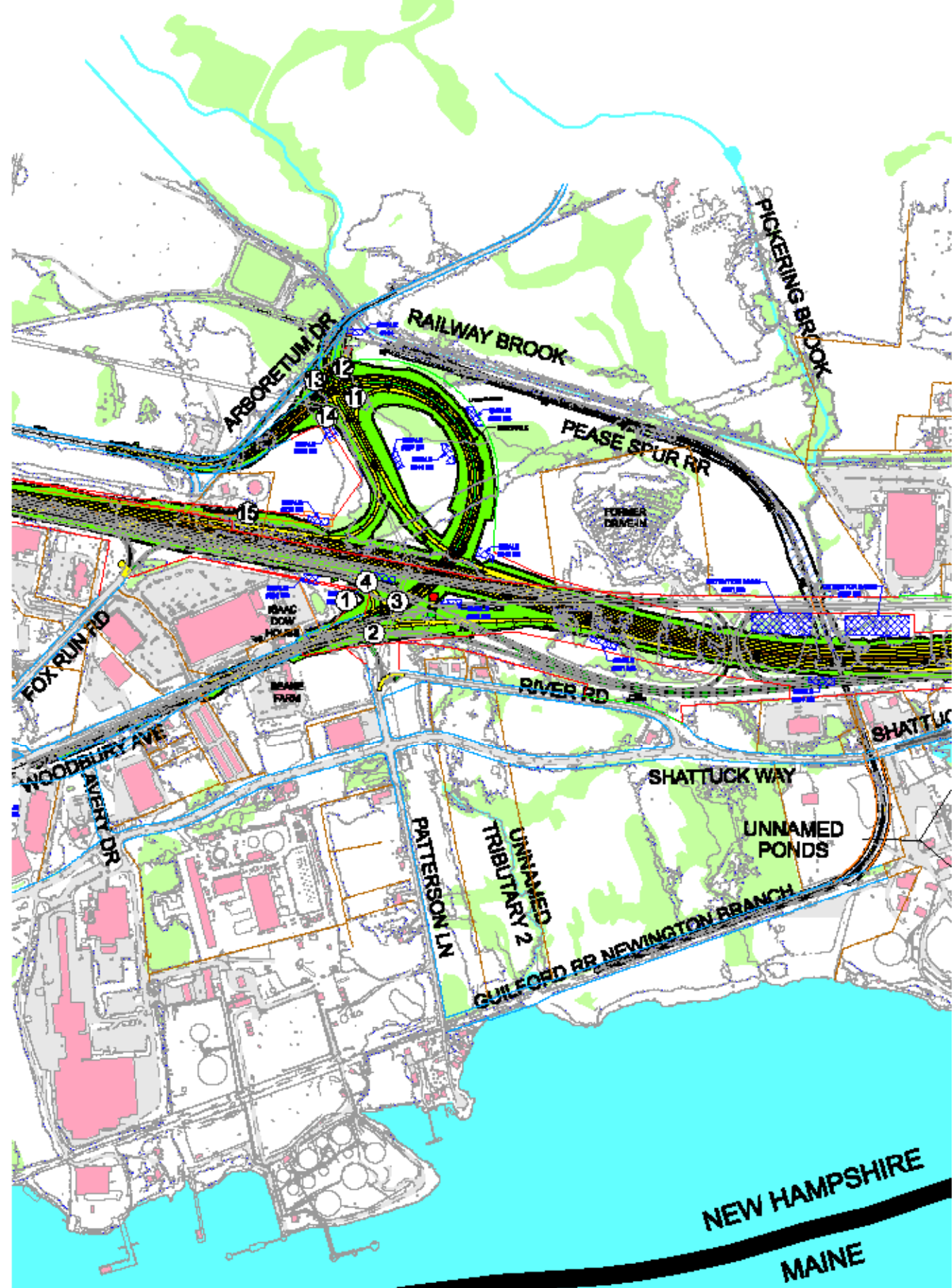
Figure 3.13-2
Microscale Study Area
Intersections,
Dover Alternatives

* Dover Alternative 2 and 3 have Similar Intersection Configurations.

NEWINGTON ALTERNATIVE 12A *

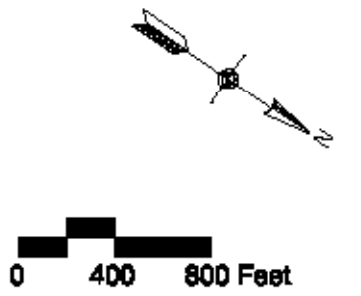


NEWINGTON ALTERNATIVE 13



Legend:

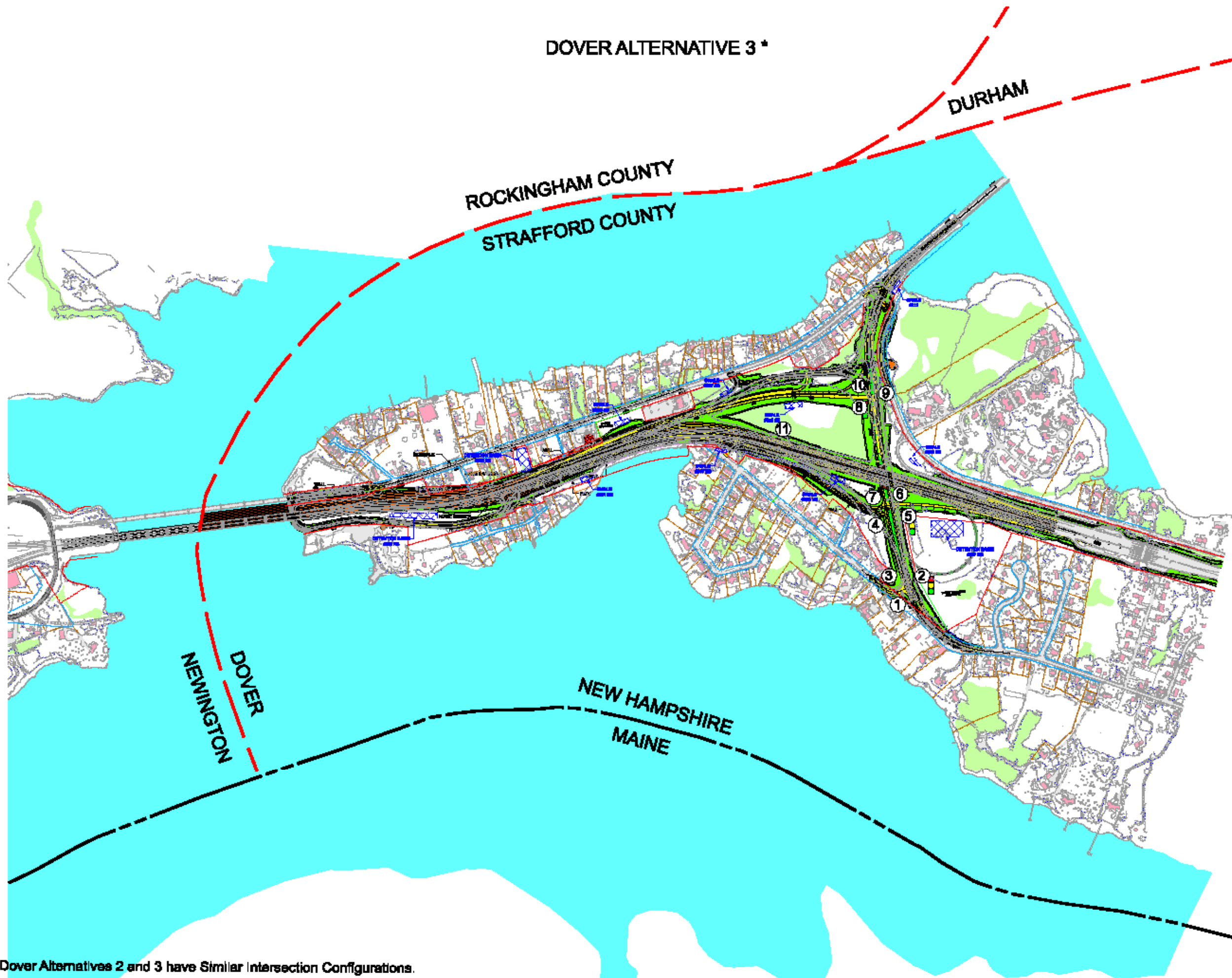
- Existing Roadway
- Existing Building
- Existing Wetland
- Existing Property Lines
- Proposed Roadway
- Proposed Bridge
- Proposed Rail Corridor
- Proposed Acquisition
- Pavement Removal
- Existing LAROW
- Existing CAROW
- Existing ROW
- Proposed LAROW
- Proposed CAROW
- Proposed ROW
- Newington Interim Safety Improvements
- Microscale Receptor Location



Vannote Hagen Brustlin, Inc.
Figure 3.13-3
Microscale Receptor Locations
Newington Alternatives

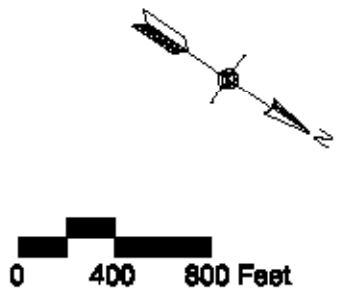
* Newington Alternative 10A and 12A have Similar Signalized Intersection Configurations.

DOVER ALTERNATIVE 3 *



Legend:

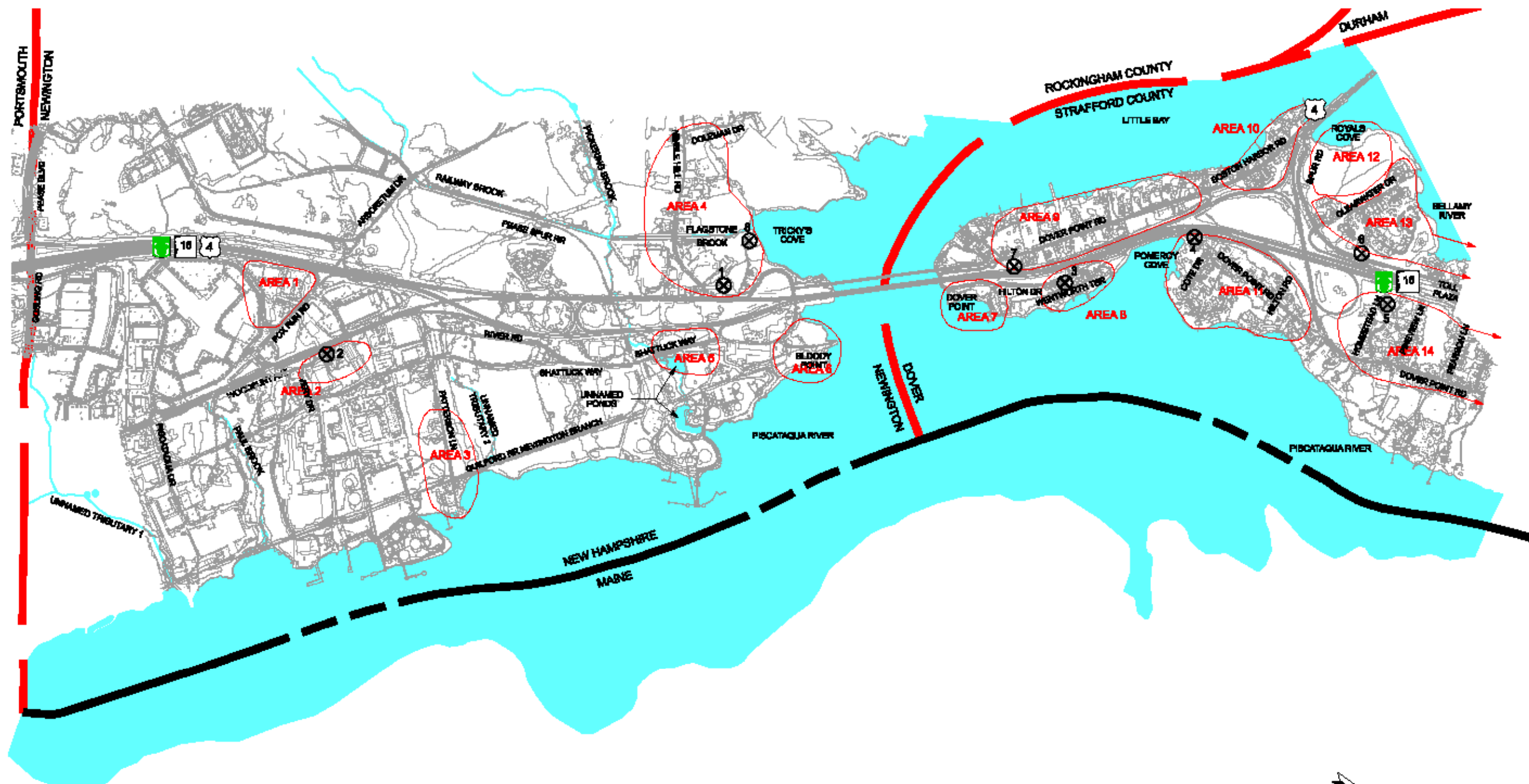
- Existing Roadway
- Existing Building
- Existing Wetland
- Existing Property Lines
- Proposed Roadway
- Proposed Bridge
- Proposed Rail Corridor
- Proposed Acquisition
- Pavement Removal
- Existing LAROW
- Existing CAROW
- Existing ROW
- Proposed LAROW
- Proposed CAROW
- Proposed ROW
- Newington Interim Safety Improvements
- Microscale Receptor Location



Vannote Hangen Brustlin, Inc.

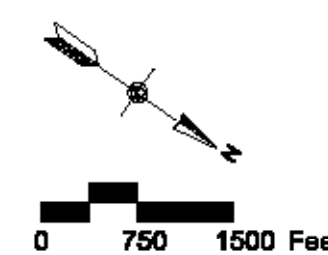
Figure 3.13-4
Microscale Receptor Locations
Dover Alternatives

* Dover Alternatives 2 and 3 have Similar Intersection Configurations.



Legend:

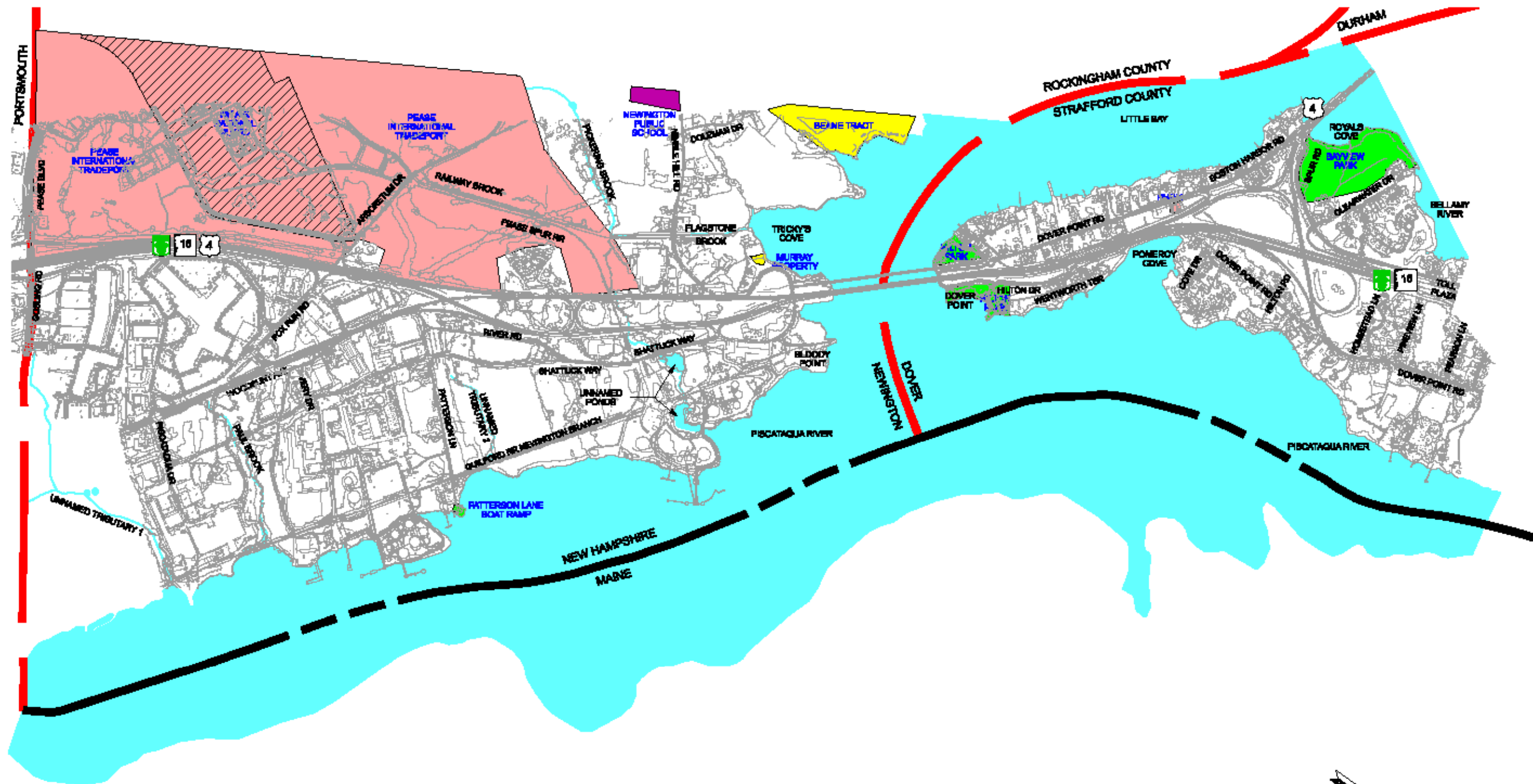
- SURFACE WATERS
- TOWNLINE
- STATELINE
- X EXISTING NOISE MONITORING LOCATION
- NOISE EVALUATION AREA



Vannse Hangen Brustlin, Inc.

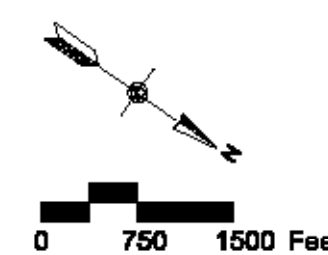
Figure 3.14-1
Noise Sensitive Receptor Locations

Note: Areas 13 and 14 extend approximately 2,800 and 2,500 feet north of the limits of the study area, respectively. These areas incorporate neighborhoods near and north of the Dover Tolls that may be impacted by noise from the Turnpike.



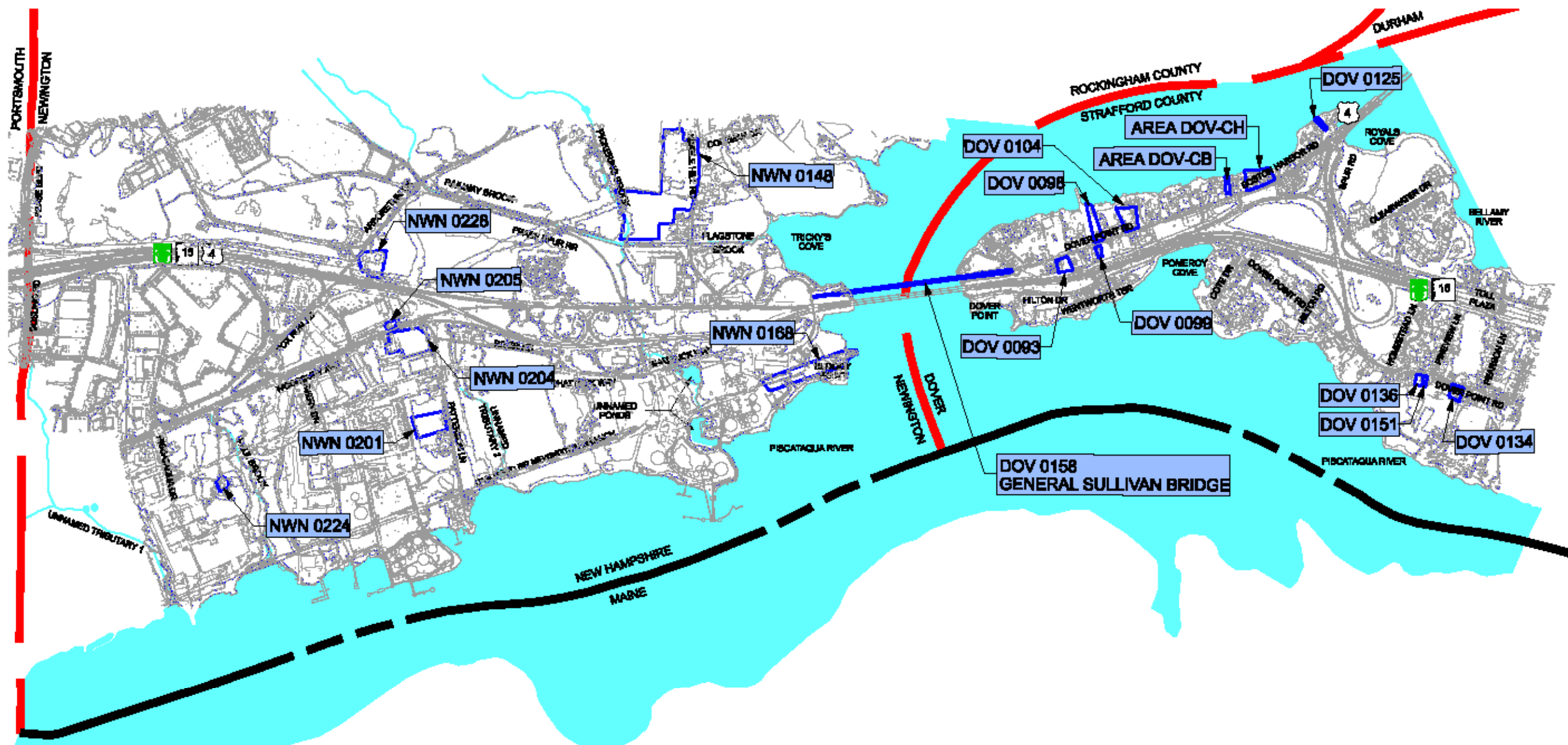
Legend:

- SURFACE WATERS
- TOWNLINE
- STATELINE
- PEASE INTL. TRADEPORT
- NH AIR NATIONAL GUARD
- PARKS AND RECREATION
- SCHOOL
- CONSERVATION LAND



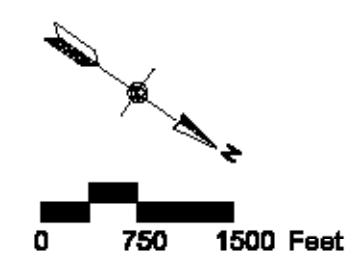
Vannse Hangen Brustlin, Inc.

Figure 3.15-1
Community Resources



- Legend:**
- SURFACE WATERS
 - TOWNLINE
 - STATELINE
 - HISTORIC STRUCTURE (LISTED OR ELIGIBLE FOR LISTING)
 - BOUNDARY OF LISTED OR ELIGIBLE PROPERTY

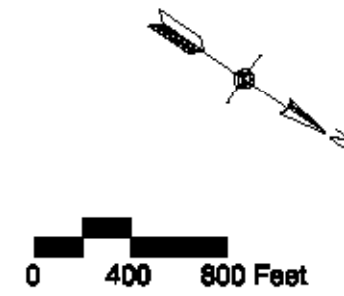
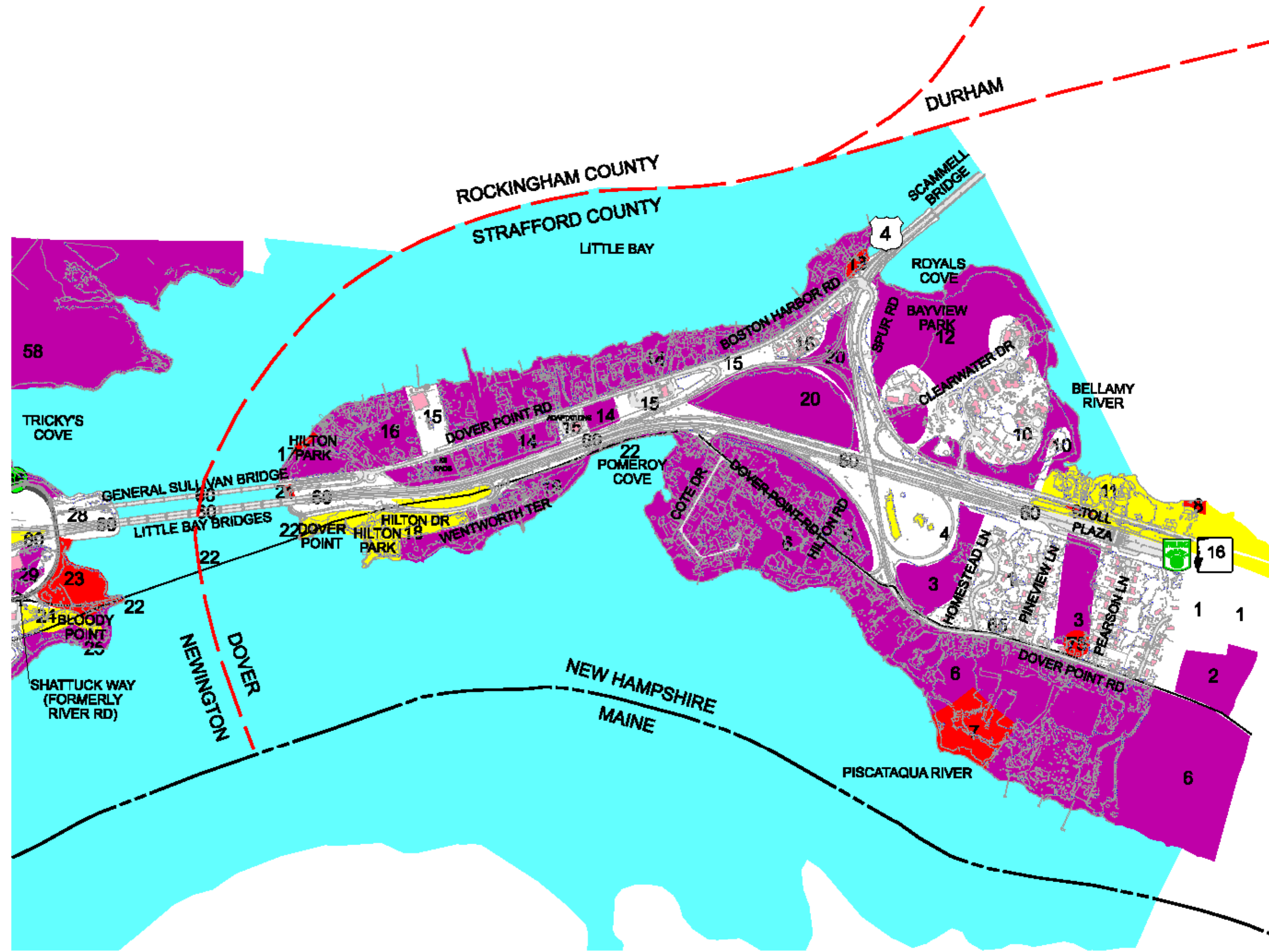
Note: The DeRochemont property (NWN 0224) was determined eligible for listing as part of an earlier project.



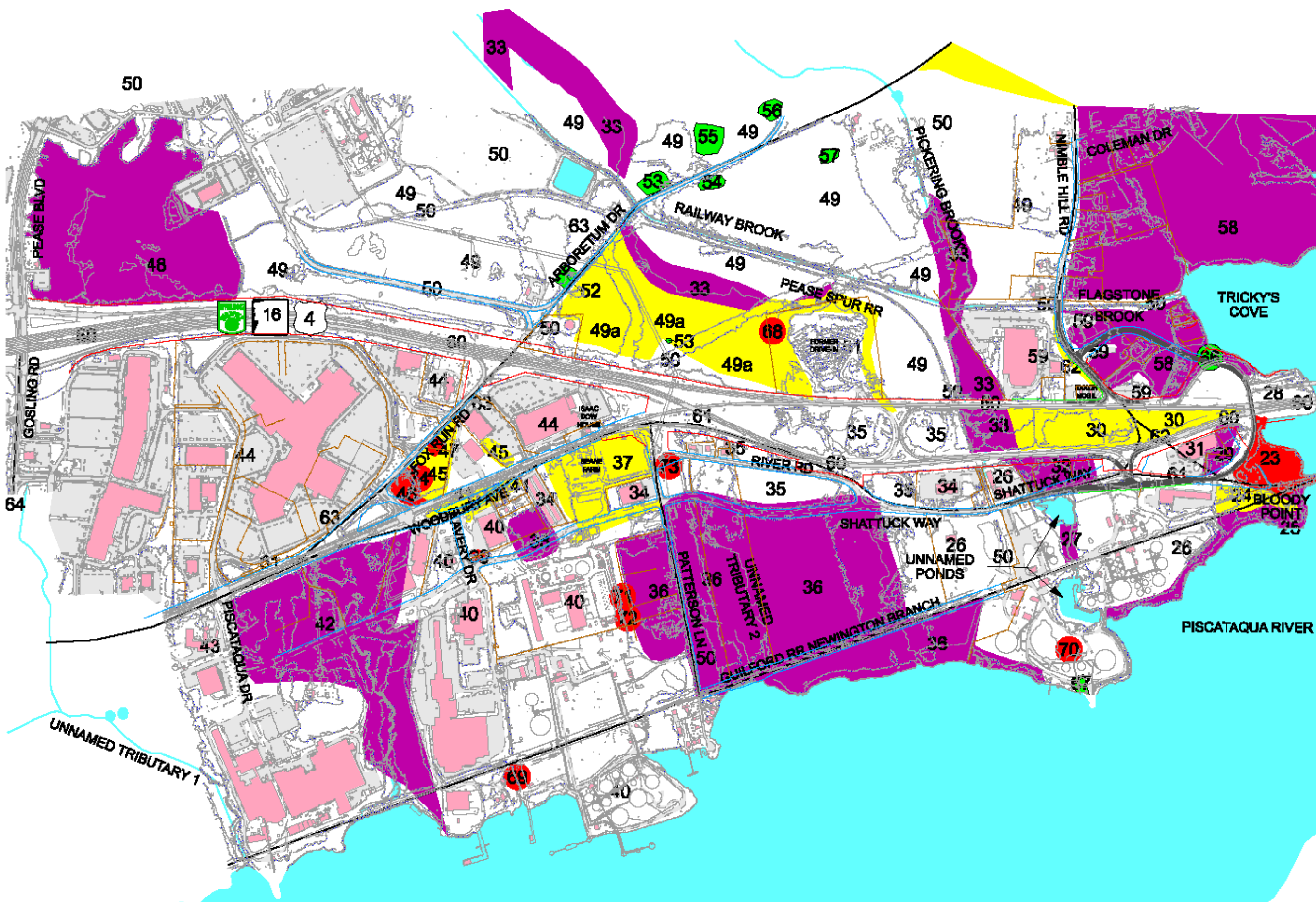
Vanasse Hangen Brustlin, Inc.
 Figure 3.17-1
 Historical Structures

Legend:

- SURFACE WATERS
- TOWNLINE
- STATELINE
- VERIFIED SITES AND CEMETERIES
- VERIFIED SITE, NOT ELIGIBLE
- AREA EXHIBITS SENSITIVITY FOR OCCURRENCE OF ARCHAEOLOGICAL RESOURCES
- AREA EXHIBITS PROBABLE SENSITIVITY FOR OCCURRENCE OF ARCHAEOLOGICAL RESOURCES BENEATH VENEER OF VISIBLE DISTURBANCE
- AREA LACKS INTEGRITY AND DOES NOT EXHIBIT SENSITIVITY FOR ARCHAEOLOGICAL RESOURCES
- HISTORIC ROADS AND RAILROAD

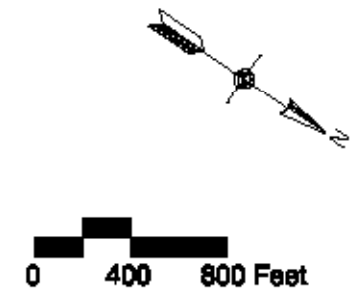


Vanasse Hangen Brustlin, Inc.
Figure 3.17-2
Areas of Archaeological Sensitivity
Dover



Legend:

- SURFACE WATERS
- TOWNLINE
- STATELINE
- VERIFIED SITES AND CEMETERIES
- VERIFIED SITE, NOT ELIGIBLE
- AREA EXHIBITS SENSITIVITY FOR OCCURRENCE OF ARCHAEOLOGICAL RESOURCES
- AREA EXHIBITS PROBABLE SENSITIVITY FOR OCCURRENCE OF ARCHAEOLOGICAL RESOURCES BENEATH VENEER OF VISIBLE DISTURBANCE
- AREA LACKS INTEGRITY AND DOES NOT EXHIBIT SENSITIVITY FOR ARCHAEOLOGICAL RESOURCES
- HISTORIC ROADS AND RAILROAD



Vannoy Hagen Brustlin, Inc.

Figure 3.17-3
Areas of Archaeological Sensitivity
Newington