Technical Memorandum #2
(Screening Analysis of Alternatives)

Seymour

Beacon Falls

Naugatuck

Waterbury

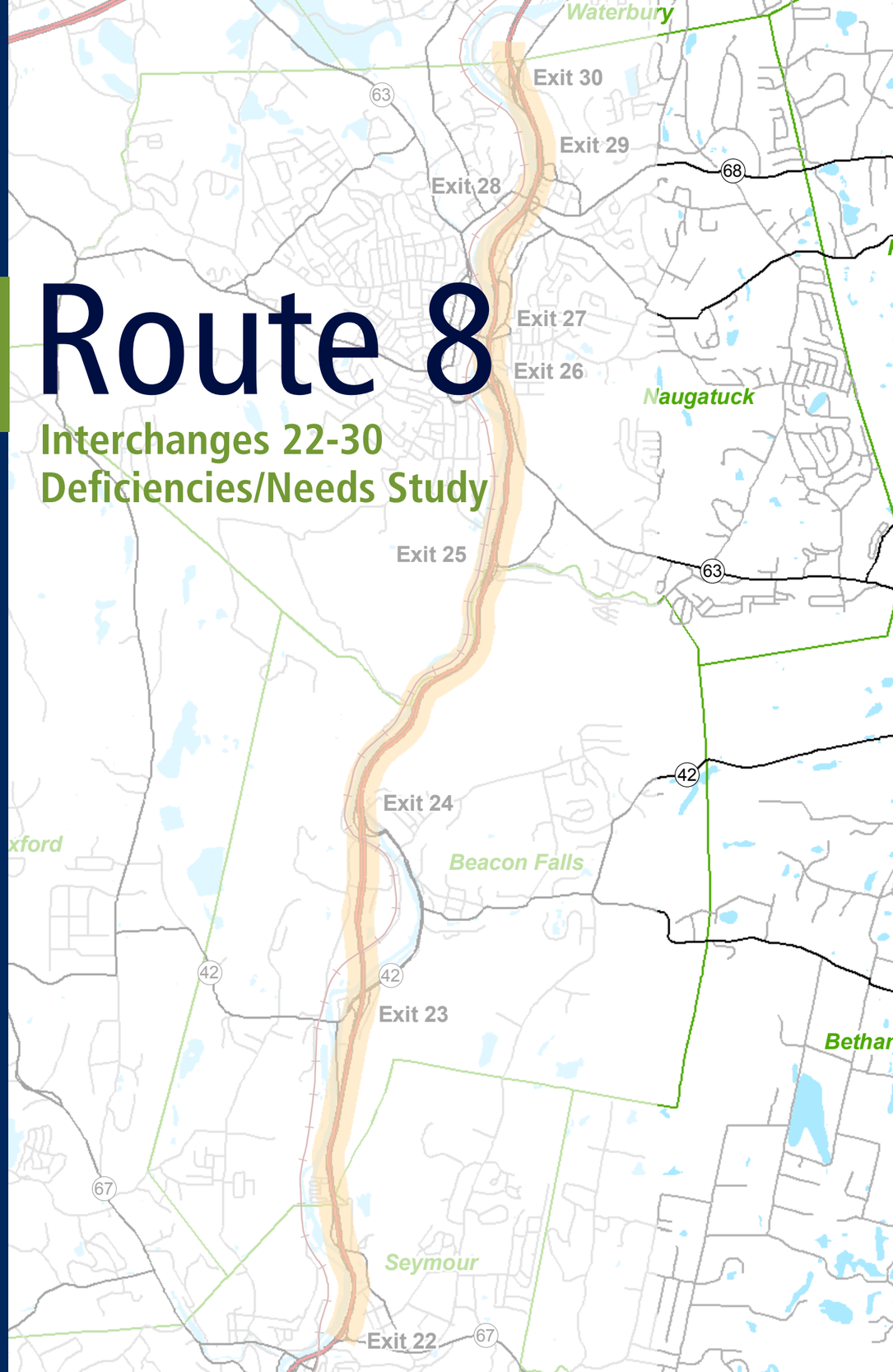
prepared for:

CONNECTICUT DEPARTMENT OF TRANSPORTATION

prepared by:

Vanasse Hangen Brustlin, Inc. VHB

May, 2010



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Introduction

The Connecticut Department of Transportation (CT DOT), Valley Council of Governments (VCOG) and Council of Governments of Central Naugatuck Valley (COGCNV) initiated this study of Route 8, between Interchanges 22 and 30 in Seymour, Beacon Falls, Naugatuck, and Waterbury to evaluate the transportation deficiencies and needs through the corridor and define near and long term transportation improvements. Technical Memorandum #1 (TM #1) summarized the existing transportation and environmental conditions in the study area and presented an analysis of future transportation conditions absent any additional investment beyond those improvement projects that are already underway or programmed. This analysis resulted in a clear understanding of the Route 8 corridor's deficiencies and needs today and over the longer-term.

The next step in the corridor planning process was to identify, test and screen transportation improvements that could address the identified deficiencies and needs. This Technical Memorandum # 2 describes the alternatives screening process with: 1) a summary of deficiencies/needs and the preliminary alternatives identified; 2) the technical screening of these alternatives; and, 3) the refinement of the alternatives based on input received through the process. The first section of Technical Memorandum#2 reminds the reader about the goals and objectives for this study. The second section describes the process of developing a comprehensive list of potential transportation improvement ideas. The third section describes the process and results of the first-level evaluation of the alternatives. Each alternative was evaluated with respect to its ability to address transportation demand, its impacts (both social and environmental) and its constructability. Based on this evaluation, alternatives were retained for further study, eliminated or combined into other alternatives. The final section describes further development of the alternatives that appeared to offer the most potential after completion of the first level screening and preparation of conceptual engineering plans. Additional engineering, transportation, and environmental review of the alternatives were completed and documented through this portion of the study.

Study Goals and Objectives

The key goals and objectives of the Route 8 Deficiencies/Need Study (Interchanges 22 to 30) are to:

Preserve the capacity of Route 8. The study has reviewed mainline capacity issues today and in the future. It is essential that the improvements for Route 8 in the Interchange 22-30 corridor also preserve the capacity of the mainline. This requires careful consideration of changes to ramp merge and diverge locations and weave conditions within the corridor. Significant capacity improvements along the mainline of Route 8 are not anticipated as an outcome of this study.

Address each interchange's unique operating conditions and placement in the overall system. Each interchange under study has been considered individually and in the context of the overall Route 8 transportation system. The study has examined opportunities to improve safety conditions within the interchanges and to eliminate and/or consolidate traffic movements through them while maintaining access to the local communities and major attractions. Particular attention will be paid to intersections and signals at the termini of ramps and to queuing distances to determine how they affect the ramp and interchange operations. It is envisioned that the majority of the strategies recommended through this study effort will be low-cost actions to address existing needs that can be implemented over the near-term.

Enhance arterial street system operations. The geometry of the interchanges and close proximity of adjacent intersections potentially affects traffic operations and safety along both the expressway and arterial street system. This study has looked creatively at all options to enhance arterial street system operations as they affect the expressways. This includes modifications in circulation or traffic control at the upstream and downstream signalized intersections, or may include consolidation of some ramp movements.

Provide for future growth. The Route 8 corridor system is important in providing access to existing and developing land uses. Future modifications should support options for development and should accommodate growth in traffic flows, both regionally and locally. The study team has worked with local officials and other stakeholders to make sure that the growth rates provided are reasonable and that proposed corridor improvements address the long term needs of Seymour, Beacon Falls, Naugatuck, Waterbury and the region as a whole.

Alternatives Identification

Chapters 2 and 4 of Technical Memorandum #1 documents the existing conditions assessment and future conditions analysis (projected to the year 2030) with no substantive transportation improvements assumed along the study corridor. Chapter 3 of TM #1 documents the Existing Environmental Conditions and Chapter 5 provides a summary of the transportation deficiencies and needs along the corridor. A snapshot of the existing and future conditions found along the Route 8 corridor is summarized in Table 1.

Table 1
Summary of Operationally Deficient Locations (LOS E or F)

	Total # of Locations Reviewed	Morning Peak Hour		Evening Peak Hour	
		2008	2030	2008	2030
Mainline					
Northbound	9	-	-	-	8
Southbound	9	-	6	-	1
Ramps					
Northbound	14	-	-	2	13
Southbound	14	2	11	-	2
Weaves	3	-	2	-	1
Signalized Intersections	16	-	2	3	7
Unsignalized Intersections	17	1	2	1	5

Based on the deficiencies identified in Technical Memorandum #1, a set of preliminary improvement alternatives were developed to address safety, geometric and operational deficiencies identified along the study corridor and the local street network. The improvements range in scope from the near term, actions which could be implemented within 5 years, the medium term which are envisioned within a 5 to 10 year timeframe, and the long term, which will take longer than 10 years to complete.

This preliminary list of improvement alternatives was presented to the Route 8 Stakeholder Group (SG) for input, comments and suggested additions on May 14, 2009. Based on their feedback, an amended set of alternatives was carried forward onto the first-level screening evaluation.

Initial Evaluation/Screening Process

Evaluation criteria used to evaluate the improvements in the first-level screening process were also discussed and agreed upon with the Stakeholder Group. The process of screening the initial set of transportation improvement alternatives involves understanding each alternative's potential demand, operational effects, and impacts (including socio-economic, environmental, and constructability). The alternatives retained after completion of the first-level screening were then further developed and evaluated by the study team.

The following criteria were used to assess the performance of the various alternatives. Initial review of the alternatives was more qualitative in nature, but evolved into a more quantitative assessment through the screening process.

Reduce Congestion

Technical Memorandum #1 revealed moderate congestion during peak hours along the Route 8 study corridor and key local roadways under the 2008 Existing Conditions with additional delay under the 2030 Future Conditions. Alternatives that reduce congestion in the overall study area can:

- Reduce Vehicle Delays
- Reduce Local Street Impacts (Queues)
- Improve Emergency Vehicle Access and Mobility
- Improve Local Access
- Improve Air Quality

Improve Safety

Technical Memorandum #1 also revealed several areas with safety deficiencies along the Route 8 study corridor and local roadways. It is essential that the locations and attributes that pose safety hazards be mitigated. Additionally, improvements must be made to bring current operating and design standards into compliance. Finally, the physical integrity of the roadways and structural infrastructure must be maintained and improved where deficient. This objective can be measured based on each alternative's ability to:

- Address High Crash Locations
- Address Geometric Deficiencies
- Improve Driver Expectations

Promote Mode Diversification/Ride-sharing

The Route 8 study corridor is well served by bus routes and Metro-North Railroad service. The Naugatuck River Greenway Project will enhance pedestrian and bicycle friendly transportation for a small portion of the study area. However, there is great opportunity to improve the mode diversification

of the corridor. The number of public transportation modes as well as providers available may be increased. The coordination between the existing transit services may be improved. Pedestrian and bicycle transportation may be enhanced. Intelligent Transportation Systems (ITS) may also be incorporated into the overall transportation network for the Route 8 corridor. This objective can be evaluated based on the following factors:

- Mode Type Availability
- Traffic Demand Shifts to Non-Automobile Modes
- ITS Components
- Transportation Demand Management (TDM) Strategies

Environmental Sensitivity

The Naugatuck River runs alongside the Route 8 study area. Wetlands are prevalent throughout the study corridor. Proposing solutions to transportation issues that do not pose a threat to the vital environmental components of the area will be an important factor in the evaluation and screening of alternatives. It is important to minimize the impact to the natural environment by carefully assessing the impacts of proposed physical alterations to Route 8 or other study roadways, increasing the travel efficiency of the various modes of transportation, as well as finding a balance of the environmental impacts of each solution in order to not overburden one environmental aspect versus another. The following issues were examined to test the environmental sensitivity of each improvement alternative:

- Land use/right-of-way
- Wetlands and water resources
- Wildlife/endangered species
- Cultural resources
- Section 4(f)and Section 6(f) lands
- Socio-economic/environmental justice
- Air/noise
- Hazardous/contaminated risk
- Farmland

Feasibility Review

Each alternative was assessed for its feasibility from an engineering and constructability standpoint. Alternatives deemed infeasible from an engineering standpoint were dismissed prior to undergoing further evaluation.

Economic Development – Local & Regional

The economic sustainability of the region is contingent upon the efficiency and maintenance of the transportation system in place in the region. The transportation system should not only support the current direction and pace of development, but the projected direction and pace envisioned by the local Towns and Chambers of Commerce. The recommended alternatives should maintain existing community and business connections and activity as well as access. In addition, the recommended alternatives should facilitate improved community and business accessibility. The alternatives should also address the need for improved access to areas of planned future development. Review of the alternatives considered:

- Impact on Businesses
- Access to Planned Areas of Growth

Local Connectivity/Access

The Route 8 Study corridor connects the towns of Waterbury, Naugatuck, Beacon Falls, and Seymour directly and the rest of the surrounding regions via I-84 to the north and I-95 to the south. The connectivity of the study area as well as the ease of access to the various existing business districts within the study area directly impact the economic sustainability of the region as well as the retention and attraction of residents. Excessive congestion or safety hazards in addition to difficult way finding may deter patrons and new businesses from utilizing the area. Alternatives were assessed on how connectivity/access to the local communities is maintained or enhanced.

Consistent with Local Master Plans and Regional Master Plans

The Route 8 Interchanges 22-30 Deficiencies/Needs Study is a collaborative effort between the stakeholder groups, CT DOT and the consultant team. It is, therefore, important to consider the transportation and land use visions and objectives already in place for study area communities. Additionally, stakeholder feedback provided on the study findings and recommendations in the evaluation and screening of recommended alternatives were considered throughout the process.

Initial Screening Results

Each preliminary alternative was evaluated for its effectiveness in addressing the study's goals and objectives. Numerical scoring of benefits and impacts (ranging from -1 to 1) was used to assist in this process. The initial alternatives and the first level screening analysis is provided in the Appendix to this report. The alternatives that were retained for further study after the first level screening analysis are summarized below by location:

Seymour

Interchange 22 NB Off-Ramp

Near Term
- Signage and pavement marking improvements

Medium Term
- Lengthen deceleration lane by approximately 125 feet

Long Term
- Extend ramp terminus point from Wakeley Street directly to Route 67

Interchange 22 SB On-Ramp

Near Term
- Signage and pavement marking improvements

Route 67 at Route 115

Near Term
- Signal timing/phasing improvements
- Signage and pavement marking improvements

Medium Term
- Widen Route 67 to provide four-lane cross-section

NB Off-Ramp at Wakeley Street

Near Term
- Install multi-way stop control

Medium Term
- Convert Wakeley Street to a cul-de-sac south of northbound off-ramp

Signalized SB Off-Ramp at Route 67

Medium Term
- Widen Route 67 to provide four-lane cross-section

Unsignalized SB Off-Ramp at Route 67

Near Term
- Signage and pavement marking improvements

Medium Term
- Widen Route 67 to provide four-lane cross-section

Route 67 at NB On-*Ramp*

Near Term
- Signage and pavement marking improvements

Medium Term
- Widen Route 67 to provide four-lane cross-section

Route 67 at NB Off-Ramp/Wakeley Street

Near Term
- Install splitter island along Wakeley St. extending from Route 67 southward beyond Bank Street

Medium Term
- Widen Route 67 to provide additional eastbound lane and parallel parking lane between Wakeley Street and Route 115

Long Term
- Convert Wakeley Street to one-way northbound
- Convert Bank Street to one-way westbound between Columbus Street and Wakeley Street

Route 115 (Main St) at Route 313 (Broad Street)

Near Term
- Provide overlap phase for Route 313 right turning vehicles
- Provide pavement markings to channelize turning lane

Route 115 (South Main St) at Route 313 (Maple St)

Near Term
- Provide flashing signal control at South Main (yellow flashing) and Maple Street (red flashing)

Route 313 (Maple St) at Pearl Street

Near Term
- Install multi-way stop control/update signal
- Modify curb and sidewalk layout to improve accessibility

SR 728 (Derby Avenue) at Route 313/West Street

Near Term
- Signal timing/phasing improvements
- Signage and pavement marking improvements

Medium Term
- Widen Derby Avenue to provide exclusive northbound left-turn lane

Beacon Falls

Interchange 23 NB Off-Ramp

Medium Term
- Lengthen deceleration lane by approximately 100 feet

Route 42 (Main Street) at Bethany Road

Near Term
- Lengthen Route 42 southbound left-turn storage lane (200 feet)

Interchange 24 SB Off-Ramp

Near Term
- Replace MUTCD W1-6 sign with chevrons

South Main Street at Depot Street

Medium Term
- Install traffic control signal and widen South Main Street to provide exclusive northbound left-turn lane

Naugatuck

Interchange 25 NB Off-Ramp

Medium Term
- Lengthen deceleration lane by approximately 50 feet

Interchange 25 SB On-Ramp

Near Term
- Restripe pavement marking arrows

SB On/Off Ramps at Cross Street

Near Term
- Signage and pavement marking improvements
- Install raised median island along Cross Street between the southbound and northbound ramps

NB Off-Ramp at Cross Street

Medium Term
- Install a roundabout

Route 63 at Cross Street

Near Term
- Traffic signal improvements
- Install "Signal Ahead" sign on Cross Street approximately 400 feet from the stop bar

Interchange 26 NB On-Ramp

Near Term
- Install "yield sign" at beginning of acceleration lane

Interchange 26 NB Off-Ramp

Near Term
- Install chevrons and rumble strips

Medium Term
- Lengthen deceleration lane by approximately 60 feet

Long Term
- Relocate ramp terminus point approximately 600 feet to the south along Route 63

Interchange 26 SB On-Ramp

Near Term
- Install " yield sign" at beginning of acceleration lane

Interchange 26 SB Off-Ramp

Medium Term
- Lengthen deceleration lane by approximately 75 feet

NB Off-Ramp at SR 709/Route 63

Near Term
- Signal timing improvements

Long Term
- Widen Route 63 to provide additional north(east)bound right-turn lane
- Widen northbound off-ramp approach to provide additional left-turn lane
- Realign SR 709 and Route 63 NB to provide more standard 4-legged intersection alignment
- Relocate ramp terminus point approximately 600 feet to the south along Route 63

NB On-Ramp at SR 709

Near Term
- Signage and pavement marking improvements

Route 63 and SB On/Off Ramps

Near Term
- Increase clearance times to 4 seconds yellow and 2 seconds all red
- Install "Yield" sign for Connector Road approach

SR 709/Route 63 Connector and SB Off-Ramp

Near Term
- Install "Yield" sign for Connector Road approach

Interchange 27 NB On-Ramp

Medium Term
- Close northbound off-ramp and eliminate weave

Interchange 27 NB Off-Ramp

Medium Term
- Close northbound off-ramp

Interchange 27 SB On-Ramp

Medium Term
- Close southbound on-ramp

Interchange 27 SB Off-Ramp

Medium Term
- Close southbound on-ramp and eliminate weave

Exit 27 SB Off-Ramp/NB On-Ramp at Maple Street

Near Term
- Signal timing/phasing improvements
- Signage and pavement marking improvements

Medium Term
- Widen SB off-ramp to provide exclusive left turn lane
- Restripe Maple Street to provide exclusive WB left turn lane
- Provide protected and permissive left turn phase for southbound off-ramp and westbound Maple St approaches and provide northbound left-turn lane

Long Term
- Realign Oak Street approximately 50 feet east along Maple Street

Exit 27 SB On-Ramp/NB Off-Ramp at North Main Street/Calvin Street

Near Term
- Provide painted median islands at southbound ramp to define paths at Linden Park area

Interchange 28 NB On-Ramp

Near Term
- Install "Yield" sign at beginning of acceleration lane

Interchange 28 NB Off-Ramp

Near Term
- Install "Curve Warning" sign approximately 300 feet prior to stop bar

Medium Term
- Lengthen deceleration lane by approximately 200 feet

Interchange 28 SB On-Ramp

Near Term
- Install "Curve Warning" sign

Interchange 28 SB Off-Ramp

Near Term
- Install " Stop Ahead" signs

Interchange 28 SB Weaving Section

Near Term
- Install "Right Lane Exit Only" sign

Long Term
- Widen to provide "local" corridor within weaving section

Route 68 at SR 723

Near Term
- Signal timing improvements
- Signage and pavement marking improvements

Long Term
- Widen Route 68 to provide two exclusive eastbound left-turn lanes
- Restripe Route 68 to provide exclusive westbound right-turn lane
- Widen SR 723 to provide exclusive NB right-turn lane
- Convert SR 723 to one-way northbound

SR 710 at SR 723

Near Term
- Install traffic control signal

Medium Term
- Widen SR 723 to provide two exclusive westbound left-turn lanes and an exclusive right-turn lane

SR 723 at City Hill Street Connector

Near Term
- Signage and pavement marking improvements

Long Term

- Relocate City Hill Street approach to SR 723 approximately 25 feet north
- Signalize intersection

Off-Ramp/SB On-Ramp at SR 710/SR 723

Near Term

- Cycle length and split timing improvements

Long Term

- Widen SR 710 to provide exclusive southbound left-turn, shared thru/left-turn, and right-turn lanes
- Widen northbound off-ramp and modify island to provide exclusive eastbound thru/left-turn lane
- Convert SR 723 to one-way northbound

Waterbury

Interchange 29 SB On-Ramp

Long Term

- Widen to provide "local" corridor within weaving section

SR 847 at Sheriden Drive

Near Term

- Place commercial use driveway under signal control
- Consolidate commercial use driveways
- Cycle length and split timing improvements

Long Term

- Widen SR 847 to provide exclusive southbound left-turn, and two thru lanes
- Widen SR847 to provide exclusive northbound left turn, thru, and right turn lanes

SR 847 at NB Ramps

Long Term

- Minimize offset distance between the northbound off and on-ramps by relocating northbound on-ramp approximately 100 feet to south

SR 847 at Platts Mill Road

Near Term

- Increase clearance times to 4 seconds yellow with 2 seconds all red
- Install "Keep Right" sign (CTDOT sign # 31-1526) on Platts Mill Road median island
- Install "Do Not Enter" sign (CTDOT Sign # 31-1119) on Platts Mill Road eastbound approach facing SR 847.

Long Term

- Restripe to provide NB exclusive left turn lane on SR 847

Alternatives Refinement

The next step in the alternative evaluation/screening process was to further develop the alternatives that appeared to offer the most potential after completion of the first level screening. Additional engineering, transportation, and environmental review of the alternatives were completed and documented through this portion of the study, as described below:

Conceptual Engineering

The improvement strategies that survived the first level screening were developed into more detailed conceptual design plans. Intersection and interchange lane configurations were reviewed in conjunction with the traffic data provided by CTDOT for the design year to ensure operational and safety objectives were met. Additional on-site studies were conducted to field review and identify physical and environmental design constraints. A preliminary order of magnitude construction cost estimate was prepared for each of the alternatives. Construction costs were based on linear foot or per mile costs, reflecting the geometric detail available at this stage, and estimated from historical unit cost data provided by CTDOT.

Transportation Evaluation

Using traffic forecasts for the study area by CTDOT (and new model output for the various alternatives), the impacts of the transportation strategies under consideration for affected locations were identified and analyzed. Updated ramp and intersection operational analyses were conducted for each relevant strategy for the design year. Using the AM and PM peak hour networks, local streets and intersections that are expected to be significantly impacted by each preliminary strategy were identified and re-analyzed using HCS or Synchro software.

Environmental Review

As part of this more detailed refinement of the alternatives, additional review was completed to evaluate and compare potential environmental impacts for each alternative. The environmental constraints identified and mapped in earlier tasks were overlaid with the proposed alternatives to determine impacts in each of the environmental review categories. In this way, each alternative's relative impacts were able to be compared. The environmental impact analysis focused on the following categories of impacts:

- Noise
- Air Quality
- Wetlands and Surface Water Sources
- Groundwater Resources
- Endangered Species
- Farmland Soils
- Cultural Resources
- Section 4(F) and Section 6(F) Lands
- Hazardous Materials
- Socioeconomic Environment/Environmental Justice

Draft alternative concepts plans were presented to the Route 8 Stakeholder Group (SG) for input and comments on November 10, 2009. The SG comments along with the responses to these comments are included in the Appendix.

The following sections of this report include a brief discussion of potential improvements at interchange and intersection locations. These candidate recommendations were developed and refined with input from the study Stakeholder Group, affected regional planning agencies and municipalities, and the general public. Accompanying this description is a conceptual design plan for each alternative, the Level 2 Alternative Screening Evaluation Matrix, and the design year traffic volume network provided by CTDOT.

Seymour - Interchange 22

The near-term improvements identified for Interchange 22 include construction of a splitter island on Wakeley Street to discourage the left turns onto Bank Street and installation of a multi-way stop at the intersection of Route 8 NB-Off ramp at Wakeley Street. These near term improvements are identified on Figure 1.

Figure 2 presents a medium term improvement identified for this location. The medium-term improvement includes construction of a parallel parking lane and sidewalk on eastbound Route 67 along the store frontages. The proposed parallel parking lane would improve downtown accessibility and promote pedestrian circulation. This alternative did not receive local support due to its impact on parking.

Figures 3 through 5 present the long-term improvements identified for this location. The first option (Figure 3) includes relocation of the existing Route 8 NB-Off Ramp from Wakeley Street to align directly across from Bank Street, conversion of Wakeley Street to a cul-de-sac, and the widening of Route 67 to a four-lane cross-section from Bank Street through the Exit 22 northbound ramps. This alternative was not supported locally due to its impact on local circulation, emergency services in particular.

The second long term improvement alternative for this location (Figure 4) retains the previously identified widening of Route 67 to a four-lane cross-section and relocating the NB-Off Ramp to Bank Street, but also includes reconstruction of Wakeley Street between the existing off-ramp location and Bank Street to allow one-way southbound travel from Bank Street to Wakeley Street. This alternative addresses the long-term transportation demands through the area and is the preferred alternative by the community.

A third alternative (Figure 5) is similar but instead proposes one-way northbound traffic flow from Wakeley Street to Bank Street. Again, local circulation changes were viewed negatively by the Town of Seymour.

Seymour - Local Intersections

Figure 6 depicts the potential near-term improvements at the Route 115 and Route 313. Pavement marking improvements along Route 313 EB and the portion of roadway where Route 313 and Route 115 coincide are proposed. An advance warning sign with flashers is proposed along the NB stretch of the Route 313/Route 115 roadway. Flashing sign control is also recommended for the southern intersection of Route 115 and Route 313, providing a flashing red control for Route 313 and flashing yellow control for NB/SB Route 115.

Figure 7 identifies a longer-term improvement for this location that involves the replacement of the railroad bridge over Route 313 which would allow for improving the overall geometry at this location. This alternative was developed in response to comments received from the Town of Seymour and appears to be a viable long-term option should improvements along the railroad corridor or when/if the railroad bridge requires replacement.

Figure 8 presents the medium-term improvements for the intersection of Route 313 at Derby Avenue. Under this improvement concept, Derby Avenue is widened to provide an exclusive NB left turn lane.

Figure 9 presents the identified near-term improvements for the intersection of Route 313 at Pearl Street. The intersection is proposed to be converted to an all-way stop control. Curbs are proposed to be widened to conform to ADA standards and enhance pedestrian safety. On-street parking will be provided for the NB, SB, and WB approaches. An alternative for this location (Figure 10) upgrades the existing traffic control signal and improves pedestrian access through the intersection. Strong support was expressed locally for the candidate pedestrian-related improvements at this location; however, town officials were not supportive of removing the traffic control signal.

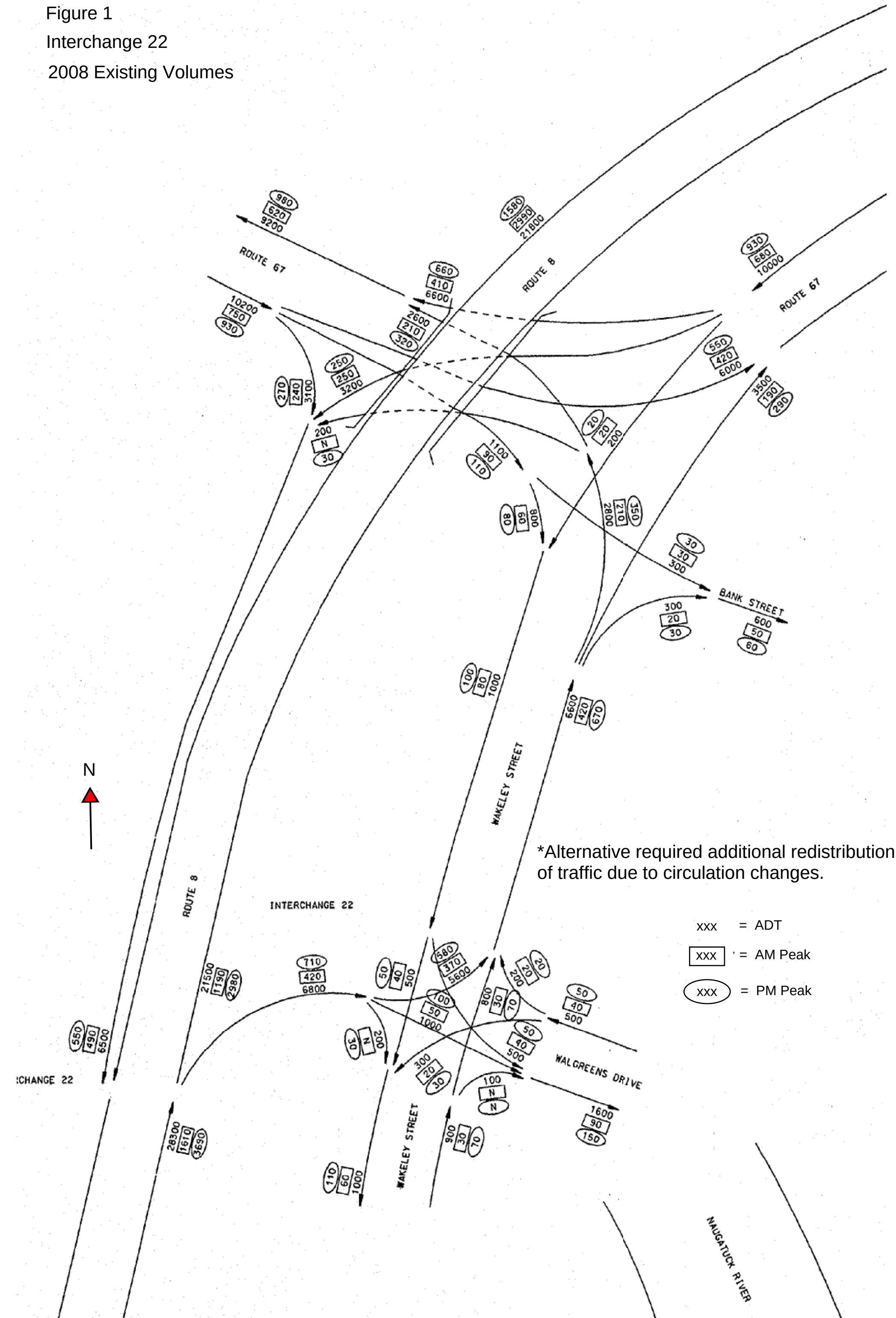
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 1

Interchange 22

2008 Existing Volumes



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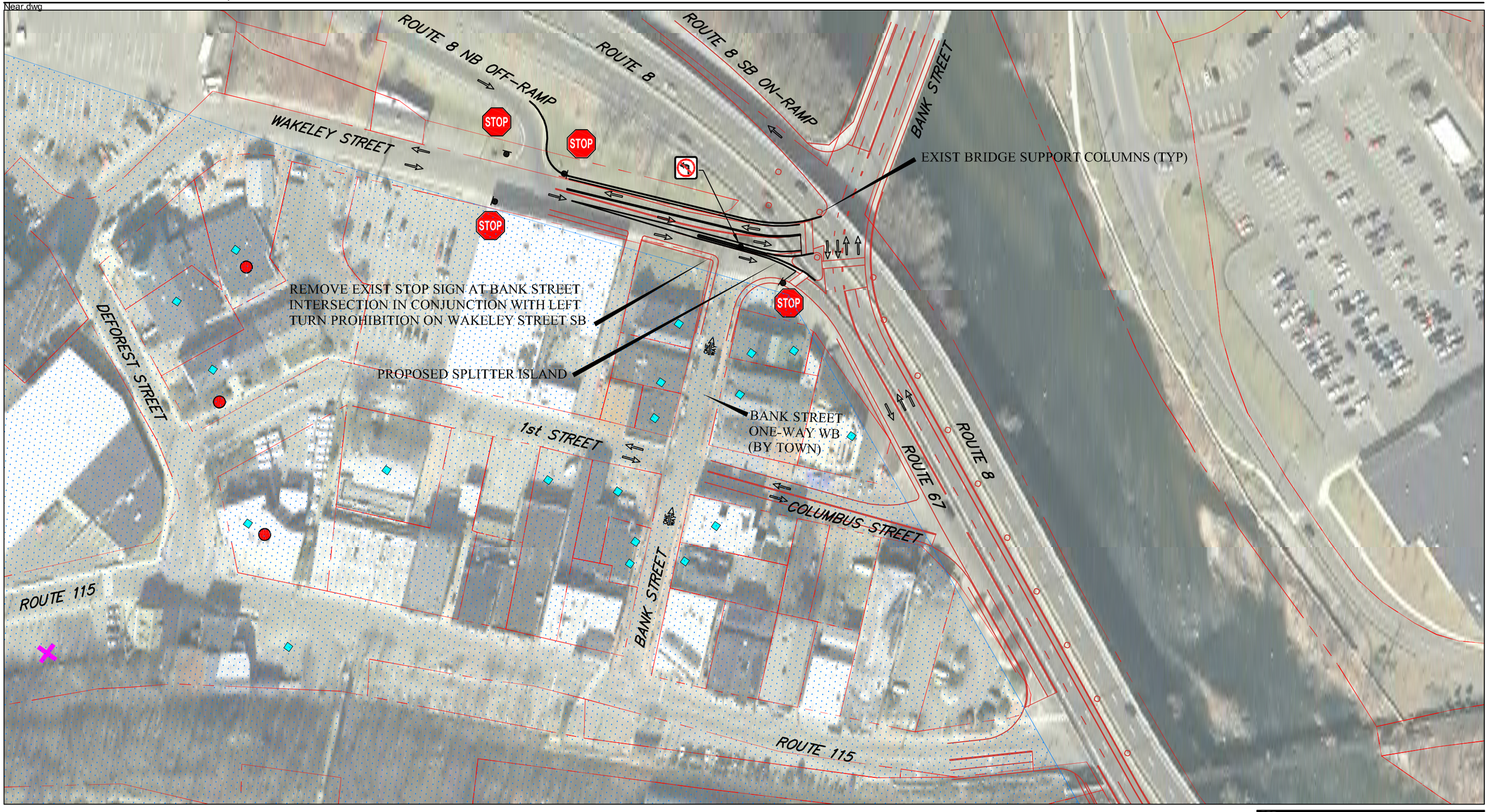

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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 1 FT MIN
ISLAND WIDTH = 4 FT

LEGEND:
- EXISTING SURFACE FEATURES (MARKINGS, CURB BRIDGE COLUMNS ETC.,)
- RIGHT-OF-WAY
- HISTORIC PROPERTIES
- COMMUNITY FACILITIES
- LEACHATE WASTE
- HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour
Interchange 22

May 2010

Route 67/Wakeley Street
Near Term Alternative

FIGURE 1

Seymour - Interchange 22

Route 67/Wakeley Street - Near Term Alternative

Figure 1

ENVIRONMENTAL EVALUATION

NOISE

No adverse impact anticipated.

AIR QUALITY

No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES

There are no wetlands in the project area.

There will be a slight increase in impervious surface with paving over of a sliver of vegetated area. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.

GROUNDWATER RESOURCES

No adverse impact expected. Overlies groundwater classified as GB.

No nearby wells.

ENDANGERED SPECIES

No impact to endangered species.

No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS

No impact to farmland soils.

No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES

There is a historic district on the south side of Wakeley Street. However, the proposed improvements will not have an adverse impact to this district or any of its contributing structures.

SECTION 4(F) AND SECTION 6(F) LANDS

No impact to 4(f) or 6(f) lands.

No 4(f) or 6(f) resources present near the interchange.

HAZARDOUS MATERIALS

No impact from hazardous sites.

No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE

No impacts to businesses or community cohesion.

Proposed improvements will not require any residential displacements.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY

Proposed improvements are within existing roadway right-of-way.

No land use impacts anticipated.

DESIGN ISSUES

Substandard clearance (16' to 14' 2") under existing Route 8 support structure

Existing utility pole located on the western side of Wakeley Street at Bank Street to be relocated

TRAFFIC OPERATIONS

The intersection of Route 67 at the Exit 22 SB On Ramp and Wakeley Street is anticipated to operate at LOS B during both the morning and evening peak hours.

Restricting the SB Wakeley Street left turn movement onto Bank Street improves traffic flow as well as reduces conflict points.

CONSTRUCTION COST ESTIMATE

$ 160, 000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION

Candidate Study Recommendation

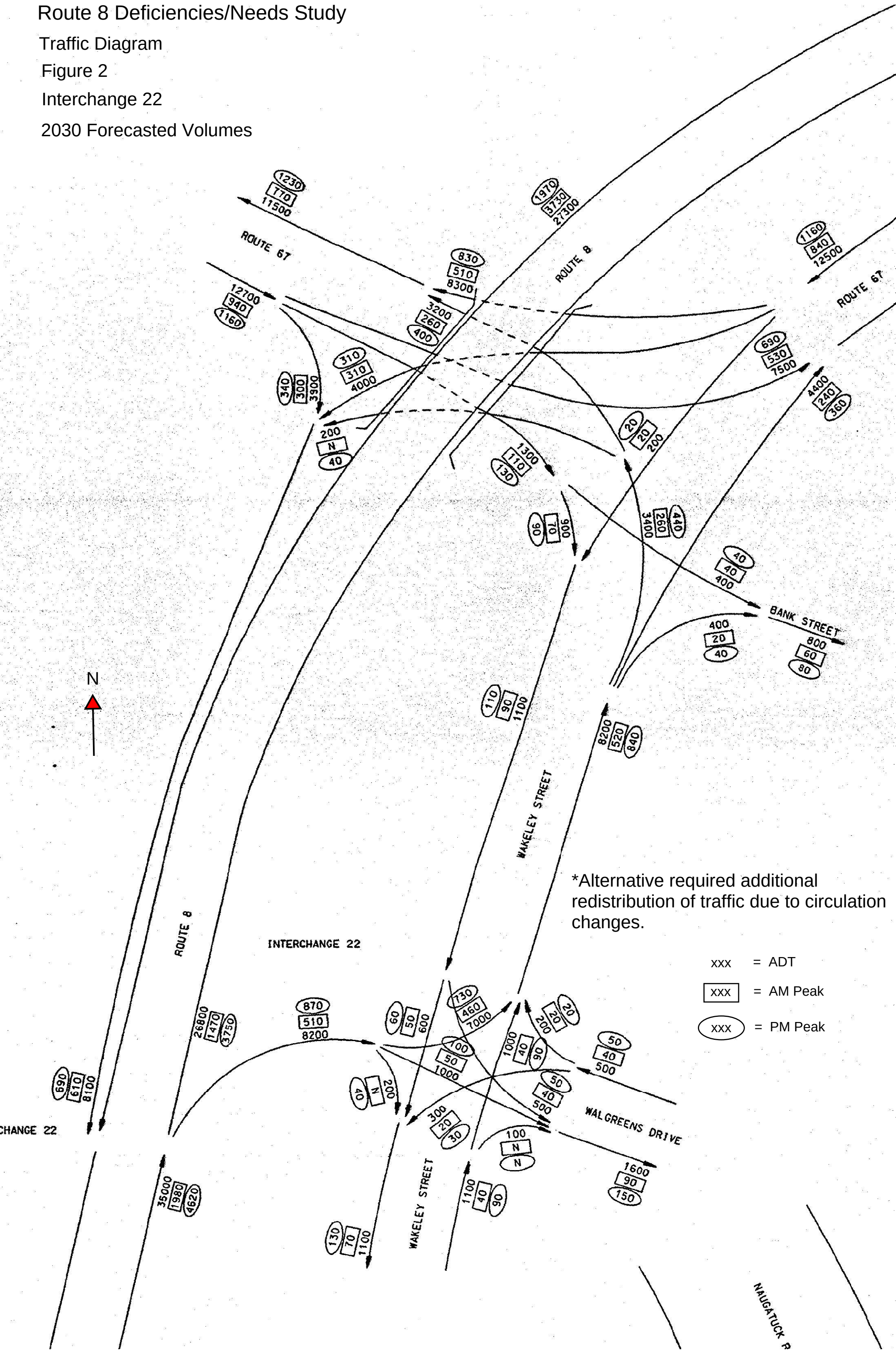
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 2

Interchange 22

2030 Forecasted Volumes



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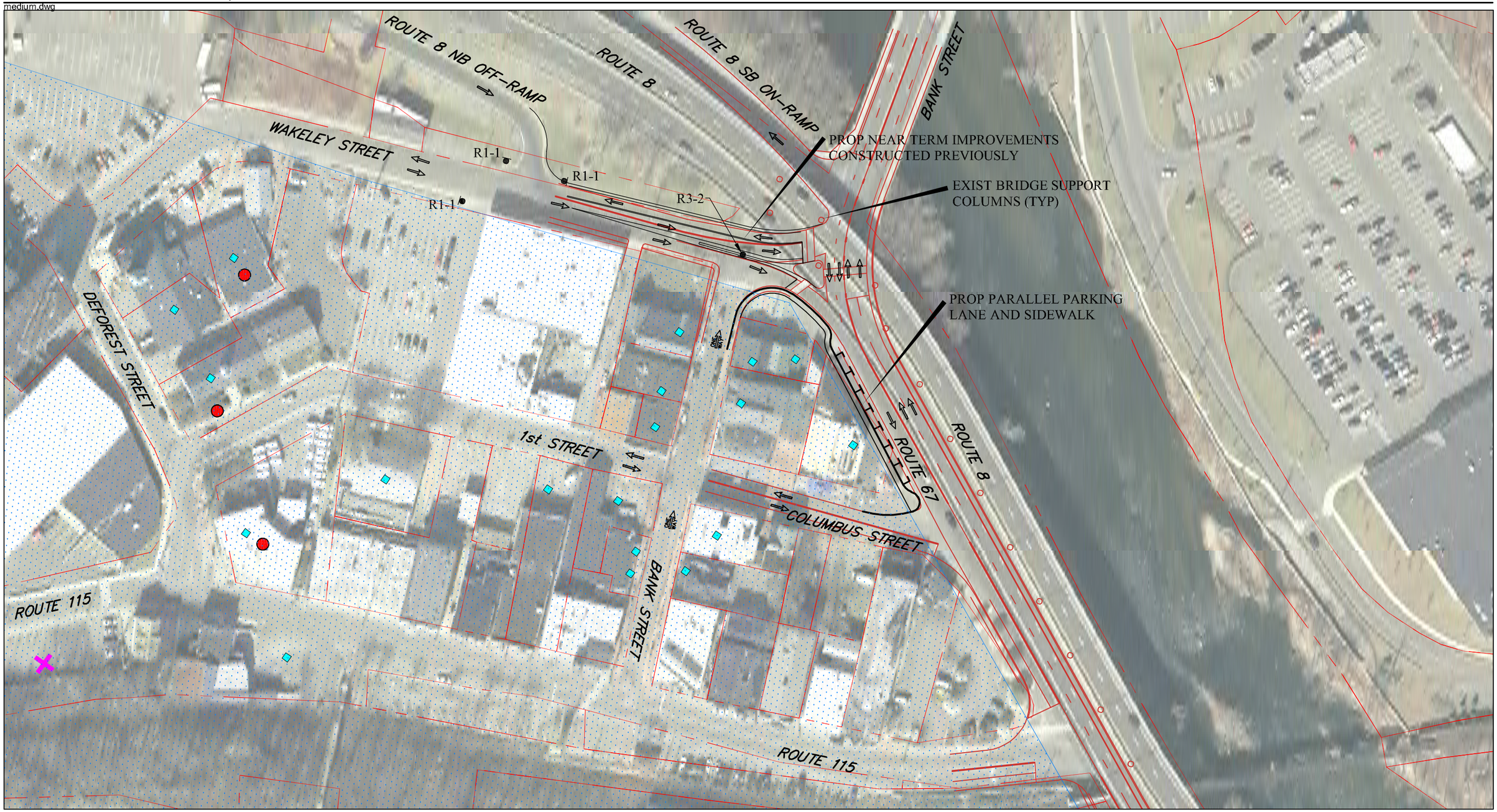

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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
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SIDEWALK WIDTH = 6 FT
PARKING LANE WIDTH = 8 FT

LEGEND:
- EXISTING SURFACE FEATURES (MARKINGS, CURB BRIDGE COLUMNS ETC..)
- RIGHT-OF-WAY
- HISTORIC PROPERTIES
- COMMUNITY FACILITIES
- LEACHATE WASTE
- HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour
Interchange 22

May 2010

Route 67/Wakeley Street
Medium Term Alternative

FIGURE 2

Seymour - Interchange 22
Route 67/Wakeley Street - Medium Term Alternative

Figure 2

ENVIRONMENTAL EVALUATION

NOISE
No adverse impact anticipated

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands in the project area.
There will be a slight increase in impervious surface with paving over of a sliver of vegetated area. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
There is a historic district on the south side of Wakeley Street. However, the proposed improvements will not have an adverse impact to this district or any of its contributing structures.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.
No 4(f) or 6(f) resources present near the interchange.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Proposed improvements will not require any displacements of businesses or residences.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
There are no adverse impacts to land use.
Proposed improvements are within existing roadway right-of-way.

DESIGN ISSUES
Grading/drainage challenges along existing abutting structure due to introduction of curb and sidewalk to frame proposed parallel parking
Modification of abutting property access points is necessary

TRAFFIC OPERATIONS
The intersection of Route 67 at the Exit 22 SB On Ramp and Wakeley Street is anticipated to operate at LOS B during the morning peak hour and LOS C during the evening peak hour.
The proposed parking lane will improve downtown accessibility and promote pedestrian circulation to other available shops.

CONSTRUCTION COST ESTIMATE
$ 120,000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION
Dismiss Alternative

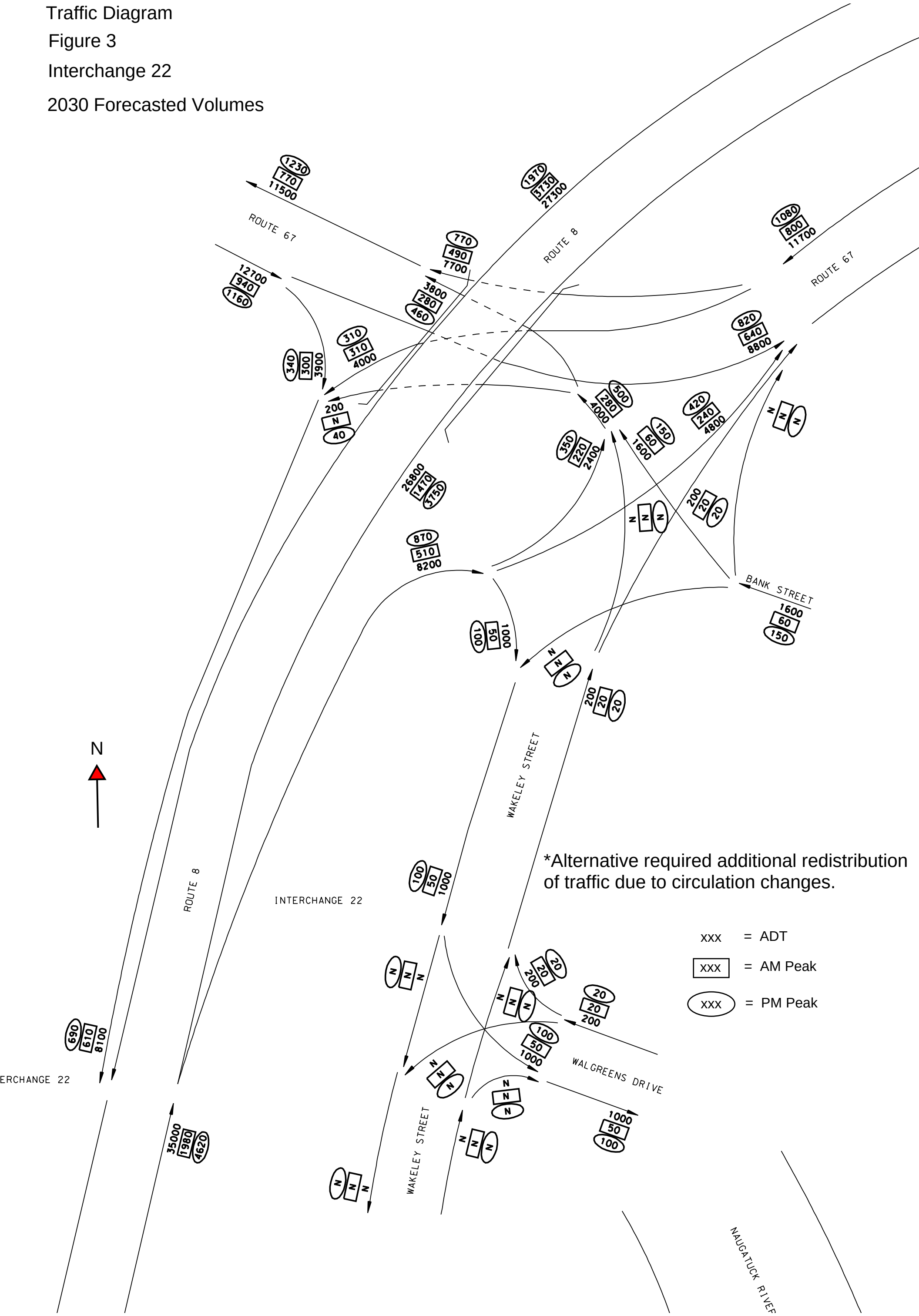
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 3

Interchange 22

2030 Forecasted Volumes



*Alternative required additional redistribution of traffic due to circulation changes.

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0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT

LEGEND:
- EXISTING SURFACE FEATURES (MARKINGS, CURB BRIDGE COLUMNS ETC..)
- RIGHT-OF-WAY
- HISTORIC PROPERTIES
- COMMUNITY FACILITIES
- LEACHATE WASTE
- HISTORIC DISTRICT

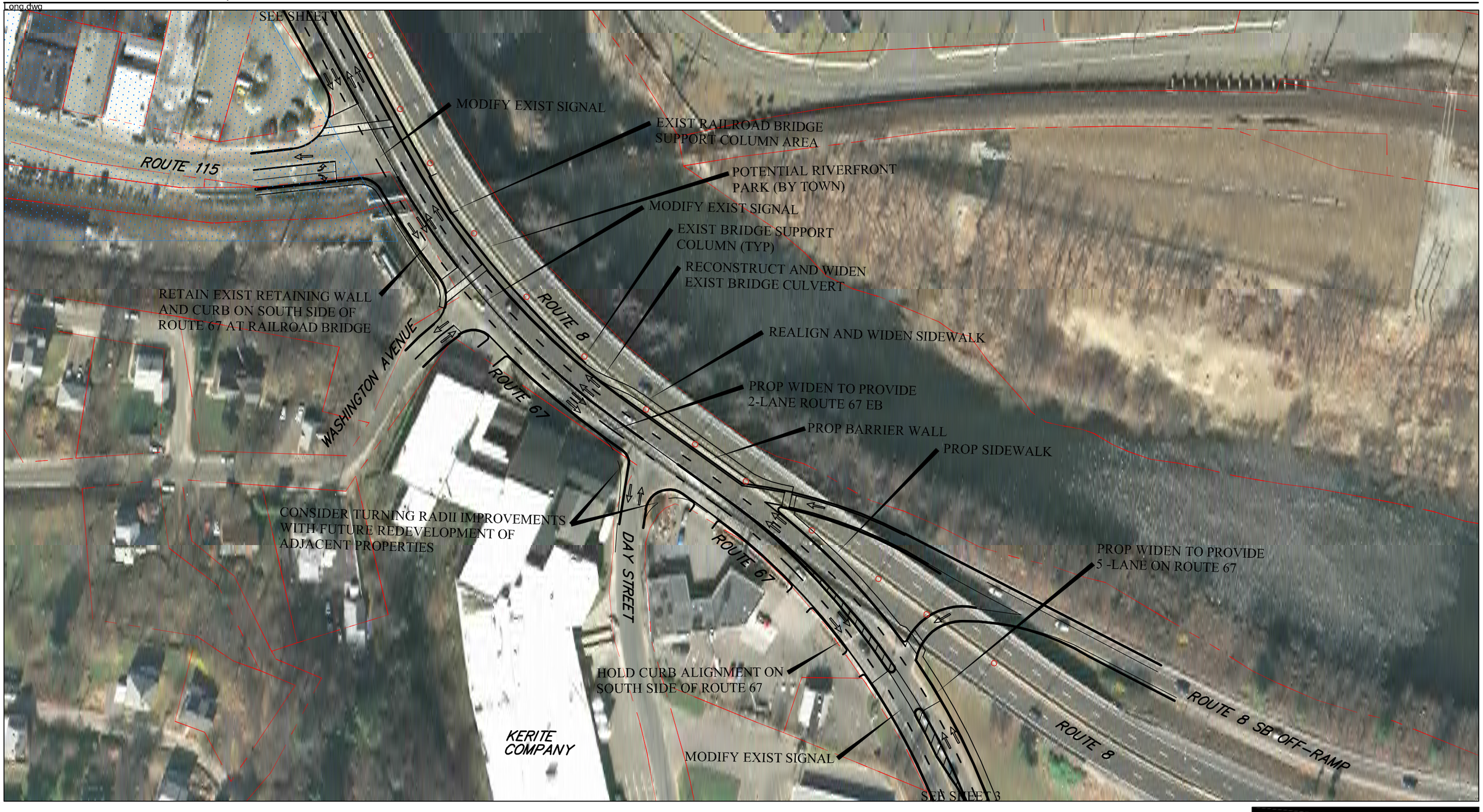
Vanasse Hangen Brustlin, Inc.

Seymour May 2010
Interchange 22

Route 67/Route 8 NB Off-Ramp
Long Term Alternative (1 of 3)

FIGURE 3

\\Kirk\admin\TS\SIGNALS\41488-ConDOT\IC22-wakeley Long.dwg



0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 1 FT
SIDEWALK WIDTH = 6 FT

LEGEND:
EXISTING SURFACE FEATURES (MARKINGS, CURB BRIDGE COLUMNS ETC.,)
RIGHT-OF-WAY
HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour
Interchange 22

May 2010

Route 67/Downtown
Long Term Alternative (2 of 3)

FIGURE 3

\\Kirk\admin\TS\SIGNALS\41488-ConDOT\IC22-wakeley Long.dwg

0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 1 FT
SIDEWALK WIDTH = 6 FT
LEFT TURN LANE WIDTH - 10 FT

LEGEND:
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

Seymour May 2010
Interchange 22

Route 67/Route 8 NB On-Ramp
Long Term Alternative (3 of 3)

FIGURE 3

Seymour - Interchange 22
Route 67/Route 8 NB Off Ramp/On Ramp - Long Term Alternative

Figure 3

ENVIRONMENTAL EVALUATION

NOISE
Widening of travel lanes on Route 67 may result in slight impacts from noise to residences on Washington Avenue and Spruce Street due to traffic being moved slightly closer to residences.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands in the project area.
Shifting of pedestrian walkway closer to the river will involve construction period impacts to the riverbank. Permits will be required due to work within regulated buffer of waterway.
There will be an increase in impervious surface with the paving over of vegetated area within the Route 8 right-of-way. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.
Culvert (crossing of Balden's River under Routes 8 & 67 between Washington Avenue and Day Street) may require re-construction or extension to accommodate improvements. Permits likely required for this construction activity.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
There is a historic district on the south side of Wakeley Street. However, the proposed improvements are not likely to have an adverse impact to this district or any of its contributing structures.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.
There is a 4(f) resource (French Memorial Park) off Spruce Street, but there are no impacts to this resource from the improvements.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Proposed improvements will not require any residential displacements.
Widening of Route 8/67 may require partial property taking of a business (Kerite Company) located between Washington Avenue and Day Street and adverse impacts to railroad siding in this vicinity.
Improvements include improved pedestrian access to recreational field on Spruce Street.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Widening of Route 8/67 may require partial commercial property taking (Kerite Company) between Washington Avenue and Day Street
Adverse impacts to rail siding from widening of Route8/67. Potential Impacts to VFW property located at the corner of Bank Street and Wakeley Street. No other land use impacts anticipated.

DESIGN ISSUES
Construct a new retaining wall along west side of Route 8 off ramp to Wakeley Street
Existing utility poles on west side of Wakeley Street should be relocated
Substandard Clearance under existing Route 8 supports structure
Removal of existing trees and relocation Seymour Sign at base of Route 8 off-ramp to Wakeley Street
Slope modification/retaining wall along the river on north side of Route 67 to support meandering sidewalk on north side of existing route 8 support columns
Installation of single face barrier along south face of Route 8 support columns along north side of Route 67 from Wakeley Street to Route 8 southbound off-ramp to Route 67 WB
Local acceptance of reversal of Bank Street from EB to WB between Columbus Street and Wakeley Street
Local acceptance of limited access to/from Bank Street to/from Wakeley Street and conversion of Wakeley Street to a cul-de-sac
Verify available width between Railroad bridge abutment walls on Route 67 between Route 115 and Washington Avenue to support 4 lane section with sidewalks
Reconstruct and widen existing bridge over river outfall on Route 67 between Washington Avenue and Day Street
Relocate existing rail and reconstruct existing retaining wall on east side of Route 67 EB at Day Street to allow for 4 lane roadway

TRAFFIC OPERATIONS
The intersection of Route 67 at the Exit 22 SB On Ramp and Wakeley Street is anticipated to operate at LOS B during both morning and evening peak hours.
The intersection of Route 67 at Route 115 is anticipated to operate at LOS B during the morning peak hour and LOS C during the evening peak hour.
The intersection of Route 67 at Washington Street is anticipated to operate at LOS B during both morning and evening peak hours
The intersection of Route 67 at the Exit 22 SB Off Ramp is anticipated to operate at LOS B during both morning and evening peak hours.

CONSTRUCTION COST ESTIMATE
$ 4,350,000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION
Dismiss Alternative

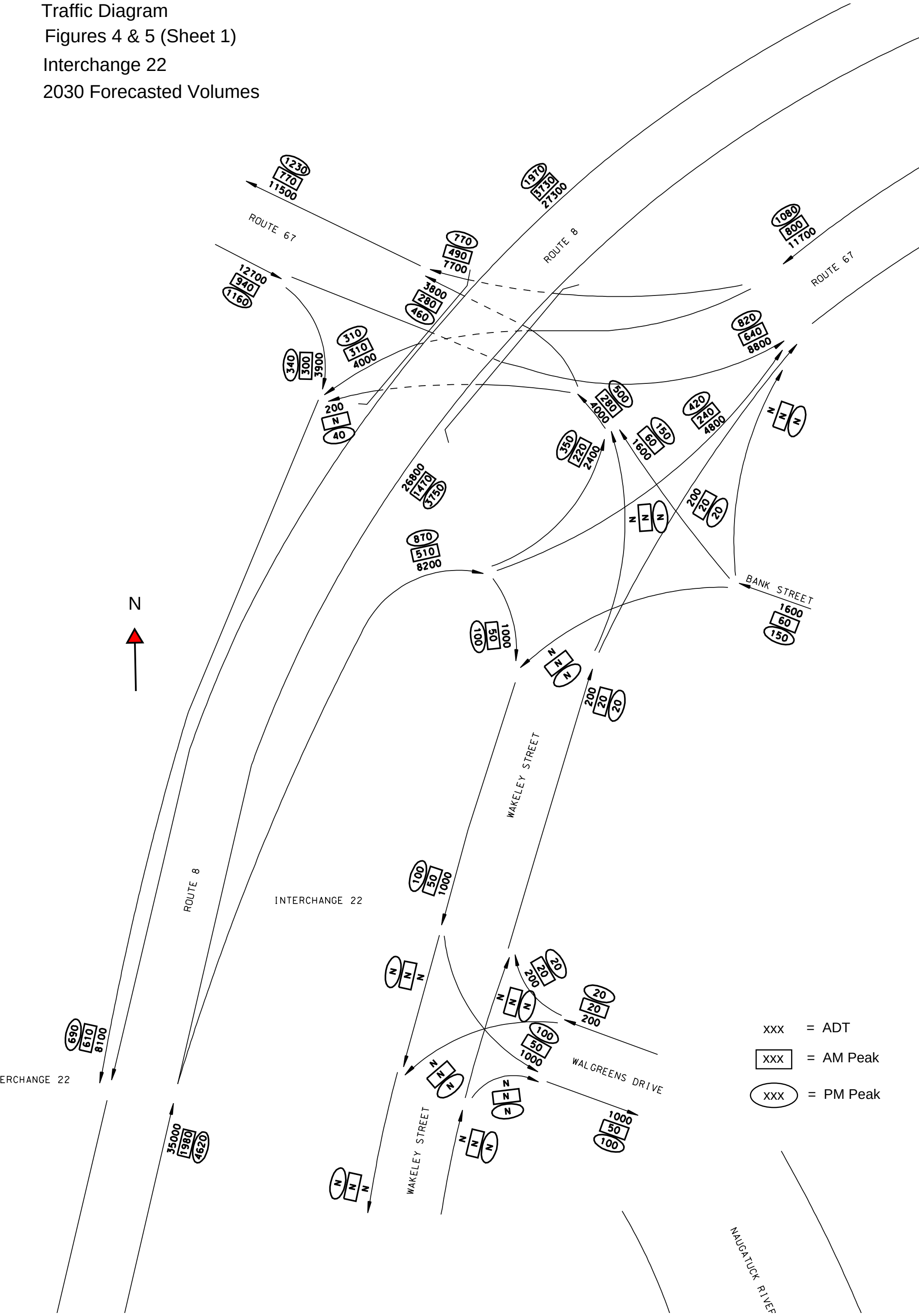
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figures 4 & 5 (Sheet 1)

Interchange 22

2030 Forecasted Volumes



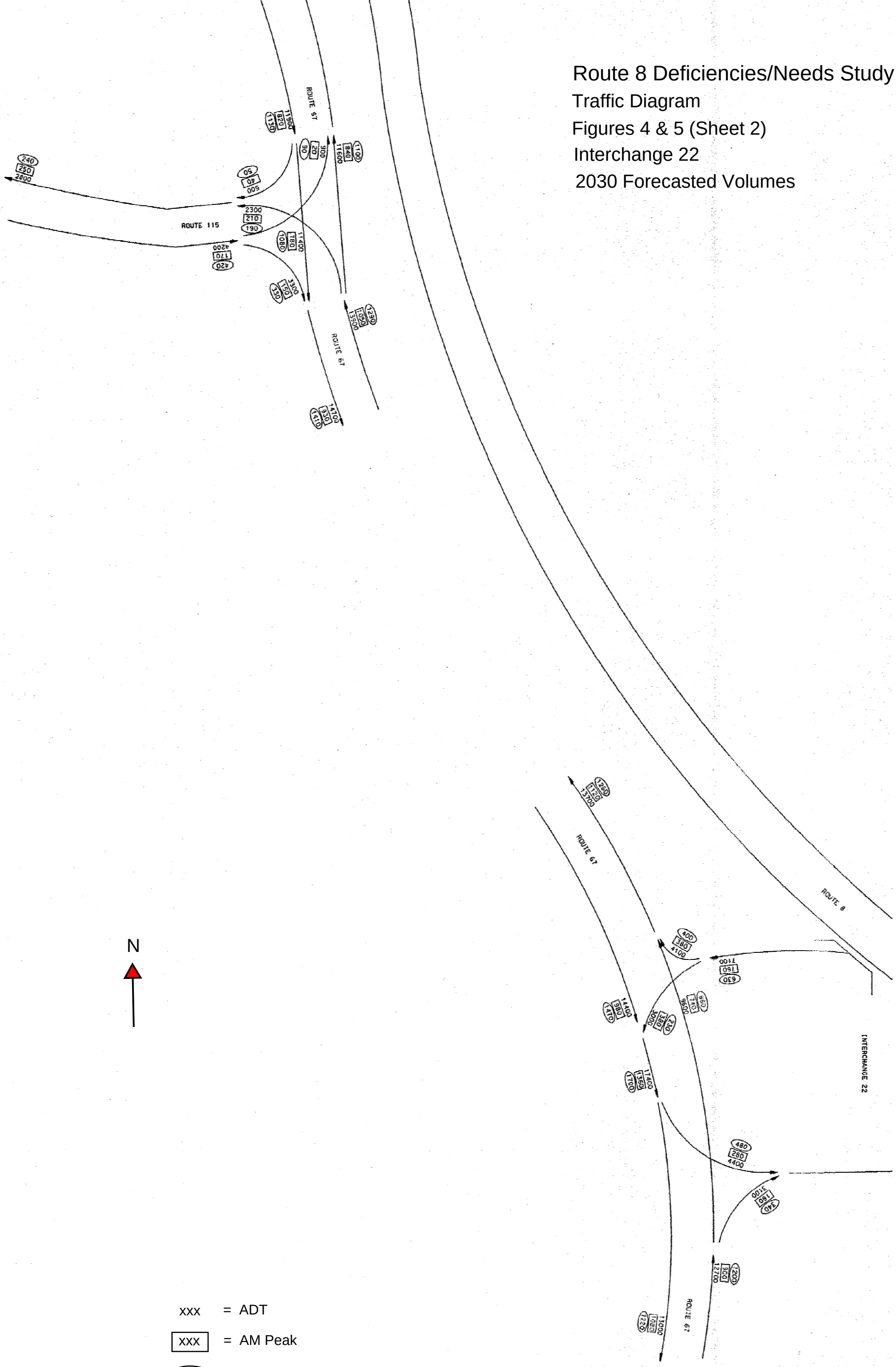
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figures 4 & 5 (Sheet 2)

Interchange 22

2030 Forecasted Volumes



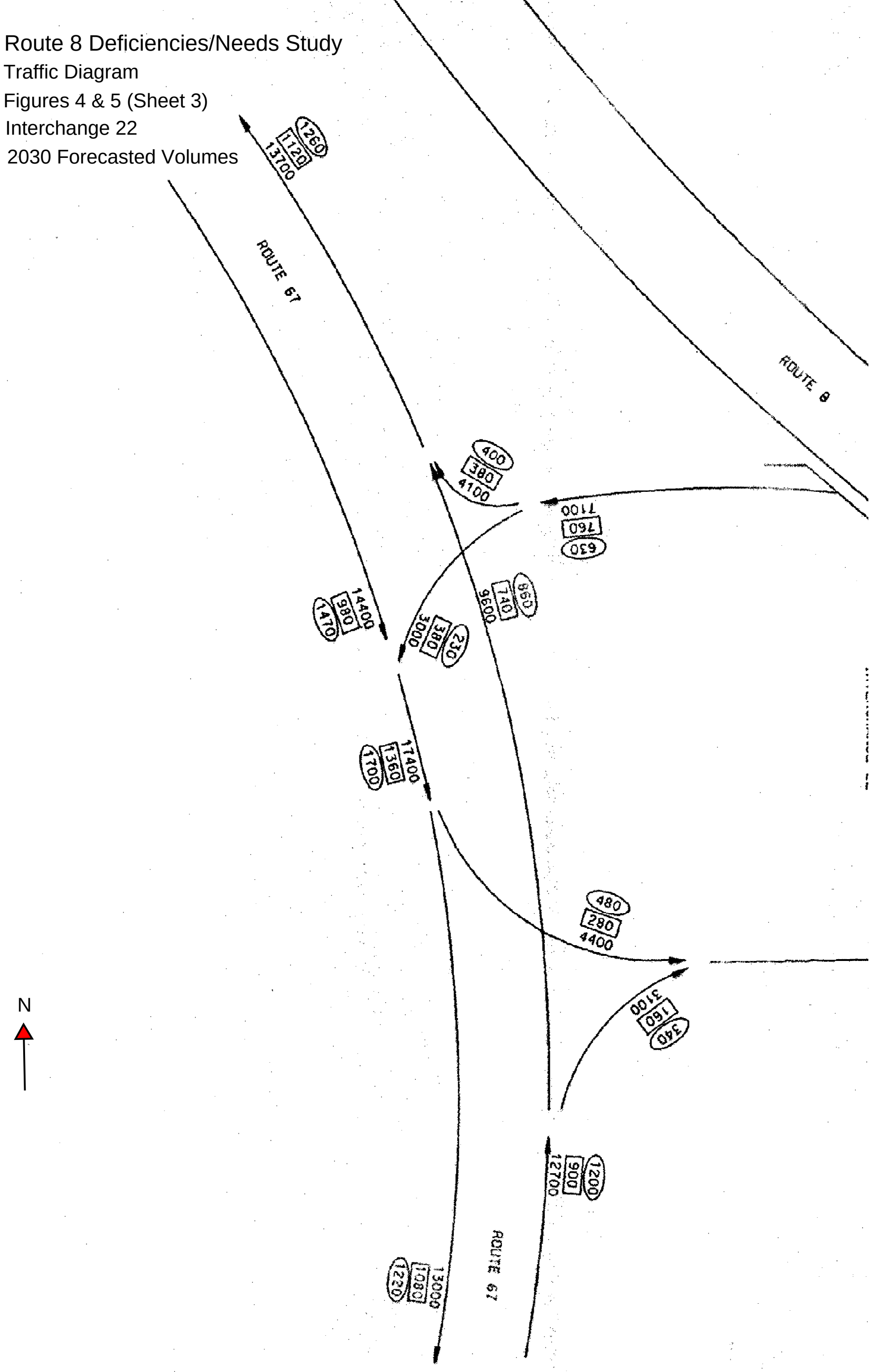
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figures 4 & 5 (Sheet 3)

Interchange 22

2030 Forecasted Volumes



xxx = ADT

xxx = AM Peak

xxx = PM Peak

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0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT

LEGEND:
- EXISTING SURFACE FEATURES (MARKINGS, CURB BRIDGE COLUMNS ETC.,)
- RIGHT-OF-WAY
- HISTORIC PROPERTIES
- COMMUNITY FACILITIES
- LEACHATE WASTE
- HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

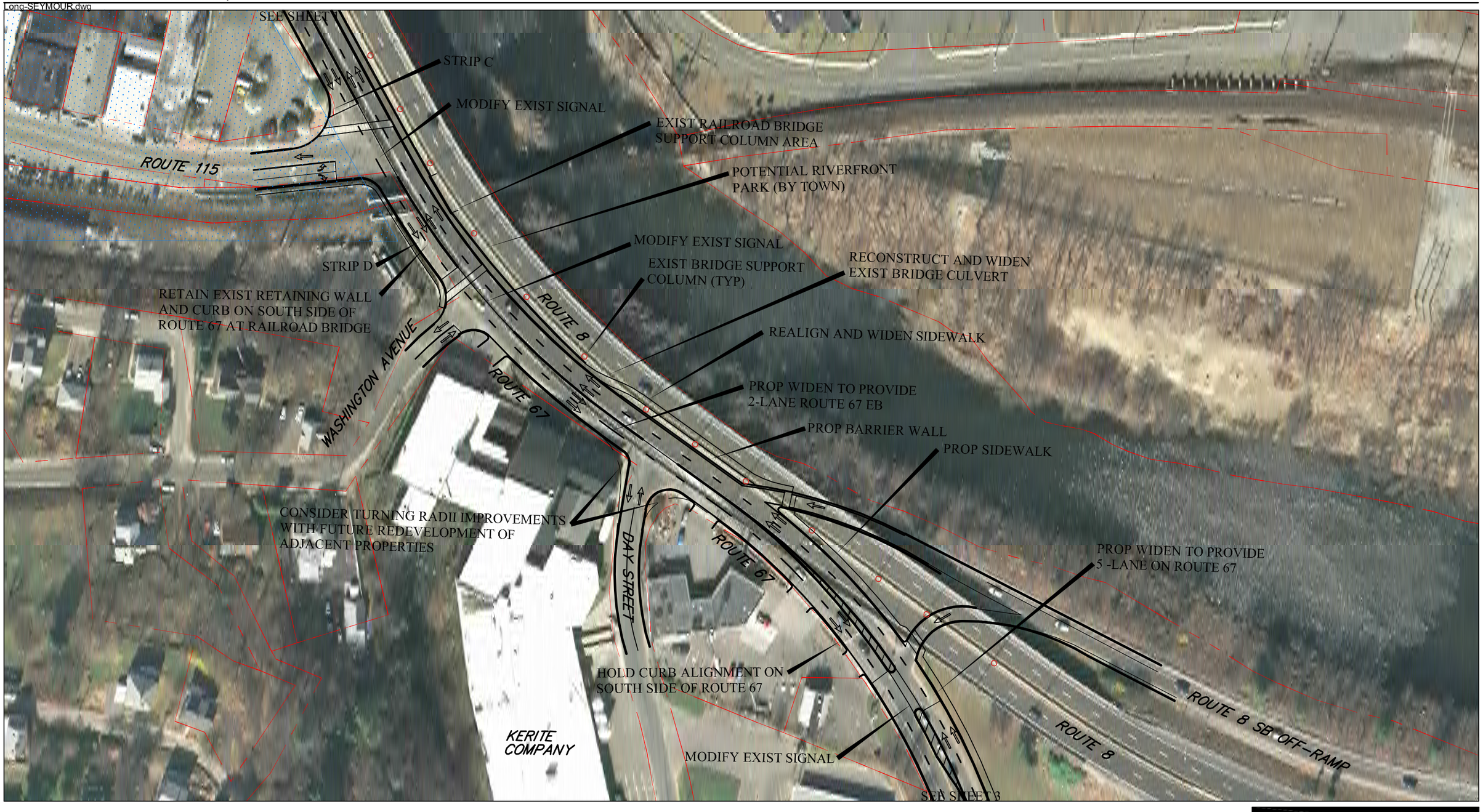
Seymour
Interchange 22

May 2010

Route 67/Route 8 NB Off-Ramp
Long Term Alternative (1 of 3) - Alt A

FIGURE 4

\\Kirk\admin\TS\SIGNALS\41488-ConDOT\IC22-wakeley Long-SEYMOUR.dwg



0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 1 FT
SIDEWALK WIDTH = 6 FT

LEGEND:
EXISTING SURFACE FEATURES (MARKINGS, CURB BRIDGE COLUMNS ETC.,)
RIGHT-OF-WAY
HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour May 2010
Interchange 22

Route 67/Downtown
Long Term Alternative (2 of 3) - Alt A

FIGURE 4

\\Kirk\admin\TS\SIGNALS\41488-ConDOT\IC22-wakeley Long-SEYMOUR.dwg

0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 1 FT
SIDEWALK WIDTH = 6 FT
LEFT TURN LANE WIDTH - 10 FT

LEGEND:
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

Seymour May 2010
Interchange 22

Route 67/Route 8 NB On-Ramp
Long Term Alternative (3 of 3) - Alt A

FIGURE 4

\\Kirk\admin\TS\SIGNALS\41488-ConDOT\IC22-wakeley Long-Alt B.dwg

0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT

LEGEND:
- EXISTING SURFACE FEATURES (MARKINGS, CURB BRIDGE COLUMNS ETC..)
- RIGHT-OF-WAY
- HISTORIC PROPERTIES
- COMMUNITY FACILITIES
- LEACHATE WASTE
- HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour May 2010
Interchange 22

Route 67/Route 8 NB Off-Ramp
Long Term Alternative (1 of 3) - Alt B

FIGURE 5

\\Kirk\admin\TS\SIGNALS\41488-ConDOT\IC22-wakeley Long-Alt B.dwg

0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT

LEGEND:
- EXISTING SURFACE FEATURES (MARKINGS, CURB BRIDGE COLUMNS ETC.,)
- RIGHT-OF-WAY
- HISTORIC PROPERTIES
- COMMUNITY FACILITIES
- LEACHATE WASTE
- HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour May 2010
Interchange 22

Route 67/Route 8 NB Off-Ramp
Long Term Alternative (2 of 3) - Alt B

FIGURE 5

\\Kirk\admin\TS\SIGNALS\41488-ConDOT\IC22-wakeley Long-Alt B.dwg

0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 67 DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT

LEGEND:
- EXISTING SURFACE FEATURES (MARKINGS, CURB BRIDGE COLUMNS ETC.,)
- RIGHT-OF-WAY
- HISTORIC PROPERTIES
- COMMUNITY FACILITIES
- LEACHATE WASTE
- HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour May 2010
Interchange 22

Route 67/Route 8 NB Off-Ramp
Long Term Alternative (3 of 3) - Alt B

FIGURE 5

Seymour - Interchange 22
Route 67/Route 8 NB Off Ramp - Long Term Alternative (Alternatives A&B)

Figures 4 & 5

ENVIRONMENTAL EVALUATION

NOISE

No adverse impact anticipated.

AIR QUALITY

No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES

There are no wetlands in the project area.

Shifting of pedestrian walkway closer to the river will involve construction period impacts to the riverbank. Permits will be required due to work within regulated buffer of waterway.

There will be an increase in impervious surface with the paving over of vegetated area within the Route 8 right-of-way. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.

GROUNDWATER RESOURCES

No adverse impact expected. Overlies groundwater classified as GB.

No nearby wells.

ENDANGERED SPECIES

No impact to endangered species.

No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS

No impact to farmland soils.

No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES

There is a historic district on the south side of Wakeley Street. However, the proposed improvements will not have an adverse impact to this district or any of its contributing structures.

SECTION 4(F) AND SECTION 6(F) LANDS

No impact to 4(f) or 6(f) lands.

No 4(f) or 6(f) resources present near the interchange.

HAZARDOUS MATERIALS

No impact from hazardous sites.

No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE

Restricting Bank Street to one-way traffic may reduce pass-through traffic and have an adverse impact on businesses.

Termination of Wakeley Street in cul-de-sac may have an adverse impact on public safety by restricting access to and from the adjacent emergency response complex and may have a further adverse impact on community by reducing pass-through traffic for businesses.

Proposed improvements will not require any displacements of businesses or residences.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY

Widening of Route 8/67 may require partial commercial property taking (Kerite Company) between Washington Avenue and Day Street.

Adverse impacts to rail siding from widening of Route8/67. Potential Impacts to VFW property located at the corner of Bank Street and Wakeley Street. No other land use impacts anticipated.

DESIGN ISSUES

Construct a new retaining wall along west side of Route 8 off ramp to Wakeley Street

Existing utility poles on west side of Wakeley Street should be relocated

Substandard Clearance under existing Route 8 supports structure

Removal of existing trees and relocation Seymour Sign at base of Route 8 off-ramp to Wakeley Street

Slope modification/retaining wall along the river on north side of Route 67 to support meandering sidewalk on north side of existing route 8 support columns

Installation of single face barrier along south face of Route 8 support columns along north side of Route 67 from Wakeley Street to Route 8 southbound off-ramp to Route 67 WB

Local acceptance of reversal of Bank Street from EB to WB between Columbus Street and Wakeley Street for Figure 4 concept

Local acceptance of limited access to/from Bank Street to/from Wakeley Street

Verify available width between Railroad bridge abutment walls on Route 67 between Route 115 and Washington Avenue to support 4 lane section with sidewalks

Reconstruct and widen existing bridge over river outfall on Route 67 between Washington Avenue and Day Street

Relocate existing rail and reconstruct existing retaining wall on east side of Route 67 EB at Day Street to allow for 4 lane roadway

TRAFFIC OPERATIONS

The intersection of Route 67 at the Exit 22 SB On Ramp and Wakeley Street is anticipated to operate at LOS B during both morning and evening peak hours.

Realigning the Exit 22 NB Off-Ramp extends the ramp length reducing issues related with excessive queuing.

CONSTRUCTION COST ESTIMATE

$ 4,400,000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION

Figure 4 - Candidate Study Recommendation. Figure 5 - Dismiss Alternative

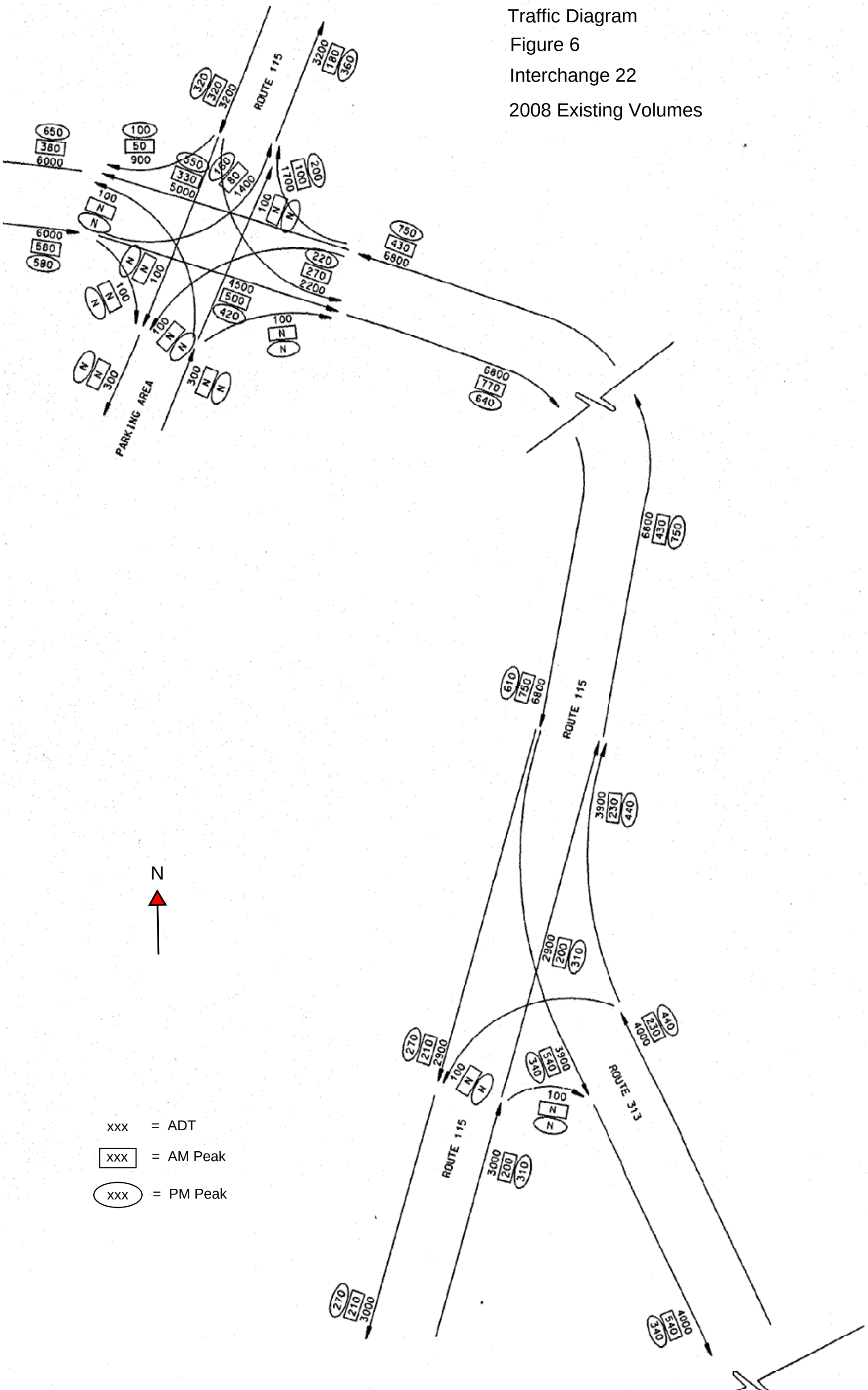
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 6

Interchange 22

2008 Existing Volumes



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0 40 80 Feet

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 115 DESIGN CRITERIA:
DESIGN SPEED = 35 MPH
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT

LEGEND:
RIGHT-OF-WAY
LEACHATE WASTE
HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour May 2010

Route 115 at Route 313
Near Term Alternative

FIGURE 6

Seymour
Route 115 at Route 313 - Near Term Alternative

Figure 6

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no impacts to wetlands or surface water resources.

GROUNDWATER RESOURCES
No adverse impacts to groundwater resources. Overlies groundwater classified as GA.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near improvements.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.

SECTION 4(F) AND SECTION 6(F) LANDS
No impacts to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS
No impacts from hazardous materials.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
No impacts to businesses, residents, or community cohesion.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Improvements will be constructed within the existing right-of-way.
No land use impacts anticipated.

DESIGN ISSUES
Connection from existing traffic signal cabinet at Route 115 and Route 313 to proposed flashers on advance warning sign.

TRAFFIC OPERATIONS
Reinforces stop control for NB Route 313 approach.
Under the morning peak period, NB Route 313 approach operates at LOS B and SB Route 115/313 approaches operate at LOS A.
Under the evening peak period, NB Route 313 approach operates at LOS C and SB Route 115/313 approaches operate at LOS A.

CONSTRUCTION COST ESTIMATE
$100,000

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

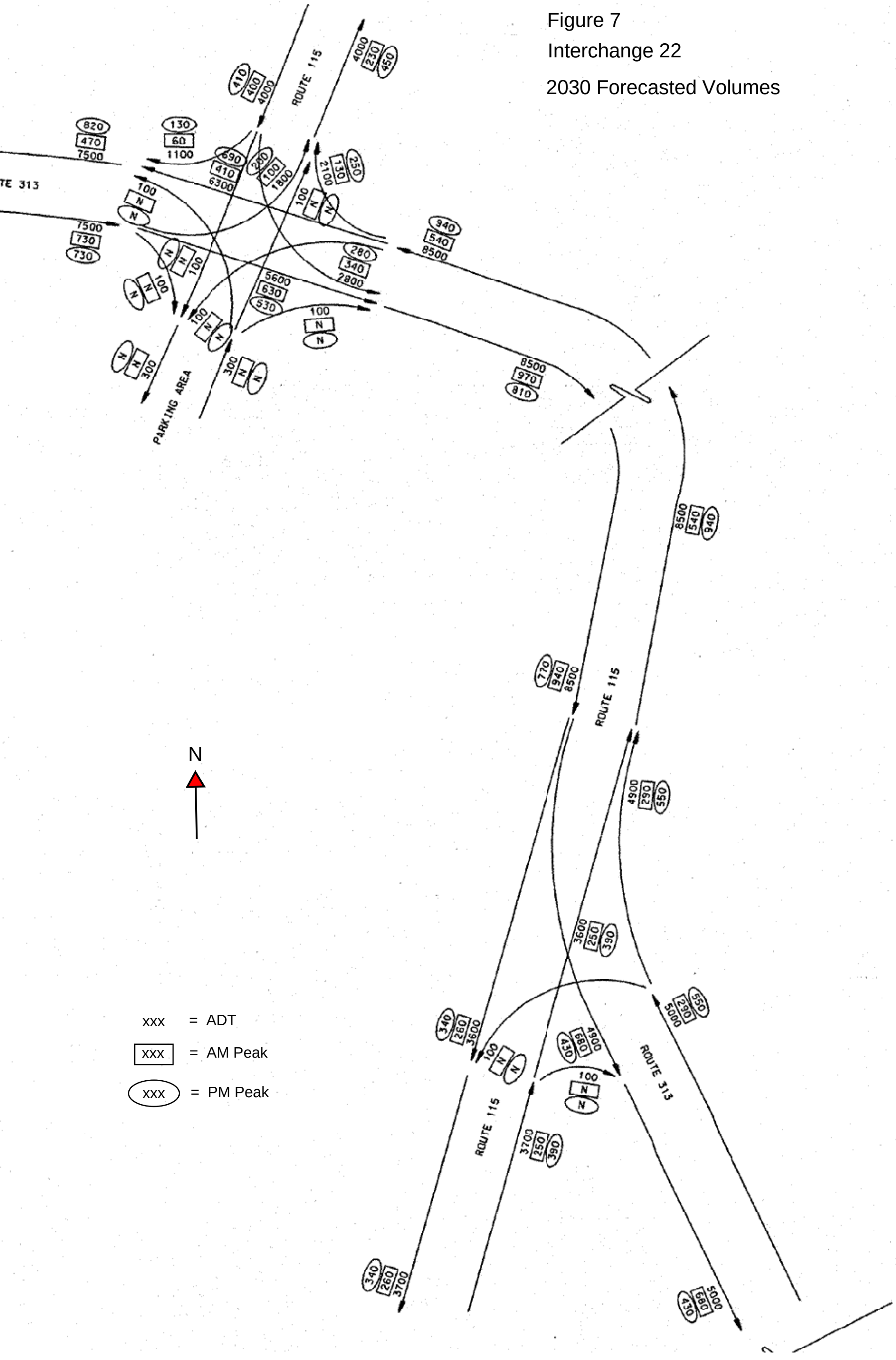
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 7

Interchange 22

2030 Forecasted Volumes



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0 40 80 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 115 DESIGN CRITERIA:
DESIGN SPEED = 35 MPH
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT

LEGEND:
RIGHT-OF-WAY
LEACHATE WASTE
HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour May 2010

Route 115 at Route 313
Long Term Alternative

FIGURE 7

Seymour
Route 115 at Route 313 - Long Term Alternative

Figure 7

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no impacts to wetlands or surface water resources.

GROUNDWATER RESOURCES
No adverse impacts to groundwater resources. Overlies groundwater classified as GA.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near improvements.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
Replacement of existing railroad bridge may trigger impact of a historic resource. Coordination with SHPO will be required

SECTION 4(F) AND SECTION 6(F) LANDS
Replacement of existing railroad bridge may trigger impact of a historic Section 4(f) resource. Coordination with SHPO will be required

HAZARDOUS MATERIALS
No impacts from hazardous materials.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
No impacts to businesses, residents, or community cohesion.

ENGINEERING EVALUATION

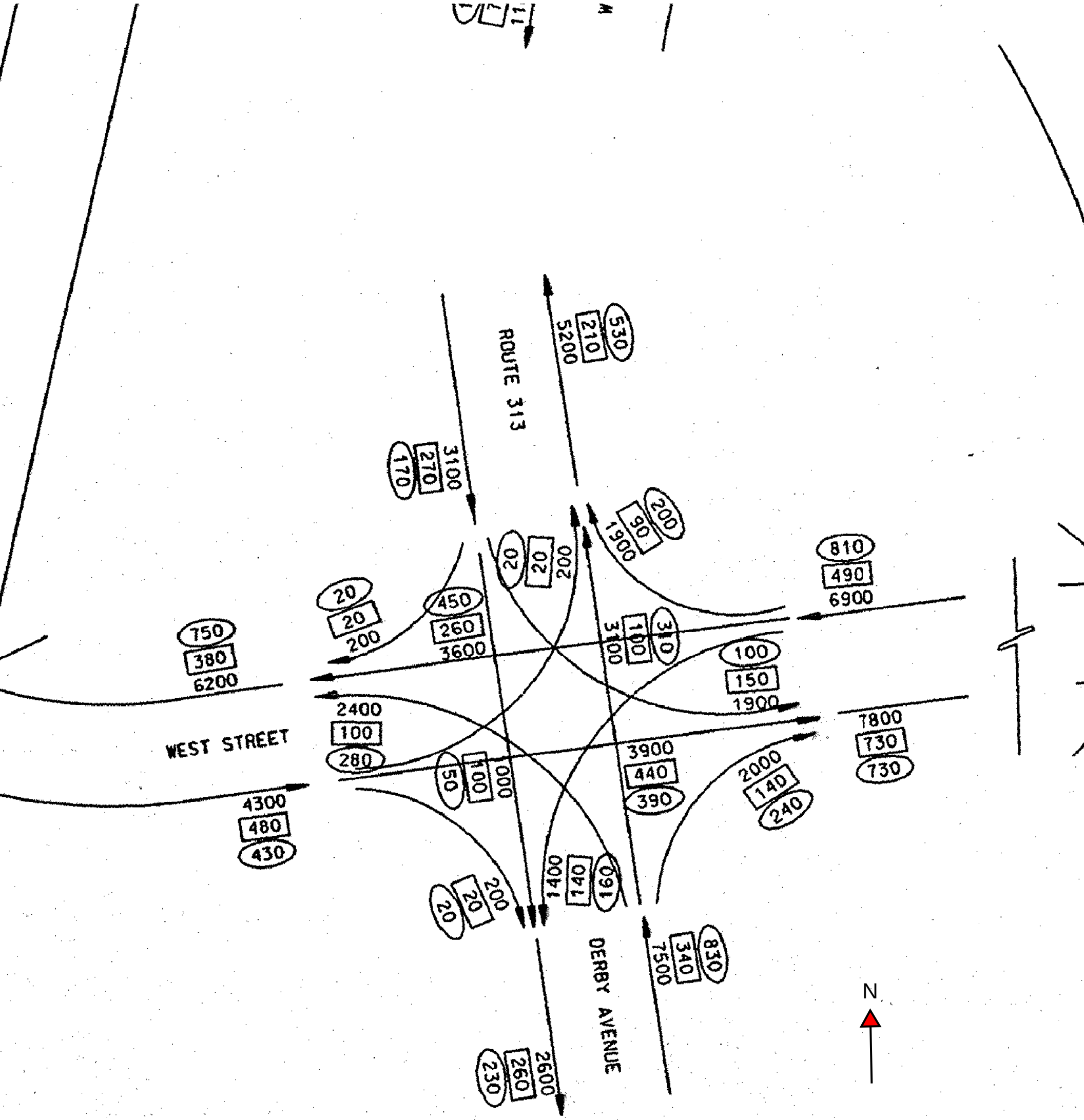
LAND USE/RIGHT-OF-WAY
Improvements will be constructed within the existing right-of-way.
No land use impacts anticipated. Existing railroad bridge impacted.

DESIGN ISSUES
Existing railroad bridge impacted due to realignment of Route 115.
Existing retaining wall to be replaced.
Connection from existing traffic signal cabinet at Route 115 and Route 313 to proposed flashers on advance warning sign.

TRAFFIC OPERATIONS
All approaches to the intersection operate at LOS B during the morning peak hour.
Under the evening peak period, NB Route 313 approach operates at LOS D and SB Route 115/313 approaches operate at LOS A.

CONSTRUCTION COST ESTIMATE
$4,000,000

LEVEL 2 SCREENING RECOMMENDATION
Retain alternative for further study
Candidate Study Recommendation



Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 8

Interchange 22

2030 Forecasted Volumes

xxx = ADT

xxx = AM Peak

xxx = PM Peak

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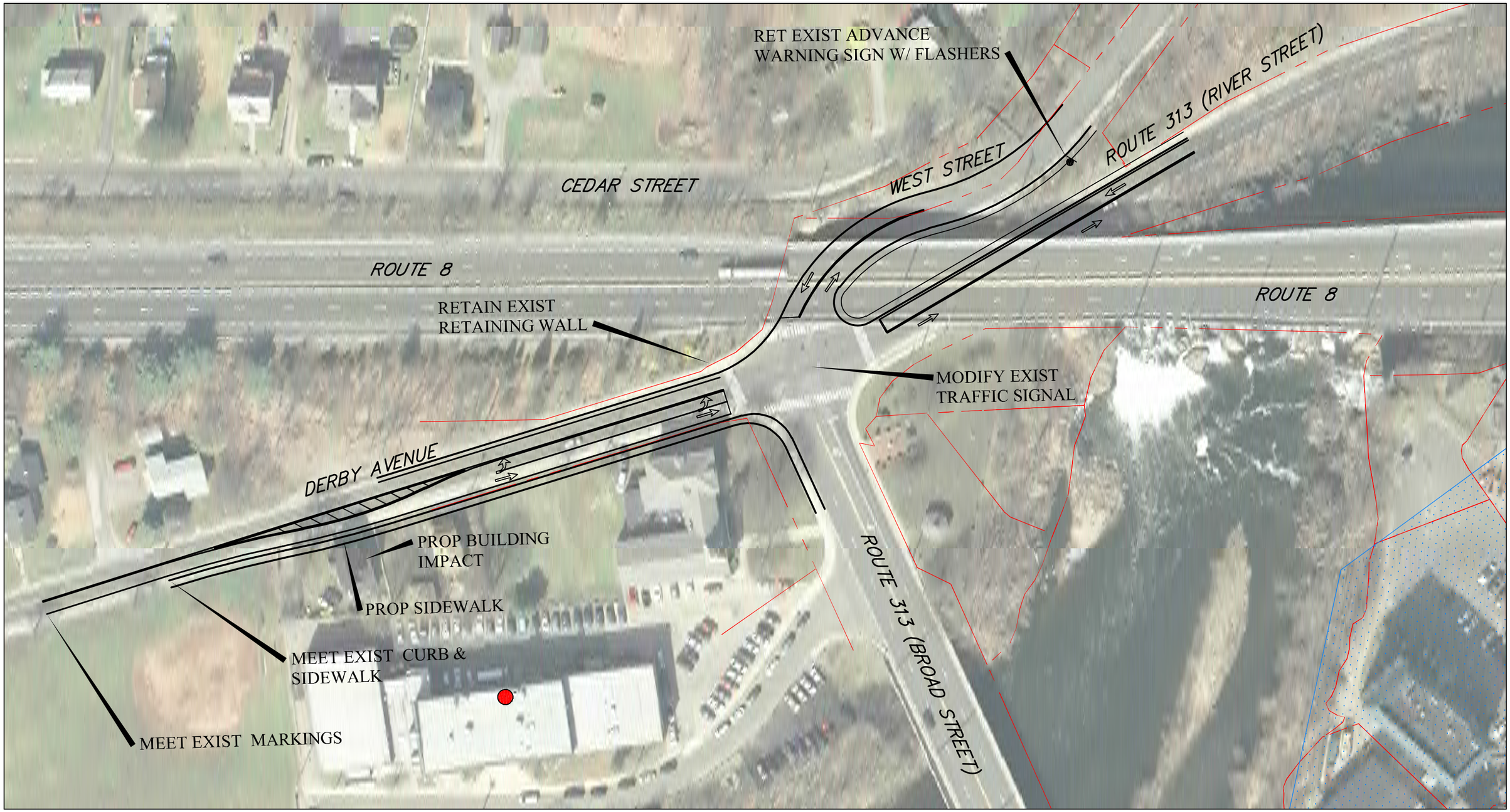


0 40 80 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

DERBY AVENUE DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT
SIDEWALK WIDTH = 6 FT
LEFT TURN LANE LENGTH = 300 FT
LEFT TURN LANE WIDTH = 10 FT

LEGEND:
RIGHT-OF-WAY
COMMUNITY FACILITIES
HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Seymour May 2010

Derby Avenue at Route 313/West Street
Medium Term Alternative

FIGURE 8

Seymour

Derby Avenue at Route 313/West Street - Medium Term Alternative

Figure 8

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no impacts to wetlands or surface water resources.

GROUNDWATER RESOURCES
No adverse impacts to groundwater resources. Overlies groundwater classified as GA.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near improvements.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impact to cultural resources anticipated. One early 20th century residential structure impacted but does not appear to be National Register eligible.

SECTION 4(F) AND SECTION 6(F) LANDS
No impacts to 4(f) or 6(f) lands anticipated. However, 4(f) applicability would depend on whether or not the impacted residence is listed on or eligible for listing on the National Register.

HAZARDOUS MATERIALS
No impacts from hazardous materials.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Widening of Derby Avenue to add a left-turn lane may result in one residential property taking which may result in the demolition of a building.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
The widening of Derby Avenue may result in the taking of one residential property.

DESIGN ISSUES
Proposed building taking on east side of Derby Street to support proposed alignment
Structural evaluation needed of proposed traffic signal span wire and signal modifications

TRAFFIC OPERATIONS
The intersection of Route 313 and Derby Avenue is anticipated to operate at LOS C during both the morning and evening peak hours.

CONSTRUCTION COST ESTIMATE
$ 340, 000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

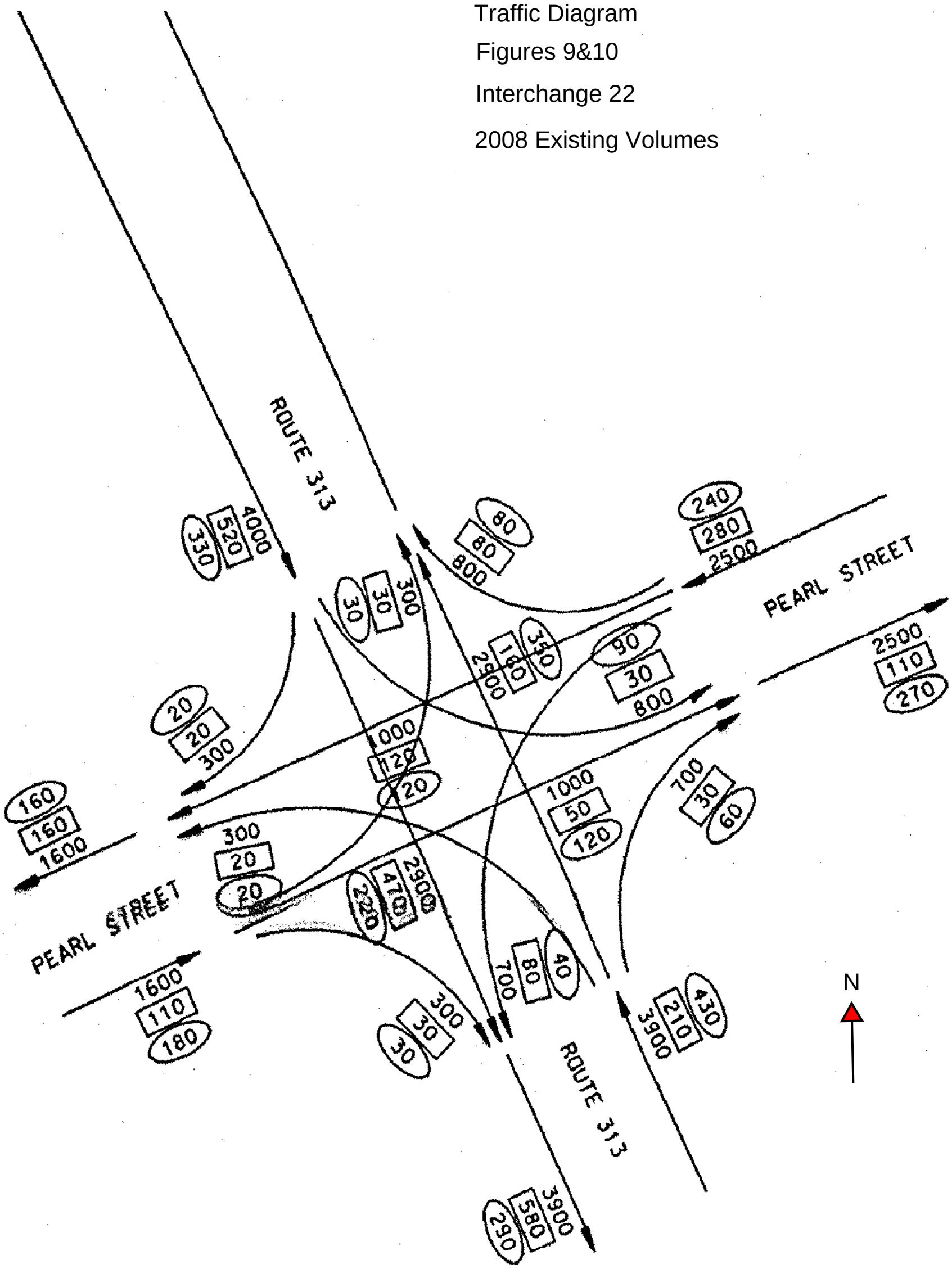
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figures 9&10

Interchange 22

2008 Existing Volumes



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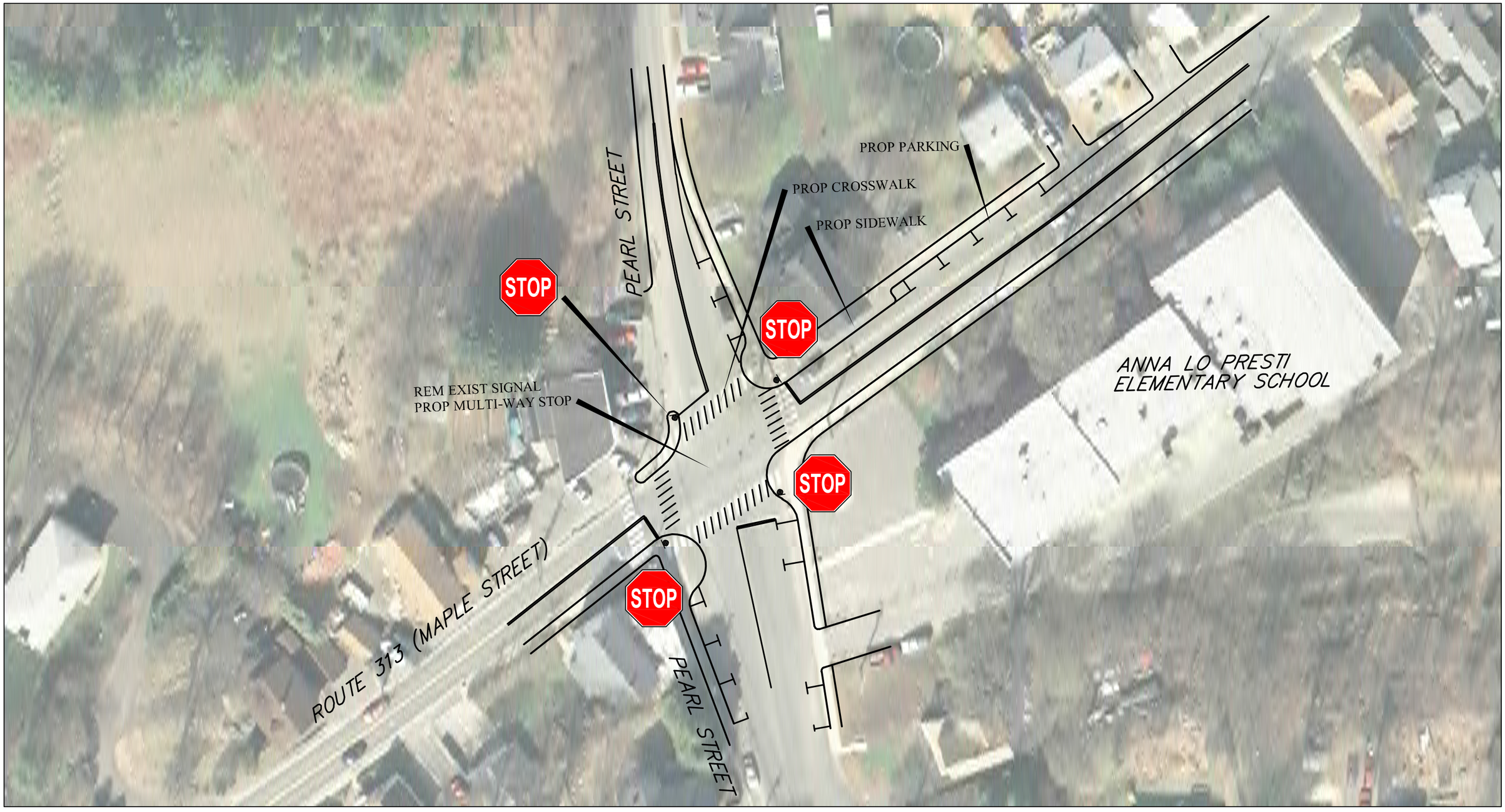

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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 313 DESIGN CRITERIA:
LANE WIDTH = 13 FT
SIDEWALK WIDTH = 6 FT
CROSSWALK WIDTH = 8 FT

PEARL STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
SIDEWALK WIDTH = 6 FT
CROSSWALK WIDTH = 8 FT

Vanasse Hangen Brustlin, Inc.

Seymour May 2010

Route 313 at Pearl Street
Near Term Alternative

FIGURE 9

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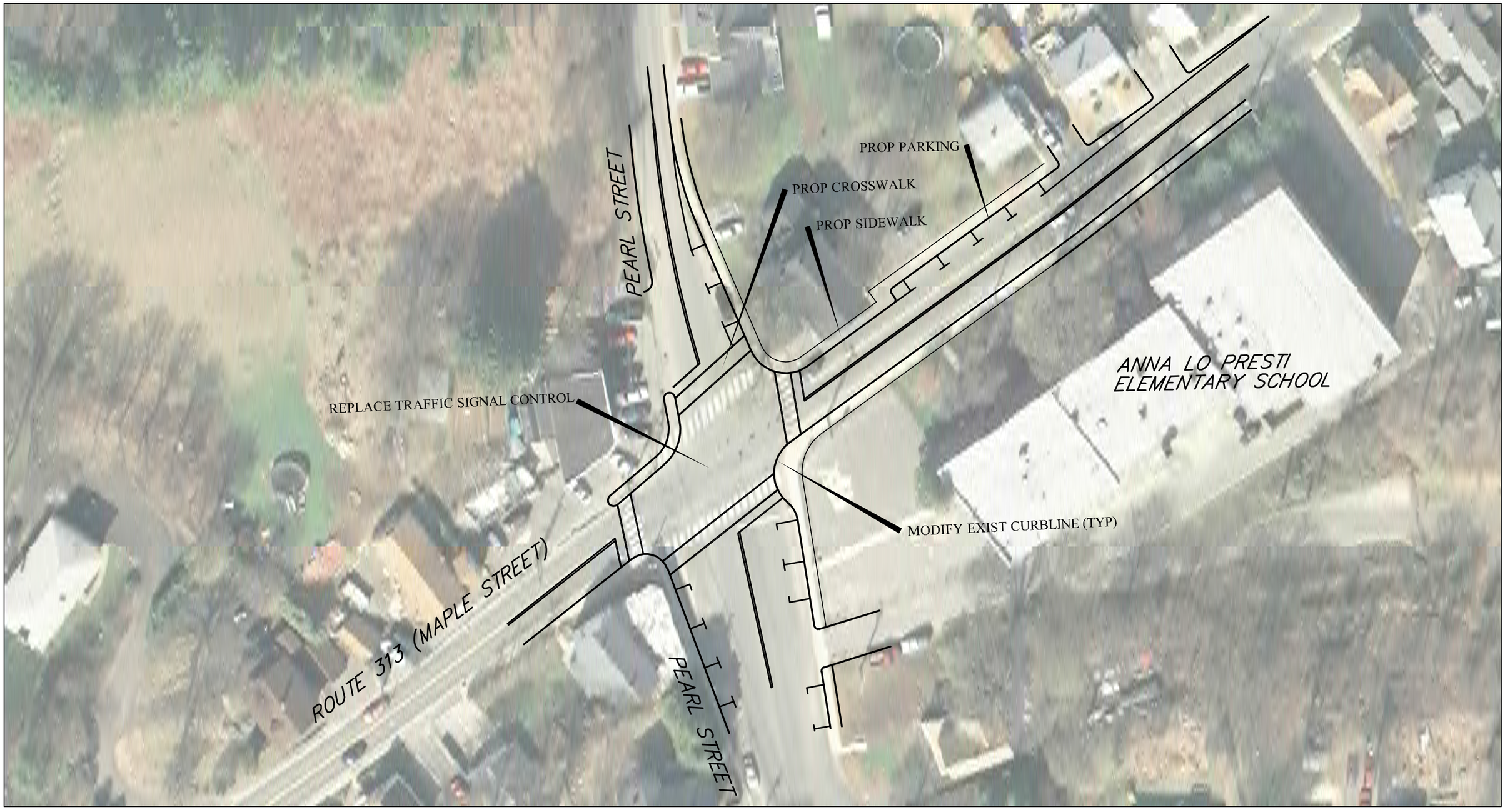

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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 313 DESIGN CRITERIA:
LANE WIDTH = 13 FT
SIDEWALK WIDTH = 6 FT
CROSSWALK WIDTH = 8 FT

PEARL STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
SIDEWALK WIDTH = 6 FT
CROSSWALK WIDTH = 8 FT

Vanasse Hangen Brustlin, Inc.

Seymour May 2010

Route 313 at Pearl Street
Near Term Alternative - Alt A

FIGURE 10

Seymour

Route 313 at Pearl Street - Near Term Alternative

Figures 9 & 10

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no impacts to wetlands or surface water resources.

GROUNDWATER RESOURCES
No adverse impacts to groundwater resources. Overlies groundwater classified as GA.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near improvements.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
Potential historically significant residence impacted by sidewalk improvements. During future planning/design the eligibility of the structure for the National Register will need to be further investigated.

SECTION 4(F) AND SECTION 6(F) LANDS
No Impacts to 6(f) lands
Potential impact to a 4(f) resource if the impacted residence by sidewalk improvements is National Register eligible.
There is also a 4(f) resource in the vicinity of the proposed improvements (Anna Lo Presti Elementary School); however no impacts to the school are anticipated. Additionally, this school is scheduled for closure in 2011.

HAZARDOUS MATERIALS
No impacts from hazardous materials.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Proposed sidewalk improvements may have an impact on one residential property.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Proposed sidewalk improvements may have an impact on one residential property.

DESIGN ISSUES
Modifications to existing abutting property access on southwest corner
Existing traffic signal does not meet warrants and should be removed (Figure 9)

TRAFFIC OPERATIONS
Under the all-way stop control condition, (Figure 9) the SB approach of the intersection of Route 313 and Pearl Street is anticipated to operate at LOS E for the morning peak period. All other approaches are anticipated to operate at LOS C or better.

Under the afternoon peak period, all approaches of the intersection of Route 313 and Pearl Street are anticipated to operate at LOS D or better.

Under signal control condition, (Figure 10) the intersection operates at LOS B for both the morning and evening peak periods.

CONSTRUCTION COST ESTIMATE
$ 520, 000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION
Figure 9 - Dismiss Alternative. Figure 10 - Candidate Study Recommendation.

Beacon Falls - Interchange 23

Figure 11 presents the identified medium-term improvements at Interchange 23. Minor widening of the shoulder is recommended to extend the NB Off-ramp deceleration lane.

Beacon Falls - Local Intersections

Figure 12 presents an identified near-term improvement for the intersection of Route 42 (South Main Street and Bethany Road) at South Main Street. The SB left turn lane along South Main Street is extended by 200 feet in this concept by removing a portion of the existing median. The cost of this alternative is not supported by the anticipated benefits.

Figure 13 depicts a medium-term improvement for the intersection of South Main Street at Depot Street. This improvement calls for the intersection to be signalized and an exclusive left-turn lane and two thru lanes on the South Main Street NB by removing a portion of the existing median. This alternative is not well supported by the expected traffic operational or safety benefits and, as such, is being dismissed from further consideration.

An alternative to these improvements along Route 42 in Beacon Falls was developed at the suggestion of the Stakeholder Group. This concept, illustrated in Figure 14, involves narrowing this four-lane cross-section to two/three-lanes and using the extra right-of-way to provide a shared-use path and additional green space. This alternative is being put forward for further consideration as part of the Naugatuck River Greenway.

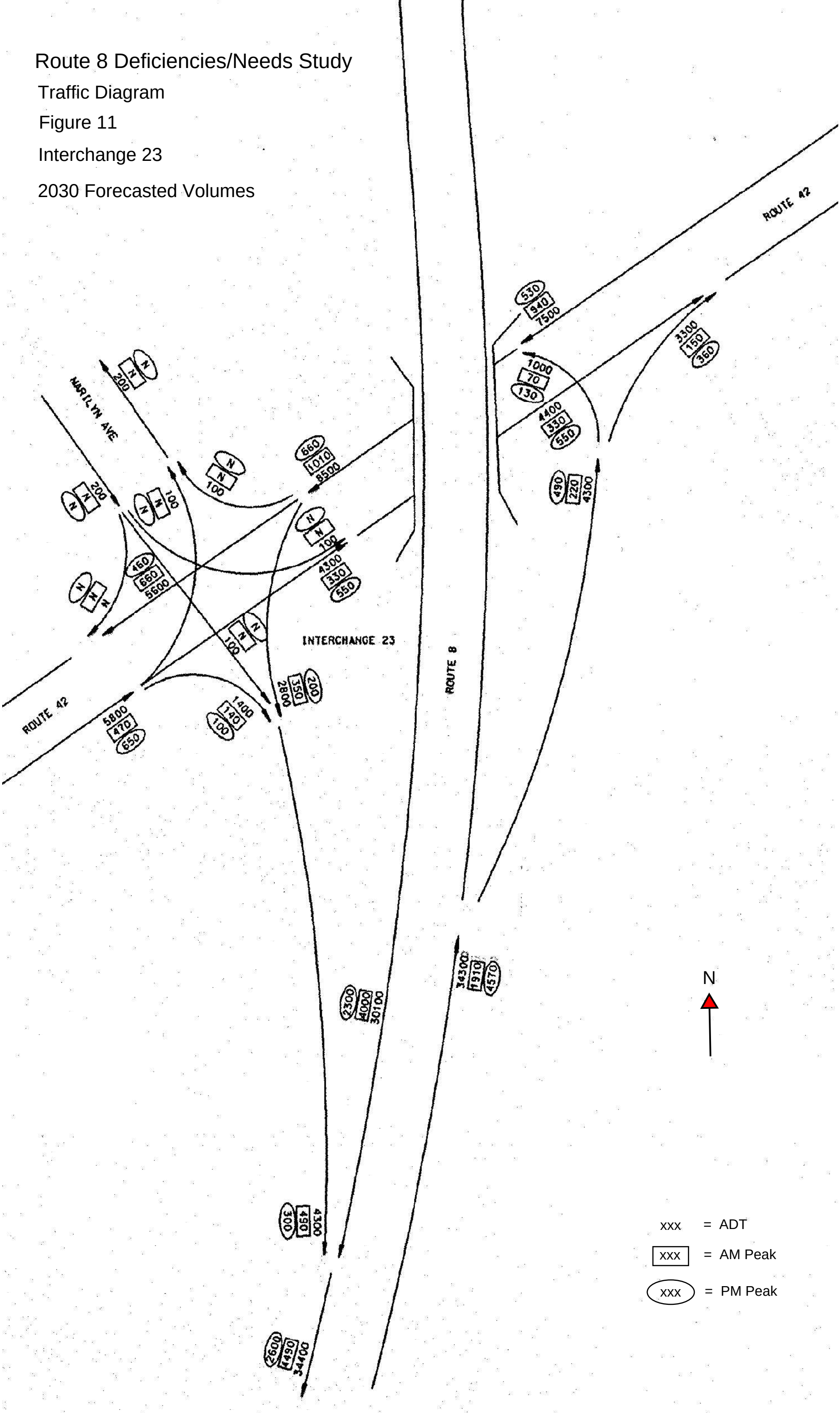
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 11

Interchange 23

2030 Forecasted Volumes



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0 50 100 Feet

Route 8 Deficiencies/Needs Study
State Project 124-164

DECELERATION LANE DESIGN CRITERIA:
LANE WIDTH = 12 FT
SHOULDER WIDTH = 12 FT
EXIST RAMP LENGTH = 1220 FT
EXIST DECEL LENGTH = 140 FT
95th PERCENTILE QUEUE* = 96 FT
REQUIRED DECEL LENGTH = 240 FT
PROP DECEL EXTENSION = 100 FT

* QUEUE LENGTH IS BASED ON PROJECTED VOLUME FOR THE DESIGN YEAR 2030. SHOULD THIS ALTERNATIVE BE ADVANCED TO DESIGN AND CONSTRUCTION, THE DESIGNER SHALL OBTAIN UPDATED TRAFFIC VOLUME INFORMATION AND RE-EVALUATE QUEUE LENGTH BASED ON UPDATED COUNT DATA AND RE-FORECASTED DESIGN YEAR PROJECTED VOLUME

LEGEND:
RIGHT-OF-WAY
LEACHATE WASTE

Vanasse Hangen Brustlin, Inc.

Beacon Falls Interchange 23 — May 2010

Route 8 NB Off-Ramp to S. Main Street
Medium Term Alternative

FIGURE 11

Beacon Falls - Interchange 23
Route 8 NB Off Ramp to S. Main St - Medium Term Alternative

Figure 11

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands or surface water resources in close proximity to the improvements.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.
No cultural resources present near the interchange.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.
No 4(f) or 6(f) resources present near the interchange.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
No impacts to businesses, residential areas, or community cohesion.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Improvements will be constructed within existing roadway right-of-way.
No land use impacts anticipated.

DESIGN ISSUES
No design issues anticipated

TRAFFIC OPERATIONS
Mitigates geometrically deficient deceleration lane length.

CONSTRUCTION COST ESTIMATE
$ 20, 000

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

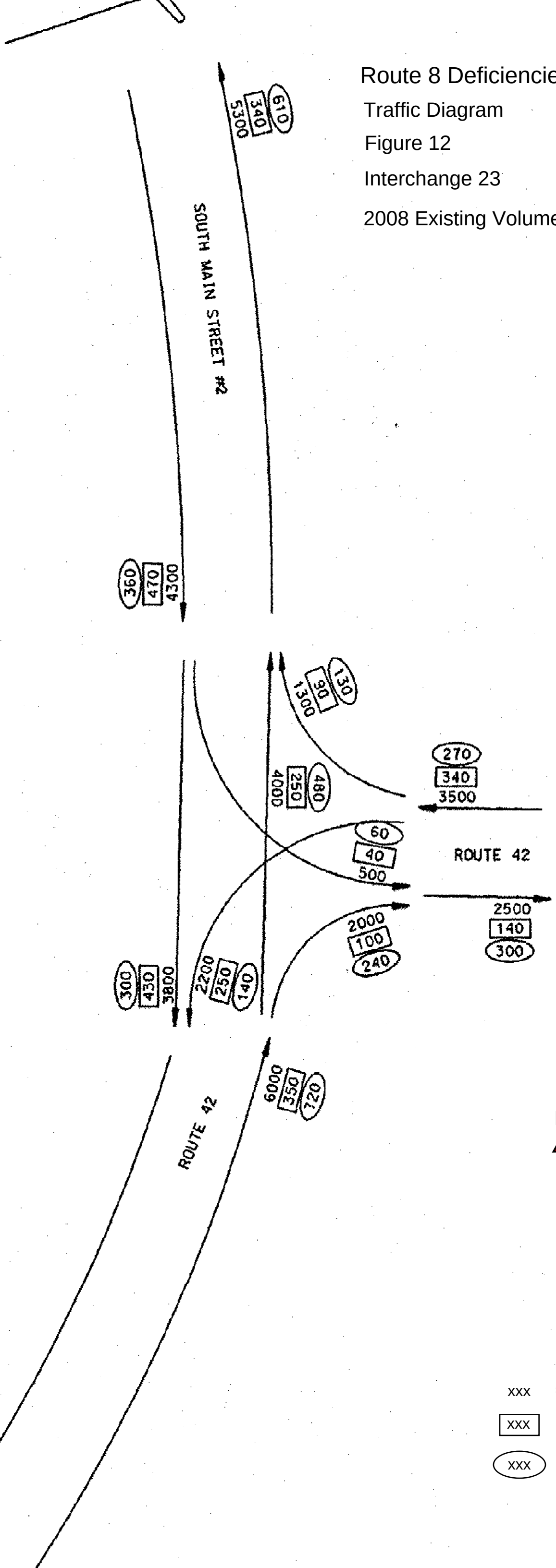
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 12

Interchange 23

2008 Existing Volumes



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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 42 DESIGN CRITERIA:
LANE WIDTH = 11 FT
LEFT SHOULDER WIDTH = 2 FT
EXTEND SB LEFT TURN LANE = *

* = PROPOSED LENGTH OF LEFT TURN LANE SHALL BE BASED ON 95TH PERCENTILE LEFT TURN QUEUE AND DECELERATION LANE LENGTH REQUIRED TO SLOW FROM ROUTE 42 OPERATING SPEED TO STOP (0).

LEGEND:
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

Beacon Falls May 2010

Route 42 (S. Main St.) at Bethany Rd.
Near Term Alternative

FIGURE 12

Beacon Falls
Route 42 (S. Main St) at Bethany Road - Near Term Alternative

Figure 12

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no impacts to wetlands or surface water resources.
There will be a slight increase in impervious surface with the paving over of a sliver of vegetated area. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.

GROUNDWATER RESOURCES
No adverse impacts to groundwater resources.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near improvements.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.

SECTION 4(F) AND SECTION 6(F) LANDS
No impacts to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS
No impacts from hazardous materials.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
No impacts to businesses, residences, or community cohesion.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Improvements contained within existing right-of-way.
No land use impacts anticipated.

DESIGN ISSUES
No design issues anticipated

TRAFFIC OPERATIONS
No impacts to operational performance or safety.

CONSTRUCTION COST ESTIMATE
$100,000

LEVEL 2 SCREENING RECOMMENDATION
Dismiss Alternative

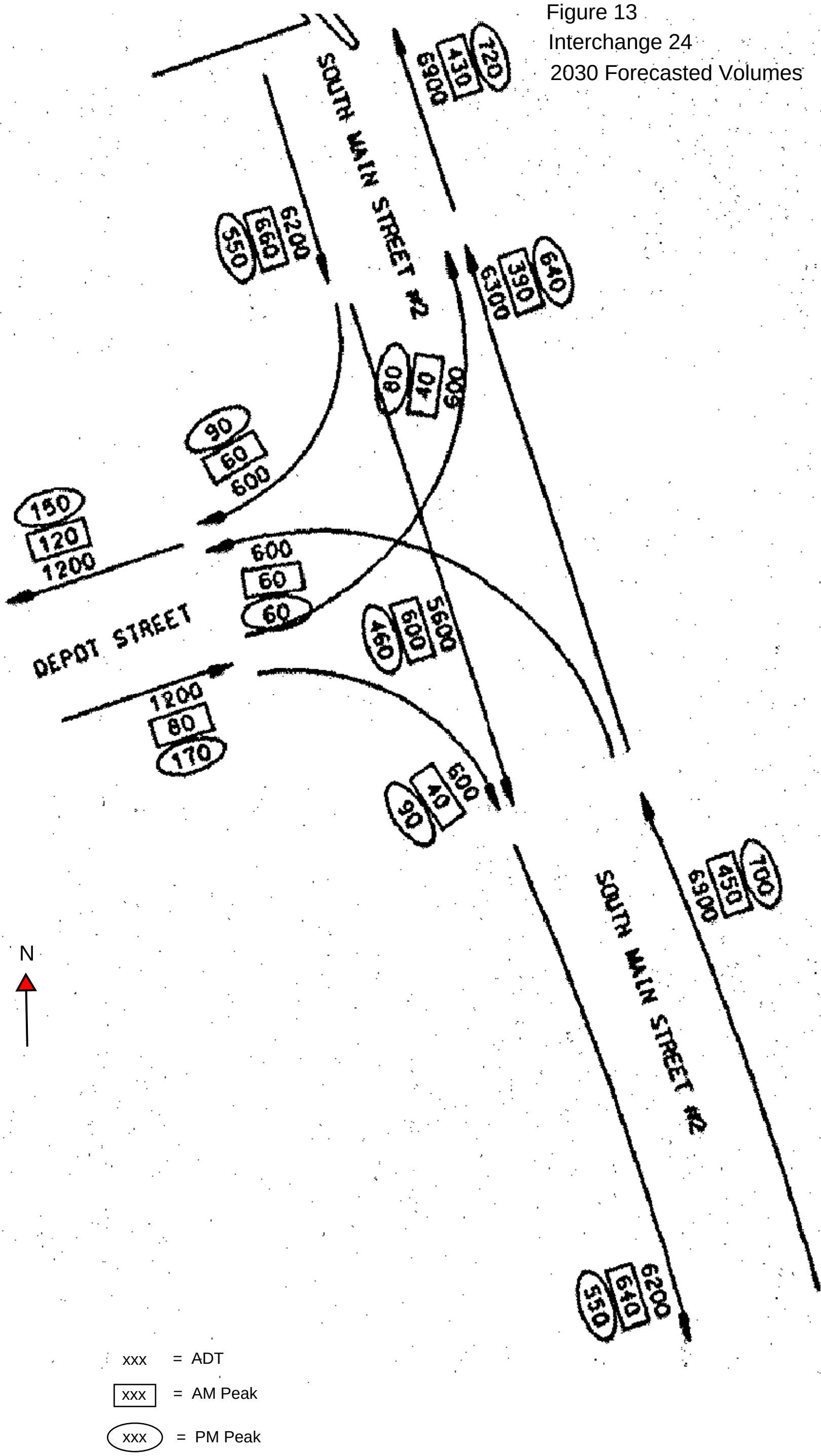
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 13

Interchange 24

2030 Forecasted Volumes



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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

SOUTH MAIN STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
LEFT SHOULDER WIDTH = 2 FT
LENGTH OF NB LEFT TURN LANE = *
MEDIAN WIDTH = 10 FT

* = PROPOSED LENGTH OF LEFT TURN LANE SHALL BE BASED ON 95TH PERCENTILE LEFT TURN QUEUE AND DECELERATION LANE LENGTH REQUIRED TO SLOW FROM SOUTH MAIN STREET OPERATING SPEED TO STOP (0).

LEGEND:
RIGHT-OF-WAY
HISTORIC DISTRICT

Vanasse Hangen Brustlin, Inc.

Beacon Falls May 2010

South Main Street at Depot Street
Medium Term Alternative

FIGURE 13

Beacon Falls
S. Main St at Depot St - Medium Term Alternative

Figure 13

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no impacts to wetlands or surface water resources.
There will be a slight increase in impervious surface with the paving over of a sliver of vegetated area. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.

GROUNDWATER RESOURCES
No adverse impacts to groundwater resources.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near improvements.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.

SECTION 4(F) AND SECTION 6(F) LANDS
No impacts to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS
No impacts from hazardous materials.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
No impacts to businesses, residences, or community cohesion.

ENGINEERING EVALUATION

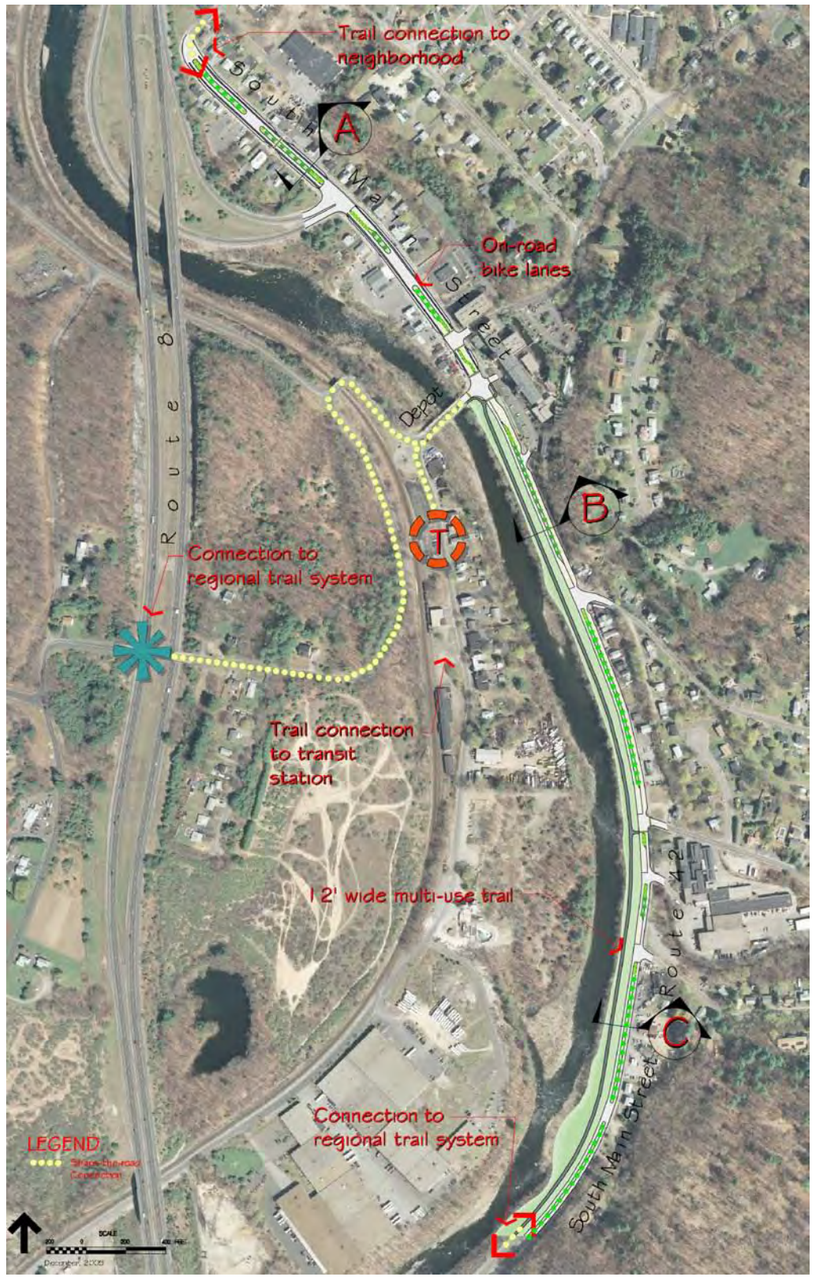
LAND USE/RIGHT-OF-WAY
Improvements contained within existing right-of-way.
No land use impacts anticipated.

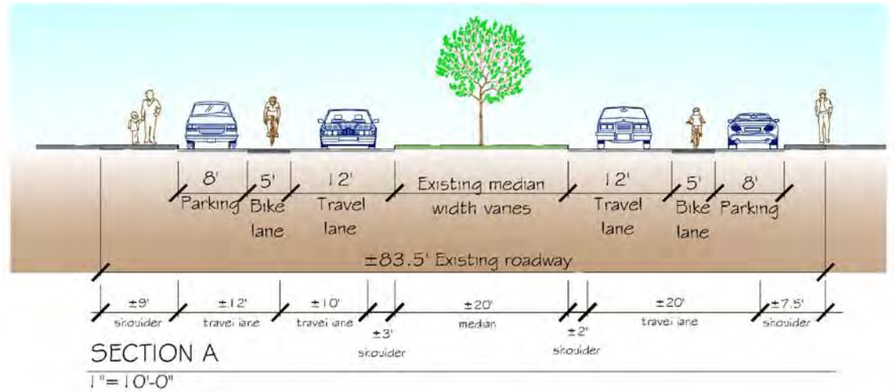
DESIGN ISSUES
No design issues anticipated

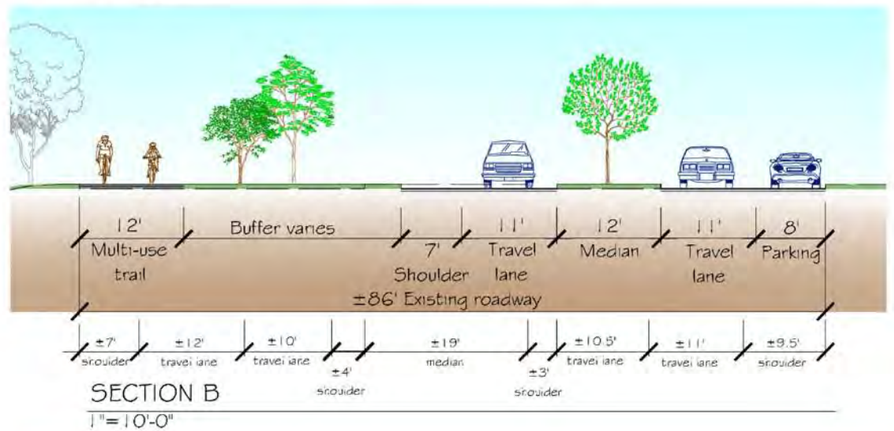
TRAFFIC OPERATIONS
The intersection of South Main Street and Depot Street is anticipated to operate at LOS A during both the morning and evening peak hours.

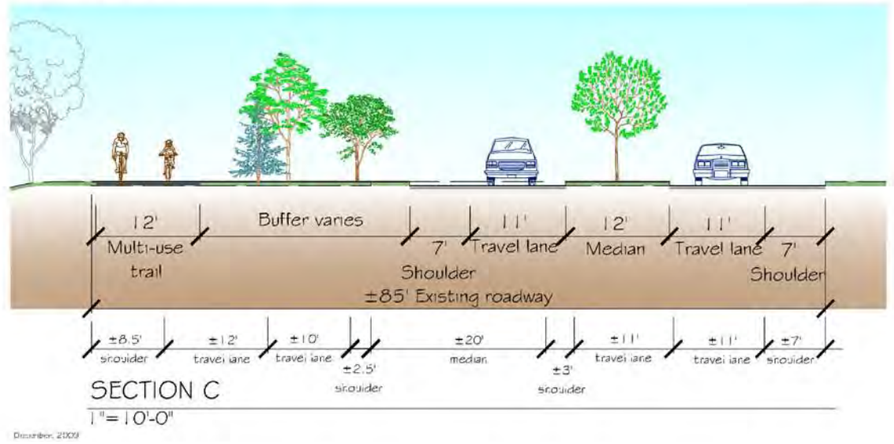
CONSTRUCTION COST ESTIMATE
$260,000

LEVEL 2 SCREENING RECOMMENDATION
Dismiss Alternative









CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 42 DESIGN CRITERIA:
LANE WIDTH = 11 FT
LEFT SHOULDER WIDTH = 2 FT
EXTEND SB LEFT TURN LANE = *

* = PROPOSED LENGTH OF LEFT TURN LANE SHALL BE BASED ON 95TH PERCENTILE LEFT TURN QUEUE AND DECELERATION LANE LENGTH REQUIRED TO SLOW FROM ROUTE 42 OPERATING SPEED TO STOP (0).

Vanasse Hangen Brustlin, Inc.

Beacon Falls May 2010

Route 42 (S. Main St.) Candidate Long-Term Alternative

Naugatuck - Interchange 25

Figure 15 presents a medium-term improvement alternative at Interchange 25 that involves the minor widening of the shoulder to extend the NB Off-ramp deceleration lane to Cross Street.

Figure 16 presents a near/medium-term improvement alternative at the intersection of Route 8 Exit 25 ramps and Cross Street. The improvements include construction of a roundabout at the intersection and installation of a raised-median on Cross Street to the southbound ramps. Additionally, the informal parking area along the SB off-ramp is proposed to be closed.

Comments received from the Borough of Naugatuck during the screening process were supportive of the roundabout concept at Exit 25, but requested that the plan be modified to provide for future connections of the Naugatuck Greenway between the River and the Blue Line Trail and the park-and-ride lot at Cotton Hollow Road. In addition, the community requested that geometric improvements at the intersection of Cross Street and Cotton Hollow Road be incorporated into the study's recommendations (as are now shown on Sheet 2 of Figure 16.)

Naugatuck - Interchange 26

Figures 17 and 18 present potential medium-term improvements to the off-ramps at Interchange 26. Minor widening of the shoulder to extend the NB off-ramp deceleration lane to Route 63 is illustrated in Figure 17 and is being retained as a study recommendation. Figure 18 shows widening of the shoulder to extend the SB Off-ramp deceleration lane to Route 63 which requires the relocation of an existing concrete barrier wall that runs parallel to the ramp. The costs associated with this alternative are not justified by the expected benefits and, as such, this alternative is being dismissed from further consideration.

Figures 19 through 21 present the three different long term alternatives identified for the intersection of S. Main Street/Route 63 at NB off-ramp. As identified on Figure 19, widening of the Route 63 bridge to a 5-lane cross section and NB off-ramp to a 3-lane cross section is along with signal modifications is one option to address future traffic demands at this location. Figure 20 identifies a second alternative for this location that widens Route 63 to a five-lane cross-section and also realigns the intersection. Figure 21 presents the preferred alternative for this intersection where the ramp terminus is relocated to the south along Route 63 to from a signalized T-intersection. This alternative simplifies the existing ramp intersection and allows it to operate at an acceptable level of service in the future without the widening of the Route 63 bridge.

Naugatuck - Interchange 27

Two long-term improvement alternatives were identified for the intersection of Maple Street and the Route 8 SB off-ramp/NB on-ramp. Figure 22 calls for minor widening of the Maple Street bridge to a four lane cross section to provide two WB departure lanes and widening of South Main Street to provide two exclusive NB left-turn lanes. In addition, the restriping of WB Maple Street is identified in this option to provide exclusive left-turn and shared through/right-turn lanes. Under this alternative, Oak Street is realigned to a location approximately 50 feet east along Maple Street. This option is not preferred because of its impact to the Maple Street Bridge.

Figure 23 depicts an alternate long-term improvement for the intersection of Maple Street and the Route 8 SB off-ramp/NB on-ramp. Under this improvement alternative, Oak Street is realigned to a location approximately 50 feet east along Maple Street and the Route 8 SB off-ramp is widened (on structure) to provide an exclusive left-turn lane and a shared use path providing for non-motorized access to between the intersection and Linden Park along the Naugatuck River. A similar option (Figure 23A) was investigated that leaves the Oak Street geometry as it is today to avoid impacts to a small off-street parking area.

Figure 24 presents the closing of the Route 8 NB off-ramp to North Main Street as a candidate long-term improvement. This recommended option eliminates the short weave area and allows for the continuation of the on-ramp.

Figure 25 presents another candidate long-term improvement at Interchange 27 that proposes to close the Route 8 SB on-ramp from North Main Street. A barrier wall is proposed to delineate the closure of the weave area and travel way for the off-ramp and a shared use path is incorporated into the plan alongside the overpass bridge structure from Linden Park to Maple Street. The provision of the path along the segment of the corridor is a recommendation of the previously completed Naugatuck Greenway Plan.

Naugatuck - Interchange 28

Figure 26 depicts a candidate medium-term improvement at Interchange 28 to provide a minor widening of the shoulder to extend the NB off-ramp deceleration lane to North Main Street.

Figure 27 presents a long term alternative for improvements along the Interchange 28 and the adjacent local roadway network. Under this scheme, the Route 8 NB off-ramp is proposed to be widened to provide an additional EB through lane. The SB North Main Street approach is proposed to be widened to provide exclusive left-turn, through, and right turn lanes at the Route 8 ramps, and an exclusive left turn lane at SR 723 (Union City Street). The plans calls for minor realignment of City Hill Street along SR 723 towards Route 63 and the widening of SR 723 to provide a 5-lane cross section with exclusive left-turn, through, and right turn lanes at both the North Main Street and Route 63 approaches. North of Route 63, SR 723 (Golden Court) is proposed to be widened to provide exclusive left-turn and right-turn lanes at North Main Street and an exclusive left-turn and shared through/right-turn lanes at Route 63. A new traffic signal is proposed at the SR 723 (Golden Court) intersection with North Main Street.

Figure 28 depicts another long term alternative for improvements along the Interchange 28 and the local roadway network. This improvement calls for SR 723 (Union City Street and Golden Court) to be converted to one-way flow northbound with a 3-lane cross section. SR 723 would provide an exclusive left-turn, shared through/left turn, and right turn lane at Route 63. In addition, SR 723 (Golden Court) is proposed to be signalized and widened to provide two exclusive left-turn lanes and an exclusive right turn lane at North Main Street. Again, City Hill Street is realigned modestly along SR 723 towards Route 63 and signalized. Finally, North Main Street is proposed to be widened to provide an exclusive left-turn, shared through/left turn, and right turn lane at the Route 8 ramps and an additional through lane at SR 723. This second alternative requires the widening of the Route 68 (Prospect Street) bridge over Route 8 and the

Naugatuck River. This improvement option has been dismissed due to its impact on the Route 68 bridge which is under design currently and is not proposed to be widened.

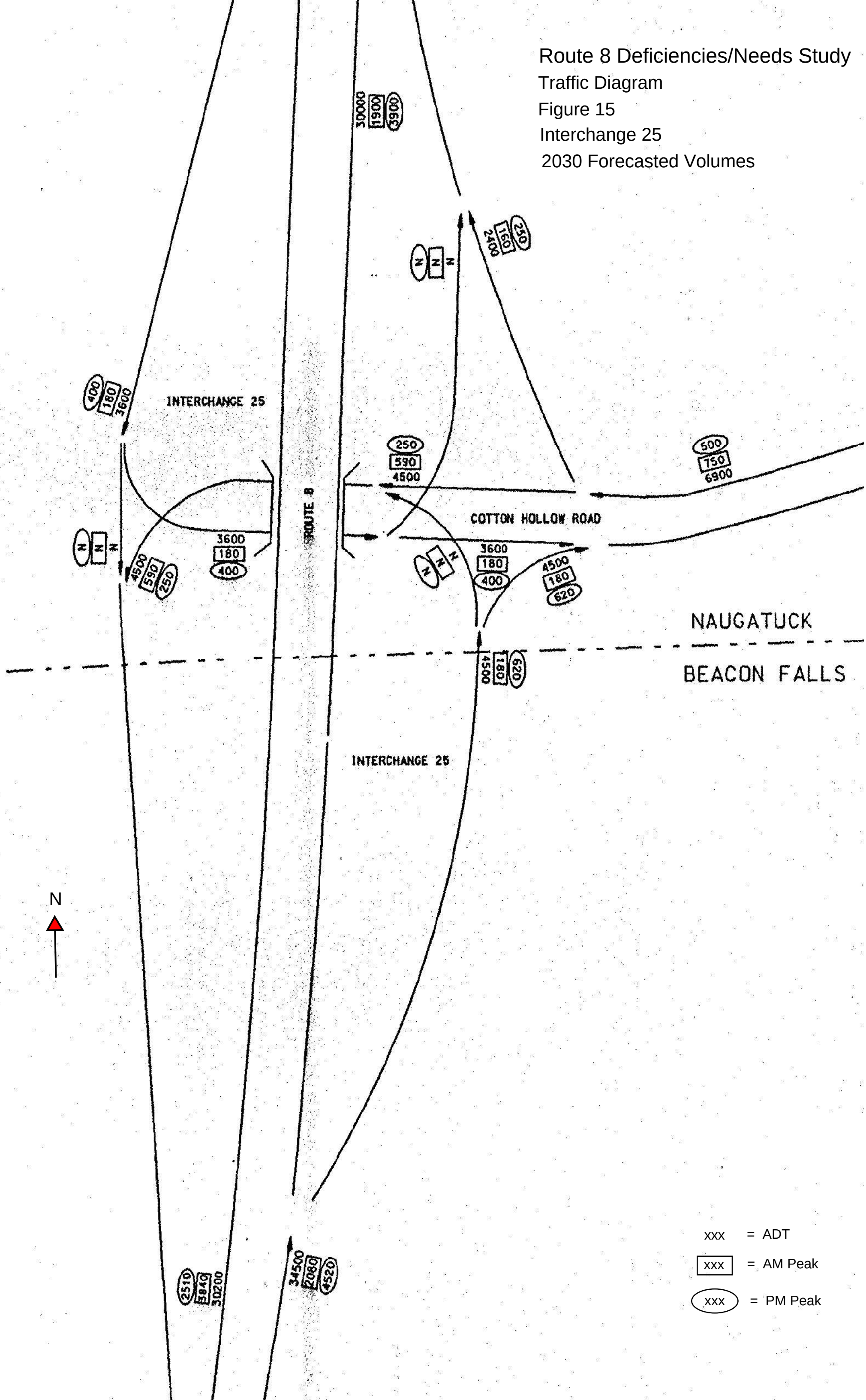
Route 8 Deficiencies/Needs Study

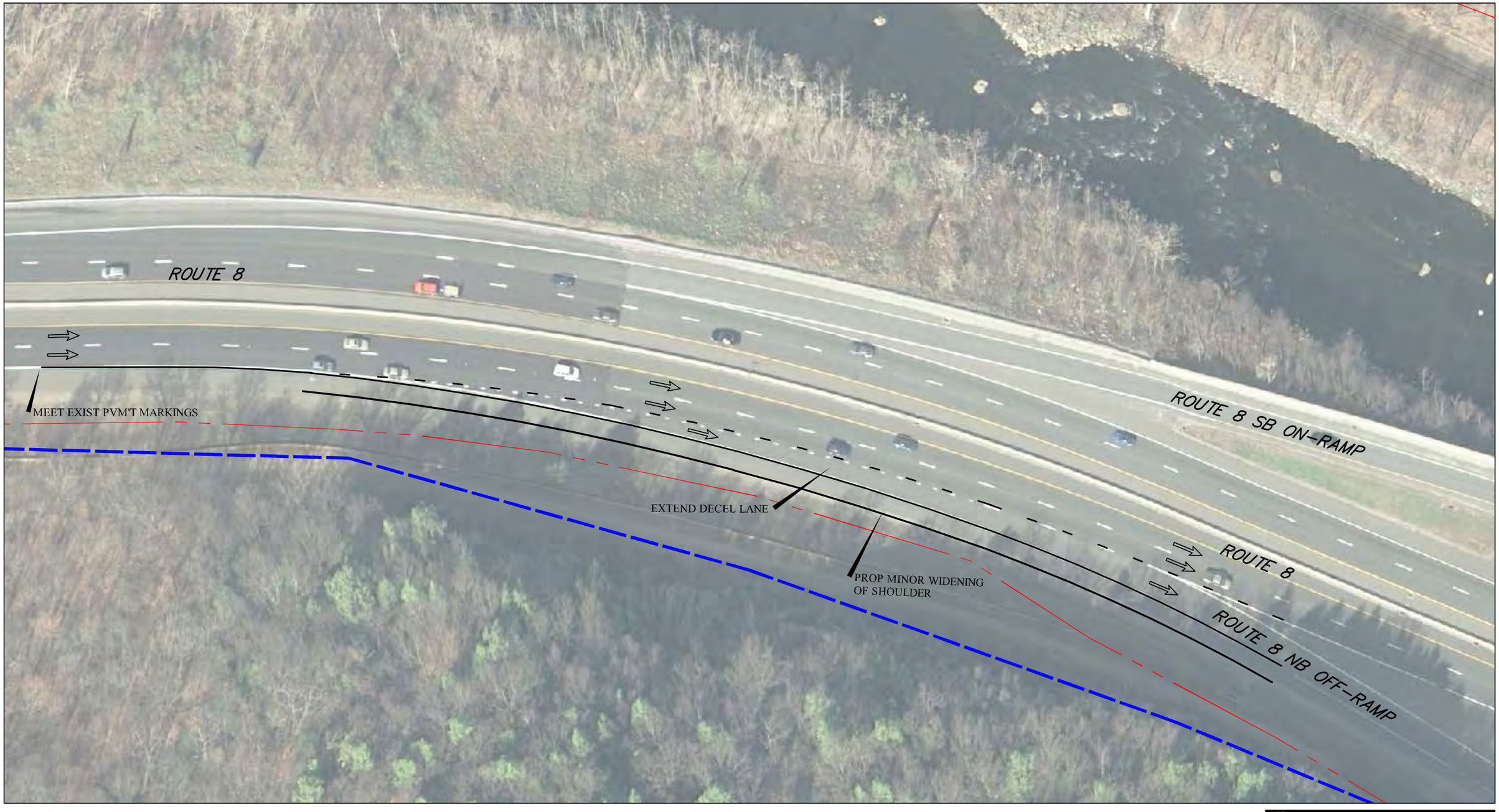
Traffic Diagram

Figure 15

Interchange 25

2030 Forecasted Volumes





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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

DECELERATION LANE DESIGN CRITERIA:
LANE WIDTH = 12 FT
SHOULDER WIDTH = 12 FT
EXIST RAMP LENGTH = 940 FT
EXIST DECEL LENGTH = 220 FT
95th PERCENTILE QUEUE* = 337 FT
REQUIRED DECEL LENGTH = 240 FT
PROP DECEL EXTENSION = 50 FT

* QUEUE LENGTH IS BASED ON PROJECTED VOLUME FOR THE DESIGN YEAR 2030. SHOULD THIS ALTERNATIVE BE ADVANCED TO DESIGN AND CONSTRUCTION, THE DESIGNER SHALL OBTAIN UPDATED TRAFFIC VOLUME INFORMATION AND RE-EVALUATE QUEUE LENGTH BASED ON UPDATED COUNT DATA AND RE-FORECASTED DESIGN YEAR PROJECTED VOLUME

LEGEND:
BLUE LINE TRAIL
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

Naugatuck May 2010
Interchange 25

Route 8 NB Off-Ramp to Cross Street
Medium Term Alternative

FIGURE 15

Naugatuck - Interchange 25
Route 8 NB Off Ramp to Cross St - Medium Term Alternative

Figure 15

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands or surface water resources in close proximity to the improvements.

GROUNDWATER RESOURCES
No adverse impact. Improvement overlies groundwater classified as GA Impaired.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.
No cultural resources present near the interchange.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.
No 4(f) or 6(f) resources present near the interchange.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
No impacts to businesses, residential areas, or community cohesion.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Improvements will be constructed within existing roadway right-of-way.
No land use impacts anticipated.

DESIGN ISSUES
No design issues anticipated

TRAFFIC OPERATIONS
Extending the Exit 25 NB deceleration lane reduces issues related with excessive queuing of the Off-Ramp approach at the intersection of the Off-Ramp and Cross Street.

CONSTRUCTION COST ESTIMATE
$ 20, 000

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

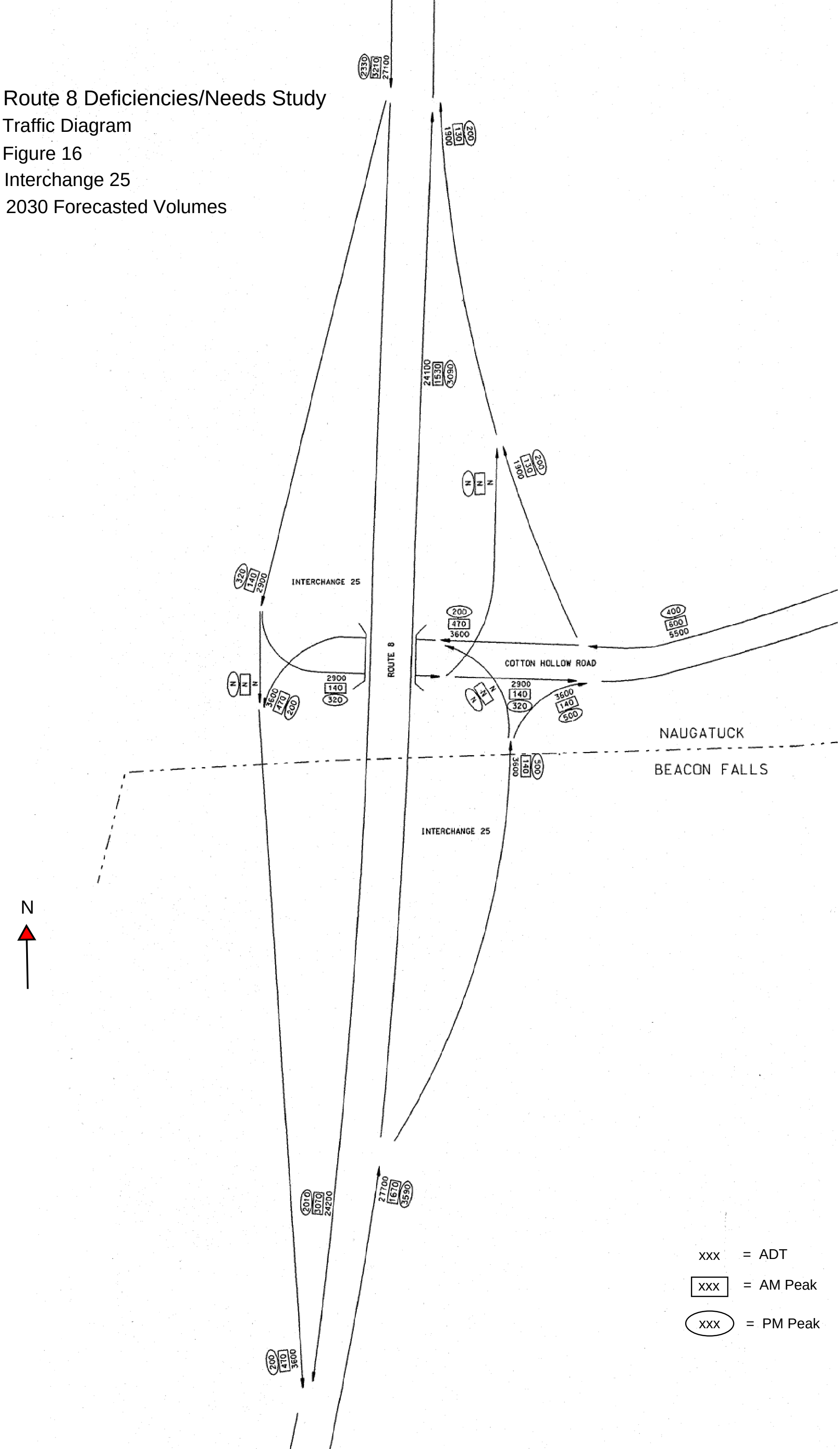
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 16

Interchange 25

2030 Forecasted Volumes



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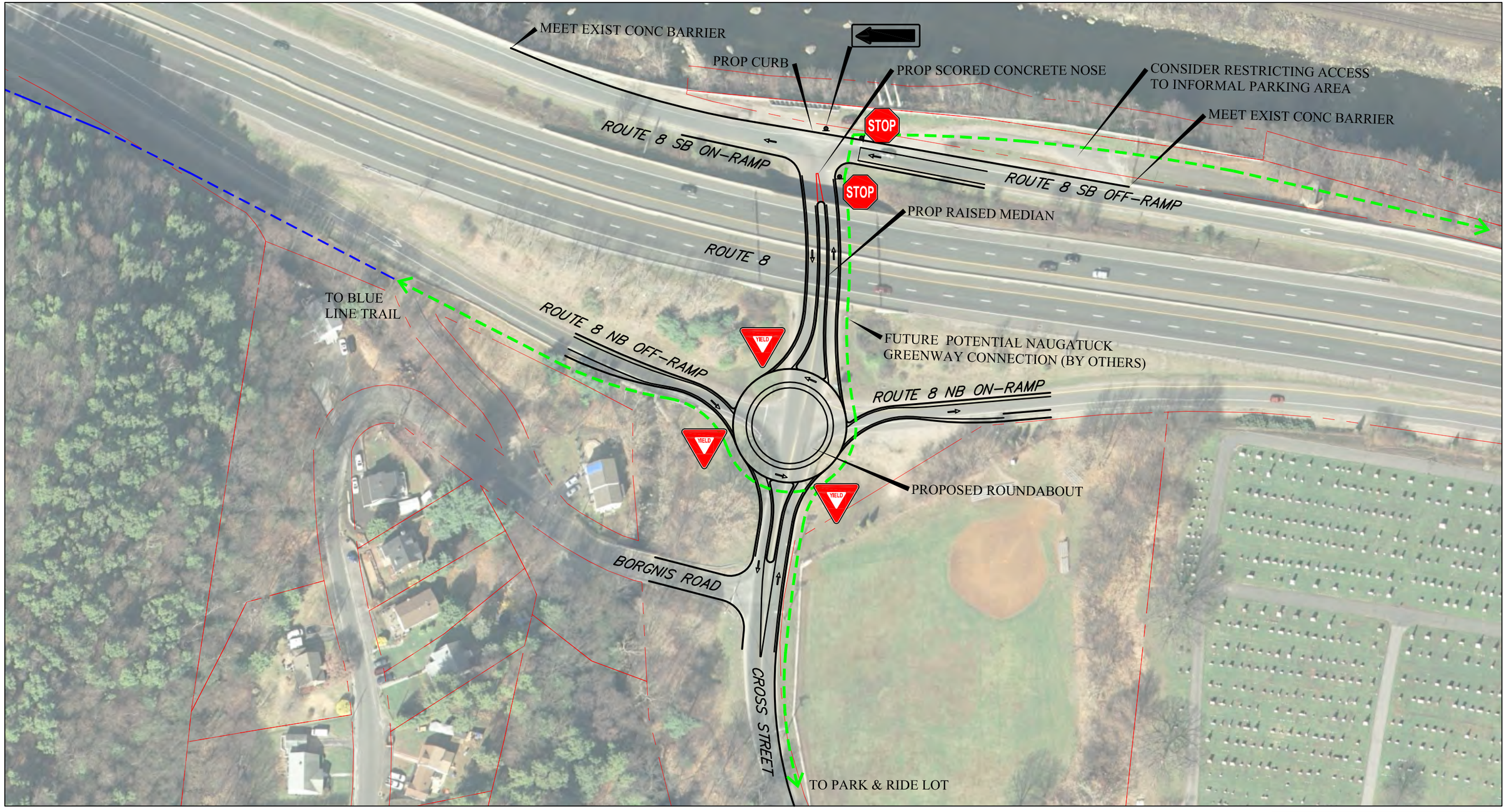


0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUNDABOUT DESIGN CRITERIA:
DESIGN SPEED = 15 MPH
CIRCULATING LANES: 14 FT
NUMBER OF LANES IN ROUNDABOUT: 1
DIAMETER OF CIRCLE: 120'

LEGEND:
BLUE LINE TRAIL
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

Naugatuck May 2010
Interchange 25

Route 8 Ramps at Cross Street
Medium Term Alternative

FIGURE 16 (Sheet 1 of 2)

\\Vhb\homedir\Watertown\TS\SIGNALS\41488-ConDOT\IC25
Cotton Hollow rd.dwg

0 25 50 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

LEGEND:
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

Naugatuck May 2010
Interchange 25

Cross Street at Cotton Hollow Road
Near/Medium Term Alternative

FIGURE 16 (Sheet 2 of 2)

Naugatuck - Interchange 25
Route 8 Ramps at Cross St - Medium Term Alternative

Figure 16

ENVIRONMENTAL EVALUATION

NOISE
No adverse impact anticipated. Roundabouts allow for slower vehicle speeds and fewer stops and starts, resulting in less traffic noise. Therefore, a potential beneficial impact to nearby noise sensitive receptors along Cross St. and Borgnis Rd.

AIR QUALITY
Roundabouts reduce idling and improve traffic flow, resulting in a decrease in regional emissions. Therefore, a beneficial impact to nearby residential areas and recreational fields are anticipated.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands or surface water resources in close proximity to the improvements.
Construction of the roundabout will involve work in the 100-year floodplain and possible reconstruction of a culvert (roadway crossing of Beacon Hill Brook). Permits may be required.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.
No cultural resources present near the interchange.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.
No 4(f) or 6(f) resources present near the interchange.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Alternative will eliminate access to a pull-out area which is used by some to access the Naugatuck River.
Beneficial impacts to the community include improved circulation and potential reduction of noise and vehicular emissions.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Elimination of access to pull-out area alongside the Naugatuck River.
No other land use impacts anticipated.

DESIGN ISSUES
Evaluate existing grading and drainage under Route 8 overpass.
Local acceptance of access restriction to river area from west side of Route 8 SB ramps.
Cotton Hollow Road improvements modify access to existing park and ride lot.
Should Naugatuck Greenway connection be progressed, concept would require modification to accommodate bicycle/pedestrian crossings.

TRAFFIC OPERATIONS
The intersection of the Exit 25 NB Ramps at Cross Street is anticipated to operate at LOS A during both morning and evening peak hours.

CONSTRUCTION COST ESTIMATE
$ 1,050,000

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

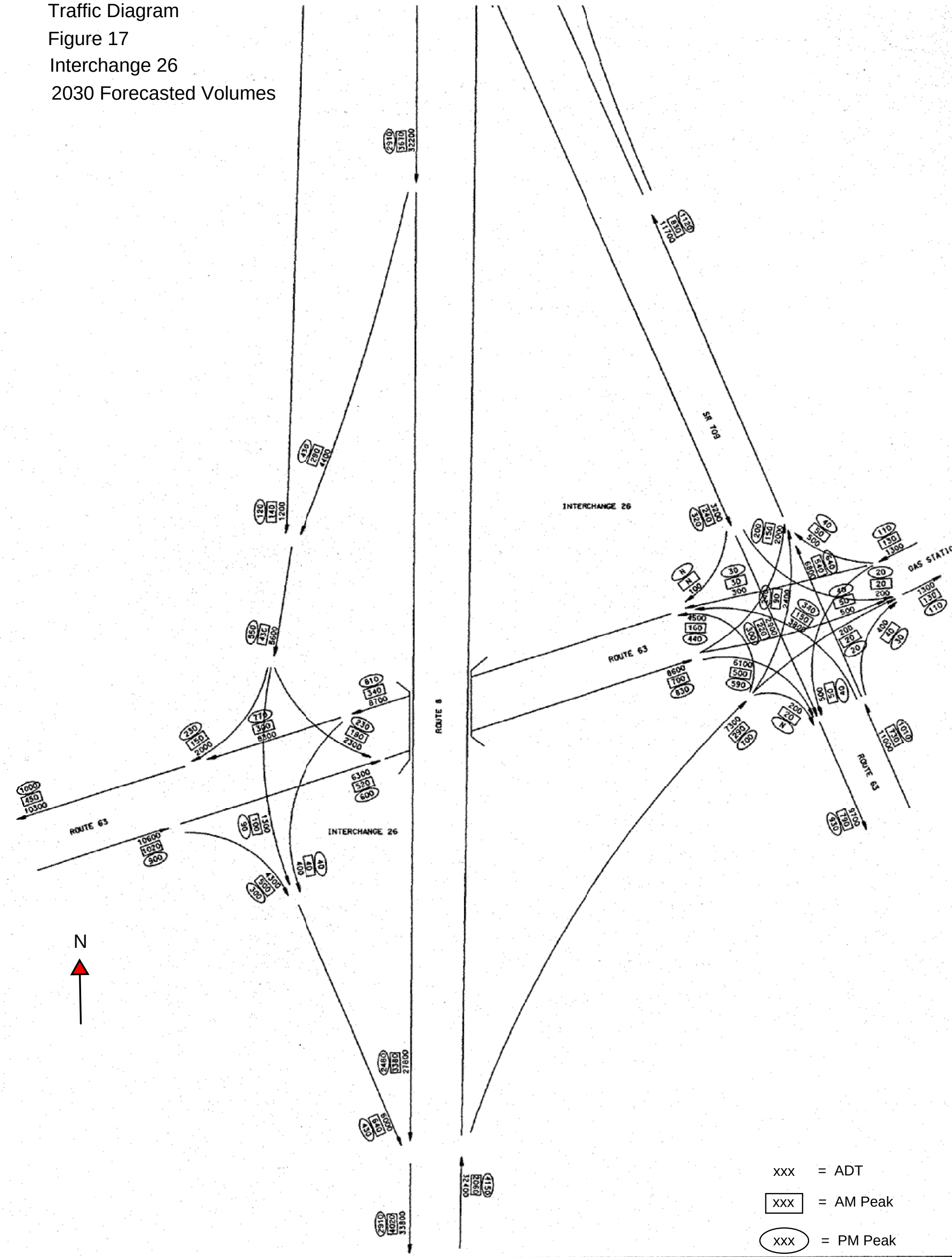
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 17

Interchange 26

2030 Forecasted Volumes



PM EDT

0 30 60 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

DECELERATION LANE DESIGN CRITERIA:
LANE WIDTH = 12 FT
SHOULDER WIDTH = 12 FT
EXIST RAMP LENGTH = 705 FT
EXIST DECEL LENGTH = 290 FT
95th PERCENTILE QUEUE* = 541 FT
REQUIRED DECEL LENGTH = 350 FT
PROP DECEL EXTENSION = 60 FT

* QUEUE LENGTH IS BASED ON PROJECTED VOLUME FOR THE DESIGN YEAR 2030. SHOULD THIS ALTERNATIVE BE ADVANCED TO DESIGN AND CONSTRUCTION, THE DESIGNER SHALL OBTAIN UPDATED TRAFFIC VOLUME INFORMATION AND RE-EVALUATE QUEUE LENGTH BASED ON UPDATED COUNT DATA AND RE-FORECASTED DESIGN YEAR PROJECTED VOLUME

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck
Interchange 26

May 2010

Route 8 NB Off-Ramp to Route 63
Medium Term Alternative

FIGURE 17

Naugatuck - Interchange 26
Route 8 NB Off-Ramp to Route 63 - Medium Term Alternative

Figure 17

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands or surface water resources in close proximity to the improvements.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
No impacts to businesses, residential areas, or community cohesion.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Improvements will be constructed within existing roadway right-of-way.
No land use impacts anticipated

DESIGN ISSUES
Reduced clear zone to existing vertical retaining wall (retaining wall has no safety shape)

TRAFFIC OPERATIONS
Mitigates geometrically deficient deceleration lane length.
Extending the Exit 26 NB deceleration reduces issues related with excessive queuing of the Off-Ramp approach at the intersection of the Off-Ramp and Route 63.

CONSTRUCTION COST ESTIMATE
$ 80, 000

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

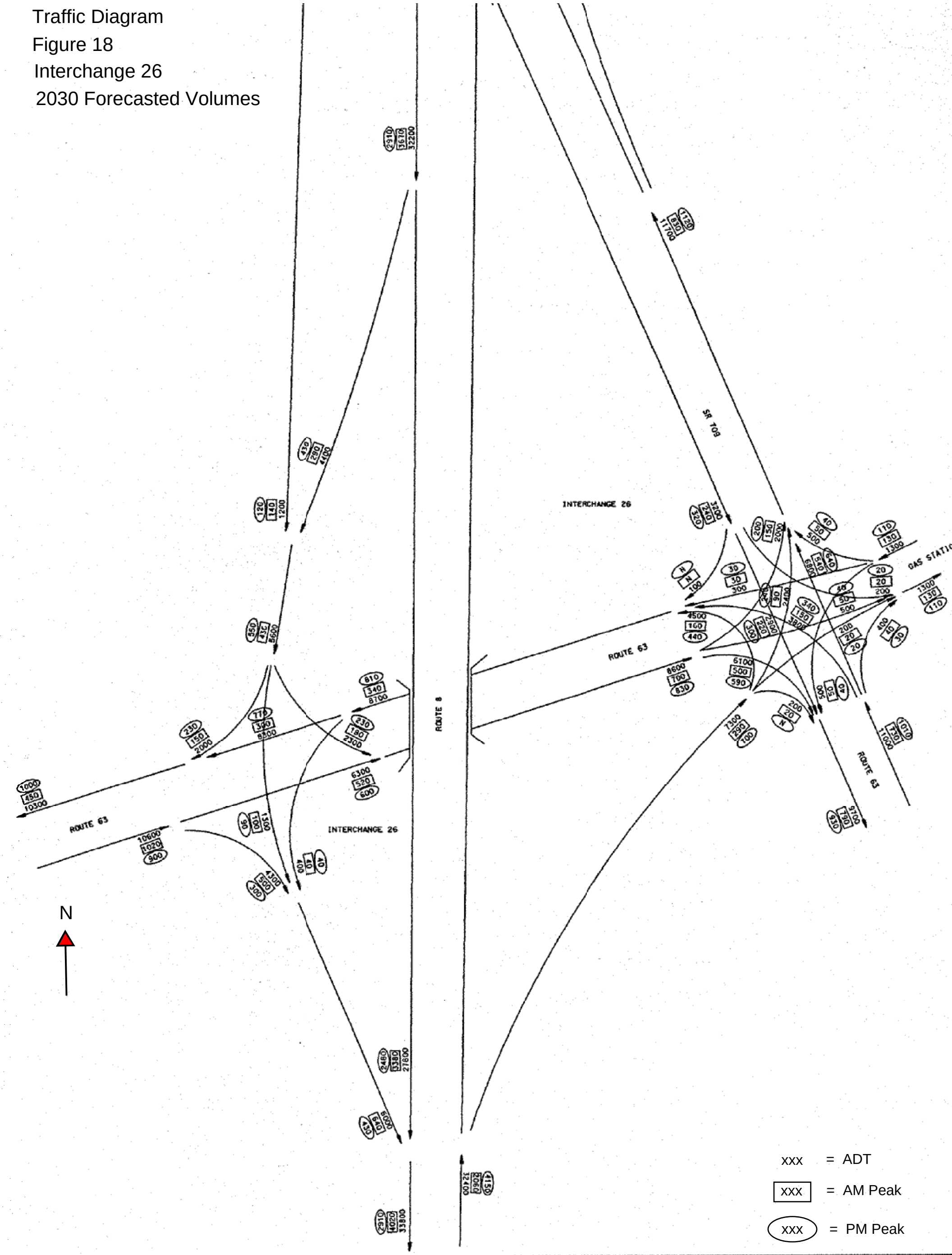
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 18

Interchange 26

2030 Forecasted Volumes



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0 30 60 Feet

Route 8 Deficiencies/Needs Study
State Project 124-164

DECELERATION LANE DESIGN CRITERIA:
LANE WIDTH = 12 FT
SHOULDER WIDTH = 12 FT
EXIST RAMP LENGTH = 865 FT
EXIST DECEL LENGTH = 165 FT
95th PERCENTILE QUEUE* = 163 FT
REQUIRED DECEL LENGTH = 240 FT
PROP DECEL EXTENSION = 75 FT

* QUEUE LENGTH IS BASED ON PROJECTED VOLUME FOR THE DESIGN YEAR 2030. SHOULD THIS ALTERNATIVE BE ADVANCED TO DESIGN AND CONSTRUCTION, THE DESIGNER SHALL OBTAIN UPDATED TRAFFIC VOLUME INFORMATION AND RE-EVALUATE QUEUE LENGTH BASED ON UPDATED COUNT DATA AND RE-FORECASTED DESIGN YEAR PROJECTED VOLUME

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck Interchange 26

May 2010

Route 8 SB Off-Ramp to Route 63
Near Term Alternative

FIGURE 18

Naugatuck - Interchange 26
Route 8 SB Off-Ramp to Route 63 - Near Term Alternative

Figure 18

ENVIRONMENTAL EVALUATION

NOISE

No adverse impacts anticipated.

AIR QUALITY

No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES

There are no wetlands or surface water resources in close proximity to the improvements.

There will be a small increase in impervious surface with the paving over of a linear strip of turf to widen lanes. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual

Reconstruction of the existing Route 8 bridge over Route 63 may require work in (and temporary impacts to) the 100-year floodplain.

GROUNDWATER RESOURCES

No adverse impact expected. Overlies groundwater classified as GB.

No nearby wells.

ENDANGERED SPECIES

No impact to endangered species.

No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS

No impact to farmland soils.

No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES

No impacts to cultural resources.

SECTION 4(F) AND SECTION 6(F) LANDS

No impact to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS

No impact from hazardous sites.

No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE

No impacts to businesses or residential areas, or community cohesion.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY

Improvements will be constructed within existing right-of-way

in the immediate vicinity of the intersection.

No land use impacts anticipated.

DESIGN ISSUES

Reconstruct existing retain wall to support shoulder widening required to bring ramp into compliance

Impact to existing overhead sign truss structure

Impact to existing bridge carrying Route 8 SB off-ramp over Route 709 (S. Main Street) to support widening required to bring ramp into compliance

TRAFFIC OPERATIONS

Mitigates geometrically deficient deceleration lane length.

CONSTRUCTION COST ESTIMATE

$ 4, 710,000

LEVEL 2 SCREENING RECOMMENDATION

Dismiss alternative due to high construction costs or consider combining with other long term alternative

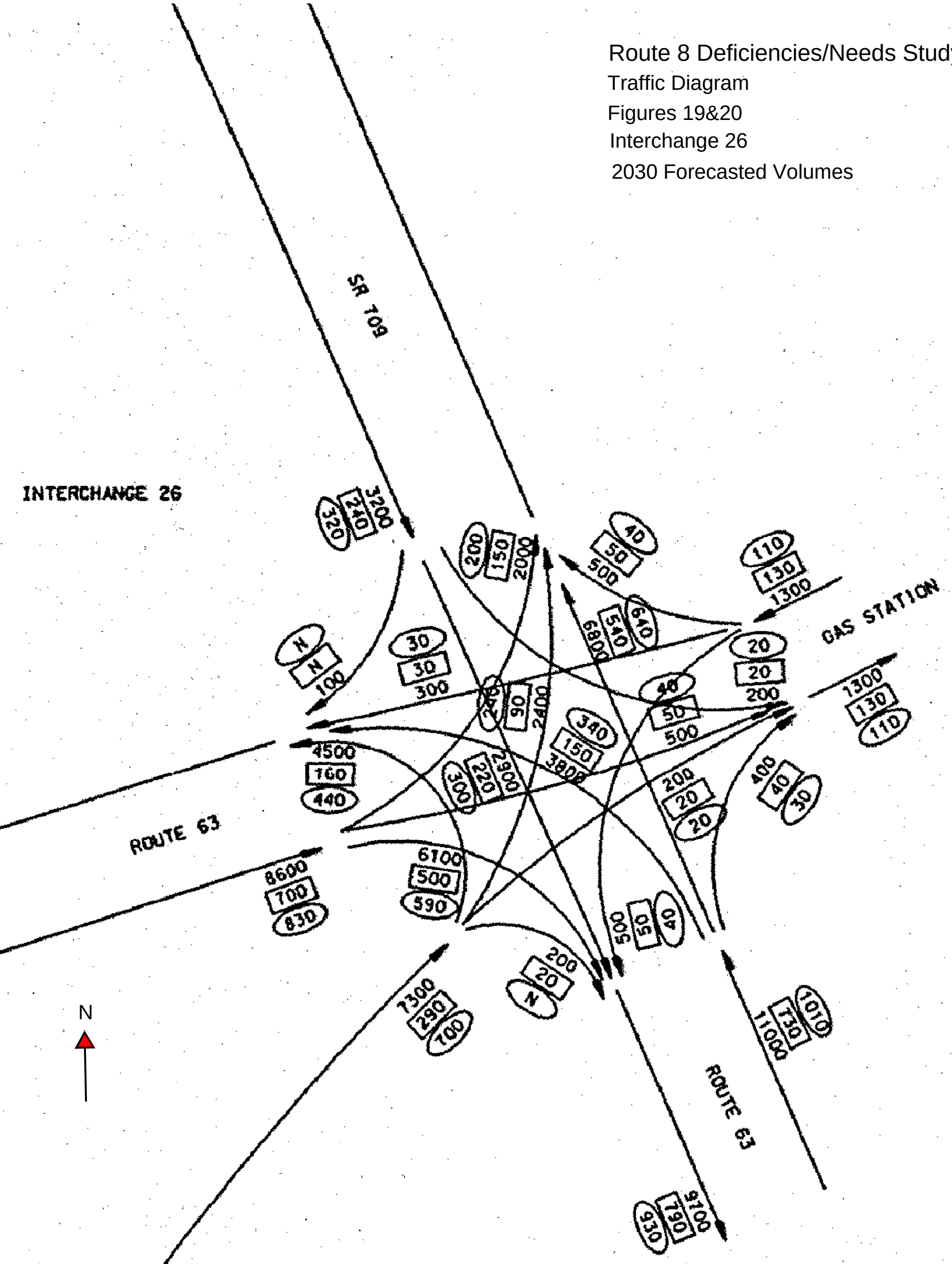
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figures 19&20

Interchange 26

2030 Forecasted Volumes



*Alternative required additional redistribution of traffic due to circulation changes

xxx = ADT

xxx = AM Peak

xxx = PM Peak

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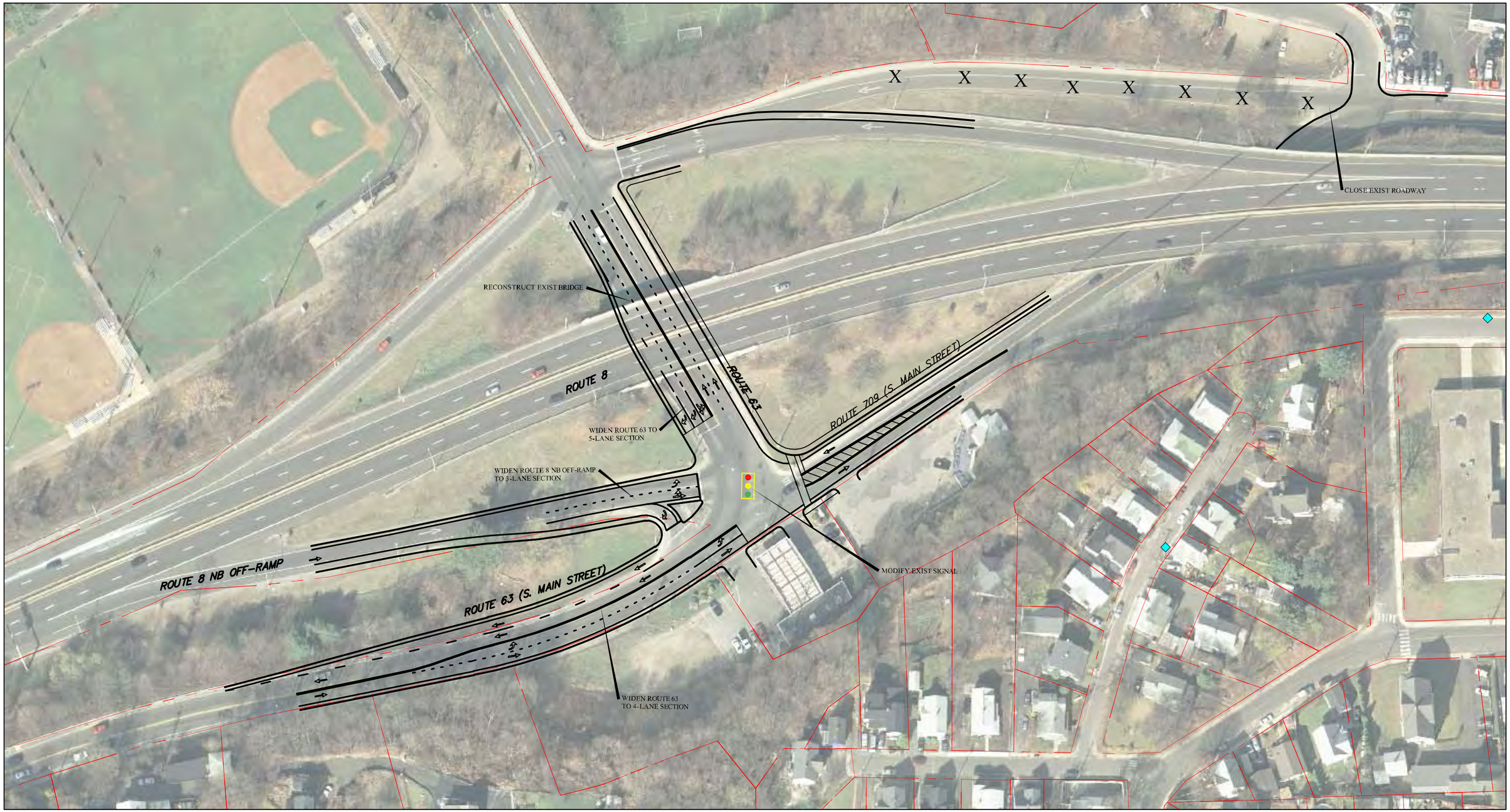

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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

SOUTH MAIN STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
LEFT TURN LANE WIDTH = 10 FT

ROUTE 8 NB OFF-RAMP DESIGN CRITERIA:
LANE WIDTH = 11 FT
LEFT SHOULDER WIDTH = 2 FT
RIGHT SHOULDER WIDTH = 8 FT
LENGTH OF LEFT TURN LANE = 100 FT

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck May 2010
Interchange 26

Route 8 NB Off-Ramp/Route 63/
South Main Street
Long Term Alternative (Alt1)

FIGURE 19

Naugatuck - Interchange 26

Route 8 NB Off-Ramp/Route 63/S. Main St - Long Term Alternative (Alt 1)

Figure 19

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands or surface water resources in close proximity to the improvements.
Reconstruction of the existing Route 8 bridge over Route 63 may require work in (and temporary impacts to) the 100-year floodplain.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
No impacts to businesses or residential areas, or community cohesion. Major bridge reconstruction will have temporary construction period impacts to the local community.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Improvements will be require minor right-of-way taking along Route 63 along with traffic control signal easements in the immediate vicinity of the intersection

DESIGN ISSUES
Bridge reconstruction required due to proposed widening of Route 63 under Route 8.
Gas Station located in the corner of the intersection should be incorporated into the traffic signal control

TRAFFIC OPERATIONS
The intersection of Route 63 at the Exit 26 NB Off Ramp is anticipated to operate at LOS C during the morning peak hour and LOS D during the evening peak hour.

CONSTRUCTION COST ESTIMATE
$ 7, 400, 000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION
Dismiss Alternative

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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

SOUTH MAIN STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT
LEFT TURN LANE WIDTH = 10 FT

ROUTE 8 NB OFF-RAMP DESIGN CRITERIA:
LANE WIDTH = 12 FT
LEFT SHOULDER WIDTH = 4 FT
RIGHT SHOULDER WIDTH = 4 FT
LENGTH OF LEFT TURN LANE = 100 FT

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck
Interchange 26

May 2010

Route 8 NB Off-Ramp/Route 63/
South Main Street
Long Term Alternative (Alt 2)

FIGURE 20

Naugatuck - Interchange 26

Route 8 NB Off-Ramp/Route 63/S. Main St - Long Term Alternative (Alt 2)

Figure 20

ENVIRONMENTAL EVALUATION

NOISE

No adverse impacts anticipated.

AIR QUALITY

No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES

There are no wetlands or surface water resources in close proximity to the improvements.

There will be a small increase in impervious surface with the paving over of a linear strip of turf to widen lanes. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual

Reconstruction of the existing Route 8 bridge over Route 63 may require work in (and temporary impacts to) the 100-year floodplain.

GROUNDWATER RESOURCES

No adverse impact expected. Overlies groundwater classified as GB.

No nearby wells.

ENDANGERED SPECIES

No impact to endangered species.

No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS

No impact to farmland soils.

No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES

No impacts to cultural resources.

SECTION 4(F) AND SECTION 6(F) LANDS

No impact to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS

No impact from hazardous sites.

No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE

No impacts to businesses or residential areas, or community cohesion. Major bridge reconstruction will have temporary construction period impacts to the local community.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY

Improvements will be require minor right-of-way taking along Route 63

No land use impacts anticipated.

DESIGN ISSUES

Bridge Reconstruction required due to proposed widening of Route 63 under Route 8

Modification required to abutting property access

TRAFFIC OPERATIONS

The intersection of Route 63 at the Exit 26 NB Off Ramp is anticipated to operate at LOS C during the morning peak hour and LOS D during the evening peak hour.

CONSTRUCTION COST ESTIMATE

$ 7,600, 000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION

Dismiss Alternative

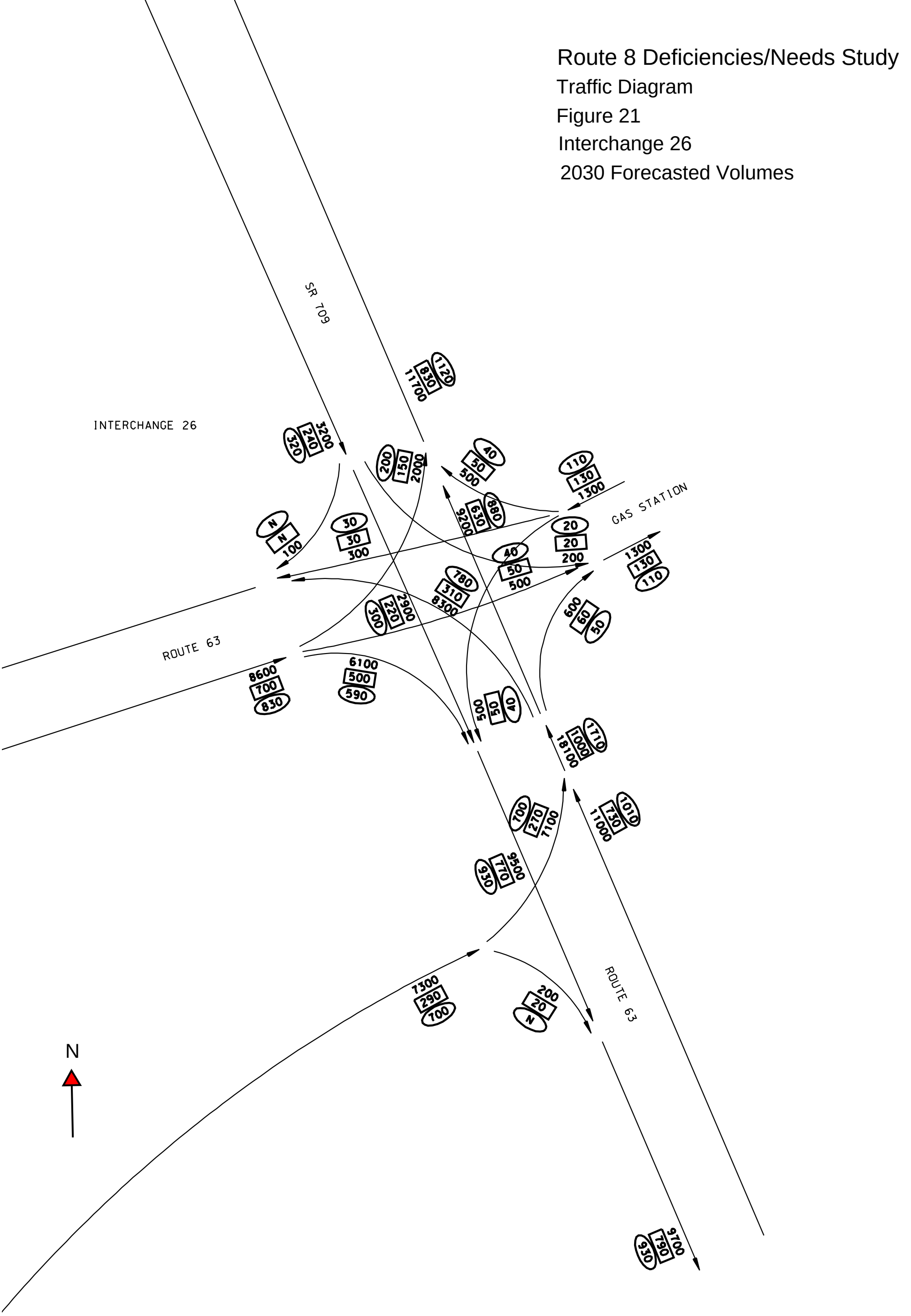
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 21

Interchange 26

2030 Forecasted Volumes



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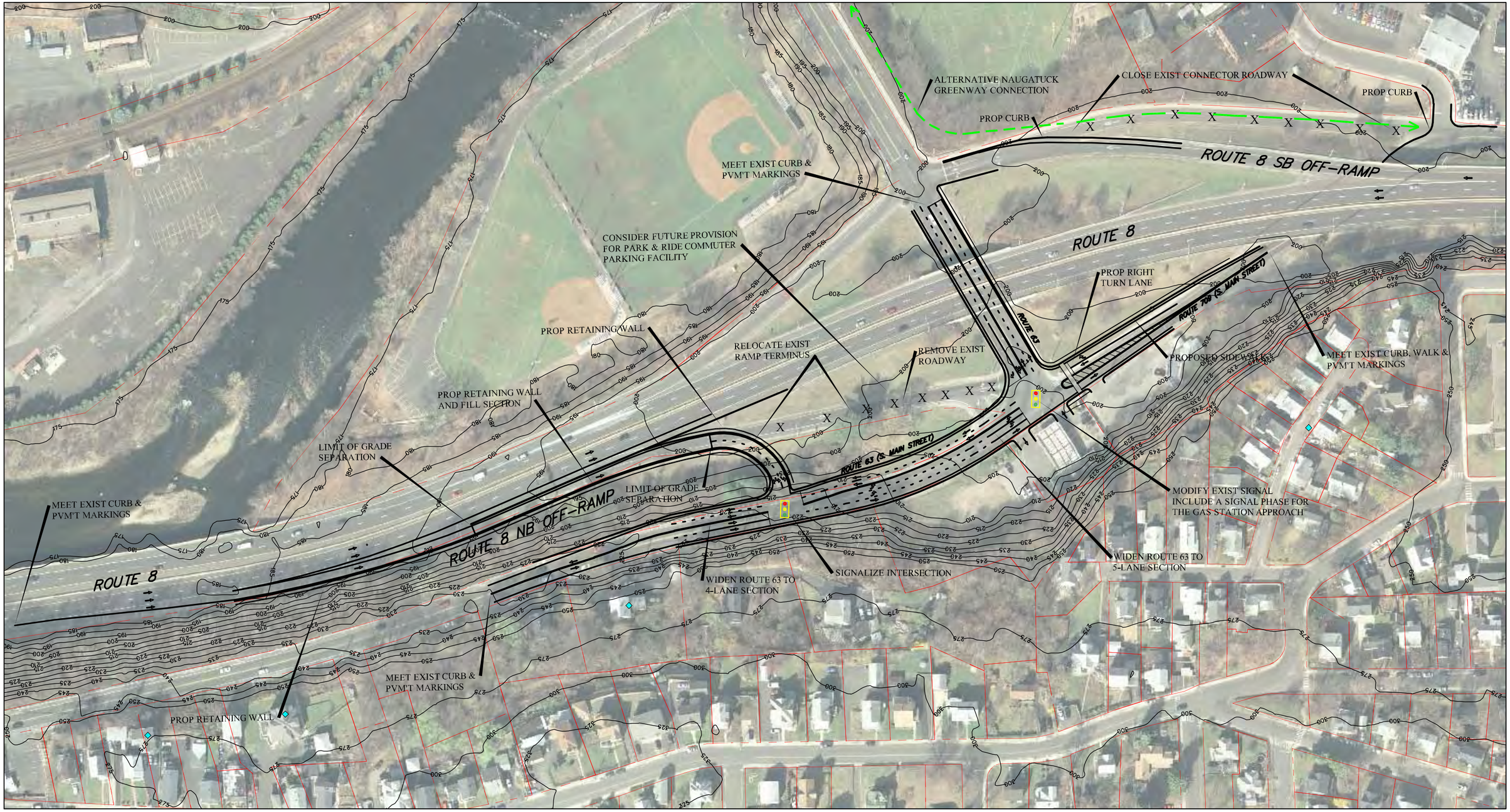


0 75 150 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 8 NB OFF-RAMP DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
ELEVATION DIFFERENCE BASED ON CONTOUR DATA = 20 FT
MAX GRADE = 5%
95th PERCENTILE QUEUE* = 541 FT
PROP DECEL LENGTH = 350 FT

SOUTH MAIN STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
LEFT TURN LANE WIDTH = 10 FT

ROUTE 8 DESIGN CRITERIA:
LANE WIDTH = 12 FT
RIGHT SHOULDER WIDTH = 10 FT

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

* QUEUE LENGTH IS BASED ON PROJECTED VOLUME FOR THE DESIGN YEAR 2030. SHOULD THIS ALTERNATIVE BE ADVANCED TO DESIGN AND CONSTRUCTION, THE DESIGNER SHALL OBTAIN UPDATED TRAFFIC VOLUME INFORMATION AND RE-EVALUATE QUEUE LENGTH BASED ON UPDATED COUNT DATA AND RE-FORECASTED DESIGN YEAR PROJECTED VOLUME

Vanasse Hangen Brustlin, Inc.

Naugatuck
Interchange 26

May 2010

Route 8 NB Off-Ramp/Route 63/
South Main Street
Long Term Alternative (Alt C)

FIGURE 21

Naugatuck - Interchange 26

Route 8 NB Off-Ramp/Route 63/S. Main St - Long Term Alternative (Alt 3)

Figure 21

ENVIRONMENTAL EVALUATION

NOISE

Relocation of the existing ramp brings the terminus closer to a residential cluster which may result in minor noise impacts.

AIR QUALITY

No adverse impact anticipated. Overall improvements in traffic flow will lead to decrease in regional emissions.

Although improvements in traffic flow will lead to a decrease in regional emissions, the relocation of the existing ramp will bring the ramp terminus closer to a residential cluster, which may result in a localized increase in emissions.

WETLANDS & SURFACE WATER RESOURCES

There are no wetlands or surface water resources in close proximity to the improvements.

Reconstruction of the existing Route 8 bridge over Route 63 may require work in (and temporary impacts to) the 100-year floodplain.

GROUNDWATER RESOURCES

No adverse impact expected. Overlies groundwater classified as GB.

No nearby wells.

ENDANGERED SPECIES

No impact to endangered species.

No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS

No impact to farmland soils.

No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES

No impacts to cultural resources

SECTION 4(F) AND SECTION 6(F) LANDS

No impact to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS

No impact from hazardous sites.

No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE

No impacts to businesses or community cohesion. Relocation of off-ramp terminus may have minor noise, air quality, and visual impacts to a residential cluster located across from the improvement. Major bridge reconstruction will have temporary construction period impacts to the local community.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY

Improvements to South Main Street will result in partial property takings of four properties.

DESIGN ISSUES

Proposed retaining wall required to be constructed along Route 8 northbound to retain fill required to re-grade off-ramp parallel to Route 8 northbound roadway to meet existing grade at new terminus location at Route 63

Proposed retaining wall with safety shaped face required to be constructed to retain slope cut/ledge to allow for construction of proposed ramp

Gas Station located at the corner should be incorporated into the traffic signal control.

TRAFFIC OPERATIONS

The intersection of Route 63 at the Exit 26 NB Off Ramp is anticipated to operate at LOS C during the morning peak hour and LOS E during the evening peak hour.

CONSTRUCTION COST ESTIMATE

$ 4,550,000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION

Candidate Study Recommendation

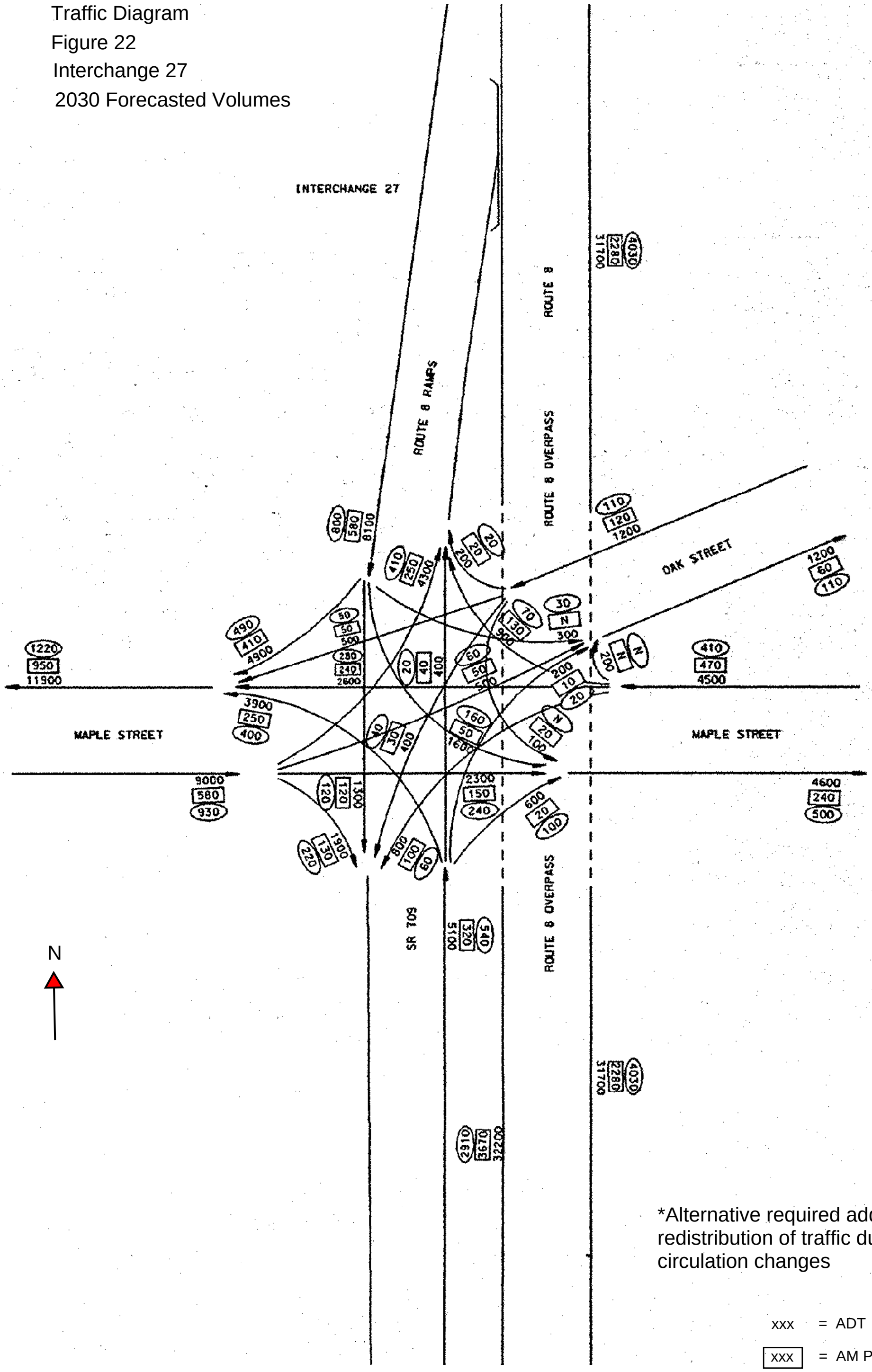
Route 8 Deficiencies/Needs Study

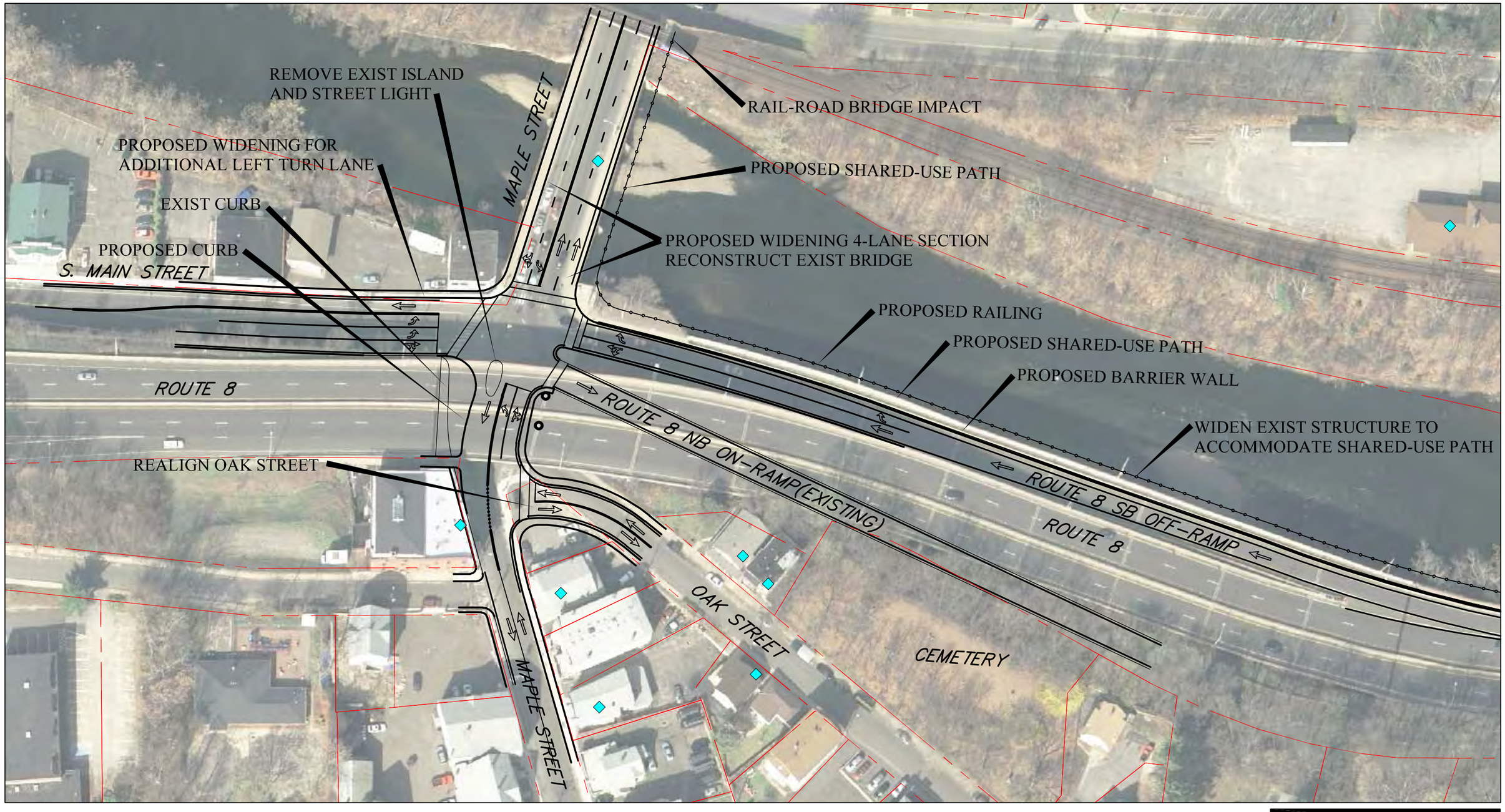
Traffic Diagram

Figure 22

Interchange 27

2030 Forecasted Volumes





0 40 80 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

OAK STREET DESIGN CRITERIA:
DESIGN SPEED = 20 MPH
LANE WIDTH = 12 FT
SHOULDER WIDTH = 2 FT

MAPLE STREET DESIGN CRITERIA:
EASTBOUND LANE WIDTH = 11 FT
WESTBOUND LANE WIDTH = 13 FT
SHOULDER WIDTH = 2 - 4 FT
LEFT TURN LANE WIDTH = 10 FT
SIDEWALK WIDTH = 6 FT MIN.
SHARED USE PATH WIDTH = 14 FT MIN.

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck May 2010
Interchange 27

Route 8 Ramps/Maple Street
Long Term Alternative

FIGURE 22

Naugatuck - Interchange 27
Route 8 Ramps/Maple Street - Long Term Alternative

Figure 22

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands or surface water resources in close proximity to the improvements.
Pedestrian walkway parallel to and crossing the Naugatuck River in the vicinity of Maple Street may involve work in the 100-year floodplain, construction period impacts to the riverbank, and will likely require permits.
Reconstruction of the existing Route 8 bridge over Route 63 may require work in (and temporary impacts to) the 100-year floodplain.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
Potential impact to historic properties from realignment of Oak Street and widening of S. Main Street.
These potential impacts will need to be further assessed during future stages of design.
Potential impacts from reconstruction to the historic Maple Street-John H. Whittemore Memorial Bridge and railroad bridge.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 6(f) lands. Potential Programmatic 4(f) for the potential impacts to the historic bridge.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
The proposed improvements at Maple Street and South Main Street will result in impacts to one business, and the realignment of Oak Street will have an adverse impact to one business.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Improvements at South Main Street and Maple Street will result in one partial commercial property taking. The realignment of Oak Street will result in the partial taking of one commercial property parking lot.
Access to downtown enhanced by shared-use path over Naugatuck River.

DESIGN ISSUES
Possible construction of safety shape along existing retaining wall on east side of S. Main Street to support widening of South Main Street to 3 Lanes NB
Potential impacts to abutting properties on west side of South Main Street at Maple Street due to limited ROW (old concept only)
Land taking required for realignment of Oak Street at Maple Street
Retaining wall needed to re-grade the realigned Oak Street connection to Maple Street
Retaining wall reconstruction/new structure construction and barrier wall construction along west side of Route 8 SB Off-ramp to Maple Street to support shared use path and additional lane (s) proposed on off-ramp.
Construction of Pedestrian bridge across River to support shared use path connection to proposed greenway on west side of river
Construction of pedestrian tunnel under existing rail road ROW to complete connection of shared use path to elements on west side of river.
Proposed minor widening of existing bridge by narrowing existing sidewalks to accommodate wider 4 lanes section (old concept only)
Elimination of existing curbside parking under Route 8 on Maple Street
Reconstruction of existing traffic signal at intersection of South Main Street at Maple Street/Oak Street/Route 8 Ramps

TRAFFIC OPERATIONS
The intersection of Maple Street at the Exit 27 NB On/SB Off Ramps is anticipated to operate at LOS D during the morning peak hour and LOS E during the evening peak hour.

CONSTRUCTION COST ESTIMATE
$14,530, 000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION
Dismiss Alternative

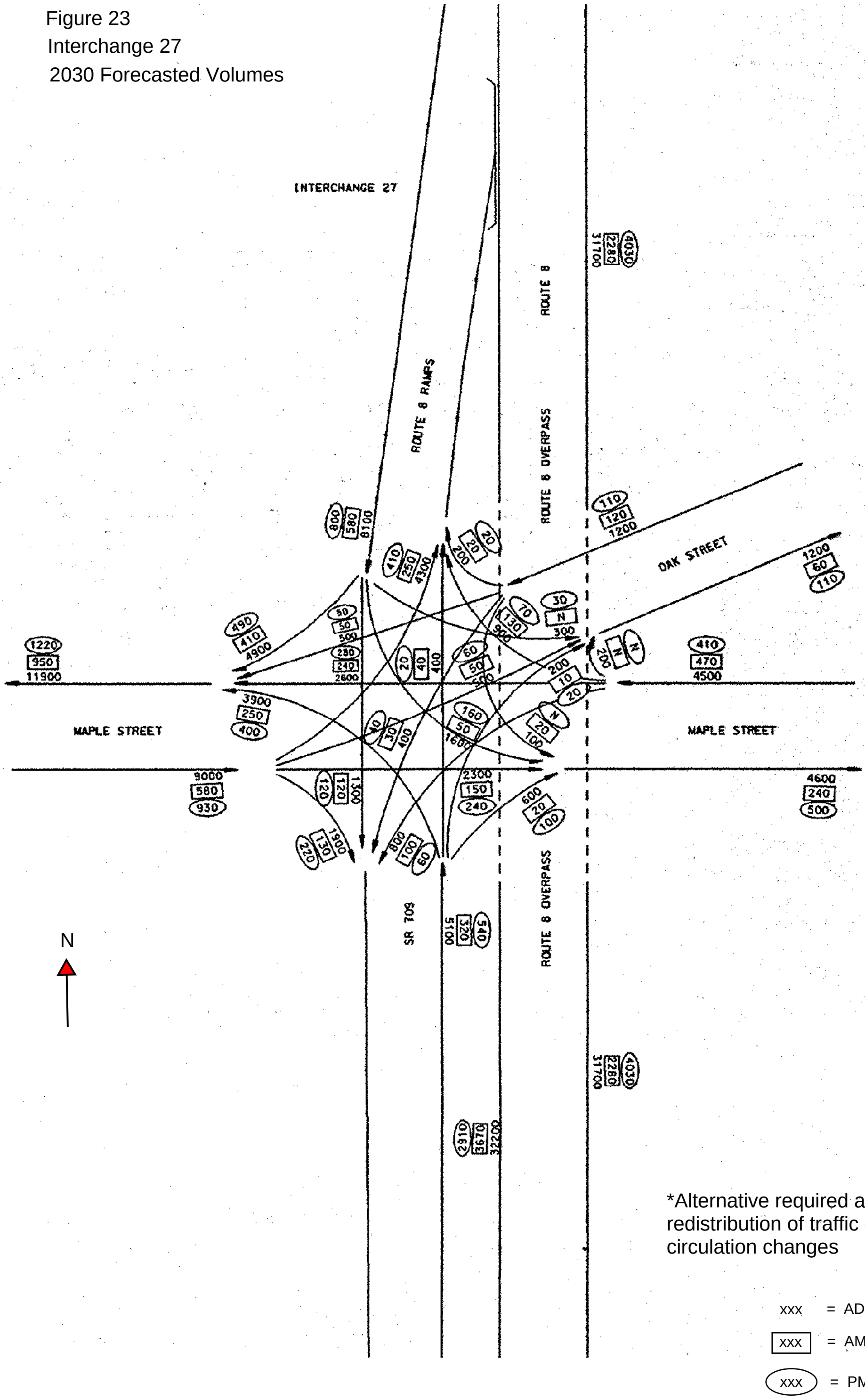
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 23

Interchange 27

2030 Forecasted Volumes



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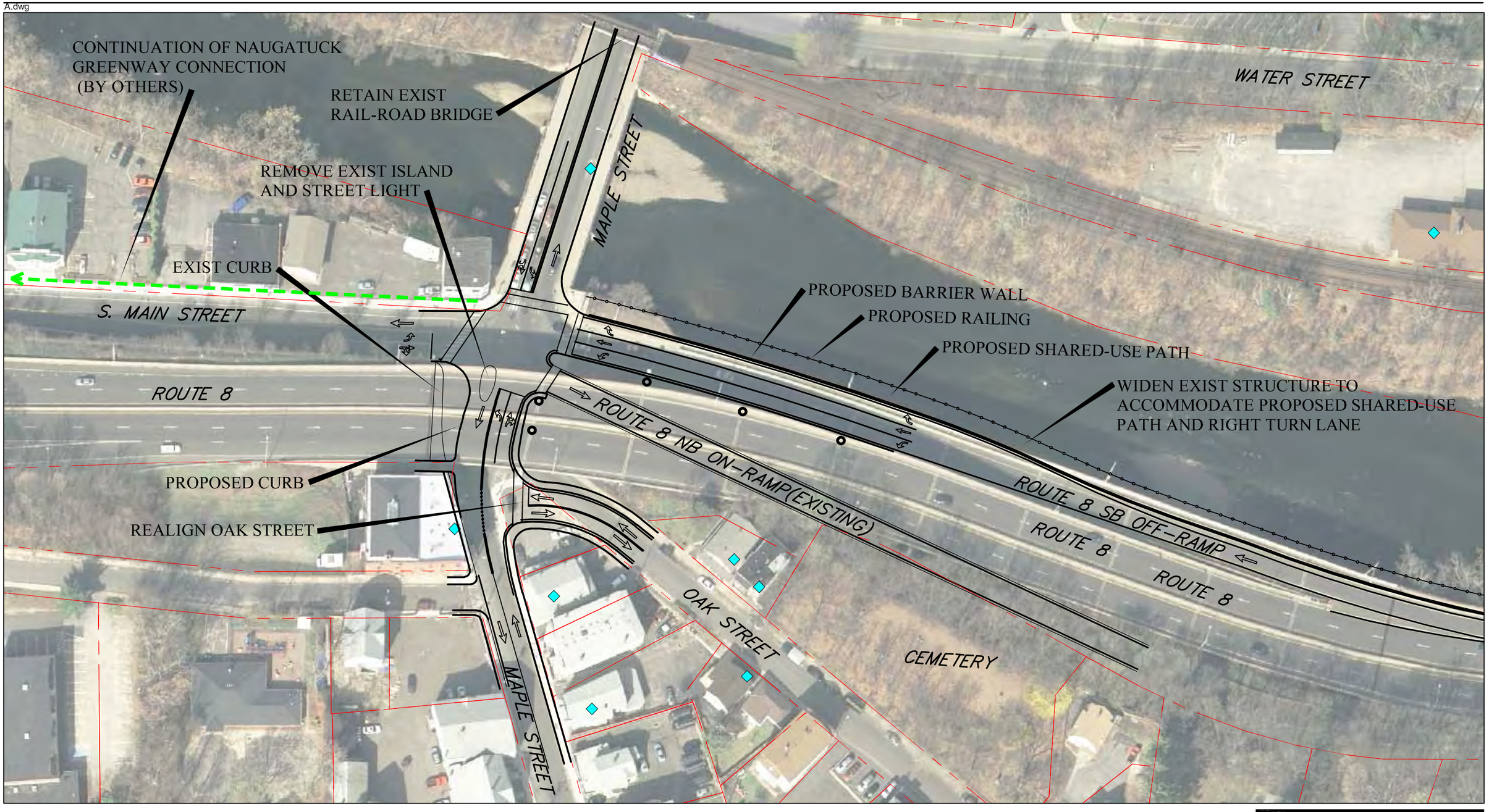

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CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

OAK STREET DESIGN CRITERIA:
DESIGN SPEED = 20 MPH
LANE WIDTH = 12 FT
SHOULDER WIDTH = 2 FT

MAPLE STREET DESIGN CRITERIA:
EASTBOUND LANE WIDTH = 11 FT
WESTBOUND LANE WIDTH = 13 FT
SHOULDER WIDTH = 2 - 4 FT
LEFT TURN LANE WIDTH = 10 FT
SIDEWALK WIDTH = 6 FT MIN.
SHARED USE PATH WIDTH = 14 FT MIN.

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck May 2010

Interchange 27

Route 8 Ramps/Maple Street
Long Term Alternative - Alt A

FIGURE 23A

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CONTINUATION OF NAUGATUCK GREENWAY CONNECTION (BY OTHERS)

RETAIN EXIST RAIL-ROAD BRIDGE

REMOVE EXIST ISLAND AND STREET LIGHT

EXIST CURB

S. MAIN STREET

ROUTE 8

PROPOSED CURB

ELIMINATE ON-STREET PARKING

MAPLE STREET

WATER STREET

PROPOSED BARRIER WALL

PROPOSED RAILING

PROPOSED SHARED-USE PATH

WIDEN EXIST STRUCTURE TO ACCOMMODATE PROPOSED SHARED-USE PATH AND RIGHT TURN LANE

ROUTE 8 NB ON-RAMP(EXISTING)

ROUTE 8 SB OFF-RAMP

ROUTE 8

ROUTE 8

OAK STREET

CEMETERY

MAPLE STREET

0 40 80 Feet

Route 8 Deficiencies/Needs Study
State Project 124-164

OAK STREET DESIGN CRITERIA:
DESIGN SPEED = 20 MPH
LANE WIDTH = 12 FT
SHOULDER WIDTH = 2 FT

MAPLE STREET DESIGN CRITERIA:
EASTBOUND LANE WIDTH = 11 FT
WESTBOUND LANE WIDTH = 13 FT
SHOULDER WIDTH = 2 - 4 FT
LEFT TURN LANE WIDTH = 10 FT
SIDEWALK WIDTH = 6 FT MIN.
SHARED USE PATH WIDTH = 14 FT MIN.

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck May 2010

Interchange 27

Route 8 Ramps/Maple Street
Long Term Alternative - Alt B

FIGURE 23B

Naugatuck - Interchange 27
Route 8 Ramps/Maple Street - Long Term Alternative (Alt A/B)

Figure 23

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands or surface water resources in close proximity to the improvements.
Pedestrian walkway parallel to and crossing the Naugatuck River in the vicinity of Maple Street may involve work in the 100-year floodplain, construction period impacts to the riverbank, and will likely require permits.
Reconstruction of the existing Route 8 bridge over Route 63 may require work in (and temporary impacts to) the 100-year floodplain.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
Potential indirect impact to historic properties from realignment of Oak Street and widening of S. Main Street.
This potential impact will need to be further assessed during future stages of design.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands anticipated.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
The realignment of Oak Street will result in adverse impacts to one business.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
The realignment of Oak Street will result in the partial taking of one commercial property parking lot.
Access to downtown enhanced by shared-use path over Naugatuck River.

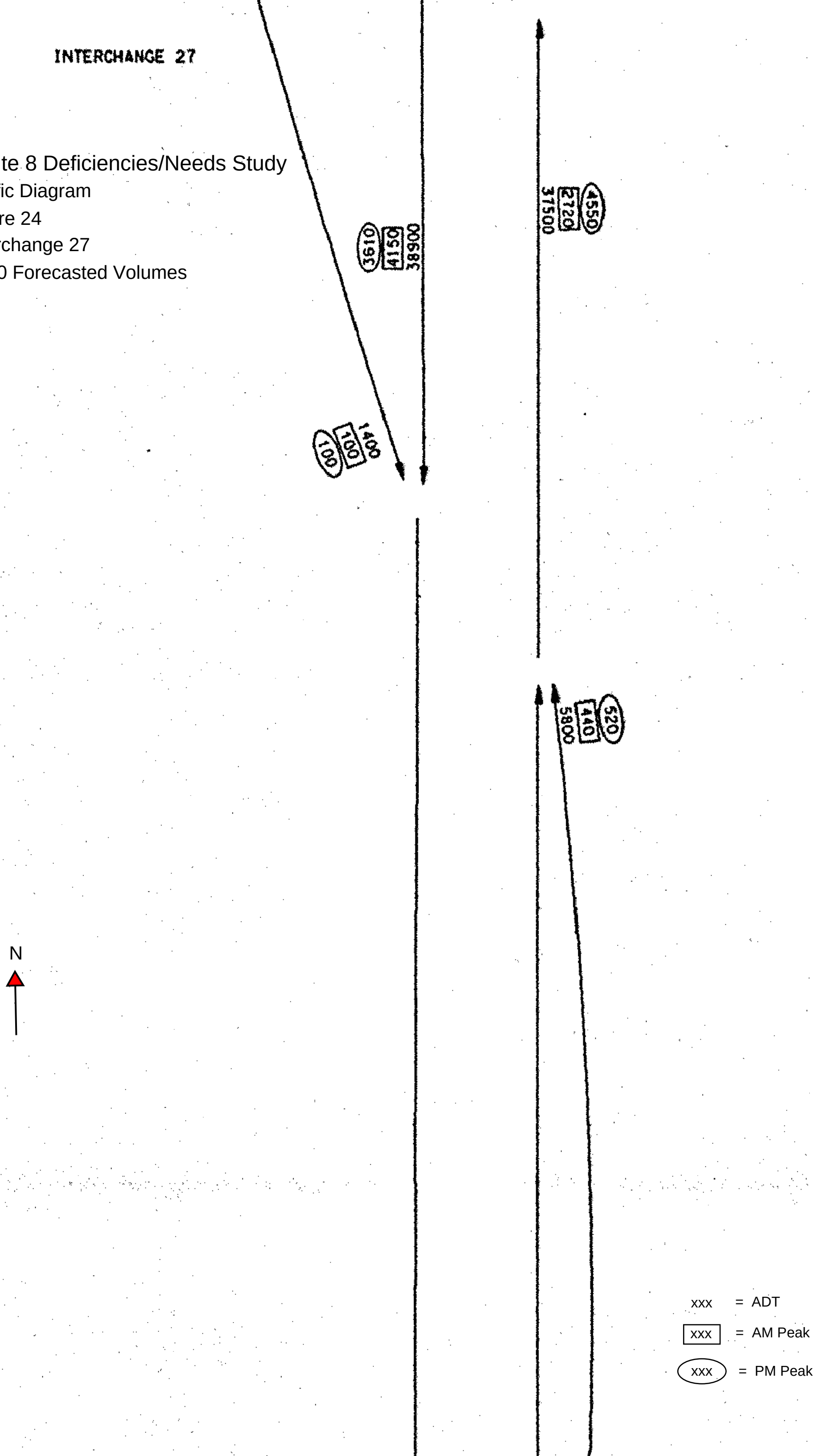
DESIGN ISSUES
Land taking required for realignment of Oak Street at Maple Street (Alt A)
Retaining wall needed to re-grade the realigned Oak Street connection to Maple Street (Alt A)
Retaining wall reconstruction/new structure construction and barrier wall construction along west side of Route 8 SB Off-ramp to Maple Street to support shared use path and additional lane (s) proposed on off-ramp. (Alt A and B)
Elimination of existing curbside parking under Route 8 on Maple Street (Alt B)
Reconstruction of existing traffic signal at intersection of South Main Street at Maple Street/Oak Street/Route 8 Ramps (Alt A and B)
Provide left-turn lane from Maple Street southbound to Oak Street (Alt B)

TRAFFIC OPERATIONS
The intersection of Maple Street at the Exit 27 NB On/SB Off Ramps is anticipated to operate at LOS B during the morning peak hour and LOS D during the evening peak hour.

CONSTRUCTION COST ESTIMATE
$30,550,000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

Route 8 Deficiencies/Needs Study
Traffic Diagram
Figure 24
Interchange 27
2030 Forecasted Volumes



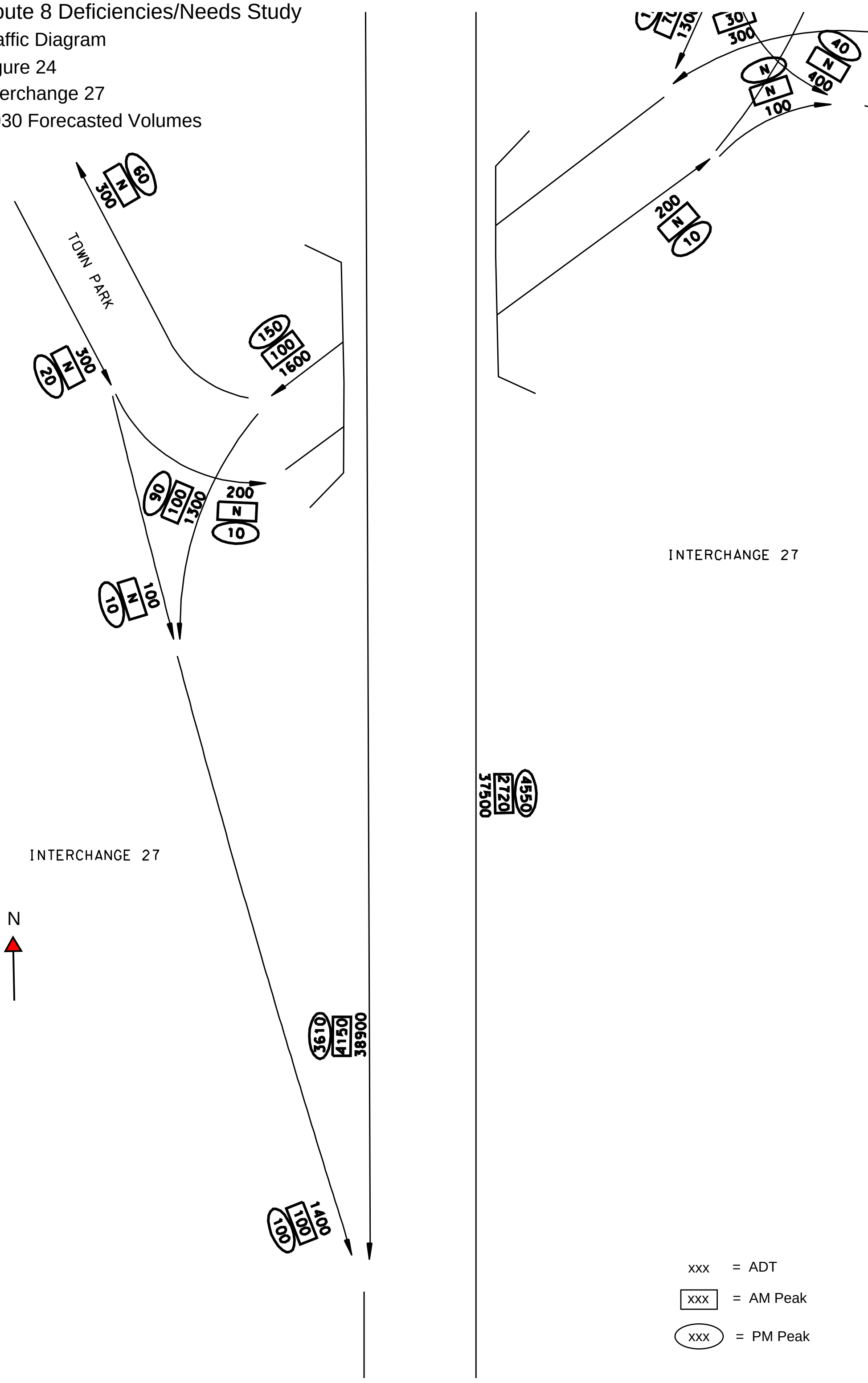
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 24

Interchange 27

2030 Forecasted Volumes



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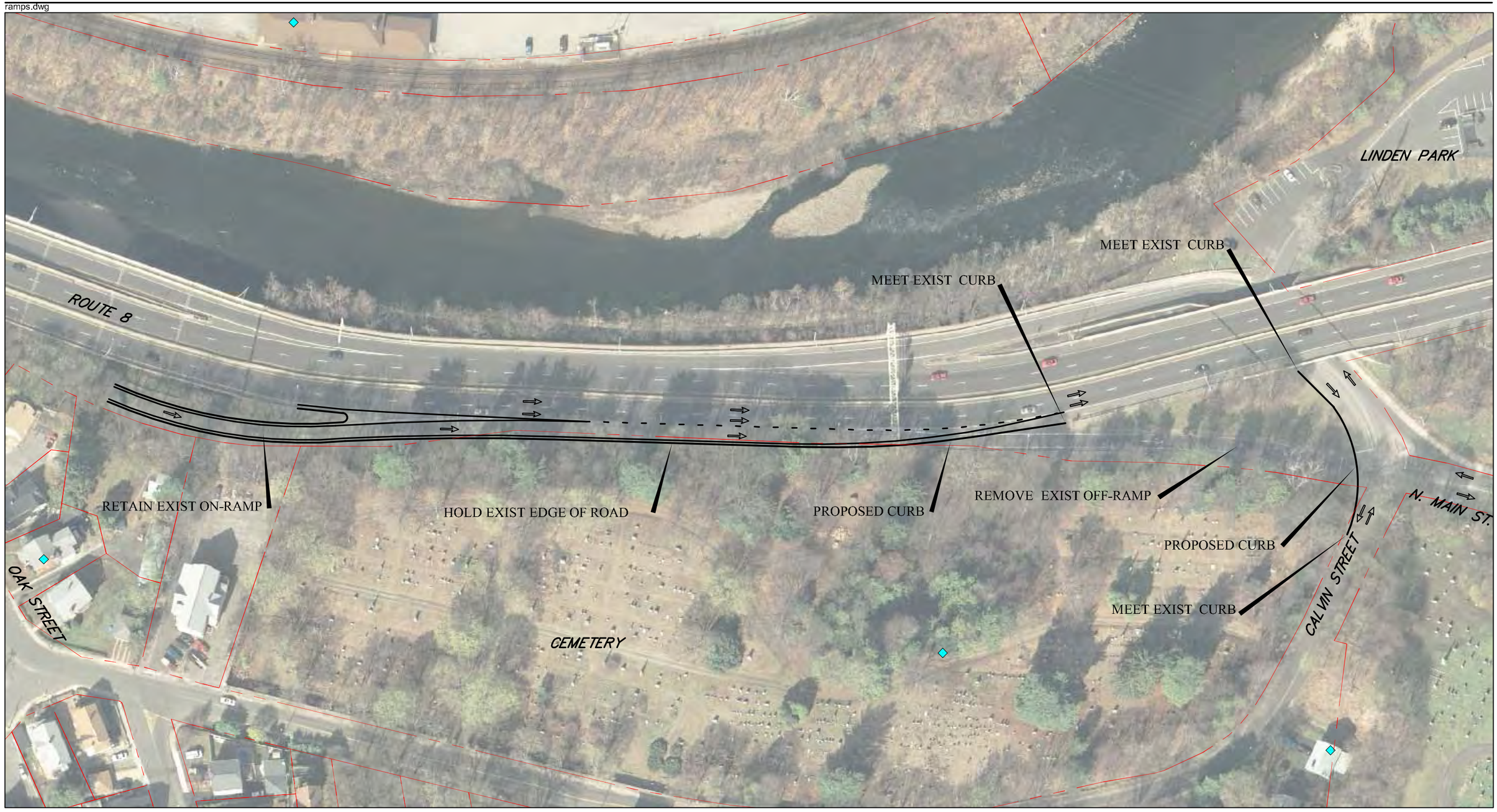


0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

RAMP DESIGN CRITERIA
DESIGN SPEED = 45 MPH
RAMP WIDTH = 26 FT
SHOULDER WIDTH = 4 - 12 FT
ACCELERATION LANE = 350 FT
LANE MERGE TAPER = 350 FT

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck May 2010
Interchange 27

Route 8 NB Off-Ramp/N. Main Street
Long Term Alternative

FIGURE 24

Naugatuck - Interchange 27
Route 8 NB- Off Ramp/N. Main Street - Long Term Alternative

Figure 24

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands or surface water resources in close proximity to the improvements.
Beneficial impact of ramp removal provided by converting impervious paved surface to a vegetated area.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Removal of existing off-ramp at N. Main Street and Calvin Street reduces access to businesses and residential areas.
Proposed improvements will not require any residential displacements.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Proposed improvements are within existing roadway right-of-way.
Removal of existing off-ramp at N. Main Street and Calvin Street may reduce access to commercial and residential land uses.

DESIGN ISSUES
No design issues anticipated.

TRAFFIC OPERATIONS
Eliminates geometrically and operationally deficient weave between Exit 27 NB on-ramp and off-ramp.

CONSTRUCTION COST ESTIMATE
$ 520, 000

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

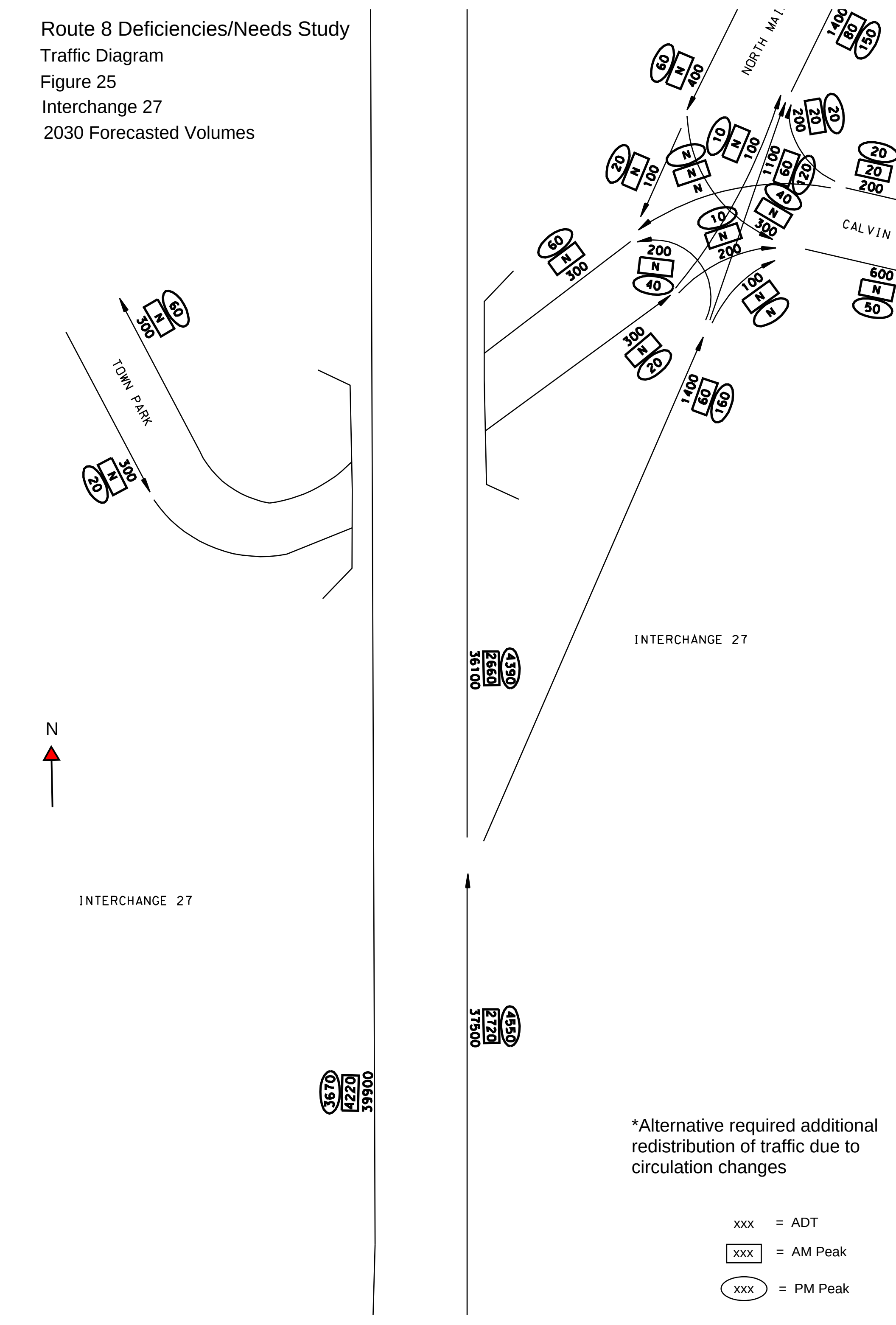
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 25

Interchange 27

2030 Forecasted Volumes



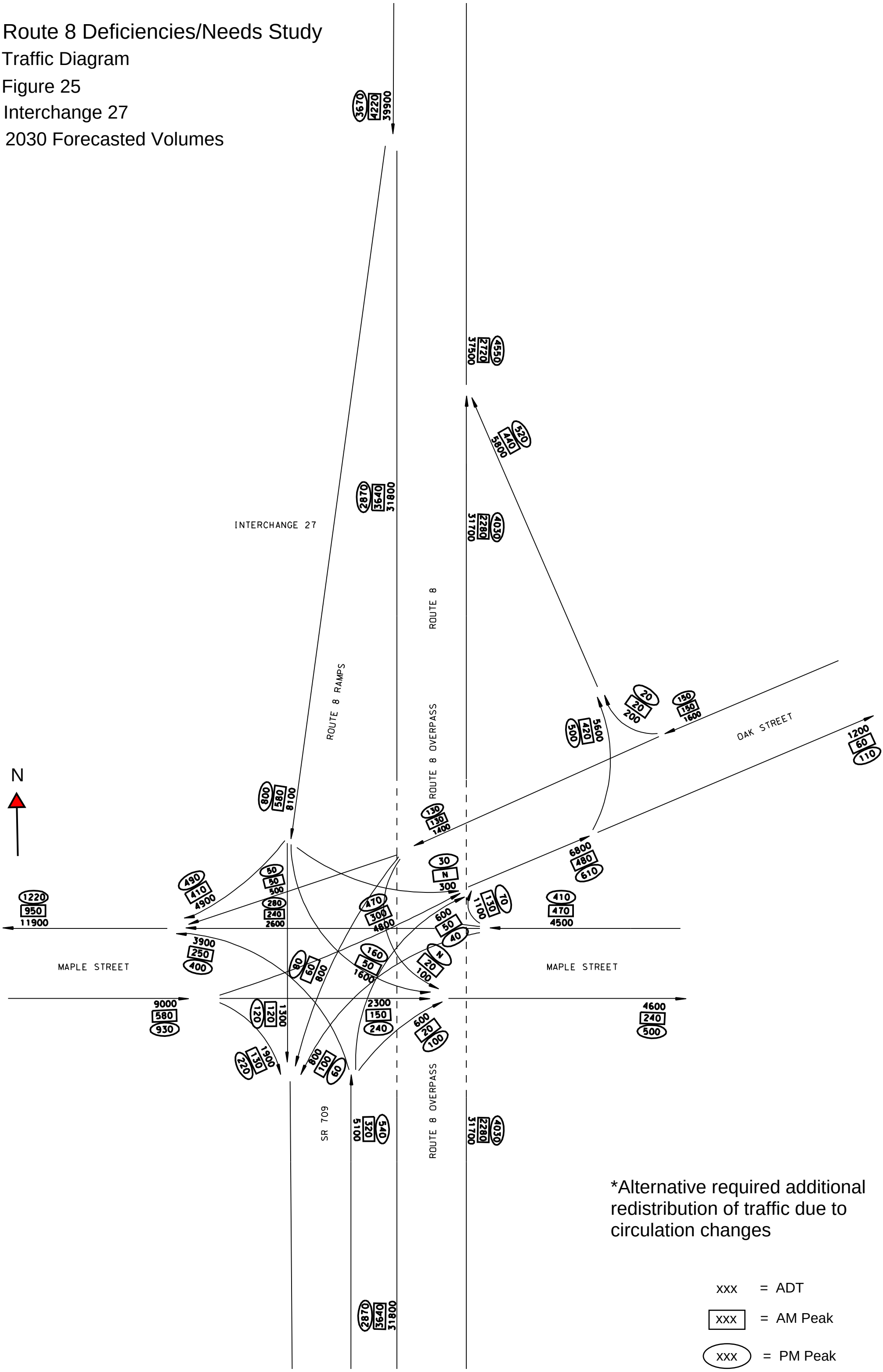
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 25

Interchange 27

2030 Forecasted Volumes



*Alternative required additional redistribution of traffic due to circulation changes

xxx = ADT

xxx = AM Peak

xxx = PM Peak

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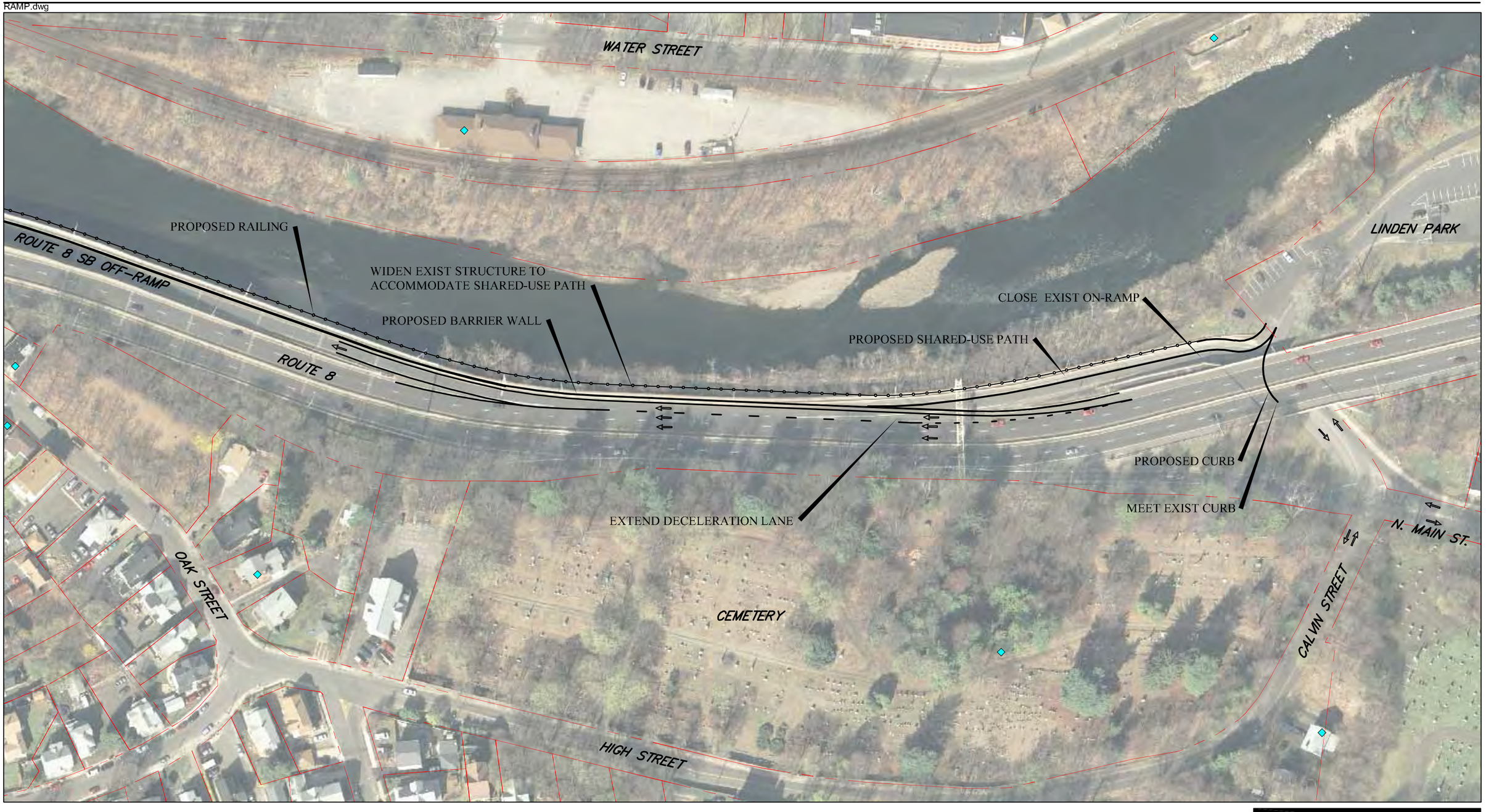


0 60 120 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

SHARED-USE PATH DESIGN CRITERIA
PATHWAY WIDTH = 14 FT

RAMP DESIGN CRITERIA
DESIGN SPEED = 45 MPH
RAMP WIDTH = 20 FT
LANE WIDTH - 12 -14 FT
SHOULDER WIDTH = 2-4 FT
DECELERATION LANE = 520 FT
LANE MERGE TAPER = 220 FT

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck
Interchange 27

May 2010

Route 8 SB Ramps
Long Term Alternative

FIGURE 25

Naugatuck - Interchange 27
Route 8 SB Ramps - Long Term Alternative

Figure 25

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands in close proximity to the improvement. Improvements in close proximity to Naugatuck River.
Construction of improvements to the shared-use path may impact the 100-year floodplain.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.
Improvements associated with shared-use path will enhance access to Linden Park, a Section 4(f) resource.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Proposed improvements will not require any displacements of businesses or residences.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Proposed improvements will not require any displacements of businesses or residences.
No adverse land use impacts are anticipated.

DESIGN ISSUES
Retaining wall reconstruction/new structure construction and barrier wall construction along west side of Route 8 SB Off-ramp to Maple Street to support shared use path

TRAFFIC OPERATIONS
Eliminates geometrically and operationally deficient weave between Exit 27 SB on-ramp and off-ramp.

CONSTRUCTION COST ESTIMATE
$ 10, 220, 000

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

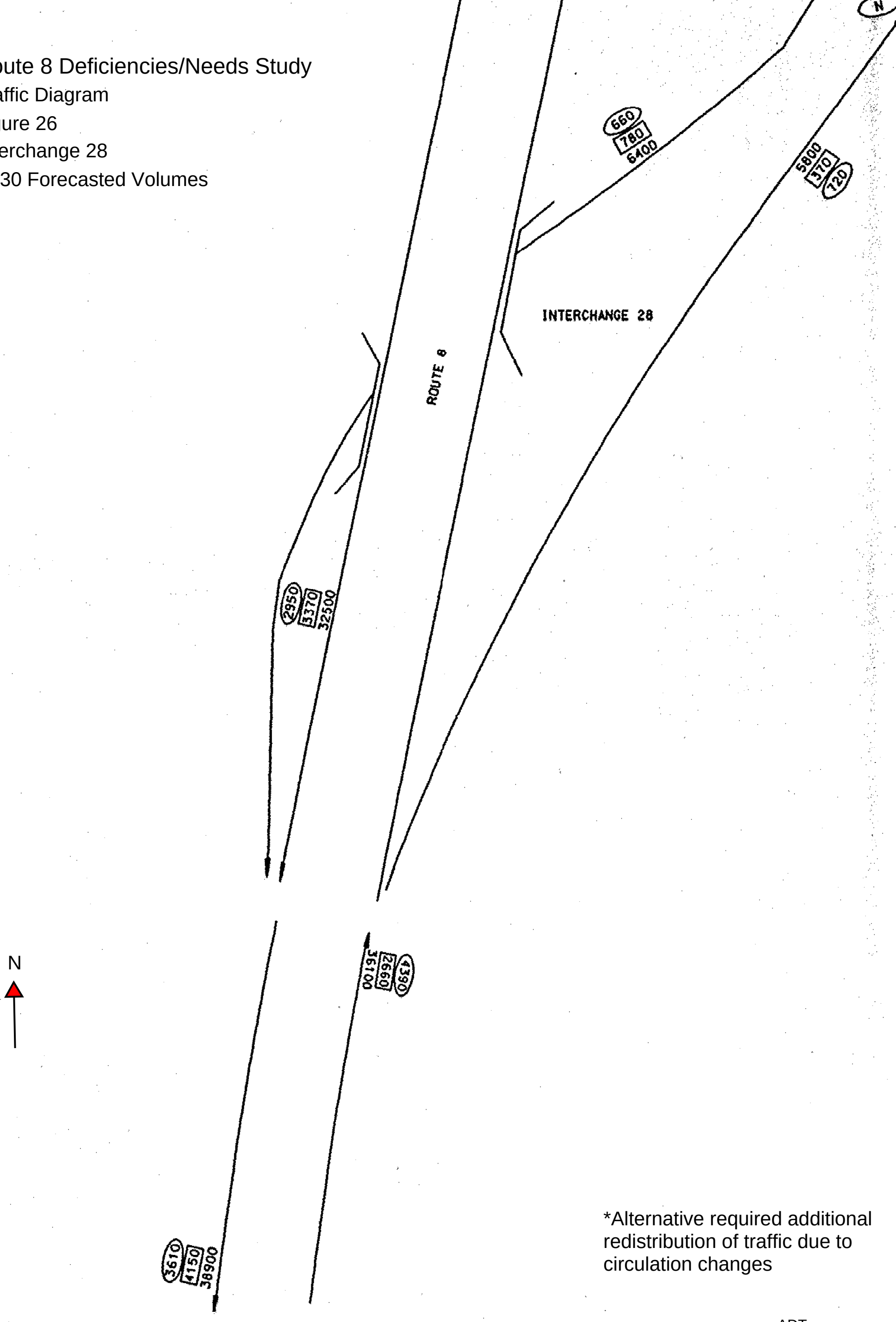
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 26

Interchange 28

2030 Forecasted Volumes



*Alternative required additional redistribution of traffic due to circulation changes

xxx = ADT

xxx = AM Peak

xxx = PM Peak

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0 30 60 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

DECELERATION LANE DESIGN CRITERIA:
LANE WIDTH = 12 FT
SHOULDER WIDTH = 12 FT
EXIST RAMP LENGTH = 1150 FT
EXIST DECEL LENGTH = 150 FT
95th PERCENTILE QUEUE* = 627 FT
REQUIRED DECEL LENGTH = 350 FT
PROP DECEL EXTENSION = 200 FT

* QUEUE LENGTH IS BASED ON PROJECTED VOLUME FOR THE DESIGN YEAR 2030. SHOULD THIS ALTERNATIVE BE ADVANCED TO DESIGN AND CONSTRUCTION, THE DESIGNER SHALL OBTAIN UPDATED TRAFFIC VOLUME INFORMATION AND RE-EVALUATE QUEUE LENGTH BASED ON UPDATED COUNT DATA AND RE-FORECASTED DESIGN YEAR PROJECTED VOLUME

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck
Interchange 28

May 2010

Route 8 NB Off-Ramp to N. Main St.
Medium Term Alternative

FIGURE 26

Naugatuck - Interchange 28
Route 8 NB Off-Ramp to N. Main St - Medium Term Alternative

Figure 26

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands or surface waters in close proximity to the improvements.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
Clusters of historic properties located adjacent to proposed improvements, however, no impacts are anticipated.

SECTION 4(F) AND SECTION 6(F) LANDS
No impact to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Proposed improvements will not require any displacements of businesses or residences.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Minor Right-of-way taking anticipated
No land use impacts are anticipated.

DESIGN ISSUES
Construct retaining wall with barrier wall to support shoulder widening required to bring ramp into compliance and extend decel lane length

TRAFFIC OPERATIONS
Mitigates geometrically deficient deceleration lane length.

CONSTRUCTION COST ESTIMATE
$ 2,650,000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

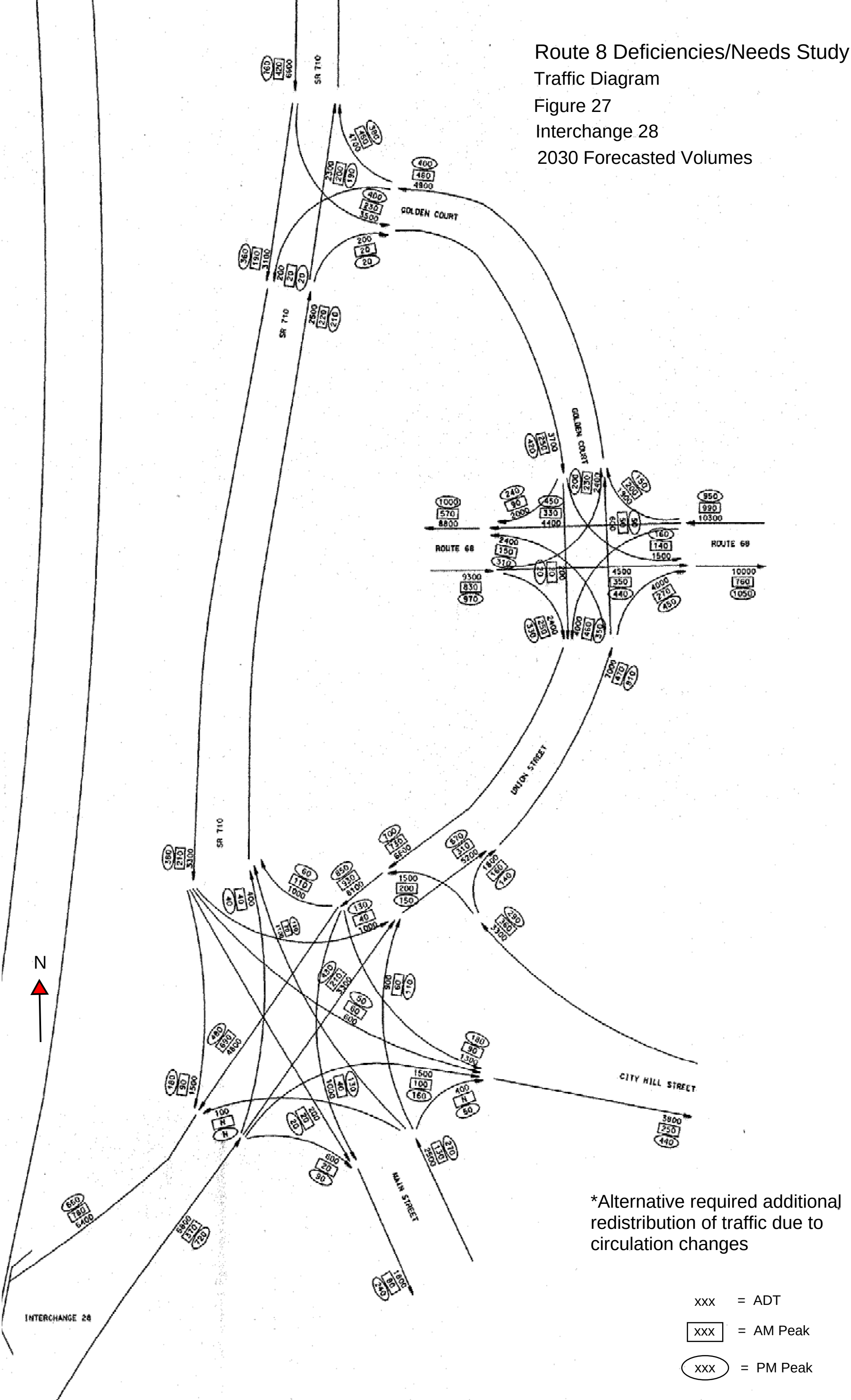
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 27

Interchange 28

2030 Forecasted Volumes



*Alternative required additional redistribution of traffic due to circulation changes

xxx = ADT

xxx = AM Peak

xxx = PM Peak

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0 60 120 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 68 (PROSPECT STREET) DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
SIDEWALK WIDTH = 6 FT
LENGTH OF WB RIGHT TURN LANE = 100 FT

UNION CITY STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
SIDEWALK WIDTH = 6 FT
LENGTH OF EB LEFT TURN LANE = 200 FT
LENGTH OF WB LEFT TURN LANE = 100 FT

SR 710 (NORTH MAIN STREET) DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
SIDEWALK WIDTH = 6 FT
LENGTH OF LEFT TURN LANE = 100 FT
LENGTH OF RIGHT TURN LANE = 100 FT

ROUTE 8 NB OFF-RAMP DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
LENGTH OF LEFT TURN LANE = 100 FT
LENGTH OF RIGHT TURN LANE = 100 FT

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck
Interchange 28

May 2010

Rte. 8 Ramps/N. Main St./Union City St.
Long Term Alternative

FIGURE 27

Naugatuck - Interchange 28
Route 8 Ramps/N. Main St/Union City St - Long Term Alternative

Figure 27

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands in close proximity to the improvements.
Roadway improvements will require replacement and/or extension of a culvert carrying Fulling Mill Brook under Union City Street and North Main Street. Permits would be required for this work.
Improvements to North Main Street may adversely impact the 100-year floodplain associated with Fulling Mill Brook.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
Residential building on northwest corner of Prospect St/Golden Court intersection was built c.1912 and would need to be further evaluated to determine National Register eligibility.
Residential building on northeast corner of North Main Street/Golden Court intersection may also be historically significant and will need to be further evaluated to determine National Register eligibility.

SECTION 4(F) AND SECTION 6(F) LANDS
No impacts to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Proposed improvements will require four (4) full and six (6) partial property takes. One vacant business, two residences, and one commercial building housing several small businesses would need to be demolished. Impacted businesses would have to be relocated.
Construction period impacts to bridges on North Main Street and Union Street may disrupt access for residents and businesses.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
Proposed improvements will result in approximately 10 property takings including 6 partial takes and 4 full takes. Of the full takes, one is a commercial building housing several businesses, one is a vacant commercial building and the other two are residences. All would be demolished.

DESIGN ISSUES
Reconstruct and widen Union City Street Bridge over outfall
Land and building takings on north side of Union City Street at City Hill Street to widen Union City to a 5 lane section between North Main Street and Route 68.
Reconstruct and widen Route 710 (North Main Street) Bridge over outfall
Land and building takings on east side of Route 710 (North Main Street) to support widening to 4 lane section between Bridge over outfall and Route 8 SB On-ramp
Easements along North Side of Route 68 NB approaching Golden Court to widen Route 68 from a 2 lane to a 3 lane section
Land and building takings along North Side of Route 68 NB approaching Golden Court to widen Route 68 from a 2 lane to a 3 lane section
Land and building takings on southwest corner of Golden Court/Route 710 (North Main Street) Intersection to widen Golden Court to from 2-lane to 4 lane section

TRAFFIC OPERATIONS
The intersection of the Exit 28 NB Off/SB On Ramps and South Main Street is anticipated to operate at LOS B during the morning peak hour and LOS C during the evening peak hour.
The intersection of the Route 68 and SR 723 is anticipated to operate at LOS B during the morning peak hour and LOS C during the evening peak hour.
The intersection of the SR 710 and SR 723 is anticipated to operate at LOS B during the morning peak hour and LOS C during the evening peak hour.

CONSTRUCTION COST ESTIMATE
$ 2,550,000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

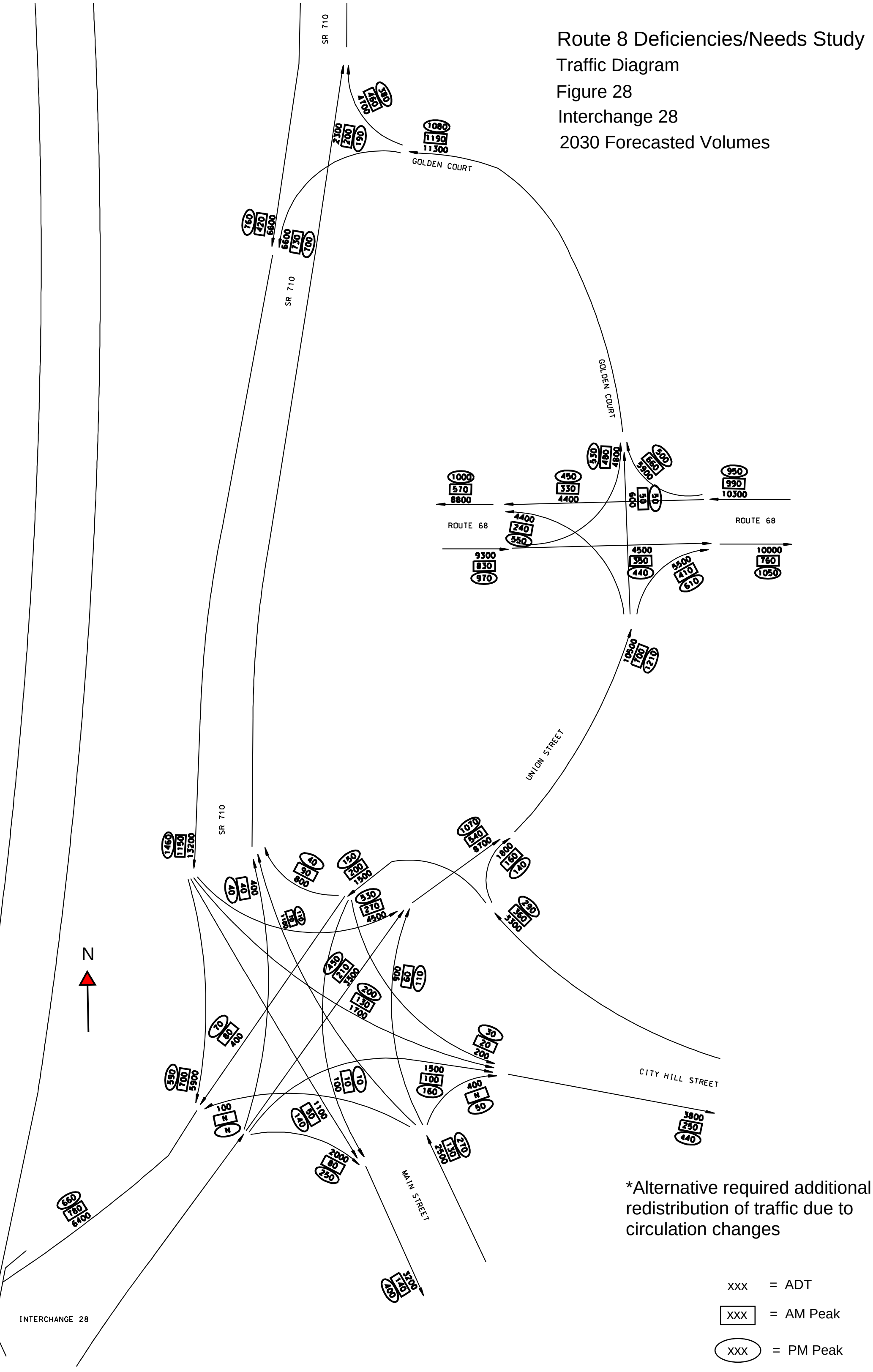
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 28

Interchange 28

2030 Forecasted Volumes



*Alternative required additional redistribution of traffic due to circulation changes

xxx = ADT

xxx = AM Peak

xxx = PM Peak

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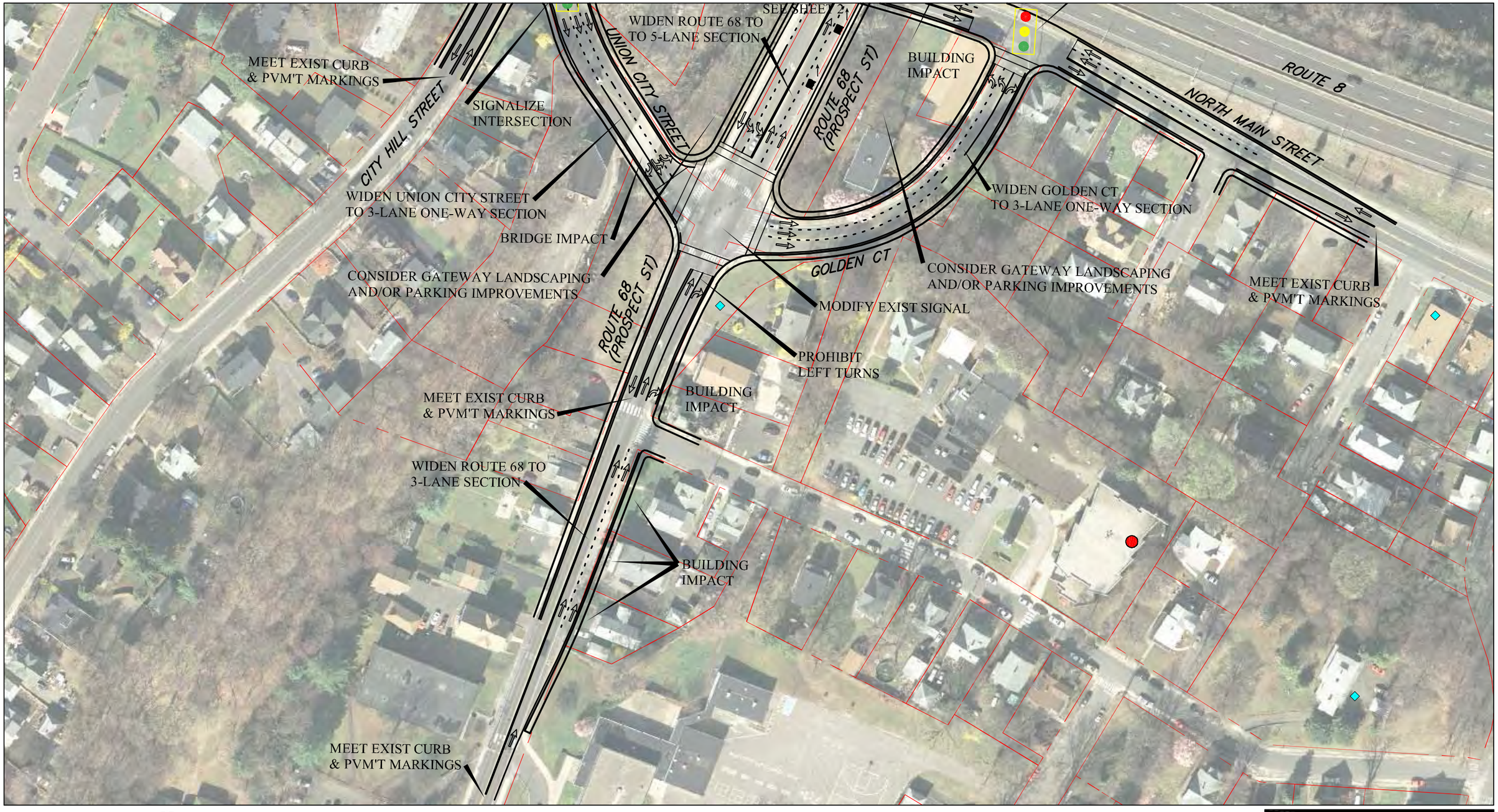


0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 68 (PROSPECT STREET) DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
SIDEWALK WIDTH = 6 FT
LENGTH OF WB RIGHT TURN LANE = 300 FT

UNION CITY STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
SIDEWALK WIDTH = 6 FT

SR 710 (NORTH MAIN STREET) DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
SIDEWALK WIDTH = 6 FT
LENGTH OF RIGHT TURN LANE = 100 FT

ROUTE 8 NB OFF-RAMP DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES
COMMUNITY FACILITIES

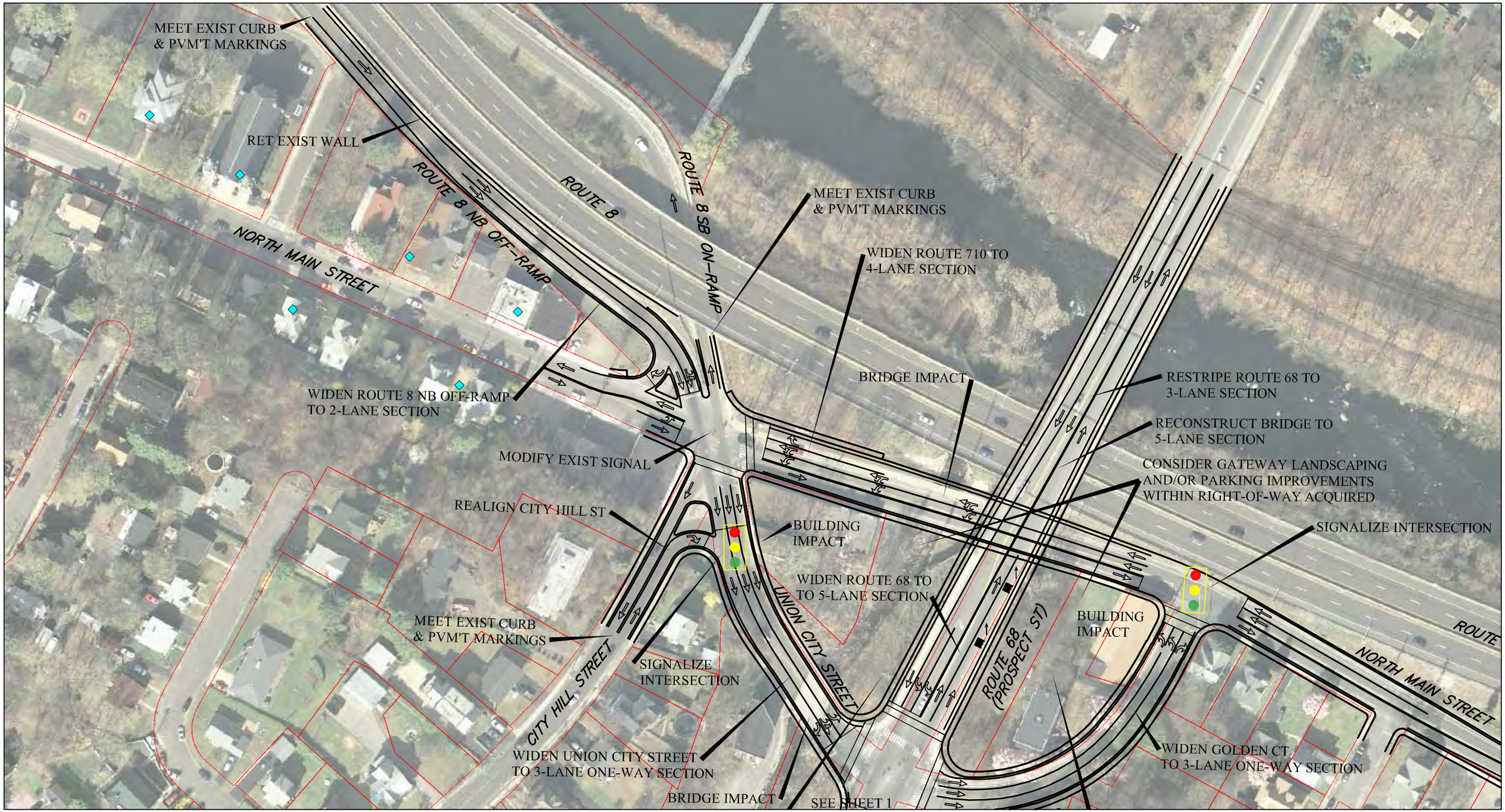
Vanasse Hangen Brustlin, Inc.

Naugatuck May 2010
Interchange 28

Rte. 8 Ramps/N. Main St./Union City St.
Long Term Alternative (1 of 2) - Alt A

FIGURE 28

\\Vhb\homedir\Watertown\TS\SIGNALS\41488-ConDOT\IC28Reconfig-ReconstructBridge.dwg



0 50 100 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 68 (PROSPECT STREET) DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
SIDEWALK WIDTH = 6 FT
LENGTH OF WB RIGHT TURN LANE = 300 FT

UNION CITY STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
SIDEWALK WIDTH = 6 FT

SR 710 (NORTH MAIN STREET) DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT
SIDEWALK WIDTH = 6 FT
LENGTH OF RIGHT TURN LANE = 100 FT

ROUTE 8 NB OFF-RAMP DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 2 FT

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Naugatuck
Interchange 28

May 2010

Rte. 8 Ramps/N. Main St./Union City St.
Long Term Alternative (2 of 2) - Alt A

FIGURE 28

Naugatuck - Interchange 28

Route 8 Ramps/N. Main St/Union City St - Long Term Alternative (Alt A)

Figure 28

ENVIRONMENTAL EVALUATION

NOISE

No adverse impacts anticipated.

AIR QUALITY

No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES

There are no wetlands in close proximity to the improvements.

Roadway improvements will require replacement and/or extension of a culvert carrying Fulling Mill Brook under Union City Street and North Main Street. Permits would be required for this work.

Improvements to North Main Street may adversely impact the 100-year floodplain associated with Fulling Mill Brook.

GROUNDWATER RESOURCES

No adverse impact expected. Overlies groundwater classified as GB.

No nearby wells.

ENDANGERED SPECIES

No impact to endangered species.

No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS

No impact to farmland soils.

No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES

Residential building on northwest corner of Prospect St/Golden Court intersection was built c.1912 and would need to be further evaluated to determine National Register eligibility.

Residential building on northeast corner of North Main Street/Golden Court intersection may also be historically significant and will need to be further evaluated to determine National Register eligibility.

SECTION 4(F) AND SECTION 6(F) LANDS

No impacts to 4(f) or 6(f) lands, potential for constructive use Section 4(f) impacts to the two residential structures identified in the cultural resources section above if further evaluation determines either to be listed on or eligible for the National Register of Historic Places.

HAZARDOUS MATERIALS

No impact from hazardous sites.

No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE

Proposed improvements will require several (approximately 14) partial or full takings of businesses and residences including the demolition of six buildings. Of the six buildings that would need to be demolished, one is a vacant commercial structure, one is a commercial building housing several small businesses and the others appear to be residential. Impacted business and residents would have to be relocated as part of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Construction period impacts on the local street network may disrupt access for residents and businesses.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY

Proposed improvements will require several (approximately 14) partial or full takings of property, including the demolition of six buildings. The buildings that would need to be demolished include a vacant commercial building, a commercial plaza housing several small businesses, and several residential structures. Although the improvements will require property acquisitions, the overall land use of the area will remain a mix of residential and commercial.

DESIGN ISSUES

Reconstruct and widen Union City Street Bridge over outfall

Land and building takings on north side of Union City Street at City Hill Street to widen Union City to a 3 lane section between North Main Street and Route 68.

Reconstruct and widen Route 710 (North Main Street) Bridge over outfall

Land and building takings on east side of Route 710 (North Main Street) to support widening to 4 lane section between Bridge over outfall and Route 8 SB On-ramp

Land and building takings along North Side of Route 68 NB approaching Golden Court to widen Route 68 from a 2 lane to a 3 lane section

Land and building takings on southwest corner of Golden Court/Route 710 (North Main Street) Intersection to widen Golden Court to from 2-lane to 3 lane section

Reconstruct and widen Route 68 bridge

TRAFFIC OPERATIONS

The intersection of the Exit 28 NB Off/SB On Ramps and South Main Street is anticipated to operate at LOS B during the morning peak hour and LOS C during the evening peak hour.

The intersection of the Route 68 and SR 723 is anticipated to operate at LOS B during the morning peak hour and LOS D during the evening peak hour.

The intersection of the SR 710 and SR 723 is anticipated to operate at LOS B during the morning peak hour and LOS B during the evening peak hour.

CONSTRUCTION COST ESTIMATE

$22,700,000 (Exclusive of right-of-way acquisition)

LEVEL 2 SCREENING RECOMMENDATION

Dismiss Alternative

Waterbury - Interchange 29

Figure 29 depicts medium to long-term improvements at the intersection of the Route 8 NB ramps with South Main Street. Under this improvement option, the NB on-ramp is proposed to be realigned to eliminate the offset with the off-ramp approach and South Main Street is restriped to provide an exclusive left-turn and through/right turn lanes at Sheriden Drive. In addition, South Main Street in the southbound direction is proposed to be widened to provide an exclusive left-turn lane and two through lanes while Sheriden Drive is proposed to be widened to provide an exclusive left-turn lane and a shared through/right-turn lane. Under this plan, the commercial driveways on the west side of South Main Street are consolidated and placed under signal control at the intersection of Sheriden Drive.

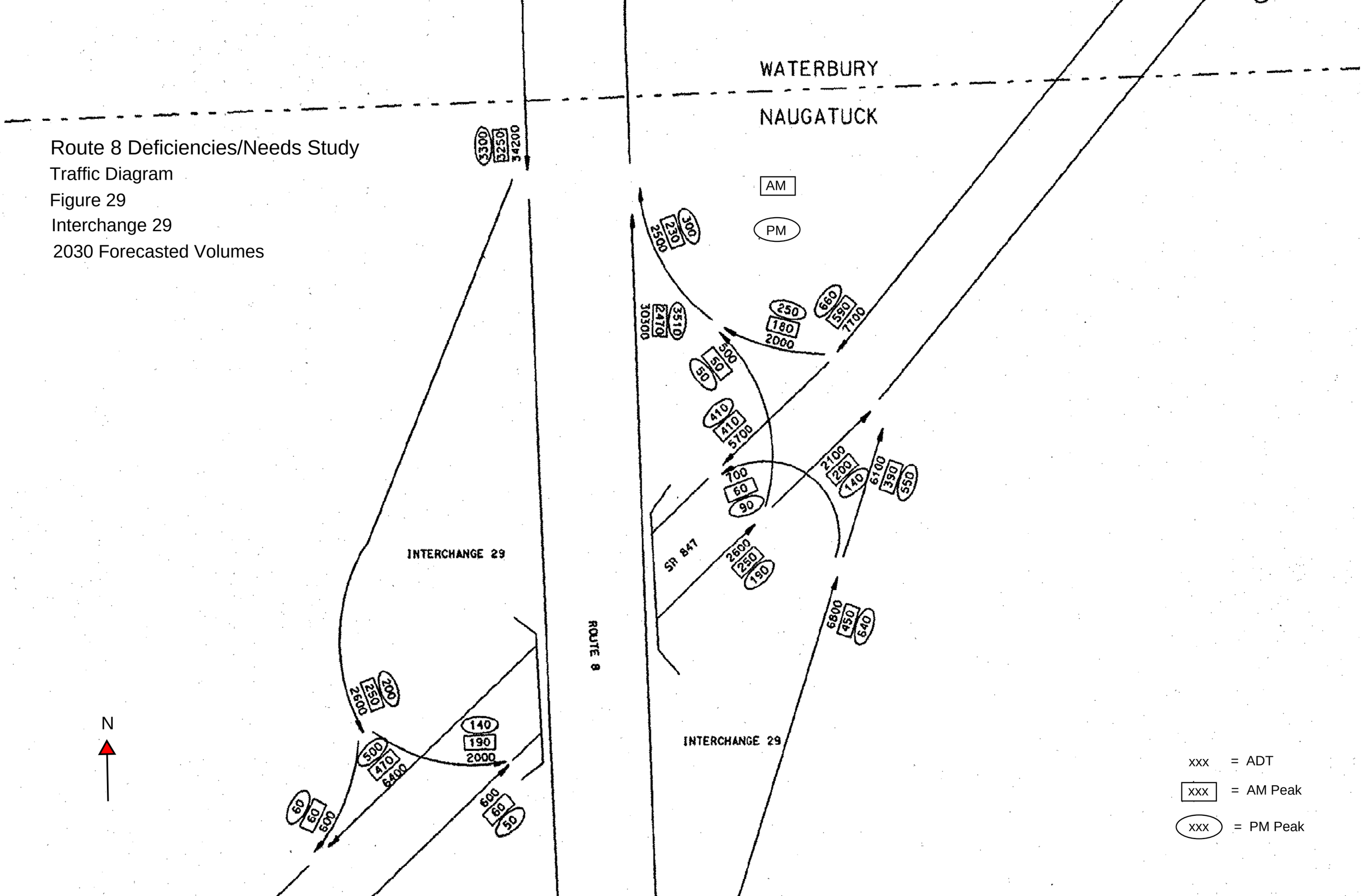
Figure 30 presents the candidate long-term improvements at Interchange 29. Under this alternative, the existing weaving lane is widened to accommodate the installation of a concrete median barrier and is restricted to local traffic only with elimination of the southbound weaving section to Route 8. (Access to Route 8 SB is maintained at the current location of the off-ramp). To accommodate the relocation of the on-ramp, the Route 8 bridge over Prospect Street will need to be widened.

The future alignment of the Naugatuck Greenway as a separate shared-use path along the southbound side of Route 8 is also depicted on Figure 30.

Waterbury – Local Intersections

Figure 31 depicts the medium to long-term improvement plan for the intersection of South Main Street at Platts Mill Road. Under this alternative, the existing median located on Platts Mill Road is removed and the northbound inside lane of South Main Street is proposed to be restriped to provide a continuous left turn lane.

Route 8 Deficiencies/Needs Study
Traffic Diagram
Figure 29
Interchange 29
2030 Forecasted Volumes



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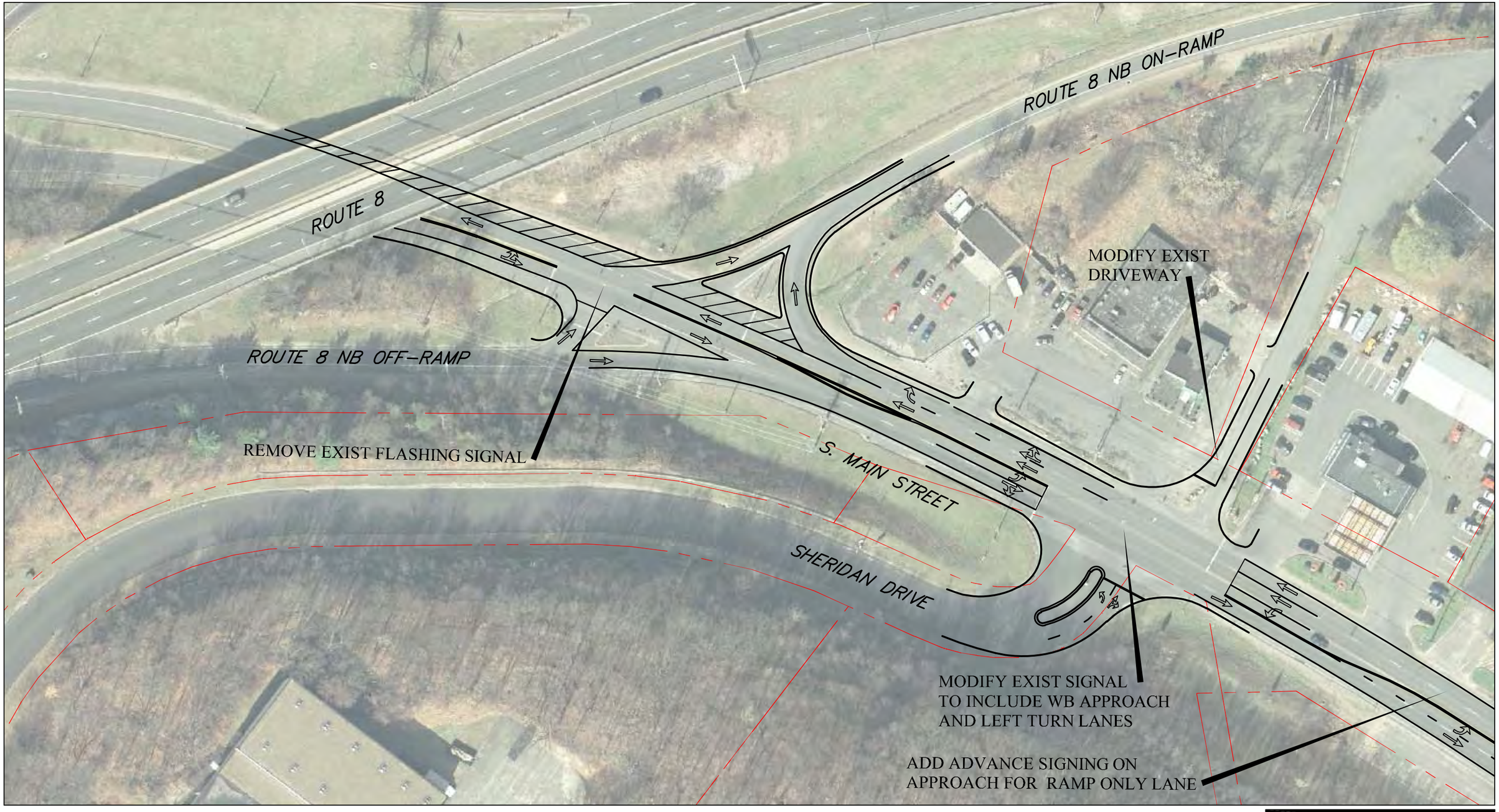


0 40 80 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 8 NB ON-RAMP DESIGN CRITERIA:
LANE WIDTH = 22 FT
SHOULDER WIDTH = 2 FT

SOUT MAIN STREET DESIGN CRITERIA:
LANE WIDTH = 12 FT
SHOULDER WIDTH = 4 FT MIN.
LEFT TURN LANE WIDTH = 10 FT

LEGEND:
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

Waterbury May 2010
Interchange 29

Route 8 NB Ramps/South Main Street
Medium & Long Term Alternatives

FIGURE 29

Naugatuck - Interchange 29

Route 8 NB Ramps/S. Main St - Medium & Long Term Alternatives

Figure 29

ENVIRONMENTAL EVALUATION

NOISE

No adverse impacts anticipated.

AIR QUALITY

No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES

There are no wetlands or surface waters in close proximity to the improvements.

There will be a slight increase in impervious surface with the paving over of small linear vegetated area. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.

GROUNDWATER RESOURCES

No adverse impact expected. Overlies groundwater classified as GA and GB.

No nearby wells.

ENDANGERED SPECIES

No impact to endangered species.

No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS

No impact to farmland soils.

No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES

No impacts to cultural resources.

No cultural resources present near the interchange.

SECTION 4(F) AND SECTION 6(F) LANDS

No impacts to 4(f) or 6(f) lands.

No 4(f) or 6(f) resources in vicinity of interchange.

HAZARDOUS MATERIALS

No impact from hazardous sites.

No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE

Installation of curb cuts will provide better access control to/from businesses along South Main Street.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY

There are no anticipated impacts to land use.

DESIGN ISSUES

Modifications to existing abutting property access on west side of South Main Street between NB On-ramp and Sheridan Drive

TRAFFIC OPERATIONS

The intersection of South Main Street and Sheridan Drive is anticipated to operate at LOS A during both the morning and evening peak hours.

The NB on-ramp geometry is significantly improved.

CONSTRUCTION COST ESTIMATE

$ 761,000

LEVEL 2 SCREENING RECOMMENDATION

Candidate Study Recommendation

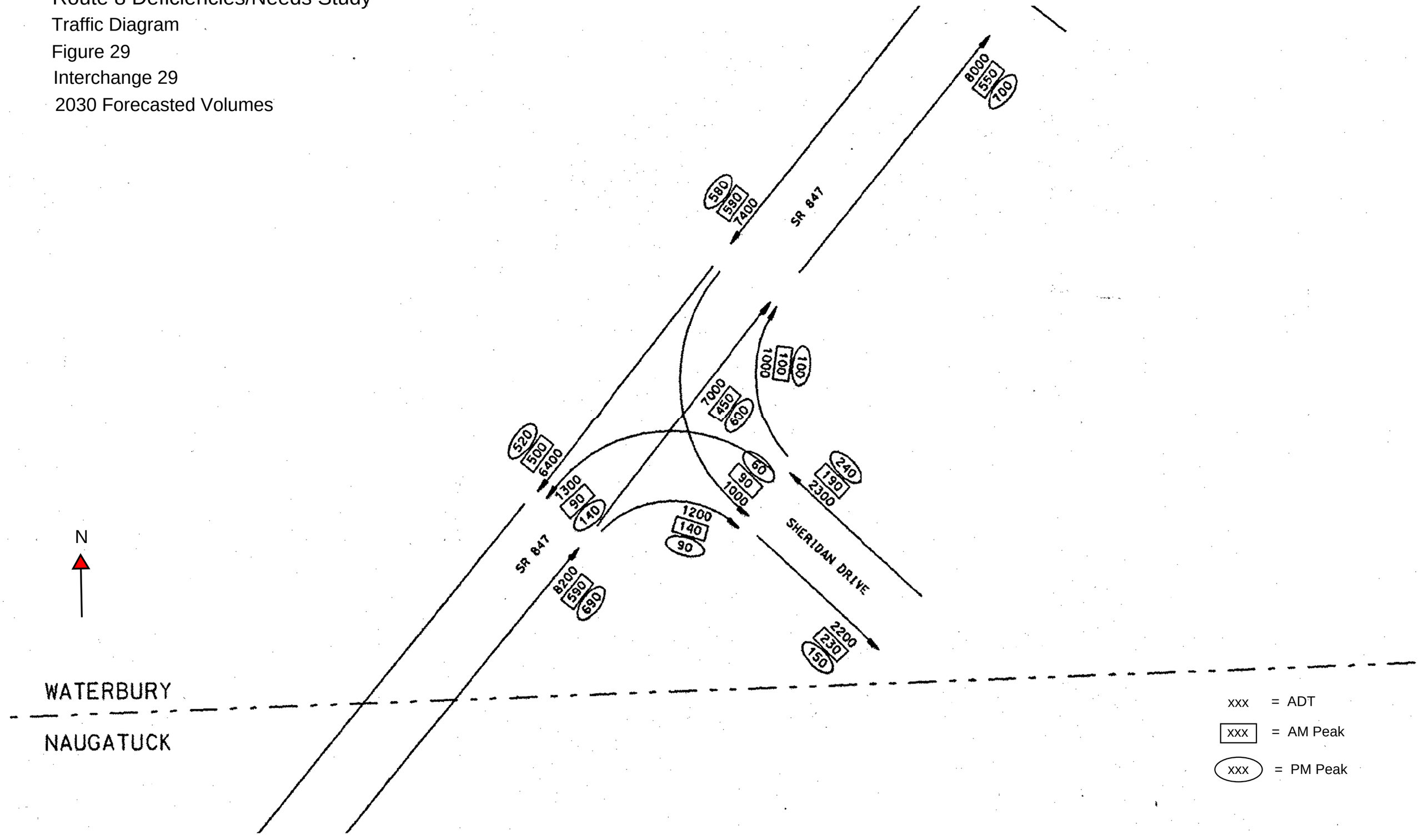
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 29

Interchange 29

2030 Forecasted Volumes



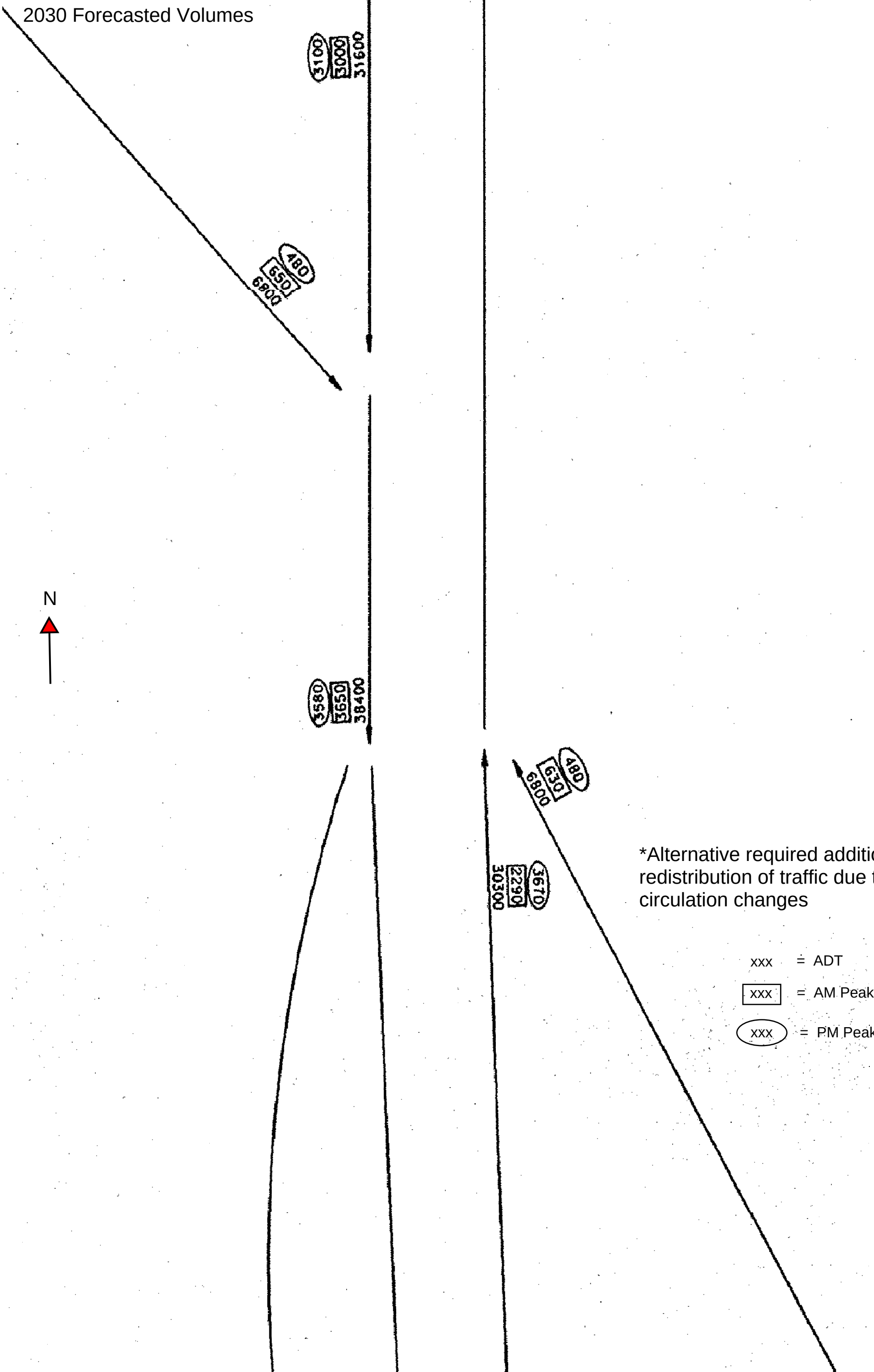
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 30 (Sheet 1)

Interchange 29

2030 Forecasted Volumes



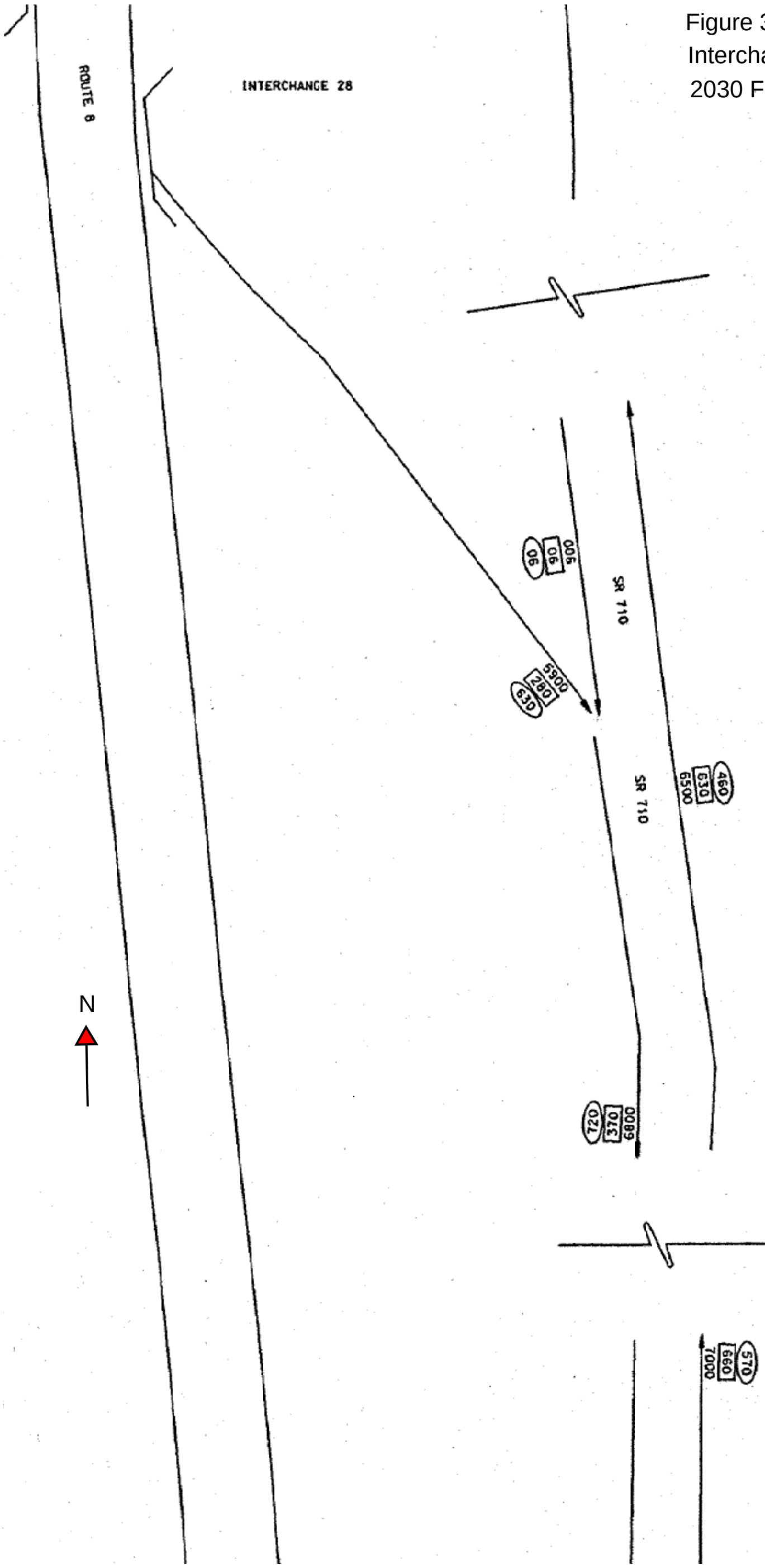
Route 8 Deficiencies/Needs Study

Traffic Diagram

Figure 30 (Sheets 2 & 3)

Interchange 29

2030 Forecasted Volumes



*Alternative required additional redistribution of traffic due to circulation changes

xxx = ADT

xxx = AM Peak

xxx = PM Peak

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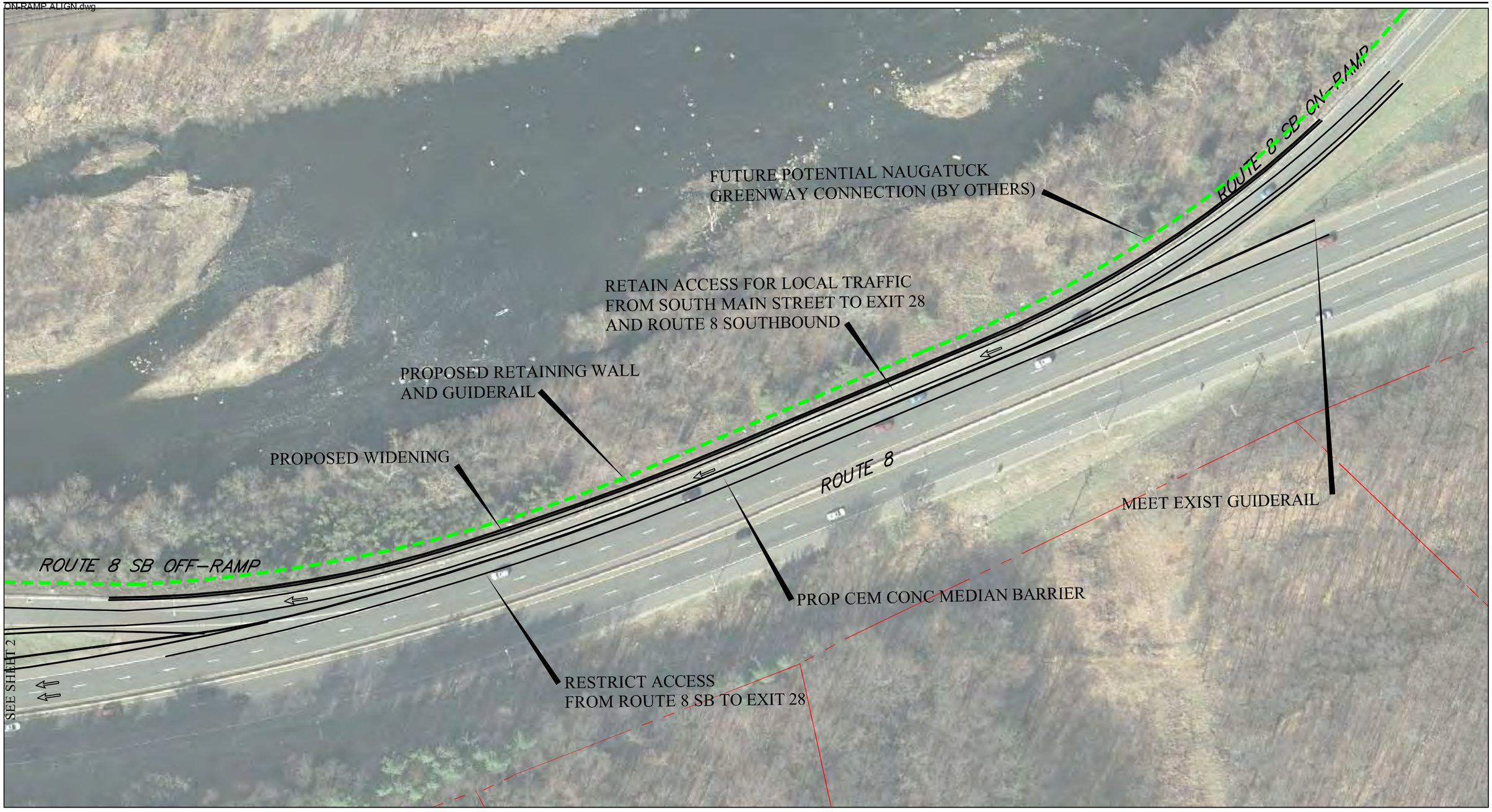


0 40 80 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 8 ON-RAMP DESIGN CRITERIA:
LANE WIDTH = 14 FT
RIGHT SHOULDER WIDTH = 8 - 10 FT
LEFT SHOULDER WIDTH = 4 FT

ROUTE 8 DESIGN CRITERIA:
LANE WIDTH = 12 FT
RIGHT SHOULDER WIDTH = 10 FT

S. MAIN STREET LOCAL ACCESS DESIGN CRITERIA:
LANE WIDTH = 11 FT
LEFT SHOULDER WIDTH = 4 FT
RIGHT SHOULDER WIDTH = 4 FT

LEGEND:
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

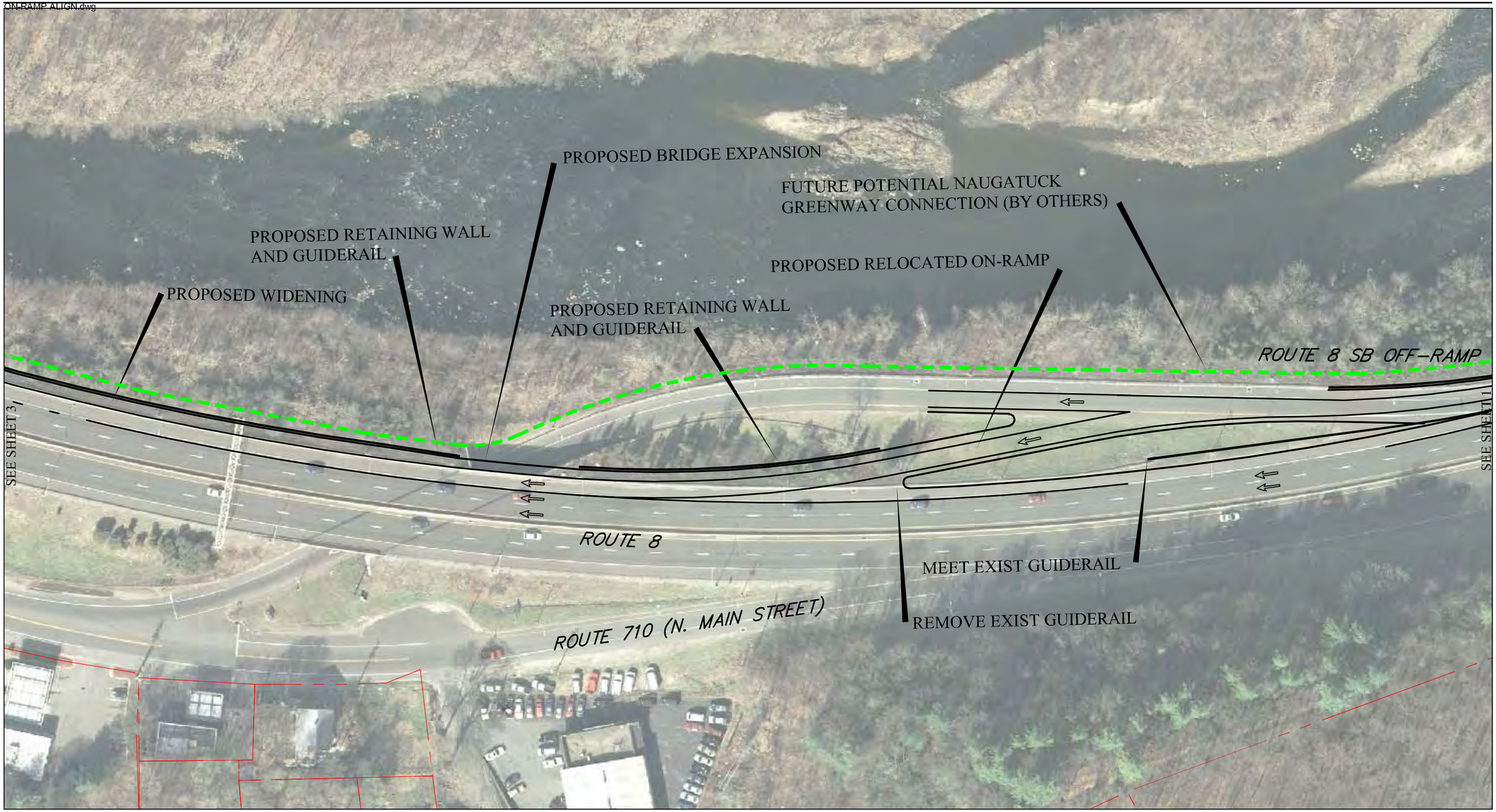
Waterbury
Interchange 29

May 2010

Route 8 SB Ramps
Long Term Alternative (1 of 3)

FIGURE 30

\\Vhb\homedir\Watertown\TS\SIGNALS\41488-ConDOT\IC29-NEW ON-RAMP ALIGN.dwg



0 40 80 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 8 ON-RAMP DESIGN CRITERIA:
LANE WIDTH = 14 FT
RIGHT SHOULDER WIDTH = 8 - 10 FT
LEFT SHOULDER WIDTH = 4 FT

ROUTE 8 DESIGN CRITERIA:
LANE WIDTH = 12 FT
RIGHT SHOULDER WIDTH = 10 FT

S. MAIN STREET LOCAL ACCESS DESIGN CRITERIA:
LANE WIDTH = 11 FT
LEFT SHOULDER WIDTH = 4 FT
RIGHT SHOULDER WIDTH = 4 FT

LEGEND:
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

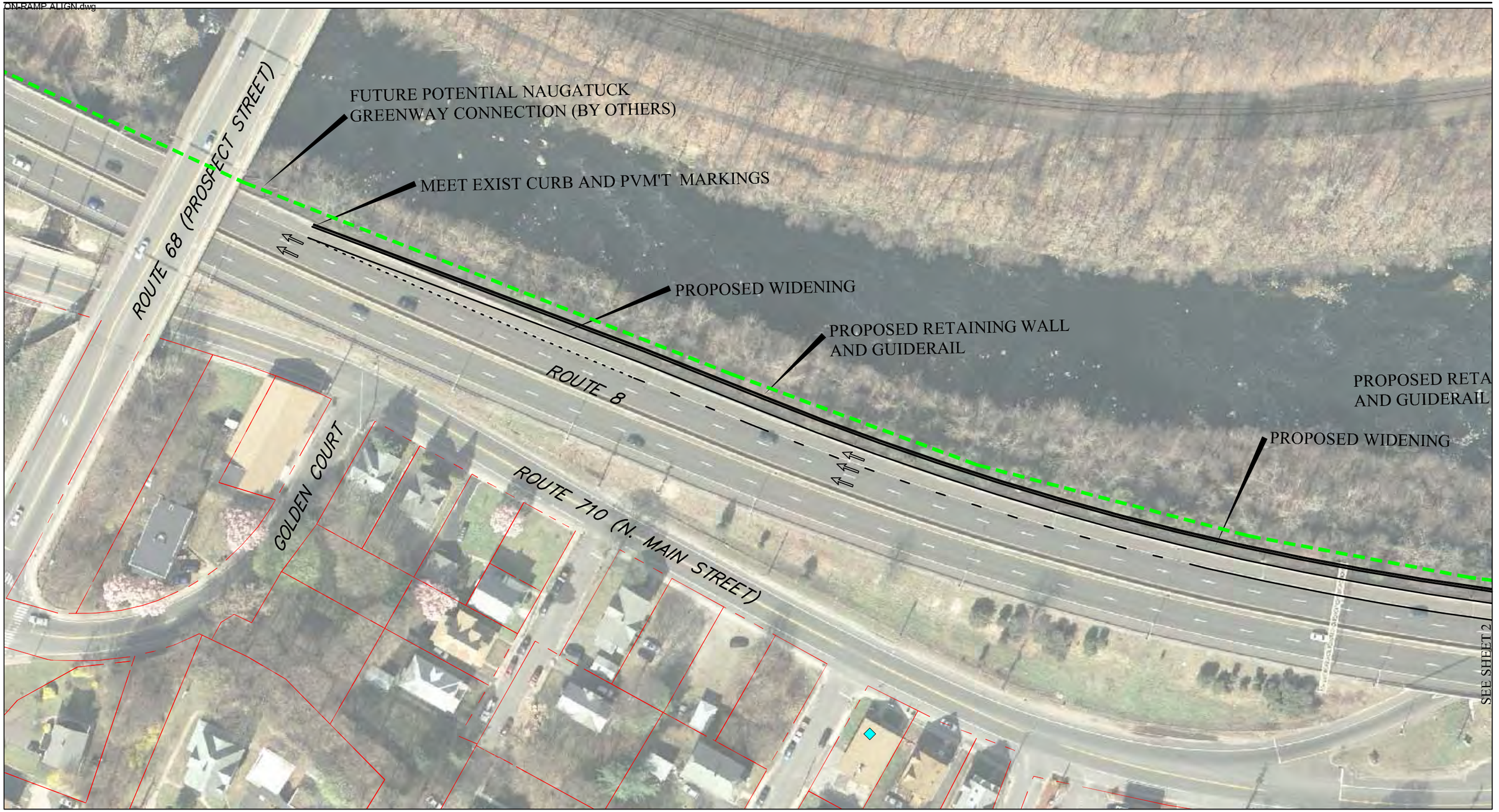
Waterbury
Interchange 29

May 2010

Route 8 SB Ramps/N. Main Street
Long Term Alternative (2 of 3)

FIGURE 30

\\Vhb\homedir\Watertown\TS\SIGNALS\41488-ConDOT\IC29-NEW ON-RAMP ALIGN.dwg



0 40 80 Feet

Route 8 Deficiencies/Needs Study
State Project 124-164

ROUTE 8 ON-RAMP DESIGN CRITERIA:
LANE WIDTH = 14 FT
RIGHT SHOULDER WIDTH = 8 - 10 FT
LEFT SHOULDER WIDTH = 4 FT

ROUTE 8 DESIGN CRITERIA:
LANE WIDTH = 12 FT
RIGHT SHOULDER WIDTH = 10 FT

S. MAIN STREET LOCAL ACCESS DESIGN CRITERIA:
LANE WIDTH = 11 FT
LEFT SHOULDER WIDTH = 4 FT
RIGHT SHOULDER WIDTH = 4 FT

LEGEND:
RIGHT-OF-WAY
HISTORIC PROPERTIES

Vanasse Hangen Brustlin, Inc.

Waterbury
Interchange 29

May 2010

Route 8 SB Ramps
Long Term Alternatives (3 of 3)

FIGURE 30

Naugatuck - Interchange 29
Route 8 SB Ramps - Long Term Alternative

Figure 30

ENVIRONMENTAL EVALUATION

NOISE
No adverse impacts anticipated.

AIR QUALITY
No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES
There are no wetlands in close proximity to the improvements.
There will be an increase in impervious surface with the paving over of vegetated area within the Route 8 right-of-way. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.
Minor widening waterward of the stream channel encroachment line and within 100 feet of Naugatuck River will require permits.

GROUNDWATER RESOURCES
No adverse impact expected. Overlies groundwater classified as GA and GB.
No nearby wells.

ENDANGERED SPECIES
No impact to endangered species.
No known rare, threatened, or endangered species present near interchange.

FARMLAND SOILS
No impact to farmland soils.
No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES
No impacts to cultural resources.
No cultural resources present near the interchange.

SECTION 4(F) AND SECTION 6(F) LANDS
No impacts to 4(f) or 6(f) lands.
No 4(f) or 6(f) resources in vicinity of interchange.

HAZARDOUS MATERIALS
No impact from hazardous sites.
No known hazardous contamination sites in the vicinity of the interchange.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE
Restricting access from Route 8 SB to Exit 28 will have minor impacts to residents and businesses located in the vicinity of this interchange.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY
No adverse land use impacts anticipated.

DESIGN ISSUES
Construction of proposed widening, embankment and guardrail adjacent to river on west side of roadway
Permanent restriction of access to Route 8 SB Off-ramp
Construction of retaining wall along west side of relocated Route 8 SB on-ramp
Expansion/reconstruction of existing Route 8 bridge over connection to North Main Street to support acceleration lane and shoulder for relocated SB on-ramp
Construction of proposed widening, retaining wall and guardrail adjacent to river on west side of Route 8 SB to support acceleration lane and shoulder for relocated SB on-ramp

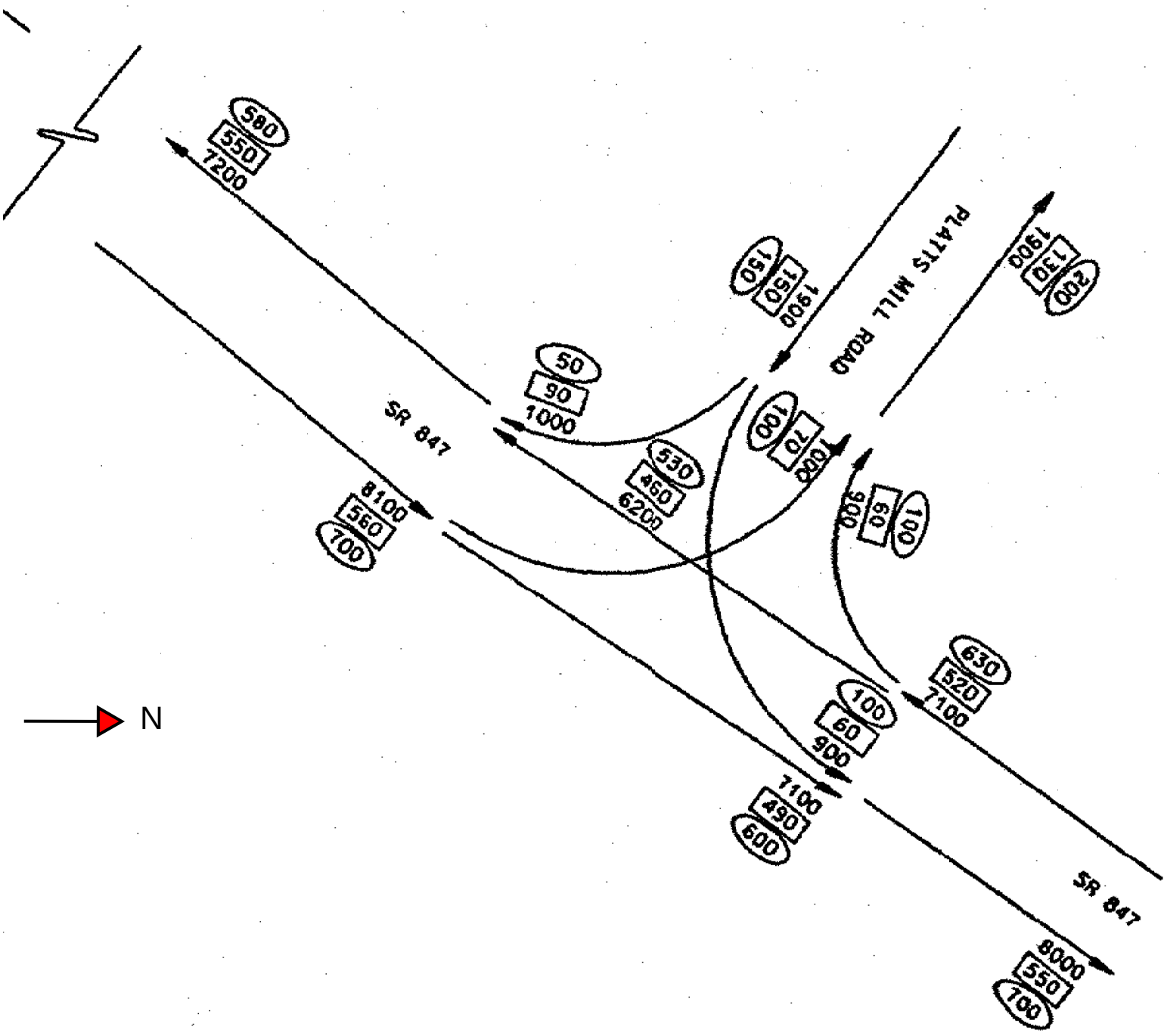
TRAFFIC OPERATIONS
Eliminates operationally deficient weave between Exit 29 SB on-ramp and Exit 28 SB off-ramp.

CONSTRUCTION COST ESTIMATE
$15,600,000

LEVEL 2 SCREENING RECOMMENDATION
Candidate Study Recommendation

Route 8 Deficiencies/Needs Study

Traffic Diagram
Figure 31
Interchange 29
2030 Forecasted Volumes



xxx = ADT

xxx = AM Peak

xxx = PM Peak

*Alternative required additional redistribution of traffic due to circulation changes

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0 40 80 Feet

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Route 8 Deficiencies/Needs Study
State Project 124-164

SOUTH MAIN STREET DESIGN CRITERIA:
LANE WIDTH = 11 FT
SHOULDER WIDTH = 4 FT

PLATTSS MILL ROAD DESIGN CRITERIA:
LANE WIDTH = 12 FT
SHOULDER WIDTH = 2 FT
MEDIAN WIDTH = 10 FT

LEGEND:
RIGHT-OF-WAY

Vanasse Hangen Brustlin, Inc.

Waterbury May 2010
Interchange 29

South Main Street at Platts Mill Road
Medium/Long Term Alternative

FIGURE 31

Waterbury

S. Main St at Platts Mill Road- Medium/Long Term Alternative

Figure 31

ENVIRONMENTAL EVALUATION

NOISE

No adverse impacts anticipated.

AIR QUALITY

No adverse impact. Overall improvements in traffic flow will lead to decrease in regional emissions.

WETLANDS & SURFACE WATER RESOURCES

There are no impacts to wetlands or surface water resources.

There will be a slight increase in impervious surface with the paving over of a sliver of vegetated area. However, no adverse impacts to surface water resources are anticipated as project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.

GROUNDWATER RESOURCES

No adverse impacts to groundwater resources.

No nearby wells.

ENDANGERED SPECIES

No impact to endangered species.

No known rare, threatened, or endangered species present near improvements.

FARMLAND SOILS

No impact to farmland soils.

No prime farmland or farmland of statewide importance would be affected.

CULTURAL RESOURCES

No impacts to cultural resources.

SECTION 4(F) AND SECTION 6(F) LANDS

No impacts to 4(f) or 6(f) lands.

HAZARDOUS MATERIALS

No impacts from hazardous materials are anticipated.

SOCIOECONOMIC ENVIRONMENT/ENVIRONMENTAL JUSTICE

No impacts to businesses, residences, or community cohesion.

ENGINEERING EVALUATION

LAND USE/RIGHT-OF-WAY

Improvements contained within existing roadway right-of-way.

No land use impacts anticipated.

DESIGN ISSUES

Modification to existing abutting property access on west side of South Main Street just south of Platts Mill Road

TRAFFIC OPERATIONS

The intersection of South Main Street and Platts Mill Road is anticipated to operate at LOS A during both the morning and evening peak hours.

CONSTRUCTION COST ESTIMATE

$417,000

LEVEL 2 SCREENING RECOMMENDATION

Candidate Study Recommendation

Mainline Alternatives

Traffic demand along the Route 8 corridor within the study area is projected to increase by approximately 25 percent between 2008 and 2030. As identified in Chapter 4 of Technical Memorandum # 1, with the anticipated growth in corridor demands, 6 of the 9 southbound segments between Exits 22 and 28 are expected to operate at LOS E or F during the morning peak hour. In addition, under the 2030 traffic conditions, 6 of the 8 northbound segments along Route 8 are expected to operate at LOS F condition during the evening peak hour.

As a result, it will be necessary to consider reducing regional traffic demands or increasing the capacity of the overall corridor in areas where deficient LOS exists in order to maintain acceptable operating conditions in 2030. One long-term option is to widen the corridor to accommodate the addition of a third travel lane in each direction. Table 2 presents the level of service analysis for the mainline sections under the 2030 future conditions with the existing 2-lane cross section and with a 3-lane cross section. All mainline deficiencies are mitigated with the added travel lane and the corridor would operate at LOS D or better during all projected 2030 conditions.

Further, investigation of widening of Route 8 from 4 to 6 lanes is beyond the scope of this particular corridor study; however, travel demands should be monitored along the corridor to determine if additional study of these improvements is warranted in the future. Should the widening of Route 8 be given serious consideration, it would likely require an Environmental Impact Study (EIS) due to the large investment required and the significant impacts of construction.

Table 2 Mainline LOS Analysis (2030 Future Conditions): Existing and Widened Cross Sections

	2030 Conditions with Existing Cross Section				2030 Conditions with 3-Lane Cross Section			
	Northbound		Southbound		Northbound		Southbound	
Segment	Density[a]	LOS	Density	LOS	Density	LOS	Density	LOS
Exit 22 to Exit 23								
AM	15.1	B	>45	F	10.1	A	24.4	C
PM	>45	F	20.9	C	24.6	C	13.9	B
Exit 23 to Exit 24								
AM	13.4	B	38.0	E	8.9	A	20.7	C
PM	40.0	E	17.7	B	21.7	C	11.8	B
Exit 24 to Exit 25								
AM	16.7	B	>45	F	11.2	B	26.2	D
PM	>45	F	24.1	C	25.7	C	15.9	B
Exit 25 to Exit 26								
AM	17.3	B	>45	F	11.5	B	23.3	C
PM	>45	F	25.7	C	23.6	C	16.7	B
Exit 26 to Exit 27								
AM	19.6	C	37.1	E	13.1	B	21.1	C
PM	>45	F	25.7	C	23.4	C	16.7	B
Exit 27 to Exit 28								
AM	23.1	C	>45	F	15.3	B	22.9	C
PM	>45	F	35.1	E	25.9	C	19.5	C
Exit 28 to Exit 29								
AM	25.8	C	26.0	C	16.8	B	16.5	B
PM	>45	F	27.2	D	24.2	C	17.1	B
Exit 29 to Exit 30 (2 Lane Portion)								
AM	22.3	C	29.2	D	14.5	B	17.9	B
PM	39.9	E	30.0	D	20.7	C	18.2	C

Next Steps

The next stage of this study process, the study team will:

- Conduct additional outreach meetings with the Towns and local agencies to obtain their input on the refined alternatives and verify study recommendations;
- Develop the final recommended plan of transportation improvements;
- Develop an implementation framework and financial plan to implement the study recommendations;
- Obtain feedback from CTDOT, SG Group and the public on the final recommended improvements plan, priorities, and financial plan; and,
- Develop the draft Deficiencies/Needs Report for review by CTDOT and the Stakeholder Group.