

Appendix C – Request for Preliminary Jurisdictional Determination and USACE Correspondence



April 1, 2011

Ref: 57414.00

Marty Abair
Senior Project Manager, Regulatory Division
U.S. Army Corps of Engineers
8 Carmichael Street
Essex Junction, VT 05452

Re: Request for Preliminary Jurisdictional Determination:
Federal Street Multi-Modal Connector Project - CENAE-R-61-NAE-2010-1838
VTrans Project: St. Albans HPP 8000 (17)

Dear Ms. Abair:

Vanasse Hangen Brustlin, Inc. (VHB) has been contracted by the City of St. Albans to perform a wetland delineation within the proposed project area for the Federal Street Multi-Modal Connector Project. The project area is approximately 1.6 miles long, commencing at the intersection of Main Street (US Route 7) at Lower Newton Street westerly to Lower Newton Street and Federal Street and then continuing south to Nason Street (see attached Site Location Map). The project may include geometric improvements, intersection reconfiguration, bicycle facilities, sidewalk improvements, new or upgraded traffic signals, street lighting, utility relocation, drainage improvements, and replacing the bridge on Lemnah Drive over the Stevens Brook.

On behalf of the City of St. Albans, we are requesting U.S. Army Corps of Engineers (USACE) confirmation of the flagged wetland boundary. We understand that current weather and ground conditions may preclude such a confirmation until more favorable weather returns, however, we are submitting this report for your initial review as well as to prompt and respond to any questions you may have regarding this project or the results of the delineation. Contact information, a brief site description, and the wetland report follow hereafter.

Agent for City of St. Albans:

VHB/Vanasse Hangen Brustlin, Inc.
POC: Deborah Finnigan
7056 US Route 7, P.O. Box 120
North Ferrisburgh, VT 05473
(802) 425-7788 X 6429
dfinnigan@vhb.com

Name of Current Property Owner:

City of St. Albans
POC: Dominic Cloud, City Manager
City Hall, P.O. Box 867
100 North Main Street
St. Albans, VT 05478
d.cloud@stalbansvt.com



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Written Road Directions:

From I-89 N, take Exit 19 toward St. Albans / US-7 / VT-36 / VT-104. Merge onto St. Albans State Highway. Turn right on South Main Street. Go approximately 0.9 mile and turn left onto Lower Newton Street. The northern terminus of the project commences at Lower Newton Street and Federal Street.

Name of Locality:

City of St. Albans

Site Coordinates:

44°48'7.808"N
73°5'28.814"W

Study Area Description

Much of the project area is located along existing alignments and within previously developed areas (see Site Location Map). The northerly section of the project area south to Kingman Street is mixed residential and commercial, with the St. Albans Cooperative Creamery between Aldis Street and Deal Street representing an industrial land use, between Center Street and Stebbin Street, public and commercial buildings occupy the corridor. Continuing south on Allen Street and Lemnah Drive, the eastern side of the street is characterized by an industrial park setting while the western side contains a narrow green belt that separates the road from a rail yard managed by the New England Central Railroad (NECR).

VHB scientists evaluated the entire 1.6 miles of the proposed project area for the occurrence of natural resources. From the northern terminus of the project through to Lemnah Drive at the intersection with Stevens Brook, field scientists made observations on conditions within the existing right-of-way and just beyond where improvements may be carried out. Improvements in this part of the project area would amount to redevelopment activities. The majority of the project area is highly developed and the proposed work would be carried out primarily along existing alignments. The limits of the natural resource investigation area were therefore restricted to a relatively narrow swath along the southern section of the project boundary as shown on the Site Location Map.

Receiving Vermont Watershed Basin:

Lake Champlain District
(HUD8: 02010008)

Description of Proposed Activity

Multiple improvements to the Federal Street Corridor, that may include geometric improvements, intersection reconfiguration, corridor connectivity to Interstate Access Road via new alignment, bicycle facilities, sidewalk improvements, new or upgraded traffic signals, street lighting, utility relocation, drainage improvements, and replacing the bridge on Lemnah Drive.



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The southernmost portion of the project is a proposed new road alignment, which would run west from the current intersection of the Interstate Access Road at South Main Street to join a southerly extension of Lemnah Drive. Accordingly, to account for resource setbacks or to allow for horizontal shifts in road alignment planning, the limits of the investigation from Stevens Brook to the south were expanded to include an area of 500 feet; 250 feet on either side of the preliminary roadway centerline for the proposed new alignment.

Methodology for Wetland Delineation

VHB Senior Environmental Scientist Nancy Rendall, CWS, conducted wetland delineation fieldwork on October 18 and 20, 2010. Wetland delineations were made pursuant to the USACE regional wetland delineation supplementⁱ. Wetlands were identified in the field with pink flagging. Field notes were taken to record information such as proposed wetland classificationsⁱⁱ, general characteristics, potential functions and values of the wetland, and any unique qualities observed during the site assessment, along with other considerations relevant to support site findings. Wetlands were classified in accordance with the *Classification of Wetlands and Deepwater Habitats of the United States*ⁱⁱⁱ. Wetland functions and values were evaluated based on the field notes and observations according to the USACE *Highway Methodology Workbook: Supplement*^{iv}. Wetland flags were located in the field using a Trimble® ProXT GPS unit capable of sub meter accuracy and the resulting survey data were then post processed using Trimble® Pathfinder software for enhanced accuracy.

Soil Series Descriptions

Based on a review of Natural Resources Conservation Service (NRCS) databases^v ^{vi}, the entire project area is underlain by just four soil types. These are:

- Copake fine sandy loam, 2 to 8 percent slopes: non-hydric
- Georgia stony loam, 3 to 8 percent slopes: non-hydric
- Massena stony loam, 0 to 3 percent slopes: hydric inclusions
- Rumney variant silt loam: hydric

ⁱ USACE. 2009. *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and North Central Region*.

ⁱⁱ Vermont Water Resources Panel (WRB). 2010. Vermont Wetland Rules. (VT. Code R. 12 004 056) Effective September 15, 2010.

ⁱⁱⁱ Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. *Classification of wetlands and deepwater habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 131pp.

^{iv} USACE. 1999. *The Highway Methodology Workbook: Supplement*. New England Division, NAEEP-360-1-30a, 39 pp.

^v NRCS. 2011. *Web Soil Survey*. <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>.

^{vi} NRCS. 2011. *Soil Data Mart – Franklin County, Vermont*. <http://soildatamart.nrcs.usda.gov>



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Massena stony loam can have inclusions of the hydric Lyons stony loam in depression settings approximately 10% of the time. Rumney variant silt loam is itself a hydric soil, with roughly 65% of its mapped extent being hydric in floodplain settings. Rumney variant silt loam can also have inclusions of the hydric Limerick silt loam (20%, depressions and floodplains) and undrained occurrences of Wallkill silt loam (5%, depressions and floodplains).

As previously discussed, due to the urbanized setting of the project, native soils have been significantly disturbed. The relatively undeveloped area south of Nason Street and between the NECR tracks and South Main Street thus represents the primary area of investigation. Soil mapping here is roughly split equally between Massena stony loam and Copake fine sandy loam, with Massena soil mapped under the western half of the area.

Results of the Wetland Delineation

Two wetland bodies were identified within the project area. Wetlands B and F are depicted on the attached Wetland and Stream Delineation Map. During initial investigations, four other areas of interest were flagged (A, C, D, and E) but were deemed non-jurisdictional following further examination. The following summary details the wetland characteristics relative to the criteria for classifying significant wetlands under the Vermont Wetland Rules (VWRs), as well as VHB's proposed classifications for Wetlands B and F under the VWRs. USACE Wetland Determination Data Forms were completed for each wetland feature, which describe in detail information on the vegetation, soils, and hydrology for a location within each wetland as well as the non-jurisdictional upland area just beyond the wetland boundary. Wetland Function and Value Evaluation Forms were also completed for each delineated wetland. The Wetland Determination Data forms, Function and Value Evaluation Forms, and Wetland and Stream Delineation Summary Photographs are attached.

Wetland B

Wetland B is located in the southern portion of the project area to the south of Nason Street (see Wetland and Stream Delineation Map and attached Summary of Delineated Wetlands Table). Within the limits of the project area, Wetland B measures approximately 32,200 square feet (0.74 acres) in size. It continues to the south beyond the limits of the project area.

Wetland B is characterized by a Palustrine Forested wetland vegetation community that has been very disturbed by previous residential trash deposits. Wetland B is proposed by VHB as a Class II wetland based on its ability to provide flood storage



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benefits and surface and groundwater protection per criteria 5.1 and 5.2 of the Vermont Wetland Rules (VT Code R. 12 004 056), respectively. The presence of the trash within Wetland B reduces its functional benefit for protection of surface water quality and/or groundwater. However, Wetland B does have the potential to trap sediments and remove them from surface waters. Classification of Wetland B as Class II is preliminary pending forthcoming coordination with the Department of Environmental Conservation (DEC) Wetlands Section.

Wetland F

Wetland F is located adjacent to Wetland B in the southern portion of the project area to the south of Nason Street (see Wetland and Stream Delineation Map and attached Summary of Delineated Wetlands Table). Wetland F measures approximately 2,930 square feet (0.067 acres) in size and is contained entirely within the project area.

Wetland F is characterized by a Palustrine Forested wetland vegetation community. Wetland F is proposed as a Class III wetland due to the small size of the wetland which limits its ability to provide functional benefits per criteria 5.1 and 5.2 of the VWRs. Confirmation of this classification is preliminary pending forthcoming coordination with the DEC Wetlands Section.

Additionally, VHB conducted a cursory survey for those areas with characteristics consistent with the criteria outline for vernal pools in *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont*^{vii} and in the *Department of the Army General Permit, State of Vermont*^{viii} regulatory guidance. Upon cursory review, no vernal pools were identified within the natural resource investigation area; however, this will be verified in Spring 2011.

^{vii} Thompson, E. H., E.S. Sorenson. 2005. *Wetland, Woodland, Wildland: A guide to the natural communities of Vermont*. Vermont Department of Fish and Wildlife and the Nature Conservancy.

^{viii} *Department of the Army General Permit, State of Vermont*. General Permit No.: NAE-2007-24. U.S. Army Corps of Engineers. 2007.



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Methodology for Stream Delineation

Stream delineation flagging was conducted pursuant to the Agency of Natural Resources (ANR) Riparian Buffer Guidance^{ix}. Stream ordinary high water (OHW) width was recorded according to methods detailed in the USACE *Regulatory Guidance Letter: Subject – Ordinary High Water Mark*^x. OHW was identified using pink wetland flagging and pin flags. Flow regime was preliminarily classified based on qualitative observations of instream hydrology indicators at the time of observation, geomorphic characteristics, and data available from other sources.

Stream features were located in the field using a Trimble® GPS ProXT unit capable of sub meter accuracy and was subsequently post processed for enhanced accuracy using Trimble® Pathfinder software. Stream features collected in the field are described below and represented on the Wetland and Stream Delineation Map.

Results of the Stream Delineation

VHB delineated a portion of the perennial Stevens Brook, which bisects the project area perpendicular to Lemnah Drive. This portion of Stevens Brook is approximately 8 to 10 feet wide with banks ranging from 4 to 8 feet high. The banks of the stream are armored upstream of the bridge and the stream has been artificially channelized through the project area. The water depth was estimated at three inches to greater than one-foot during the site visit. Stevens Brook at this location is classified as a Riverine, Lower Perennial, Unconsolidated Bottom, Mud, Permanently Flooded (R2UB3H) channel. Bank vegetation consists of Japanese knotweed (*Polygonum cuspidatum*), box elder (*Acer negundo*), northern white cedar (*Thuja occidentalis*), and weeping willow (*Salix x sepulcralis*) (see the attached Wetland and Stream Delineation Summary Photographs).

Upon review of the Vermont Water Quality Standards 2008^{xi} (VWQS) all the waters within the investigation area are classified as Class B waters. Based on review of FEMA Floodzones (Panel No. 5000580001B), the northern section of the natural resources investigation area, in the vicinity of Stevens Brook, is designated Zone B. Zone B is an area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods.

On behalf of the City of St. Albans, VHB respectfully requests a confirmation of the delineated wetlands and streams as presented in this letter report. As mentioned above,

^{ix} ANR 2005. *Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers*. 30 pp.

^x USACE 2005. *Ordinary High Water Mark (OHWM) Identification*. Regulatory Guidance Letter 05-05.

^{xi} Resources Board – Water Resource Panel. January 1, 2008. Vermont Water Quality Standards.



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we understand that it may not be possible to perform the fieldwork necessary to produce such a confirmation until ground conditions improve. However, we invite any interim remarks or requests for additional information and will accompany you on a site visit at a time that is convenient for you. Please contact me at (802) 425-7788, extension 6429, or via email at dfinnigan@vhb.com with any questions or comments.

Very truly yours,
VANASSE HANGEN BRUSTLIN, INC.



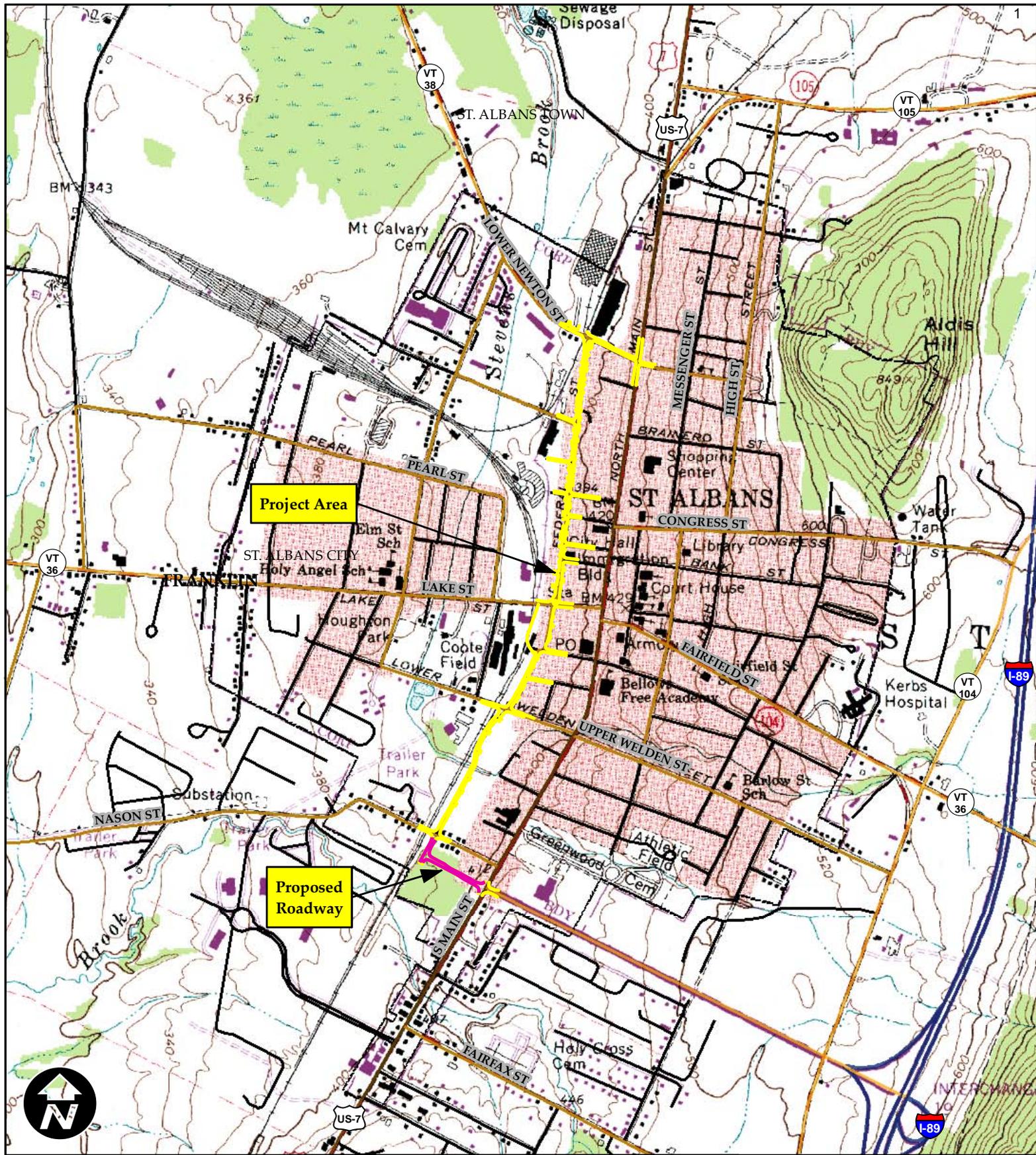
Deborah Finnigan
Deputy Project Manager

Enclosures:

- Wetland Determination Data Forms
- Summary Photographs
- Site Location Map
- Wetland and Stream Delineation Map
- Summary of Wetland Delineations

cc w/encl: Peter Cross, Municipal Project Manager, Cross Consulting Engineers
Dominic Cloud, City Manager, City of St. Albans
Jeff Ramsey, Environmental Specialist, NE Region, VTrans
Jon Kaplan, VTrans

ATTACHMENT



- Legend
- Project Boundary
 - Proposed Roadway
 - Interstate
 - Vermont State Highway
 - US Highway
 - Town Road
 - County Boundary
 - Town Boundary

City of Saint Albans, Vermont
Federal Street Multi-Modal Connector
Site Location Map

March 15, 2011

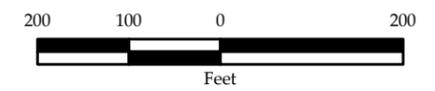


Sources: Background- USGS Topographic Quadrangle Saint Albans and Bellevue Hill (1996); Project Boundary by VHB (2010); Road Data from VCGI (2008); Boundaries from VCGI (2008).

VHB Vanasse Hangen Brustlin, Inc.

Federal Street Multi-Modal Connector Saint Albans, VT Wetland and Stream Delineation Map

March 15, 2011



Legend

VHB Delineated Wetlands

Proposed Class II

Proposed Class III

Wetland Continues

VHB Streams

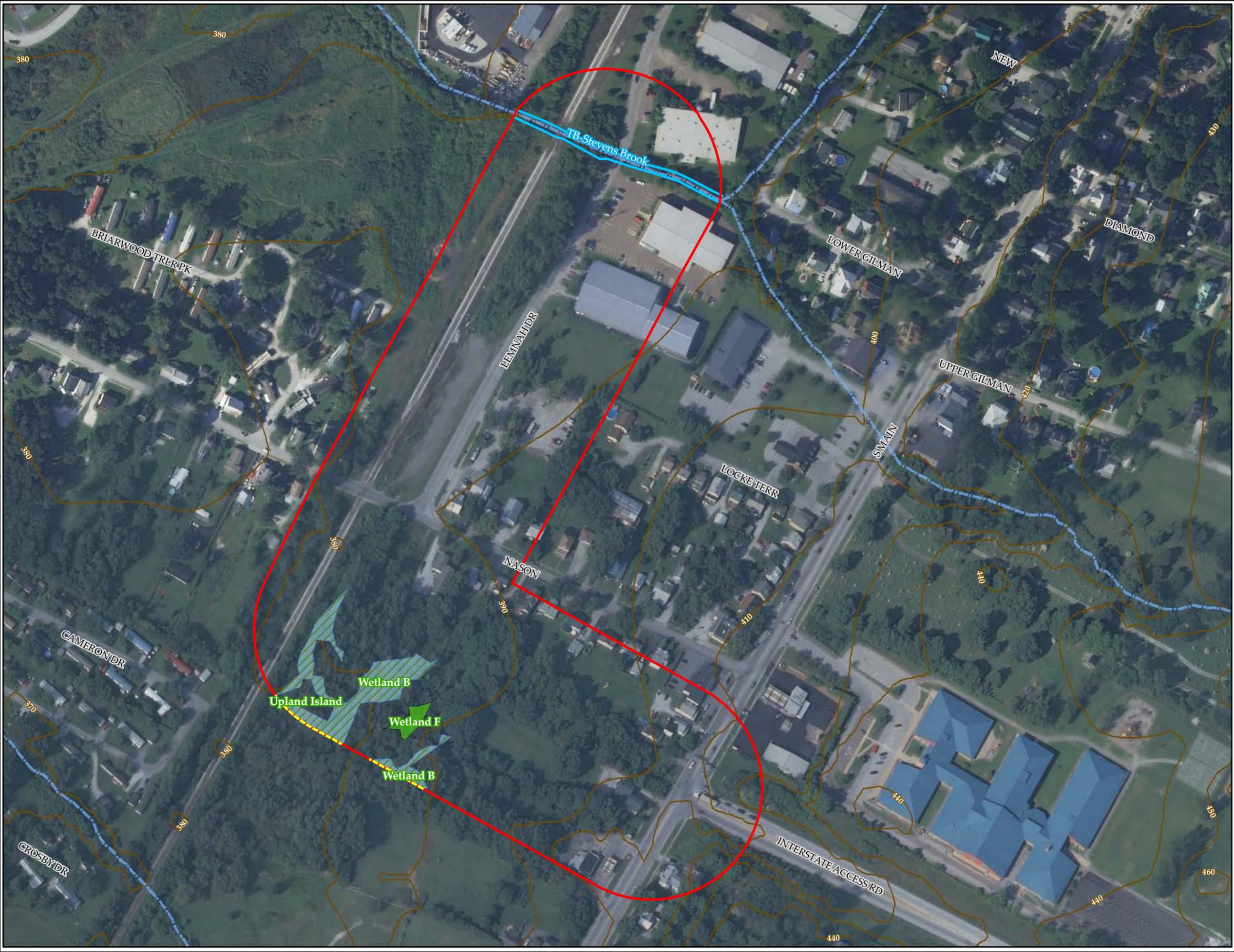
Natural Resources Investigation Area

VSWI Wetlands

VHD Streams

Contours - 10 ft

Background: High-Res Ortho Photo (2008);
e911 Roads (2008) provided by VCGI (2009);
VHD Streams and Waterbody (2008) data
provided by VCGI (2009); VSWI wetlands
downloaded from VCGI (2010); Wetland and
Streams delineated by VHB (2010); wetland
properties, natural resources investigation area,
and contours provided by VHB (2010).



Federal Street Multi-Modal Connector Project
St. Albans, Vermont
Summary of Delineated Wetlands
Prepared by VHB
March 15, 2011

Wetland ID	Wetland Area (Square Feet) ¹	Elevation (ft NGVD approx.)	Cowardin Classification ²	Vegetation Assemblage or Natural Community ³	Highway Methodology Principal Functions and Values ⁴	Contiguous to a VSWI-mapped Wetland?	Riparian Wetland Contiguous to Stream Channel? (Flow Regime) ⁵	VWR Section 4.6 Presumptions	VWR Section 5 Functional Criteria Presence/Significance		VHB Proposed VWR Classification ⁷	Comments
									Type ⁶	VHB-Proposed Significant?		
B	32,200	400	PFO1C	Regenerating Forested Wetland	FF	NO	NO	Yes (4.6.a)	5.1	YES	Class II	Wetland B is located to south of Nason Street. Wetland B meets Section 4.6.a presumptive criteria. Its size and location on the landscape allow it to provide significant floodflow functional benefits. A 48" culvert provides stormwater inflows and throughflows to this wetland. A scour channel has developed below the culvert but the channel becomes diffuse as it flows downstream through the wetland.
F	2,930	400	PFO1C	Regenerating Forested Wetland	W	NO	NO	None	-	-	Class III	Wetland F is located south of Nason Street adjacent to Wetland B in a forested area. Wetland F does not meet any of the presumptive criteria of 4.6. This wetland is small so its ability to provide significant functional benefit per 5.1 and 5.2. is limited.

- Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and North Central Region. U.S. Army Corps of Engineers. 2009.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitat of the United States.
- When the wetland is part of a natural community (undisturbed), Wetland Woodland Wildland (Thompson and Sorenson 2005) is used followed by Vermont Community ranking in parentheses (S1=very rare, S2=rare, S3=uncommon, S4=common, S5=very common). The natural community type is used in several instances to evaluate the wetland's significance under the Vermont Wetland Rules.
- U.S. Army Corps of Engineers (USACE) - New England District. 1999. The Highway Methodology Workbook: Supplement: Wetland Functions and Values - A Descriptive Approach. NAEEP-360-1-30a. Functions and Values are codified as follows: GW=Groundwater Recharge/Discharge, FF=Floodflow Alteration, F= Fish and Shellfish Habitat, STP=Sediment/Toxicant Retention, NUT=Nutrient Removal, PE=Production Export, SS=Sediment/Shoreline Stabilization, W=Wildlife Habitat, R=Recreation, ES=Education/Scientific Value, H=Heritage/Uniqueness, V=Visual/Aesthetics, and RTE=Rare, Threatened, or Endangered Species Habitat.
- Wetland contiguity to streams as defined in the Vermont ANR 12/9/05 Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers and confirmed if a delineated perennial or intermittent stream channel inflows, throughflows, and outflows from a delineated wetland (ephemeral channels not typically being subject to ANR Riparian Buffer Guidance). The vegetative assemblage or natural community type is used when determining riparian vegetation function. Flow regime determined based on qualitative observations of instream hydrology indicators and geomorphic characteristic and are subject to professional judgment (P=perennial, I=intermittent, E=ephemeral).
- VWR Section 5: Functional Criteria for Evaluating a Wetland's Significance: 5.1=Water Storage for Flood Water and Storm Runoff, 5.2=Surface and Groundwater Protection, 5.3=Fish Habitat, 5.4=Wildlife Habitat, 5.5=Exemplary Wetland Natural Community, 5.6=Rare, Threatened or Endangered Species Habitat, 5.7=Education and Research in Natural Sciences, 5.8=Recreational Value and Economic Benefits, 5.9=Open Space and Aesthetics, 5.10=Erosion Control Through Binding and Stabilizing the Soil.
- As delineated, all wetland resources on-site are proposed for classification under the 2010 Vermont Wetland Rules but have not been reviewed by the ANR-DEC. Unless otherwise designated by the Secretary, Class II wetlands are protected by regulated 50-foot buffers.



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project Site: FEDERAL ST. MULTI-MODAL CONNECTOR City/County: ST. ALBANS Samp. Date: 10/18/2010
 Applicant/Owner: CITY OF ST. ALBANS State: VERMONT Sampling Point: B-WET
 Investigator(s): N. RENDALL (VHB) Section, Township, Range: ST. ALBANS
 Landform (hillslope, terrace, etc.): FLAT Local relief (concave, convex, none): CONCAVE Slope (%): _____
 Subregion (LRR or MLRA): LRR R Lat: 73° 5' 28.798" Long: 44° 48' 8.457" Datum: NAD 27
 Soil Map Unit: MASSENA STONY LOAM, 0-3% SLOPES NWI Class: PFO1C
 Are climatic/hydrologic conditions on the site typical for this time of year? YES (If no, explain in Remarks.)
 Are Vegetation, Soil, or Hydrology significantly disturbed? YES (SOIL) Normal Circumstances? YES
 Are Vegetation, Soil, or Hydrology naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <u>YES</u>	Is This Sample Area
Hydric Soil Present? <u>YES</u>	Within a Wetland? <u>YES</u>
Wetland Hydrology Present? <u>YES</u>	If yes, optional Wetland Site ID: <u>WETLAND B</u>
Remarks: AREA HAS BEEN USED IN THE PAST FOR TRASH/GARBAGE DUMPING (RESIDENTIAL AND DEMO DEBRIS) AND DEBRIS COLLECTION FROM ADJACENT RAILROAD	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? _____ Depth (inches): _____ Water Table Present? <u>X</u> Depth (inches): <u><12</u> Saturation Present? <u>X</u> Depth (inches): <u><12</u> (includes capillary fringe)	Wetland Hydrology Present? <u>YES</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION - Use scientific names of plants.



Sampling Point: B-WET

	Absolute % Cover	Dom. Sp?	Indicator Status		
Tree Stratum (Plot size: <u>30' RAD</u>)					
1. <u>Salix xsepulcralis Simonkai [alba x ?pendulina]</u>	10		FACW	Dominance Test Worksheet: # Dominants OBL, FACW, FAC: <u>7</u> (A) # Dominants across all strata: <u>8</u> (B) % Dominants OBL, FACW, FAC: <u>88%</u> (A/B)	
2. <u>Fraxinus nigra Marsh.</u>	20	X	FACW		
3. <u>Ulmus americana L.</u>	20	X	FACW		
4. <u>Prunus virginiana L.</u>	5		FACU		
5. <u>Acer saccharinum L.</u>	15		FACW		
6. <u>Acer negundo L.</u>	15		FAC		
7. <u>Betula populifolia Marsh.</u>	10		FAC		
	95	= Total Cover		Prevalence Index Worksheet: Total % Cover of: <u> </u> Multiply By: <u> </u> OBL <u> </u> x 1 = <u> </u> FACW <u>185</u> x 2 = <u>370</u> FAC <u>50</u> x 3 = <u>150</u> FACU <u>5</u> x 4 = <u>20</u> UPL <u> </u> x 5 = <u> </u> Sum: <u>240</u> (A) <u>540</u> (B) Prevalence Index = B/A = <u>2.25</u>	
Sapling Stratum (Plot size: <u>30' RAD</u>)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
		= Total Cover			
Shrub Stratum (Plot size: <u>15' RAD</u>)					
1. <u>Cornus sericea L.</u>	20	X	FACW	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is <= 3.0 ¹ _____ Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Alnus incana (L.) Moench ssp. rugosa (Du Roi) R.T. Clausen</u>	25	X	FACW		
3. <u>Photinia melanocarpa (Michx.) K.R. Robertson & Phipps</u>	25	X	FAC		
4. _____					
5. _____					
6. _____					
7. _____					
	70	= Total Cover			
Herb Stratum (Plot size: <u>5' RAD</u>)					
1. <u>Matteuccia struthiopteris (L.) Todaro</u>	5		FACW	Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height. Woody vine - All woody vines, regardless of height.	
2. <u>Onoclea sensibilis L.</u>	50	X	FACW		
3. <u>Doellingeria umbellata (Mill.) Nees var. umbellata</u>	15	X	FACW		
4. <u>Equisetum sylvaticum L.</u>	5		FACW		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	75	= Total Cover			
Woody Vines (Plot size: <u>30' RAD</u>)					
1. <u>Celastrus orbiculatus Thunb.</u>	20	X	UPL	Hydrophytic Vegetation Present? <u>YES</u>	
2. _____					
3. _____					
4. _____					
5. _____					
	20	= Total Cover			

Remarks: (If observed, list morphological adaptations below).
 UNIDENTIFIED SOLIDAGO SP. PRESENT

SOIL



Sampling Point: B-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (in)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/3						SANDY LOAM	MUCKY SURFACE
12-18	10YR 4/2		10YR 4/6		C	M	LOAMY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input checked="" type="checkbox"/> Other (Explain in Remarks)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? <u>YES</u></p>
--	---

Remarks:

SOILS ARE SIGNIFICANTLY DISTURBED, PARTICULARLY THROUGH REFUSE DUMPING. HYDRIC SOIL DETERMINATION RELIES ON PRESENCE OF MUCK AT SURFACE COMBINED WITH PREVALENCE OF WETLAND HYDROLOGY AND HYDROPHYTIC VEGETATION



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project Site: FEDERAL ST. MULTI-MODAL CONNECTOR City/County: ST. ALBANS Samp. Date: 10/18/2010
 Applicant/Owner: CITY OF ST. ALBANS State: VERMONT Sampling Point: B-UPL
 Investigator(s): N. RENDALL (VHB) Section, Township, Range: ST. ALBANS
 Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): SLIGHTLY SLOPING Slope (%): _____
 Subregion (LRR or MLRA): LRR R Lat: 73° 5' 28.798" Long: 44° 48' 8.457" Datum: NAD 27
 Soil Map Unit: MASSENA STONY LOAM, 0-3% SLOPES NWI Class: UPLAND
 Are climatic/hydrologic conditions on the site typical for this time of year? YES (If no, explain in Remarks.)
 Are Vegetation, Soil, or Hydrology significantly disturbed? YES (SOIL) Normal Circumstances? YES
 Are Vegetation, Soil, or Hydrology naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <u>NO</u>	Is This Sample Area
Hydric Soil Present? <u>NO</u>	Within a Wetland? <u>NO</u>
Wetland Hydrology Present? <u>NO</u>	If yes, optional Wetland Site ID: _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? _____ Depth (inches): _____ Water Table Present? _____ Depth (inches): _____ Saturation Present? _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>NO</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION - Use scientific names of plants.



Sampling Point: B-UPL

	Absolute % Cover	Dom. Sp?	Indicator Status		
Tree Stratum (Plot size: <u>30' RAD</u>)					
1. <u>Acer saccharum Marsh.</u>	15	X	FACU	Dominance Test Worksheet: # Dominants OBL, FACW, FAC: _____ (A) # Dominants across all strata: <u>5</u> (B) % Dominants OBL, FACW, FAC: _____ (A/B)	
2. <u>Fraxinus americana L.</u>	10		FACU		
3. <u>Prunus serotina Ehrh.</u>	5		FACU		
4. <u>Populus tremuloides Michx.</u>	45	X	UPL		
5. _____					
6. _____					
7. _____					
	75	= Total Cover		Prevalence Index Worksheet: Total % Cover of: _____ Multiply By: _____ OBL _____ x 1 = _____ FACW _____ x 2 = _____ FAC _____ x 3 = _____ FACU <u>135</u> x 4 = <u>540</u> UPL <u>70</u> x 5 = <u>350</u> Sum: <u>205</u> (A) <u>890</u> (B) Prevalence Index = B/A = <u>4.34</u>	
Sapling Stratum (Plot size: <u>30' RAD</u>)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
		= Total Cover		Hydrophytic Vegetation Indicators: _____ Dominance Test is > 50% _____ Prevalence Index is <= 3.0 ¹ _____ Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Shrub Stratum (Plot size: <u>15' RAD</u>)					
1. <u>Cornus alternifolia L. f.</u>	10		UPL		
2. <u>Rubus canadensis L.</u>	15		UPL		
3. <u>Lonicera tatarica L.</u>	35	X	FACU		
4. <u>Rosa multiflora Thunb.</u>	20	X	FACU		
5. _____					
6. _____					
7. _____					
	80	= Total Cover		Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height. Woody vine - All woody vines, regardless of height.	
Herb Stratum (Plot size: <u>5' RAD</u>)					
1. <u>Polygonum cuspidatum Siebold & Zucc.</u>	50	X	FACU		
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	50	= Total Cover			
Woody Vines (Plot size: <u>30' RAD</u>)					
1. _____				Hydrophytic Vegetation Present? <u>NO</u>	
2. _____					
3. _____					
4. _____					
5. _____					
		= Total Cover			

Remarks: (If observed, list morphological adaptations below).
 UNIDENTIFIED VITIS SP. PRESENT IN VINE STRATUM

SOIL



Sampling Point: B-UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (in)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 3/4						SANDY LOAM	
14-20+	10YR 4/3						LOAMY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 2cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 5cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)
	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	<input type="checkbox"/> Red Parent Material (TF2)
	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
	<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? <u> </u> NO <u> </u>
---	--

Remarks:

Federal Street Multi-Modal Connector Project – Saint Albans, Vermont
Wetland and Stream Delineation Summary Photographs



Photograph 1: Wetland B, in southwest portion of wetland, looking south



Photograph 2: Wetland B, in east portion of wetland, looking northeast

Federal Street Multi-Modal Connector Project – Saint Albans, Vermont
Wetland and Stream Delineation Summary Photographs



Photograph 3: Wetland F, looking northeast



Photograph 4: Stevens Brook, at Lemnah Road crossing, looking downstream (northwest)

F:\57414.00\SitePhotos\NR Report Photos\Federal St NR Survey_Photos.doc

From: Adams, Michael S NAE [Michael.S.Adams@usace.army.mil]
Sent: Wednesday, June 01, 2011 12:28 PM
To: Ketterling, Brad
Subject: RE: Confirmation of Wetland Boundary: Federal Street Multi-Modal Connector Project (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Brad,

This is in reference to the City of St. Albans' proposal to extend Interstate Access Road to the southern end of Lemnah Drive in St. Albans, Vermont.

Based on an April 14, 2011 site walk and wetland data sheets, it appears that the flagged wetland boundaries in the project area are acceptable. Once draft plans have been completed, submit them for review and I will provide initial comments. Call me if you have any questions.

Best Regards,

Michael S. Adams
Senior Project Manager
U.S. Army Corps of Engineers
New England District
8 Carmichael Street, Suite 205
Essex Junction, Vermont 05452
(802)872-2893

In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at <http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

From: Ketterling, Brad [<mailto:BKetterling@VHB.com>]
Sent: Tuesday, May 31, 2011 3:43 PM
To: Adams, Michael S NAE
Subject: Confirmation of Wetland Boundary: Federal Street Multi-Modal Connector Project

Dear Mr. Adams:

Thank you very much for meeting with me in the field on April 14, 2011 to review the wetland delineation that was completed for the Federal Street Multi-Modal Connector Project. During this field visit, we walked the flagged wetland line as shown on the map entitled "Federal Street Multi-Modal Connector, St, Albans, VT: Wetland and Stream Delineation Map," dated March 15, 2011. This map was submitted as an attachment to our wetland report and request for a Preliminary Jurisdictional Determination, dated April 1, 2011 and submitted to Marty Abair, Senior Project Manager, Regulatory Division.

Upon completion of the walkover, you found that the delineation as mapped was accurate and required no modification.

We understand that it is no longer typical for the Corps to issue Preliminary Jurisdictional Determinations in advance of receiving a formal application for a Department of the Army

Section 404 permit. As we discussed during the field visit, as a surrogate approach, the City of St. Albans would appreciate written acknowledgement that you concur with the wetland line as depicted on the map referenced above. This will provide a measure of confidence for further project-related engineering design work. A response to this email would be sufficient.

Should you have any questions, please do not hesitate to contact me.

Many thanks,

Brad Ketterling
Senior Environmental Scientist

VHB | Vanasse Hangen Brustlin, Inc.
Transportation | Land Development | Environmental Services

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Post Office Box 120
North Ferrisburgh, VT 05473
Phone: 802.425.7788 X 6453 | Mobile: 802.324-9917 | Fax: 802.425.7799

bketterling@vhb.com <<mailto:ACrary@vhb.com>>

www.vhb.com <<http://www.vhb.com/>>

Appendix D – Air Quality Analysis

Appendix

Air Quality Analysis



Air Quality

- MOBILE 6.2 Input Files
- MOBILE 6.2 Output Files
- Microscale Input Files
 - 2010 Existing Condition
 - 2010 Build Condition
 - 2030 No Build Condition
 - 2030 Build Condition
- Microscale Output Files
 - 2010 Existing Condition
 - 2010 Build Condition
 - 2030 No Build Condition
 - 2030 Build Condition
- Traffic Summary
- Microscale Results

MOBILE 6.2 Input Files

* Calendar Year 2010 Generic MOBILE6 input file
 ***** Header Section *****

MOBILE6 INPUT FILE

*
 POLLUTANTS : CO
 DATABASE OUTPUT :
 WITH FIELDNAMES :
 AGGREGATED OUTPUT :
 REPORT FILE : VT10CO.txt

RUN DATA

***** Run Section #1 *****

> *****
 > ***** WINTER *****
 > *****

* Meteorological inputs
 MIN/MAX TEMP : 35. 45.

* Fuel inputs
 FUEL RVP : 13.5

***** Scenario Section *****

***** Arterial *****

SCENARIO RECORD : VT Arterial 2.5 mph (= minimum allowed arterial speed)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 3.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 3.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 4.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 4.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 5.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 5.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 6.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 6.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 7.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 7.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 8.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 8.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 9.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 9.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 10.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 10.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 11.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1
 AVERAGE SPEED : 11.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 12.0 mph
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 1

AVERAGE SPEED : 12.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 13.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 13.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 14.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 14.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 15.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 15.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 16.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 16.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 17.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 17.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 18.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 18.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 19.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 19.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 20.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 20.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 21.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 21.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 22.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 22.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 23.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 23.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 24.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 24.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 25.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 25.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 26.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 26.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 27.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 27.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 28.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 28.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 29.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 29.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 30.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 30.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 31.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 31.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 32.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 32.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 33.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 33.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 34.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 34.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 35.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 35.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 36.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 36.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 37.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 37.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 38.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 38.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 39.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 39.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 40.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 40.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 41.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 41.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 42.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 42.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 43.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 43.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 44.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 44.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 45.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 45.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 46.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 46.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 47.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 47.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 48.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 48.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 49.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 49.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 50.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 50.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 51.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 51.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 52.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 52.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 53.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 53.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 54.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 54.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 55.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 55.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 56.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 56.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 57.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 57.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 58.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 58.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 59.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 59.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 60.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 60.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 61.0 mph

CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 61.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 62.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 62.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 63.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 63.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 64.0 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 64.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 65.0 mph (= maximum allowed arterial speed)
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 65.0 Arterial 0.0 100.0 0.0 0.0

***** End of This Run *****
END OF RUN

* Calendar Year 2030 Generic MOBILE6 input file
 ***** Header Section *****
 MOBILE6 INPUT FILE

*
 POLLUTANTS : CO
 DATABASE OUTPUT :
 WITH FIELDNAMES :
 AGGREGATED OUTPUT :
 REPORT FILE : VT30CO.txt

*
 RUN DATA
 ***** Run Section #1 *****

> *****
 > ***** WINTER *****
 > *****

* Meteorological inputs
 MIN/MAX TEMP : 35. 45.

* Fuel inputs
 FUEL RVP : 13.5

***** Scenario Section *****

***** Arterial *****

SCENARIO RECORD : VT Arterial 2.5 mph (= minimum allowed arterial speed)
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 3.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 3.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 4.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 4.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 5.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 5.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 6.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 6.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 7.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 7.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 8.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 8.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 9.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 9.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 10.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 10.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 11.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 11.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 12.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1

AVERAGE SPEED : 12.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 13.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 13.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 14.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 14.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 15.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 15.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 16.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 16.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 17.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 17.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 18.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 18.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 19.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 19.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 20.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 20.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 21.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 21.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 22.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 22.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 23.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 23.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 24.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 24.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 25.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 25.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 26.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 26.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 27.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 27.0 Arterial 0.0 100.0 0.0 0.0
 SCENARIO RECORD : VT Arterial 28.0 mph
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 1
 AVERAGE SPEED : 28.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 29.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 29.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 30.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 30.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 31.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 31.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 32.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 32.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 33.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 33.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 34.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 34.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 35.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 35.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 36.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 36.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 37.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 37.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 38.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 38.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 39.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 39.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 40.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 40.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 41.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 41.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 42.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 42.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 43.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 43.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 44.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 44.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 45.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 45.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 46.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 46.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 47.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 47.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 48.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 48.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 49.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 49.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 50.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 50.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 51.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 51.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 52.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 52.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 53.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 53.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 54.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 54.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 55.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 55.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 56.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 56.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 57.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 57.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 58.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 58.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 59.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 59.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 60.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 60.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 61.0 mph

CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 61.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 62.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 62.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 63.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 63.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 64.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 64.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : VT Arterial 65.0 mph (= maximum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 65.0 Arterial 0.0 100.0 0.0 0.0

***** End of This Run *****
END OF RUN

MOBILE 6.2 Output Files

```
*****
* MOBILE6.2.01 (31-Oct-2002)
* Input file: VT10CO.INP (file 1, run 1).
*****
* *****
* ***** WINTER *****
* *****
```

```
* #####
* VT Arterial 2.5 mph (= minimum allowed arterial speed)
* File 1, Run 1, Scenario 61.
* #####
M583 Warning:
    The user supplied arterial average speed of 2.5
    will be used for all hours of the day. 100% of VMT
    has been assigned to the arterial/collector roadway
    type for all hours of the day and all vehicle types.
M 48 Warning:
    there are no sales for vehicle class HDGV8b
```

Calendar Year: 2010

```
Month: Jan.
Altitude: Low
Minimum Temperature: 35.0 (F)
Maximum Temperature: 45.0 (F)
Absolute Humidity: 75. grains/lb
Nominal Fuel RVP: 13.5 psi
Weathered RVP: 13.5 psi
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: No
Evap I/M Program: No
ATP Program: No
Reformulated Gas: No
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3540	0.3855	0.1315		0.0357	0.0003	0.0019	0.0856	0.0054	1.0000

Composite Emission Factors (g/mi):										
Composite CO :	43.56	45.72	62.11	49.89	50.90	3.381	2.656	8.294	106.62	44.322

```
* #####
* VT Arterial 25.0 mph
* File 1, Run 1, Scenario 84.
* #####
M583 Warning:
    The user supplied arterial average speed of 25.0
    will be used for all hours of the day. 100% of VMT has been assigned to the
    arterial/collector roadway type for all hours of the day and all vehicle types.
M 48 Warning:
    there are no sales for vehicle class HDGV8b
```

```
Calendar Year: 2010
Month: Jan.
Altitude: Low
Minimum Temperature: 35.0 (F)
Maximum Temperature: 45.0 (F)
Absolute Humidity: 75. grains/lb
Nominal Fuel RVP: 13.5 psi
Weathered RVP: 13.5 psi
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: No
Evap I/M Program: No
ATP Program: No
Reformulated Gas: No
```

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3540	0.3855	0.1315		0.0357	0.0003	0.0019	0.0856	0.0054	1.0000

Composite Emission Factors (g/mi):										
Composite CO :	16.13	18.21	23.69	19.60	11.08	1.130	0.899	2.011	15.29	16.497

Microscale Input Files



2010 Existing Condition

'2010NoBUILD'	60	175	0	0	60	0.3048	1	0
'1'	1489221	845814.4	6					
'2'	1489279	845790.6	6					
'3'	1489349	845750	6					
'4'	1489341	845660.9	6					
'5'	1489328	845579.5	6					
'6'	1489412	845569.8	6					
'7'	1489426	845647.4	6					
'8'	1489440	845704.1	6					
'9'	1489530	845673.5	6					
'10'	1489617	845632.9	6					
'11'	1489656	845703.3	6					
'12'	1489567	845742.1	6					
'13'	1489449	845796.8	6					
'14'	1489466	845872.9	6					
'15'	1489484	845952.8	6					
'16'	1489398	845971.9	6					
'17'	1489382	845896.9	6					
'18'	1489367	845834.3	6					
'19'	1489306	845859.2	6					
'20'	1489275	845890.6	6					
'1'	1487964	842867.4	6					
'2'	1488078	842862.6	6					
'3'	1488222	842840.3	6					
'4'	1488217	842746.4	6					
'5'	1488184	842609.4	6					
'6'	1488375	842576.9	6					
'7'	1488405	842726.3	6					
'8'	1488427	842832.1	6					
'9'	1488529	842822.3	6					
'10'	1488676	842794.8	6					
'11'	1488698	842865.8	6					
'12'	1488560	842893.3	6					
'13'	1488473	842919	6					
'14'	1488489	843011.7	6					
'15'	1488502	843110.8	6					
'16'	1488408	843121.3	6					
'17'	1488392	843023.3	6					
'18'	1488350	842940.3	6					
'19'	1488254	842931.8	6					
'20'	1488086	842939.6	6					
'1'	1487355	839638.8	6					
'2'	1487443	839590.6	6					
'3'	1487538	839527.4	6					
'4'	1487528	839479.9	6					
'5'	1487425	839318	6					
'6'	1487499	839282.9	6					
'7'	1487576	839408.6	6					
'8'	1487616	839472.9	6					
'9'	1487708	839430	6					
'10'	1487812	839376.3	6					
'11'	1487861	839433.9	6					
'12'	1487761	839485.1	6					



'Lower Newton'	'AG'	1489401	845774.6	1488800	846056.9	
905	16.6	1	60			
1						
'Rt 7 SB'	'AG'	1489401	845774.6	1489545	846440.4	1365
16.6	1	60				
1						
'Upper Newton'	'AG'	1489401	845774.6	1490143	845436.5	
905	16.6	1	60			
1						
'Rt7 NB '	'AG'	1489401	845774.6	1489351	845435.3	1365
16.6	1	60				
1						
'Lake EB'	'AG'	1488405	842884.2	1487236	842956.7	685
16.6	1	60				
1						
'Federal'	'AG'	1488506	843425.1	1488405	842884.2	705
16.6	1	60				
1						
'Lake WB'	'AG'	1488405	842884.2	1489348	842708.6	685
16.6	1	60				
1						
'Catherine'	'AG'	1488376	842889.7	1488072	842039.7	705
16.6	1	60				
1						
'RT 7 SB'	'AG'	1487603	839526.1	1487908	840064.8	1365
16.6	1	60				
1						
'ST Albans'	'AG'	1487603	839526.1	1488372	839129.3	1990
16.6	1	60				
1						
'Rt 7 NB'	'AG'	1487603	839526.1	1487145	838782.3	1365
16.6	1	60				
1	0	4	1000	0	'Y'	10 0 36

2010 Build Condition

'2010BUILD'	60	175	0	0	60	0.3048	1	0
'1'	1489221	845814.4	6					
'2'	1489279	845790.6	6					
'3'	1489349	845750	6					
'4'	1489341	845660.9	6					
'5'	1489328	845579.5	6					
'6'	1489412	845569.8	6					
'7'	1489426	845647.4	6					
'8'	1489440	845704.1	6					
'9'	1489530	845673.5	6					
'10'	1489617	845632.9	6					
'11'	1489656	845703.3	6					
'12'	1489567	845742.1	6					
'13'	1489449	845796.8	6					
'14'	1489466	845872.9	6					
'15'	1489484	845952.8	6					
'16'	1489398	845971.9	6					
'17'	1489382	845896.9	6					
'18'	1489367	845834.3	6					
'19'	1489306	845859.2	6					
'20'	1489275	845890.6	6					
'1'	1487964	842867.4	6					
'2'	1488078	842862.6	6					
'3'	1488222	842840.3	6					
'4'	1488217	842746.4	6					
'5'	1488184	842609.4	6					
'6'	1488375	842576.9	6					
'7'	1488405	842726.3	6					
'8'	1488427	842832.1	6					
'9'	1488529	842822.3	6					
'10'	1488676	842794.8	6					
'11'	1488698	842865.8	6					
'12'	1488560	842893.3	6					
'13'	1488473	842919	6					
'14'	1488489	843011.7	6					
'15'	1488502	843110.8	6					
'16'	1488408	843121.3	6					
'17'	1488392	843023.3	6					
'18'	1488350	842940.3	6					
'19'	1488254	842931.8	6					
'20'	1488086	842939.6	6					
'1'	1487355	839638.8	6					
'2'	1487443	839590.6	6					
'3'	1487538	839527.4	6					
'4'	1487528	839479.9	6					
'5'	1487425	839318	6					
'6'	1487499	839282.9	6					
'7'	1487576	839408.6	6					
'8'	1487616	839472.9	6					
'9'	1487708	839430	6					
'10'	1487812	839376.3	6					
'11'	1487861	839433.9	6					

'12'	1487761	839485.1	6					
'13'	1487672	839546.6	6					
'14'	1487707	839631.4	6					
'15'	1487782	839759.9	6					
'16'	1487714	839798.5	6					
'17'	1487645	839674.9	6					
'18'	1487592	839616.3	6					
'19'	1487486	839659.2	6					
'20'	1487382	839710.9	6					
'2010Build'	24	2	0	'C'				
2								
'Lower Newton QL'	'AG'	1489361.51	845789.96	1489201.59				
845861.26	1	20	2					
120	100	3	625	110.8	1600	1	3	
2								
'Rt7 SB QL'	'AG'	1489404.82	845855.02	1489425.54	845942.95			
1	20	2						
120	71	3	755	110.8	1600	1	3	
2								
'Upper Nerton QL'	'AG'	1489462.45	845727.84	1489674.48				
845629.79	1	20	2					
120	107	3	35	110.8	1600	1	3	
2								
'RT 7 NB QL'	'AG'	1489403.52	845706.58	1489394.1	845643.88			
1	20	2						
120	71	3	555	110.8	1600	1	3	
2								
'Lake EB QL'	'AG'	1488298.31	842875.16	1488126.14				
842887.92	1	10	1					
120	88	3	315	110.8	1600	1	3	
2								
'Federal QL'	'AG'	1488398.06	842933.68	1488425.4	843013.29			
1	30	3						
120	106	3	430	110.8	1600	1	3	
2								
'Lake WB QL'	'AG'	1488472.86	842888.3	1488724.17	842841.04			
1	10	1						
120	86	3	360	110.8	1600	1	3	
2								
'Catherine QL'	'AG'	1488396.06	842836.71	1488367.56	842691			
1	20	2						
120	90	3	340	110.8	1600	1	3	
2								
'Rt 7 SB QL'	'AG'	1487660.95	839649.43	1487686.18				
839692.76	1	20	2					
120	104	3	365	110.8	1600	1	3	
2								
'St Albans QL'	'AG'	1487660.72	839510.2	1487755.67				
839458.51	1	20	2					
120	86	3	425	110.8	1600	1	3	
2								
'RT 7 NB QL'	'AG'	1487586.46	839481.76	1487476.52				
839293.53	1	20	2					
120	91	3	555	110.8	1600	1	3	

2
 'Nason Conn QL' 'AG' 1487551.07 839551.47 1487357.98
 839668.64 1 20 2
 120 80 3 355 110.8 1600 1 3
 1
 'Lower Newton' 'AG' 1489401 845774.6 1488800 846056.9
 1010 16.6 1 60
 1
 'Rt 7 SB' 'AG' 1489401 845774.6 1489545 846440.4 1155
 16.6 1 60
 1
 'Upper Newton' 'AG' 1489401 845774.6 1490143 845436.5
 1010 16.6 1 60
 1
 'Rt7 NB ' 'AG' 1489401 845774.6 1489351 845435.3 1155
 16.6 1 60
 1
 'Lake EB' 'AG' 1488405 842884.2 1487236 842956.7 640
 16.6 1 60
 1
 'Federal' 'AG' 1488506 843425.1 1488405 842884.2 950
 16.6 1 60
 1
 'Lake WB' 'AG' 1488405 842884.2 1489348 842708.6 640
 16.6 1 60
 1
 'Catherine' 'AG' 1488376 842889.7 1488072 842039.7 950
 16.6 1 60
 1
 'RT 7 SB' 'AG' 1487603 839526.1 1487908 840064.8 1155
 16.6 1 60
 1
 'ST Albans' 'AG' 1487603 839526.1 1488372 839129.3 1990
 16.6 1 60
 1
 'Rt 7 NB' 'AG' 1487603 839526.1 1487145 838782.3 1155
 16.6 1 60
 1
 'Nason Conn' 'AG' 1487617 839552.7 1486919 839895.8 670
 16.6 1 60
 1 0 4 1000 0 'Y' 10 0 36

2030 No Build Condition

'2030 No BUILD'	60	175	0	0	60	0.3048	1	0
'1'	1489221	845814.4	6					
'2'	1489279	845790.6	6					
'3'	1489349	845750	6					
'4'	1489341	845660.9	6					
'5'	1489328	845579.5	6					
'6'	1489412	845569.8	6					
'7'	1489426	845647.4	6					
'8'	1489440	845704.1	6					
'9'	1489530	845673.5	6					
'10'	1489617	845632.9	6					
'11'	1489656	845703.3	6					
'12'	1489567	845742.1	6					
'13'	1489449	845796.8	6					
'14'	1489466	845872.9	6					
'15'	1489484	845952.8	6					
'16'	1489398	845971.9	6					
'17'	1489382	845896.9	6					
'18'	1489367	845834.3	6					
'19'	1489306	845859.2	6					
'20'	1489275	845890.6	6					
'1'	1487964	842867.4	6					
'2'	1488078	842862.6	6					
'3'	1488222	842840.3	6					
'4'	1488217	842746.4	6					
'5'	1488184	842609.4	6					
'6'	1488375	842576.9	6					
'7'	1488405	842726.3	6					
'8'	1488427	842832.1	6					
'9'	1488529	842822.3	6					
'10'	1488676	842794.8	6					
'11'	1488698	842865.8	6					
'12'	1488560	842893.3	6					
'13'	1488473	842919	6					
'14'	1488489	843011.7	6					
'15'	1488502	843110.8	6					
'16'	1488408	843121.3	6					
'17'	1488392	843023.3	6					
'18'	1488350	842940.3	6					
'19'	1488254	842931.8	6					
'20'	1488086	842939.6	6					
'1'	1487355	839638.8	6					
'2'	1487443	839590.6	6					
'3'	1487538	839527.4	6					
'4'	1487528	839479.9	6					
'5'	1487425	839318	6					
'6'	1487499	839282.9	6					
'7'	1487576	839408.6	6					
'8'	1487616	839472.9	6					
'9'	1487708	839430	6					
'10'	1487812	839376.3	6					
'11'	1487861	839433.9	6					

'12'	1487761	839485.1	6					
'13'	1487672	839546.6	6					
'14'	1487707	839631.4	6					
'15'	1487782	839759.9	6					
'16'	1487714	839798.5	6					
'17'	1487645	839674.9	6					
'18'	1487592	839616.3	6					
'19'	1487486	839659.2	6					
'20'	1487382	839710.9	6					
'2030 No Build'	22	2	0	'C'				
2								
'Lower Newton QL'	'AG'	1489361.51	845789.96	1489201.59				
845861.26	1	20	2					
120	100	3	595	76.3	1600	1	3	
2								
'Rt7 SB QL'	'AG'	1489404.82	845855.02	1489425.54	845942.95			
1	20	2						
120	71	3	885	76.3	1600	1	3	
2								
'Upper Nerton QL'	'AG'	1489462.45	845727.84	1489674.48				
845629.79	1	20	2					
120	107	3	50	76.3	1600	1	3	
2								
'RT 7 NB QL'	'AG'	1489403.52	845706.58	1489394.1	845643.88			
1	20	2						
120	71	3	855	76.3	1600	1	3	
2								
'Lake EB QL'	'AG'	1488298.31	842875.16	1488126.14				
842887.92	1	10	1					
120	88	3	730	76.3	1600	1	3	
2								
'Federal QL'	'AG'	1488398.06	842933.68	1488425.4	843013.29			
1	30	3						
120	106	3	415	76.3	1600	1	3	
2								
'Lake WB QL'	'AG'	1488472.86	842888.3	1488724.17	842841.04			
1	10	1						
120	86	3	375	76.3	1600	1	3	
2								
'Catherine QL'	'AG'	1488396.06	842836.71	1488367.56	842691			
1	20	2						
120	90	3	120	76.3	1600	1	3	
2								
'Rt 7 SB QL'	'AG'	1487660.95	839649.43	1487686.18				
839692.76	1	20	2					
120	104	3	830	76.3	1600	1	3	
2								
'St Albans QL'	'AG'	1487660.72	839510.2	1487755.67				
839458.51	1	20	2					
120	86	3	500	76.3	1600	1	3	
2								
'RT 7 NB QL'	'AG'	1487586.46	839481.76	1487476.52				
839293.53	1	20	2					
120	91	3	650	76.3	1600	1	3	



1									
'Lower Newton'	'AG'	1489401	845774.6	1488800	846056.9				
1065	11.7	1	60						
1									
'Rt 7 SB'	'AG'	1489401	845774.6	1489545	846440.4	1640			
11.7	1	60							
1									
'Upper Newton'	'AG'	1489401	845774.6	1490143	845436.5				
1065	11.7	1	60						
1									
'Rt7 NB '	'AG'	1489401	845774.6	1489351	845435.3	1640			
11.7	1	60							
1									
'Lake EB'	'AG'	1488405	842884.2	1487236	842956.7	805			
11.7	1	60							
1									
'Federal'	'AG'	1488506	843425.1	1488405	842884.2	825			
11.7	1	60							
1									
'Lake WB'	'AG'	1488405	842884.2	1489348	842708.6	805			
11.7	1	60							
1									
'Catherine'	'AG'	1488376	842889.7	1488072	842039.7	825			
11.7	1	60							
1									
'RT 7 SB'	'AG'	1487603	839526.1	1487908	840064.8	1640			
11.7	1	60							
1									
'ST Albans'	'AG'	1487603	839526.1	1488372	839129.3	1990			
11.7	1	60							
1									
'Rt 7 NB'	'AG'	1487603	839526.1	1487145	838782.3	1640			
11.7	1	60							
1	0	4	1000	0	'Y'	10	0	36	

2030 Build Condition

'2030BUILD'	60	175	0	0	60	0.3048	1	0
'1'	1489221	845814.4	6					
'2'	1489279	845790.6	6					
'3'	1489349	845750	6					
'4'	1489341	845660.9	6					
'5'	1489328	845579.5	6					
'6'	1489412	845569.8	6					
'7'	1489426	845647.4	6					
'8'	1489440	845704.1	6					
'9'	1489530	845673.5	6					
'10'	1489617	845632.9	6					
'11'	1489656	845703.3	6					
'12'	1489567	845742.1	6					
'13'	1489449	845796.8	6					
'14'	1489466	845872.9	6					
'15'	1489484	845952.8	6					
'16'	1489398	845971.9	6					
'17'	1489382	845896.9	6					
'18'	1489367	845834.3	6					
'19'	1489306	845859.2	6					
'20'	1489275	845890.6	6					
'1'	1487964	842867.4	6					
'2'	1488078	842862.6	6					
'3'	1488222	842840.3	6					
'4'	1488217	842746.4	6					
'5'	1488184	842609.4	6					
'6'	1488375	842576.9	6					
'7'	1488405	842726.3	6					
'8'	1488427	842832.1	6					
'9'	1488529	842822.3	6					
'10'	1488676	842794.8	6					
'11'	1488698	842865.8	6					
'12'	1488560	842893.3	6					
'13'	1488473	842919	6					
'14'	1488489	843011.7	6					
'15'	1488502	843110.8	6					
'16'	1488408	843121.3	6					
'17'	1488392	843023.3	6					
'18'	1488350	842940.3	6					
'19'	1488254	842931.8	6					
'20'	1488086	842939.6	6					
'1'	1487355	839638.8	6					
'2'	1487443	839590.6	6					
'3'	1487538	839527.4	6					
'4'	1487528	839479.9	6					
'5'	1487425	839318	6					
'6'	1487499	839282.9	6					
'7'	1487576	839408.6	6					
'8'	1487616	839472.9	6					
'9'	1487708	839430	6					
'10'	1487812	839376.3	6					
'11'	1487861	839433.9	6					

'12'	1487761	839485.1	6					
'13'	1487672	839546.6	6					
'14'	1487707	839631.4	6					
'15'	1487782	839759.9	6					
'16'	1487714	839798.5	6					
'17'	1487645	839674.9	6					
'18'	1487592	839616.3	6					
'19'	1487486	839659.2	6					
'20'	1487382	839710.9	6					
'2030Build'	24	2	0	'C'				
2								
'Lower Newton QL'	'AG'	1489361.51	845789.96	1489201.59				
845861.26	1	20	2					
120	100	3	740	44.3	1600	1	3	
2								
'Rt7 SB QL'	'AG'	1489404.82	845855.02	1489425.54	845942.95			
1	20	2						
120	71	3	945	44.3	1600	1	3	
2								
'Upper Nerton QL'	'AG'	1489462.45	845727.84	1489674.48				
845629.79	1	20	2					
120	107	3	50	44.3	1600	1	3	
2								
'RT 7 NB QL'	'AG'	1489403.52	845706.58	1489394.1	845643.88			
1	20	2						
120	71	3	640	44.3	1600	1	3	
2								
'Lake EB QL'	'AG'	1488298.31	842875.16	1488126.14				
842887.92	1	10	1					
120	88	3	595	44.3	1600	1	3	
2								
'Federal QL'	'AG'	1488398.06	842933.68	1488425.4	843013.29			
1	30	3						
120	106	3	425	44.3	1600	1	3	
2								
'Lake WB QL'	'AG'	1488472.86	842888.3	1488724.17	842841.04			
1	10	1						
120	86	3	420	44.3	1600	1	3	
2								
'Catherine QL'	'AG'	1488396.06	842836.71	1488367.56	842691			
1	20	2						
120	90	3	405	44.3	1600	1	3	
2								
'Rt 7 SB QL'	'AG'	1487660.95	839649.43	1487686.18				
839692.76	1	20	2					
120	104	3	450	44.3	1600	1	3	
2								
'St Albans QL'	'AG'	1487660.72	839510.2	1487755.67				
839458.51	1	20	2					
120	86	3	505	44.3	1600	1	3	
2								
'RT 7 NB QL'	'AG'	1487586.46	839481.76	1487476.52				
839293.53	1	20	2					
120	91	3	650	44.3	1600	1	3	

2

'Nason Conn QL'	'AG'	1487551.07	839551.47	1487357.98		
839668.64	1 20 2					
120 80 3 390	44.3 1600 1 3					
1						
'Lower Newton'	'AG'	1489401	845774.6	1488800	846056.9	
1165 11.7 1 60						
1						
'Rt 7 SB'	'AG'	1489401	845774.6	1489545	846440.4	1425
11.7 1 60						
1						
'Upper Newton'	'AG'	1489401	845774.6	1490143	845436.5	
1165 11.7 1 60						
1						
'Rt7 NB '	'AG'	1489401	845774.6	1489351	845435.3	1425
11.7 1 60						
1						
'Lake EB'	'AG'	1488405	842884.2	1487236	842956.7	790
11.7 1 60						
1						
'Federal'	'AG'	1488506	843425.1	1488405	842884.2	1125
11.7 1 60						
1						
'Lake WB'	'AG'	1488405	842884.2	1489348	842708.6	790
11.7 1 60						
1						
'Catherine'	'AG'	1488376	842889.7	1488072	842039.7	1125
11.7 1 60						
1						
'RT 7 SB'	'AG'	1487603	839526.1	1487908	840064.8	1425
11.7 1 60						
1						
'ST Albans'	'AG'	1487603	839526.1	1488372	839129.3	1990
11.7 1 60						
1						
'Rt 7 NB'	'AG'	1487603	839526.1	1487145	838782.3	1425
11.7 1 60						
1						
'Nason Conn'	'AG'	1487617	839552.7	1486919	839895.8	745
11.7 1 60						
1 0 4 1000 0 'Y' 10 0 36						

Microscale Output Files

2010 Existing Condition

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1

JOB: 2010NoBUILD

RUN: 2010 No Build

DATE : 3/11/12
TIME : 12:35:46

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (FT) Y1	X2	Y2	* LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Lower Newton QL	*	845790.0	*****	846094.0	*	746.	294. AG	495. 100.0	1.0	20.0	1.27	37.9
2. Rt7 SB QL	*	845855.0	*****	845997.5	*	146.	13. AG	352. 100.0	1.0	20.0	0.64	7.4
3. Upper Nerton QL	*	845727.8	*****	845723.7	*	10.	115. AG	530. 100.0	1.0	20.0	0.16	0.5
4. RT 7 NB QL	*	845706.6	*****	845566.4	*	142.	188. AG	352. 100.0	1.0	20.0	0.62	7.2
5. Lake EB QL	*	842875.2	*****	843099.0	*	3026.	274. AG	218. 100.0	1.0	10.0	1.73	153.7
6. Federal QL	*	842933.7	*****	843046.1	*	119.	19. AG	788. 100.0	1.0	30.0	0.99	6.0
7. Lake WB QL	*	842888.3	*****	842858.4	*	162.	101. AG	213. 100.0	1.0	10.0	0.82	8.2
8. Catherine QL	*	842836.7	*****	842812.6	*	25.	191. AG	446. 100.0	1.0	20.0	0.15	1.2
9. Rt 7 SB QL	*	839649.5	*****	841746.3	*	2424.	30. AG	515. 100.0	1.0	20.0	2.45	123.1
10. St Albans QL	*	839510.2	*****	839461.8	*	101.	119. AG	426. 100.0	1.0	20.0	0.56	5.1
11. RT 7 NB QL	*	839481.8	*****	839340.4	*	164.	210. AG	451. 100.0	1.0	20.0	0.87	8.3
12. Lower Newton	*	845774.6	*****	846056.9	*	664.	295. AG	905. 16.6	1.0	60.0		
13. Rt 7 SB	*	845774.6	*****	846440.4	*	681.	12. AG	1365. 16.6	1.0	60.0		
14. Upper Newton	*	845774.6	*****	845436.5	*	815.	114. AG	905. 16.6	1.0	60.0		
15. Rt7 NB	*	845774.6	*****	845435.3	*	343.	188. AG	1365. 16.6	1.0	60.0		
16. Lake EB	*	842884.2	*****	842956.7	*	1171.	274. AG	685. 16.6	1.0	60.0		
17. Federal	*	843425.2	*****	842884.2	*	550.	191. AG	705. 16.6	1.0	60.0		
18. Lake WB	*	842884.2	*****	842708.6	*	959.	101. AG	685. 16.6	1.0	60.0		
19. Catherine	*	842889.7	*****	842039.7	*	903.	200. AG	705. 16.6	1.0	60.0		
20. RT 7 SB	*	839526.1	*****	840064.9	*	619.	30. AG	1365. 16.6	1.0	60.0		
21. ST Albans	*	839526.1	*****	839129.4	*	865.	117. AG	1990. 16.6	1.0	60.0		
22. Rt 7 NB	*	839526.1	*****	838782.4	*	873.	212. AG	1365. 16.6	1.0	60.0		

PAGE 2

JOB: 2010NoBUILD

RUN: 2010 No Build

DATE : 3/11/12
TIME : 12:35:46

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION * CYCLE RED CLEARANCE APPROACH SATURATION IDLE SIGNAL ARRIVAL

	*	LENGTH	TIME	LOST TIME	VOL	FLOW RATE	EM FAC	TYPE	RATE
	*	(SEC)	(SEC)	(SEC)	(VPH)	(VPH)	(gm/hr)		
1. Lower Newton QL	*	120	100	3.0	505	1600	110.80	1	3
2. Rt7 SB QL	*	120	71	3.0	755	1600	110.80	1	3
3. Upper Nerton QL	*	120	107	3.0	35	1600	110.80	1	3
4. RT 7 NB QL	*	120	71	3.0	730	1600	110.80	1	3
5. Lake EB QL	*	120	88	3.0	620	1600	110.80	1	3
6. Federal QL	*	120	106	3.0	355	1600	110.80	1	3
7. Lake WB QL	*	120	86	3.0	315	1600	110.80	1	3
8. Catherine QL	*	120	90	3.0	100	1600	110.80	1	3
9. Rt 7 SB QL	*	120	104	3.0	715	1600	110.80	1	3
10. St Albans QL	*	120	86	3.0	430	1600	110.80	1	3
11. RT 7 NB QL	*	120	91	3.0	555	1600	110.80	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
	*	X	Y	Z	*
1. 1	*	*****	845814.4	6.0	*
2. 2	*	*****	845790.6	6.0	*
3. 3	*	*****	845750.0	6.0	*
4. 4	*	*****	845660.9	6.0	*
5. 5	*	*****	845579.5	6.0	*
6. 6	*	*****	845569.8	6.0	*
7. 7	*	*****	845647.4	6.0	*
8. 8	*	*****	845704.2	6.0	*
9. 9	*	*****	845673.5	6.0	*
10. 10	*	*****	845632.9	6.0	*
11. 11	*	*****	845703.3	6.0	*
12. 12	*	*****	845742.1	6.0	*
13. 13	*	*****	845796.8	6.0	*
14. 14	*	*****	845872.9	6.0	*
15. 15	*	*****	845952.8	6.0	*
16. 16	*	*****	845971.9	6.0	*
17. 17	*	*****	845896.9	6.0	*
18. 18	*	*****	845834.3	6.0	*
19. 19	*	*****	845859.2	6.0	*
20. 20	*	*****	845890.7	6.0	*
21. 1	*	*****	842867.4	6.0	*
22. 2	*	*****	842862.6	6.0	*
23. 3	*	*****	842840.3	6.0	*
24. 4	*	*****	842746.4	6.0	*
25. 5	*	*****	842609.4	6.0	*
26. 6	*	*****	842576.9	6.0	*
27. 7	*	*****	842726.3	6.0	*
28. 8	*	*****	842832.1	6.0	*
29. 9	*	*****	842822.3	6.0	*
30. 10	*	*****	842794.8	6.0	*
31. 11	*	*****	842865.8	6.0	*
32. 12	*	*****	842893.3	6.0	*
33. 13	*	*****	842919.0	6.0	*
34. 14	*	*****	843011.7	6.0	*

0.	*	1.4	1.5	1.5	0.9	0.7	1.9	1.4	1.2	0.6	0.5	0.1	0.2	1.2	0.9	0.8	0.1	0.2	0.3	0.0	0.0
10.	*	1.4	1.6	1.6	1.2	1.1	1.1	0.9	0.9	0.5	0.4	0.0	0.1	0.7	0.6	0.5	0.4	0.5	0.6	0.1	0.0
20.	*	1.5	1.7	1.8	1.4	1.5	0.5	0.5	0.7	0.4	0.4	0.0	0.0	0.3	0.3	0.3	0.7	1.0	1.2	0.2	0.1
30.	*	1.6	1.9	1.7	1.3	1.5	0.2	0.3	0.6	0.4	0.4	0.0	0.0	0.1	0.1	0.1	0.9	1.4	1.5	0.4	0.2
40.	*	1.7	2.1	1.4	1.1	1.4	0.1	0.3	0.7	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.9	1.6	1.6	0.6	0.3
50.	*	1.9	2.1	1.2	1.3	1.4	0.2	0.2	0.8	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.0	1.5	1.3	0.7	0.4
60.	*	1.9	2.0	1.2	1.2	1.3	0.2	0.2	0.7	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.2	1.5	1.1	0.8	0.5
70.	*	2.0	2.0	1.0	1.3	1.4	0.2	0.2	0.6	0.5	0.5	0.0	0.0	0.0	0.0	0.0	1.2	1.4	0.9	0.7	0.6
80.	*	2.0	1.9	1.0	1.3	1.3	0.2	0.3	0.6	0.5	0.5	0.0	0.0	0.0	0.0	0.0	1.3	1.4	0.7	0.6	0.6
90.	*	1.9	1.7	1.0	1.3	1.1	0.2	0.3	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	1.3	1.4	0.6	0.5	0.6
100.	*	1.6	1.4	1.3	1.4	1.0	0.1	0.2	0.5	0.6	0.6	0.1	0.1	0.1	0.0	0.0	1.3	1.4	0.7	0.6	0.6
110.	*	1.4	1.2	1.1	1.2	0.8	0.0	0.1	0.4	0.5	0.5	0.3	0.3	0.3	0.0	0.0	1.4	1.5	0.9	0.7	0.6
120.	*	0.7	0.7	0.9	1.1	0.7	0.0	0.0	0.2	0.3	0.3	0.5	0.5	0.5	0.1	0.1	1.5	1.5	1.1	1.1	0.8
130.	*	0.5	0.7	1.0	1.2	0.6	0.0	0.0	0.1	0.1	0.1	0.6	0.6	0.6	0.2	0.1	1.5	1.6	1.3	1.3	1.1
140.	*	0.4	0.6	1.0	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.2	0.2	1.6	1.5	1.2	1.7	1.4
150.	*	0.3	0.5	1.2	1.1	0.7	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.6	0.2	0.2	1.7	1.4	1.3	1.9	1.6
160.	*	0.2	0.4	1.2	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.6	0.2	0.2	1.8	1.5	1.5	1.9	1.7
170.	*	0.1	0.2	1.1	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	0.2	0.2	1.8	1.3	1.8	1.7	1.5
180.	*	0.0	0.1	0.7	0.5	0.4	0.1	0.1	0.2	0.0	0.0	0.4	0.4	0.8	0.4	0.4	1.7	1.4	1.6	1.6	1.3
190.	*	0.1	0.1	0.5	0.4	0.3	0.4	0.6	0.6	0.1	0.0	0.4	0.4	1.2	0.9	0.6	1.2	1.1	1.5	1.5	1.1
200.	*	0.0	0.0	0.1	0.1	0.1	0.5	1.0	1.0	0.0	0.0	0.4	0.4	1.4	1.1	1.2	0.7	0.8	1.2	1.3	1.2
210.	*	0.0	0.0	0.0	0.0	0.0	0.6	1.3	1.4	0.1	0.0	0.4	0.5	1.5	1.1	1.5	0.5	0.7	1.2	1.3	1.2
220.	*	0.0	0.0	0.0	0.0	0.0	0.7	1.5	1.5	0.3	0.0	0.5	0.7	1.4	1.2	1.5	0.6	0.7	1.3	1.3	1.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.7	1.5	1.4	0.4	0.1	0.5	0.8	1.2	1.1	1.6	0.6	0.7	1.3	1.3	1.2
240.	*	0.0	0.0	0.0	0.0	0.0	0.8	1.4	1.3	0.5	0.1	0.7	0.9	1.3	1.3	1.8	0.6	0.7	1.4	1.4	1.2
250.	*	0.0	0.0	0.0	0.0	0.0	0.8	1.4	1.3	0.6	0.3	0.8	1.0	1.3	1.5	1.8	0.6	0.8	1.5	1.6	1.3
260.	*	0.0	0.0	0.0	0.0	0.0	1.0	1.4	1.0	0.6	0.4	0.9	1.0	1.5	1.8	1.8	0.6	0.9	1.6	1.7	1.3
270.	*	0.0	0.0	0.0	0.0	0.0	1.1	1.4	0.9	0.6	0.4	1.0	1.3	1.9	1.9	1.6	0.6	0.9	1.8	1.8	1.5
280.	*	0.3	0.3	0.3	0.0	0.0	1.3	1.4	1.1	0.9	0.6	1.1	1.3	2.2	1.8	1.5	0.4	0.8	1.8	2.0	1.5
290.	*	0.9	1.0	0.8	0.1	0.0	1.4	1.7	1.3	1.2	0.9	1.2	1.5	2.0	1.5	1.2	0.1	0.4	1.5	1.6	1.0
300.	*	1.7	1.8	1.5	0.4	0.1	1.7	1.9	1.7	1.6	1.2	0.8	1.0	1.4	1.2	1.1	0.0	0.1	0.8	0.8	0.5
310.	*	2.0	2.2	1.9	0.7	0.4	1.9	2.2	1.9	1.3	1.2	0.5	0.6	0.9	1.2	0.9	0.0	0.0	0.2	0.2	0.1
320.	*	2.0	2.0	1.7	0.8	0.5	2.2	2.3	1.6	1.3	1.0	0.3	0.5	0.8	1.2	0.8	0.0	0.0	0.0	0.0	0.0
330.	*	1.7	1.8	1.6	0.7	0.6	2.2	2.1	1.5	1.1	0.8	0.3	0.5	1.1	1.3	0.8	0.0	0.0	0.0	0.0	0.0
340.	*	1.7	1.7	1.4	0.7	0.6	2.2	1.9	1.4	1.0	0.8	0.2	0.4	1.3	1.3	0.8	0.0	0.0	0.0	0.0	0.0
350.	*	1.5	1.5	1.3	0.6	0.4	2.1	1.6	1.3	0.8	0.6	0.1	0.2	1.4	1.1	0.8	0.0	0.0	0.0	0.0	0.0
360.	*	1.4	1.5	1.5	0.9	0.7	1.9	1.4	1.2	0.6	0.5	0.1	0.2	1.2	0.9	0.8	0.1	0.2	0.3	0.0	0.0
MAX	*	2.0	2.2	1.9	1.4	1.5	2.2	2.3	1.9	1.6	1.2	1.2	1.5	2.2	1.9	1.8	1.8	1.6	1.8	2.0	1.7
DEGR.	*	70	310	310	100	20	320	320	310	300	300	290	290	280	270	250	160	40	170	280	160

JOB: 2010NoBUILD

RUN: 2010 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	*	0.7	0.7	0.6	0.3	0.2	0.5	1.1	1.5	0.7	0.3	0.0	0.1	0.5	0.2	0.2	0.1	0.1	0.0	0.0	0.0
10.	*	0.7	0.7	0.6	0.2	0.2	0.5	0.7	1.1	0.6	0.3	0.0	0.0	0.3	0.1	0.1	0.2	0.3	0.2	0.0	0.0
20.	*	0.6	0.7	0.6	0.4	0.4	0.3	0.5	0.7	0.6	0.3	0.0	0.0	0.1	0.0	0.0	0.4	0.4	0.4	0.1	0.0
30.	*	0.7	0.7	0.8	0.5	0.5	0.2	0.2	0.5	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.9	0.1	0.0
40.	*	0.7	0.8	1.0	0.6	0.4	0.2	0.2	0.4	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.7	1.5	0.2	0.0
50.	*	0.8	0.9	1.1	0.5	0.4	0.1	0.2	0.5	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.4	1.1	1.8	0.4	0.1
60.	*	1.0	1.2	1.0	0.7	0.3	0.1	0.2	0.5	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.3	1.5	1.9	0.6	0.2
70.	*	1.2	1.2	1.0	0.5	0.3	0.1	0.2	0.6	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.3	1.7	1.8	0.7	0.3
80.	*	1.0	1.2	0.8	0.3	0.3	0.1	0.1	0.6	0.6	0.5	0.1	0.1	0.0	0.0	0.0	0.3	2.0	1.5	0.7	0.5
90.	*	0.8	0.9	0.6	0.3	0.2	0.0	0.1	0.5	0.5	0.5	0.2	0.2	0.1	0.0	0.0	0.3	2.1	1.5	0.8	0.7
100.	*	0.5	0.4	0.3	0.2	0.2	0.0	0.0	0.3	0.4	0.3	0.4	0.5	0.5	0.0	0.0	0.3	2.2	1.3	0.8	0.7
110.	*	0.1	0.1	0.3	0.2	0.2	0.0	0.0	0.1	0.2	0.2	0.5	0.8	0.7	0.1	0.0	0.4	2.3	1.2	0.9	1.0
120.	*	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.5	0.9	0.8	0.2	0.1	0.4	2.5	0.8	0.7	0.8
130.	*	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.4	0.9	0.8	0.3	0.1	0.4	2.5	0.6	0.7	0.8
140.	*	0.1	0.1	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.9	0.7	0.3	0.1	0.7	2.6	0.6	0.8	0.8
150.	*	0.2	0.2	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.4	0.9	0.7	0.2	0.1	1.1	2.6	0.6	0.7	0.8
160.	*	0.2	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.0	0.3	0.9	0.7	0.4	0.2	1.5	2.5	0.6	0.8	0.8
170.	*	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.4	0.9	0.7	0.3	0.3	1.7	2.4	0.8	0.9	0.8
180.	*	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.5	0.9	0.7	0.3	0.3	1.5	2.0	0.9	0.9	0.8
190.	*	0.0	0.1	0.2	0.3	0.3	0.1	0.1	0.2	0.1	0.2	0.5	0.8	0.5	0.4	0.6	1.3	1.3	0.8	0.8	0.7
200.	*	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.4	0.8	0.5	0.5	1.1	0.7	0.6	0.6	0.7	0.6
210.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.1	0.0	0.3	0.8	0.6	0.9	1.4	0.4	0.3	0.5	0.6	0.6
220.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.1	0.1	0.4	0.9	0.7	1.0	1.5	0.2	0.2	0.4	0.6	0.6
230.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.6	0.1	0.1	0.5	0.9	0.7	1.5	1.2	0.2	0.3	0.5	0.7	0.7
240.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.8	0.1	0.1	0.5	1.1	0.8	1.8	0.8	0.2	0.4	0.6	0.7	0.8
250.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.9	0.1	0.1	0.6	1.3	0.9	2.0	0.6	0.2	0.4	0.7	0.9	0.9
260.	*	0.2	0.2	0.2	0.0	0.0	0.2	0.2	1.1	0.4	0.2	1.0	1.4	1.2	1.9	0.6	0.3	0.4	0.8	0.9	0.9
270.	*	0.6	0.6	0.5	0.1	0.0	0.2	0.3	1.3	0.7	0.5	1.2	1.4	1.2	1.8	0.4	0.1	0.3	0.6	0.8	0.9
280.	*	1.0	1.0	0.8	0.3	0.1	0.3	0.5	1.3	0.9	0.8	1.2	1.2	1.1	1.7	0.3	0.0	0.1	0.3	0.4	0.5
290.	*	1.0	1.1	0.9	0.3	0.2	0.4	0.5	1.2	0.8	0.8	0.8	1.0	1.1	1.3	0.3	0.0	0.0	0.0	0.2	0.2
300.	*	0.9	0.9	0.7	0.4	0.2	0.4	0.6	0.7	0.7	0.9	0.5	0.7	1.3	1.1	0.3	0.0	0.0	0.0	0.0	0.0
310.	*	0.8	0.9	0.7	0.4	0.2	0.4	0.5	0.6	1.0	1.0	0.3	0.6	1.4	0.8	0.3	0.0	0.0	0.0	0.0	0.0
320.	*	0.7	0.7	0.7	0.3	0.2	0.4	0.4	0.6	1.2	0.9	0.2	0.5	1.4	0.5	0.3	0.0	0.0	0.0	0.0	0.0
330.	*	0.7	0.7	0.6	0.3	0.2	0.4	0.5	0.8	1.2	0.6	0.1	0.3	1.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0
340.	*	0.7	0.7	0.6	0.3	0.2	0.4	0.5	1.1	1.0	0.5	0.1	0.2	1.1	0.3	0.3	0.0	0.0	0.0	0.0	0.0
350.	*	0.6	0.7	0.6	0.3	0.2	0.4	0.8	1.4	0.8	0.3	0.0	0.1	0.8	0.3	0.3	0.0	0.0	0.0	0.0	0.0
360.	*	0.7	0.7	0.6	0.3	0.2	0.5	1.1	1.5	0.7	0.3	0.0	0.1	0.5	0.2	0.2	0.1	0.1	0.0	0.0	0.0
MAX	*	1.2	1.2	1.1	0.7	0.5	0.5	1.1	1.5	1.2	1.0	1.2	1.4	1.4	2.0	1.5	1.7	2.6	1.9	0.9	1.0
DEGR.	*	70	60	50	60	30	0	0	0	320	310	270	260	310	250	220	170	140	60	110	110

RUN: 2010 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.



WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	0.0	0.0	0.0	0.0	0.0	1.3	2.1	1.7	2.3	1.5	0.5	0.8	1.3	1.9	1.9	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.1	0.2	0.1	1.9	2.2	2.2	2.5	1.4	0.5	0.7	1.7	2.1	2.1	0.3	0.3	0.1	0.0	0.0
20.	0.0	0.1	0.5	0.6	0.5	2.4	2.3	2.6	2.4	1.2	0.3	0.6	1.7	2.2	2.0	1.0	1.0	0.5	0.1	0.0
30.	0.2	0.3	1.2	1.4	1.3	2.2	2.1	2.5	2.0	1.1	0.1	0.3	1.2	1.6	1.4	2.0	2.2	1.5	0.3	0.1
40.	0.3	0.6	1.5	1.7	1.7	1.2	1.2	1.7	1.6	0.9	0.0	0.1	0.4	0.7	0.6	2.6	2.8	1.9	0.6	0.3
50.	0.5	0.8	1.1	1.4	1.9	0.6	1.0	1.4	1.3	0.9	0.0	0.0	0.0	0.2	0.2	2.6	2.7	1.8	0.8	0.5
60.	0.6	0.8	1.0	1.3	1.7	0.4	0.8	1.4	1.3	1.0	0.0	0.0	0.0	0.0	0.0	2.3	2.5	1.4	0.8	0.5
70.	0.5	0.6	0.8	1.6	1.6	0.3	0.7	1.6	1.1	1.0	0.0	0.0	0.0	0.0	0.0	2.2	2.3	1.0	0.8	0.5
80.	0.4	0.5	1.0	1.9	1.3	0.3	0.6	1.7	1.2	1.1	0.1	0.1	0.0	0.0	0.0	2.0	2.1	0.8	0.7	0.5
90.	0.3	0.4	1.4	2.0	1.0	0.3	0.5	1.7	1.3	1.3	0.1	0.1	0.0	0.0	0.0	1.8	1.9	0.6	0.5	0.5
100.	0.5	0.6	1.9	2.2	0.8	0.2	0.5	1.7	1.5	1.5	0.2	0.2	0.1	0.0	0.0	1.8	1.9	0.5	0.4	0.4
110.	0.7	1.0	1.9	2.0	0.7	0.1	0.4	1.3	1.4	1.3	0.6	0.7	0.4	0.0	0.0	1.8	1.8	0.7	0.6	0.5
120.	0.8	1.1	1.7	1.6	0.6	0.0	0.1	0.8	0.9	0.8	1.2	1.2	1.0	0.2	0.0	1.8	2.0	1.1	0.8	0.6
130.	0.6	0.8	1.3	1.5	0.6	0.0	0.0	0.3	0.4	0.4	1.5	1.5	1.5	0.4	0.1	1.9	1.9	1.4	1.1	0.8
140.	0.5	0.6	1.0	1.3	0.6	0.0	0.0	0.1	0.1	0.1	1.4	1.4	1.8	0.5	0.2	2.0	1.9	1.6	0.8	0.4
150.	0.4	0.5	1.1	1.4	0.6	0.0	0.0	0.0	0.1	0.1	1.2	1.2	1.8	0.6	0.3	2.1	1.8	1.3	0.7	0.5
160.	0.3	0.6	1.1	1.5	0.6	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.8	0.5	0.3	2.3	1.7	1.2	0.5	0.3
170.	0.2	0.4	1.3	1.5	0.7	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.7	0.7	0.2	2.5	1.5	1.0	0.5	0.3
180.	0.2	0.4	1.2	1.5	0.8	0.0	0.0	0.0	0.0	0.0	0.9	1.0	1.5	0.7	0.3	2.5	1.5	1.2	0.5	0.2
190.	0.1	0.3	1.1	1.4	0.9	0.1	0.1	0.1	0.0	0.0	0.9	1.1	1.3	0.8	0.4	2.7	1.5	1.2	0.4	0.1
200.	0.1	0.2	0.9	1.3	0.8	0.2	0.4	0.5	0.0	0.0	0.9	1.3	1.5	1.0	0.7	2.3	1.4	1.0	0.2	0.1
210.	0.0	0.1	0.5	0.8	0.6	0.6	0.9	1.1	0.1	0.0	0.9	1.7	1.7	1.3	1.2	1.5	1.1	0.6	0.1	0.0
220.	0.0	0.0	0.2	0.3	0.3	0.9	1.5	1.7	0.2	0.1	1.0	1.9	2.2	1.6	1.6	0.6	0.5	0.2	0.0	0.0
230.	0.0	0.0	0.0	0.1	0.1	1.0	1.9	2.1	0.4	0.1	1.0	2.3	2.0	1.3	1.7	0.1	0.2	0.0	0.0	0.0
240.	0.0	0.0	0.0	0.0	0.0	0.8	2.0	2.0	0.5	0.2	1.2	2.5	1.7	1.0	1.7	0.0	0.0	0.0	0.0	0.0
250.	0.0	0.0	0.0	0.0	0.0	0.8	2.0	1.9	0.6	0.2	1.4	2.7	1.3	0.7	1.7	0.0	0.0	0.0	0.0	0.0
260.	0.0	0.0	0.0	0.0	0.0	0.7	1.9	1.7	0.7	0.3	1.7	2.9	1.0	0.7	1.6	0.0	0.0	0.0	0.0	0.0
270.	0.0	0.0	0.0	0.0	0.0	0.6	1.7	1.4	0.8	0.5	1.8	2.6	0.9	0.7	1.5	0.0	0.0	0.0	0.0	0.0
280.	0.0	0.0	0.0	0.0	0.0	0.6	1.7	1.3	0.7	0.5	1.8	2.4	0.7	0.8	1.5	0.0	0.0	0.0	0.0	0.0
290.	0.0	0.0	0.0	0.0	0.0	0.6	1.7	1.1	0.8	0.9	1.7	1.8	0.6	1.0	1.5	0.0	0.0	0.0	0.0	0.0
300.	0.0	0.0	0.0	0.0	0.0	0.6	1.7	0.8	1.0	1.3	1.0	1.0	0.5	1.2	1.5	0.0	0.0	0.0	0.0	0.0
310.	0.0	0.0	0.0	0.0	0.0	0.6	1.7	0.8	1.3	1.7	0.7	0.5	0.5	1.4	1.5	0.0	0.0	0.0	0.0	0.0
320.	0.0	0.0	0.0	0.0	0.0	0.6	1.7	0.9	1.6	1.9	0.5	0.5	0.5	1.4	1.4	0.0	0.0	0.0	0.0	0.0
330.	0.0	0.0	0.0	0.0	0.0	0.6	1.7	0.9	1.8	1.7	0.5	0.6	0.6	1.5	1.5	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.0	0.0	0.8	1.8	1.3	2.1	1.6	0.5	0.7	0.8	1.6	1.6	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.0	0.0	1.0	1.9	1.4	2.3	1.5	0.5	0.7	1.0	1.8	1.7	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.0	0.0	1.3	2.1	1.7	2.3	1.5	0.5	0.8	1.3	1.9	1.9	0.0	0.0	0.0	0.0	0.0
MAX DEGR.	0.8	1.1	1.9	2.2	1.9	2.4	2.3	2.6	2.5	1.9	1.8	2.9	2.2	2.2	2.1	2.7	2.8	1.9	1.1	0.8
	120	120	100	100	50	20	20	20	10	320	270	260	220	20	10	190	40	40	130	130

THE HIGHEST CONCENTRATION OF 2.90 PPM OCCURRED AT RECEPTOR REC52.

2010 Build Condition

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

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The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
 U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (FT) Y1	X2	Y2	* LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Lower Newton QL	*	845790.0	*****	846356.2	*	1391.	294. AG	495.	100.0	1.0 20.0	1.57	70.6
2. Rt7 SB QL	*	845855.0	*****	845997.5	*	146.	13. AG	352.	100.0	1.0 20.0	0.64	7.4
3. Upper Nerton QL	*	845727.8	*****	845723.7	*	10.	115. AG	530.	100.0	1.0 20.0	0.16	0.5
4. RT 7 NB QL	*	845706.6	*****	845600.2	*	108.	188. AG	352.	100.0	1.0 20.0	0.47	5.5
5. Lake EB QL	*	842875.2	*****	842888.5	*	180.	274. AG	218.	100.0	1.0 10.0	0.88	9.2
6. Federal QL	*	842933.7	*****	843296.0	*	383.	19. AG	788.	100.0	1.0 30.0	1.20	19.5
7. Lake WB QL	*	842888.3	*****	842847.6	*	220.	101. AG	213.	100.0	1.0 10.0	0.93	11.2
8. Catherine QL	*	842836.7	*****	842754.6	*	84.	191. AG	446.	100.0	1.0 20.0	0.51	4.2
9. Rt 7 SB QL	*	839649.5	*****	840109.1	*	531.	30. AG	515.	100.0	1.0 20.0	1.25	27.0
10. St Albans QL	*	839510.2	*****	839462.5	*	100.	119. AG	426.	100.0	1.0 20.0	0.55	5.1
11. RT 7 NB QL	*	839481.8	*****	839340.4	*	164.	210. AG	451.	100.0	1.0 20.0	0.87	8.3
12. Nason Conn QL	*	839551.5	*****	839591.6	*	77.	301. AG	396.	100.0	1.0 20.0	0.38	3.9
13. Lower Newton	*	845774.6	*****	846056.9	*	664.	295. AG	1010.	16.6	1.0 60.0		
14. Rt 7 SB	*	845774.6	*****	846440.4	*	681.	12. AG	1155.	16.6	1.0 60.0		
15. Upper Newton	*	845774.6	*****	845436.5	*	815.	114. AG	1010.	16.6	1.0 60.0		
16. Rt7 NB	*	845774.6	*****	845435.3	*	343.	188. AG	1155.	16.6	1.0 60.0		
17. Lake EB	*	842884.2	*****	842956.7	*	1171.	274. AG	640.	16.6	1.0 60.0		
18. Federal	*	843425.2	*****	842884.2	*	550.	191. AG	950.	16.6	1.0 60.0		
19. Lake WB	*	842884.2	*****	842708.6	*	959.	101. AG	640.	16.6	1.0 60.0		
20. Catherine	*	842889.7	*****	842039.7	*	903.	200. AG	950.	16.6	1.0 60.0		
21. RT 7 SB	*	839526.1	*****	840064.9	*	619.	30. AG	1155.	16.6	1.0 60.0		
22. ST Albans	*	839526.1	*****	839129.4	*	865.	117. AG	1990.	16.6	1.0 60.0		
23. Rt 7 NB	*	839526.1	*****	838782.4	*	873.	212. AG	1155.	16.6	1.0 60.0		
24. Nason Conn	*	839552.7	*****	839895.8	*	778.	296. AG	670.	16.6	1.0 60.0		

JOB: 2010BUILD

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 ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	* *	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Lower Newton QL	*	120	100	3.0	625	1600	110.80	1	3
2. Rt7 SB QL	*	120	71	3.0	755	1600	110.80	1	3
3. Upper Nerton QL	*	120	107	3.0	35	1600	110.80	1	3
4. RT 7 NB QL	*	120	71	3.0	555	1600	110.80	1	3
5. Lake EB QL	*	120	88	3.0	315	1600	110.80	1	3
6. Federal QL	*	120	106	3.0	430	1600	110.80	1	3
7. Lake WB QL	*	120	86	3.0	360	1600	110.80	1	3
8. Catherine QL	*	120	90	3.0	340	1600	110.80	1	3
9. Rt 7 SB QL	*	120	104	3.0	365	1600	110.80	1	3
10. St Albans QL	*	120	86	3.0	425	1600	110.80	1	3
11. RT 7 NB QL	*	120	91	3.0	555	1600	110.80	1	3
12. Nason Conn QL	*	120	80	3.0	355	1600	110.80	1	3

 RECEPTOR LOCATIONS

RECEPTOR	* *	COORDINATES (FT)			* *
		X	Y	Z	
1. 1	*	*****	845814.4	6.0	*
2. 2	*	*****	845790.6	6.0	*
3. 3	*	*****	845750.0	6.0	*
4. 4	*	*****	845660.9	6.0	*
5. 5	*	*****	845579.5	6.0	*
6. 6	*	*****	845569.8	6.0	*
7. 7	*	*****	845647.4	6.0	*
8. 8	*	*****	845704.2	6.0	*
9. 9	*	*****	845673.5	6.0	*
10. 10	*	*****	845632.9	6.0	*
11. 11	*	*****	845703.3	6.0	*
12. 12	*	*****	845742.1	6.0	*
13. 13	*	*****	845796.8	6.0	*
14. 14	*	*****	845872.9	6.0	*
15. 15	*	*****	845952.8	6.0	*
16. 16	*	*****	845971.9	6.0	*
17. 17	*	*****	845896.9	6.0	*
18. 18	*	*****	845834.3	6.0	*
19. 19	*	*****	845859.2	6.0	*
20. 20	*	*****	845890.7	6.0	*
21. 1	*	*****	842867.4	6.0	*
22. 2	*	*****	842862.6	6.0	*
23. 3	*	*****	842840.3	6.0	*
24. 4	*	*****	842746.4	6.0	*

25. 5	*	*****	842609.4	6.0	*
26. 6	*	*****	842576.9	6.0	*
27. 7	*	*****	842726.3	6.0	*
28. 8	*	*****	842832.1	6.0	*
29. 9	*	*****	842822.3	6.0	*
30. 10	*	*****	842794.8	6.0	*
31. 11	*	*****	842865.8	6.0	*
32. 12	*	*****	842893.3	6.0	*
33. 13	*	*****	842919.0	6.0	*

JOB: 2010BUILD

RUN: 2010Build

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RECEPTOR LOCATIONS

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RECEPTOR          *          COORDINATES (FT)          *
                    *          X              Y              Z              *
-----
34. 14              *          *****          843011.7          6.0          *
35. 15              *          *****          843110.8          6.0          *
36. 16              *          *****          843121.3          6.0          *
37. 17              *          *****          843023.4          6.0          *
38. 18              *          *****          842940.3          6.0          *
39. 19              *          *****          842931.8          6.0          *
40. 20              *          *****          842939.6          6.0          *
41. 1               *          *****          839638.8          6.0          *
42. 2               *          *****          839590.6          6.0          *
43. 3               *          *****          839527.4          6.0          *
44. 4               *          *****          839479.9          6.0          *
45. 5               *          *****          839318.0          6.0          *
46. 6               *          *****          839282.9          6.0          *
47. 7               *          *****          839408.6          6.0          *
48. 8               *          *****          839472.9          6.0          *
49. 9               *          *****          839430.0          6.0          *
50. 10              *          *****          839376.3          6.0          *
51. 11              *          *****          839433.9          6.0          *
52. 12              *          *****          839485.1          6.0          *
53. 13              *          *****          839546.6          6.0          *
54. 14              *          *****          839631.4          6.0          *
55. 15              *          *****          839759.9          6.0          *
56. 16              *          *****          839798.5          6.0          *
57. 17              *          *****          839674.9          6.0          *
58. 18              *          *****          839616.4          6.0          *
59. 19              *          *****          839659.2          6.0          *
60. 20              *          *****          839710.9          6.0          *

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JOB: 2010BUILD

RUN: 2010Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	1.4	1.6	1.4	0.9	0.7	1.7	1.3	1.2	0.6	0.5	0.0	0.1	1.0	0.8	0.7	0.1	0.1	0.2	0.0	0.0
10.	*	1.4	1.6	1.6	1.1	1.1	1.1	0.8	0.9	0.5	0.4	0.0	0.0	0.6	0.5	0.5	0.3	0.5	0.5	0.1	0.0
20.	*	1.5	1.8	1.7	1.3	1.4	0.5	0.5	0.7	0.5	0.5	0.0	0.0	0.3	0.2	0.2	0.6	0.9	1.1	0.2	0.1
30.	*	1.6	2.0	1.6	1.1	1.4	0.2	0.3	0.6	0.5	0.5	0.0	0.0	0.1	0.1	0.1	0.8	1.3	1.4	0.4	0.2
40.	*	1.7	2.0	1.3	1.0	1.3	0.2	0.4	0.7	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.8	1.5	1.4	0.5	0.2
50.	*	1.8	2.1	1.1	1.2	1.3	0.2	0.3	0.8	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.9	1.4	1.2	0.6	0.4
60.	*	2.0	2.1	1.0	1.1	1.1	0.2	0.3	0.7	0.5	0.5	0.0	0.0	0.0	0.0	0.0	1.1	1.4	1.0	0.7	0.4
70.	*	2.0	1.9	1.0	1.2	1.0	0.2	0.3	0.7	0.5	0.5	0.0	0.0	0.0	0.0	0.0	1.1	1.3	0.8	0.7	0.5
80.	*	2.0	1.8	1.1	1.3	0.9	0.2	0.3	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	1.2	1.3	0.6	0.6	0.5
90.	*	1.9	1.7	1.0	1.3	0.8	0.2	0.3	0.7	0.7	0.6	0.0	0.0	0.0	0.0	0.0	1.2	1.3	0.5	0.5	0.5
100.	*	1.7	1.3	1.3	1.2	0.6	0.1	0.3	0.6	0.7	0.7	0.1	0.1	0.1	0.0	0.0	1.2	1.3	0.6	0.6	0.5
110.	*	1.3	1.2	1.2	1.1	0.5	0.1	0.2	0.4	0.6	0.6	0.3	0.3	0.4	0.1	0.0	1.3	1.4	0.8	0.8	0.6
120.	*	0.8	0.7	1.0	1.0	0.5	0.0	0.1	0.2	0.3	0.3	0.5	0.6	0.6	0.2	0.1	1.4	1.5	1.1	1.1	0.8
130.	*	0.6	0.7	0.9	1.0	0.5	0.0	0.0	0.1	0.1	0.1	0.7	0.7	0.7	0.2	0.1	1.5	1.5	1.2	1.4	1.1
140.	*	0.3	0.5	0.9	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.3	0.2	1.5	1.4	1.3	1.7	1.4
150.	*	0.3	0.5	1.1	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.7	0.3	0.2	1.6	1.4	1.2	2.0	1.5
160.	*	0.1	0.3	1.0	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.6	0.3	0.2	1.7	1.4	1.4	1.9	1.5
170.	*	0.1	0.2	0.9	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.6	0.2	0.2	1.6	1.1	1.7	1.7	1.5
180.	*	0.0	0.1	0.5	0.5	0.3	0.1	0.1	0.1	0.0	0.0	0.4	0.4	0.8	0.4	0.5	1.5	1.2	1.5	1.5	1.3
190.	*	0.0	0.0	0.2	0.2	0.1	0.2	0.3	0.5	0.0	0.0	0.4	0.4	1.1	0.8	0.6	1.1	0.9	1.3	1.3	1.1
200.	*	0.0	0.0	0.1	0.1	0.0	0.4	0.6	0.9	0.0	0.0	0.4	0.5	1.3	1.1	1.0	0.8	0.8	1.3	1.4	1.2
210.	*	0.0	0.0	0.0	0.0	0.0	0.5	0.9	1.2	0.1	0.0	0.4	0.6	1.5	1.0	1.4	0.5	0.8	1.3	1.4	1.2
220.	*	0.0	0.0	0.0	0.0	0.0	0.6	1.1	1.3	0.2	0.0	0.4	0.7	1.2	1.1	1.4	0.6	0.8	1.3	1.3	1.1
230.	*	0.0	0.0	0.0	0.0	0.0	0.6	1.3	1.3	0.3	0.1	0.5	0.7	1.2	1.0	1.6	0.6	0.8	1.3	1.4	1.2
240.	*	0.0	0.0	0.0	0.0	0.0	0.6	1.2	1.2	0.3	0.1	0.7	0.9	1.2	1.2	1.7	0.6	0.8	1.5	1.5	1.2
250.	*	0.0	0.0	0.0	0.0	0.0	0.5	1.3	1.2	0.4	0.2	0.7	1.0	1.2	1.5	1.7	0.6	0.9	1.5	1.6	1.4
260.	*	0.0	0.0	0.0	0.0	0.0	0.5	1.3	1.0	0.5	0.3	0.8	1.0	1.5	1.8	1.7	0.6	0.9	1.7	1.8	1.4
270.	*	0.0	0.1	0.0	0.0	0.0	0.5	1.3	0.9	0.5	0.3	1.0	1.2	1.9	1.9	1.6	0.7	1.0	1.8	2.0	1.5
280.	*	0.4	0.4	0.3	0.0	0.0	0.5	1.4	1.1	0.8	0.8	1.2	1.4	2.3	1.8	1.5	0.5	1.0	2.0	2.1	1.6
290.	*	1.1	1.2	1.0	0.2	0.1	0.6	1.7	1.3	1.4	1.0	1.3	1.6	2.1	1.5	1.2	0.2	0.6	1.7	1.7	1.3
300.	*	1.9	2.0	1.7	0.6	0.2	1.0	2.1	1.8	1.7	1.3	0.9	1.2	1.4	1.2	1.1	0.1	0.2	0.9	1.0	0.6
310.	*	2.2	2.3	1.9	0.8	0.5	1.3	2.3	2.0	1.5	1.3	0.4	0.7	0.9	1.1	0.8	0.0	0.0	0.3	0.3	0.2
320.	*	2.0	2.1	1.8	0.8	0.6	1.7	2.2	1.6	1.3	1.0	0.3	0.4	0.7	1.1	0.7	0.0	0.0	0.0	0.1	0.0
330.	*	1.8	1.9	1.6	0.7	0.6	1.8	2.1	1.3	1.0	0.9	0.3	0.4	1.0	1.2	0.7	0.0	0.0	0.0	0.0	0.0
340.	*	1.7	1.7	1.5	0.7	0.6	2.0	1.8	1.3	1.0	0.8	0.2	0.3	1.2	1.1	0.6	0.0	0.0	0.0	0.0	0.0
350.	*	1.6	1.6	1.4	0.6	0.5	2.1	1.5	1.4	0.8	0.6	0.1	0.2	1.2	1.0	0.7	0.0	0.0	0.0	0.0	0.0
360.	*	1.4	1.6	1.4	0.9	0.7	1.7	1.3	1.2	0.6	0.5	0.0	0.1	1.0	0.8	0.7	0.1	0.1	0.2	0.0	0.0
MAX	*	2.2	2.3	1.9	1.3	1.4	2.1	2.3	2.0	1.7	1.3	1.3	1.6	2.3	1.9	1.7	1.7	1.5	2.0	2.1	1.6
DEGR.	*	310	310	310	20	20	350	310	310	300	300	290	290	280	270	240	160	40	280	280	280

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	*	0.3	0.3	0.5	0.3	0.2	0.9	1.9	2.1	1.2	0.5	0.0	0.4	1.6	1.6	2.0	0.1	0.3	0.2	0.0	0.0
10.	*	0.3	0.3	0.5	0.3	0.3	0.9	1.5	1.9	0.8	0.5	0.0	0.1	1.0	1.1	1.3	0.4	0.9	0.6	0.0	0.0
20.	*	0.3	0.3	0.8	0.6	0.7	0.7	0.8	1.1	0.6	0.4	0.0	0.0	0.4	0.5	0.6	0.9	1.9	1.3	0.2	0.0
30.	*	0.3	0.4	1.1	1.0	0.9	0.3	0.3	0.7	0.6	0.3	0.0	0.0	0.1	0.1	0.1	1.5	2.6	2.0	0.4	0.0
40.	*	0.4	0.7	1.5	1.0	0.7	0.2	0.2	0.4	0.6	0.3	0.0	0.0	0.0	0.0	0.0	2.0	3.0	2.3	0.9	0.2
50.	*	0.6	1.0	1.5	0.8	0.7	0.1	0.2	0.5	0.6	0.3	0.0	0.0	0.0	0.0	0.0	2.2	2.9	2.3	1.1	0.4
60.	*	0.7	1.3	1.2	0.7	0.6	0.1	0.2	0.5	0.7	0.4	0.0	0.0	0.0	0.0	0.0	2.2	2.7	2.2	1.1	0.5
70.	*	0.9	1.3	1.0	0.6	0.4	0.1	0.2	0.6	0.7	0.4	0.0	0.0	0.0	0.0	0.0	2.0	2.4	1.8	1.0	0.5
80.	*	0.8	1.2	1.0	0.6	0.4	0.1	0.1	0.6	0.6	0.4	0.1	0.1	0.0	0.0	0.0	1.9	2.4	1.6	0.8	0.6
90.	*	0.8	1.1	0.8	0.4	0.3	0.0	0.1	0.5	0.6	0.4	0.2	0.3	0.2	0.0	0.0	1.9	2.3	1.6	0.9	0.8
100.	*	0.5	0.5	0.5	0.3	0.3	0.0	0.0	0.4	0.3	0.3	0.3	0.5	0.4	0.0	0.0	1.9	2.4	1.4	0.9	1.0
110.	*	0.1	0.2	0.4	0.2	0.3	0.0	0.0	0.1	0.2	0.2	0.5	0.9	0.8	0.1	0.0	1.9	2.4	1.2	1.0	1.0
120.	*	0.1	0.1	0.4	0.2	0.3	0.0	0.0	0.0	0.1	0.0	0.5	1.0	0.8	0.1	0.1	2.0	2.6	0.9	0.7	0.9
130.	*	0.1	0.1	0.3	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.4	1.0	0.9	0.3	0.1	2.1	2.6	0.6	0.8	0.9
140.	*	0.1	0.1	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.9	0.7	0.2	0.1	2.2	2.6	0.7	0.8	0.6
150.	*	0.1	0.1	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.7	0.3	0.2	2.3	2.7	0.8	0.8	0.5
160.	*	0.1	0.1	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.6	0.3	0.2	2.4	2.6	0.8	0.8	0.5
170.	*	0.1	0.1	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.6	0.2	0.2	2.3	2.4	0.9	0.8	0.4
180.	*	0.0	0.1	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.5	0.2	0.2	1.9	2.0	0.9	0.8	0.4
190.	*	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.4	0.7	0.6	0.4	0.6	1.4	1.3	0.8	0.8	0.3
200.	*	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.6	0.0	0.0	0.5	0.8	0.7	0.6	1.4	0.7	0.8	0.6	0.7	0.3
210.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	1.1	0.1	0.0	0.6	0.8	0.8	1.1	2.2	0.4	0.4	0.6	0.6	0.3
220.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.3	1.3	0.2	0.1	0.8	1.1	0.9	1.2	2.5	0.2	0.3	0.4	0.6	0.3
230.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.3	1.4	0.3	0.1	0.9	1.2	0.9	1.6	2.6	0.2	0.2	0.5	0.6	0.4
240.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.3	1.4	0.3	0.1	1.0	1.2	0.8	1.9	2.6	0.1	0.3	0.5	0.7	0.4
250.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	1.2	0.5	0.1	1.2	1.4	0.8	2.0	2.3	0.1	0.3	0.5	0.6	0.4
260.	*	0.1	0.1	0.0	0.0	0.0	0.2	0.3	1.2	0.6	0.2	1.3	1.3	1.0	1.8	2.3	0.1	0.1	0.5	0.6	0.5
270.	*	0.2	0.2	0.2	0.0	0.0	0.2	0.3	1.3	0.8	0.4	1.5	1.2	1.1	1.7	2.1	0.0	0.1	0.4	0.4	0.4
280.	*	0.3	0.4	0.4	0.1	0.0	0.2	0.4	1.3	0.7	0.7	1.1	1.2	1.0	1.6	2.1	0.0	0.0	0.1	0.2	0.2
290.	*	0.4	0.4	0.5	0.1	0.1	0.3	0.5	1.2	0.8	0.9	0.8	1.0	1.2	1.6	2.1	0.0	0.0	0.0	0.1	0.1
300.	*	0.4	0.4	0.6	0.1	0.1	0.3	0.7	0.8	0.8	1.0	0.6	0.8	1.3	1.7	2.1	0.0	0.0	0.0	0.0	0.0
310.	*	0.3	0.3	0.6	0.1	0.1	0.3	0.8	0.6	1.1	1.2	0.6	0.9	1.5	1.8	2.1	0.0	0.0	0.0	0.0	0.0
320.	*	0.3	0.3	0.6	0.2	0.1	0.4	1.0	0.7	1.2	1.3	0.6	0.9	1.6	1.8	2.2	0.0	0.0	0.0	0.0	0.0
330.	*	0.3	0.3	0.6	0.2	0.1	0.4	1.3	0.9	1.4	1.1	0.5	0.9	1.7	1.9	2.3	0.0	0.0	0.0	0.0	0.0
340.	*	0.3	0.3	0.5	0.2	0.1	0.5	1.4	1.3	1.5	1.0	0.3	0.9	1.7	1.9	2.4	0.0	0.0	0.0	0.0	0.0
350.	*	0.3	0.3	0.5	0.3	0.2	0.7	1.7	1.7	1.5	0.8	0.1	0.8	1.8	1.9	2.4	0.0	0.1	0.0	0.0	0.0
360.	*	0.3	0.3	0.5	0.3	0.2	0.9	1.9	2.1	1.2	0.5	0.0	0.4	1.6	1.6	2.0	0.1	0.3	0.2	0.0	0.0
MAX	*	0.9	1.3	1.5	1.0	0.9	0.9	1.9	2.1	1.5	1.3	1.5	1.4	1.8	2.0	2.6	2.4	3.0	2.3	1.1	1.0
DEGR.	*	70	60	40	30	30	0	0	0	340	320	270	250	350	250	230	160	40	40	50	100

2030 No Build Condition

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

PAGE 1

JOB: 2030 No BUILD

RUN: 2030 No Build

DATE : 3/11/12
TIME : 12:36:53

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Lower Newton QL	*	845790.0	*	846290.7	*	1230.	294.	AG	341.	100.0	1.0	20.0	1.49 62.5
2. Rt7 SB QL	*	845855.0	*	846022.1	*	172.	13.	AG	242.	100.0	1.0	20.0	0.75 8.7
3. Upper Nerton QL	*	845727.8	*	845721.7	*	15.	115.	AG	365.	100.0	1.0	20.0	0.24 0.7
4. RT 7 NB QL	*	845706.6	*	845542.6	*	166.	188.	AG	242.	100.0	1.0	20.0	0.73 8.4
5. Lake EB QL	*	842875.2	*	843185.1	*	4190.	274.	AG	150.	100.0	1.0	10.0	2.03 212.9
6. Federal QL	*	842933.7	*	843244.6	*	329.	19.	AG	542.	100.0	1.0	30.0	1.16 16.7
7. Lake WB QL	*	842888.3	*	842842.1	*	250.	101.	AG	147.	100.0	1.0	10.0	0.97 12.7
8. Catherine QL	*	842836.7	*	842807.7	*	30.	191.	AG	307.	100.0	1.0	20.0	0.18 1.5
9. Rt 7 SB QL	*	839649.5	*	842289.0	*	3051.	30.	AG	355.	100.0	1.0	20.0	2.84 155.0
10. St Albans QL	*	839510.2	*	839454.0	*	118.	119.	AG	293.	100.0	1.0	20.0	0.65 6.0
11. RT 7 NB QL	*	839481.8	*	839214.7	*	309.	210.	AG	310.	100.0	1.0	20.0	1.02 15.7
12. Lower Newton	*	845774.6	*	846056.9	*	664.	295.	AG	1065.	11.7	1.0	60.0	
13. Rt 7 SB	*	845774.6	*	846440.4	*	681.	12.	AG	1640.	11.7	1.0	60.0	
14. Upper Newton	*	845774.6	*	845436.5	*	815.	114.	AG	1065.	11.7	1.0	60.0	
15. Rt7 NB	*	845774.6	*	845435.3	*	343.	188.	AG	1640.	11.7	1.0	60.0	
16. Lake EB	*	842884.2	*	842956.7	*	1171.	274.	AG	805.	11.7	1.0	60.0	
17. Federal	*	843425.2	*	842884.2	*	550.	191.	AG	825.	11.7	1.0	60.0	
18. Lake WB	*	842884.2	*	842708.6	*	959.	101.	AG	805.	11.7	1.0	60.0	
19. Catherine	*	842889.7	*	842039.7	*	903.	200.	AG	825.	11.7	1.0	60.0	
20. RT 7 SB	*	839526.1	*	840064.9	*	619.	30.	AG	1640.	11.7	1.0	60.0	
21. ST Albans	*	839526.1	*	839129.4	*	865.	117.	AG	1990.	11.7	1.0	60.0	
22. Rt 7 NB	*	839526.1	*	838782.4	*	873.	212.	AG	1640.	11.7	1.0	60.0	

JOB: 2030 No BUILD

RUN: 2030 No Build

DATE : 3/11/12
 TIME : 12:36:53

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	* *	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Lower Newton QL	*	120	100	3.0	595	1600	76.30	1	3
2. Rt7 SB QL	*	120	71	3.0	885	1600	76.30	1	3
3. Upper Nerton QL	*	120	107	3.0	50	1600	76.30	1	3
4. RT 7 NB QL	*	120	71	3.0	855	1600	76.30	1	3
5. Lake EB QL	*	120	88	3.0	730	1600	76.30	1	3
6. Federal QL	*	120	106	3.0	415	1600	76.30	1	3
7. Lake WB QL	*	120	86	3.0	375	1600	76.30	1	3
8. Catherine QL	*	120	90	3.0	120	1600	76.30	1	3
9. Rt 7 SB QL	*	120	104	3.0	830	1600	76.30	1	3
10. St Albans QL	*	120	86	3.0	500	1600	76.30	1	3
11. RT 7 NB QL	*	120	91	3.0	650	1600	76.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	* *	X	COORDINATES (FT) Y	Z	* *
1. 1	*	*****	845814.4	6.0	*
2. 2	*	*****	845790.6	6.0	*
3. 3	*	*****	845750.0	6.0	*
4. 4	*	*****	845660.9	6.0	*
5. 5	*	*****	845579.5	6.0	*
6. 6	*	*****	845569.8	6.0	*
7. 7	*	*****	845647.4	6.0	*
8. 8	*	*****	845704.2	6.0	*
9. 9	*	*****	845673.5	6.0	*
10. 10	*	*****	845632.9	6.0	*
11. 11	*	*****	845703.3	6.0	*
12. 12	*	*****	845742.1	6.0	*
13. 13	*	*****	845796.8	6.0	*
14. 14	*	*****	845872.9	6.0	*
15. 15	*	*****	845952.8	6.0	*
16. 16	*	*****	845971.9	6.0	*
17. 17	*	*****	845896.9	6.0	*
18. 18	*	*****	845834.3	6.0	*
19. 19	*	*****	845859.2	6.0	*
20. 20	*	*****	845890.7	6.0	*
21. 1	*	*****	842867.4	6.0	*
22. 2	*	*****	842862.6	6.0	*
23. 3	*	*****	842840.3	6.0	*
24. 4	*	*****	842746.4	6.0	*
25. 5	*	*****	842609.4	6.0	*

26. 6	*	*****	842576.9	6.0	*
27. 7	*	*****	842726.3	6.0	*
28. 8	*	*****	842832.1	6.0	*
29. 9	*	*****	842822.3	6.0	*
30. 10	*	*****	842794.8	6.0	*
31. 11	*	*****	842865.8	6.0	*
32. 12	*	*****	842893.3	6.0	*
33. 13	*	*****	842919.0	6.0	*
34. 14	*	*****	843011.7	6.0	*

JOB: 2030 No BUILD

RUN: 2030 No Build

DATE : 3/11/12
TIME : 12:36:53

RECEPTOR LOCATIONS

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RECEPTOR          *          COORDINATES (FT)          *
                    *          X              Y              Z              *
-----
35. 15              *          *****          843110.8          6.0          *
36. 16              *          *****          843121.3          6.0          *
37. 17              *          *****          843023.4          6.0          *
38. 18              *          *****          842940.3          6.0          *
39. 19              *          *****          842931.8          6.0          *
40. 20              *          *****          842939.6          6.0          *
41. 1              *          *****          839638.8          6.0          *
42. 2              *          *****          839590.6          6.0          *
43. 3              *          *****          839527.4          6.0          *
44. 4              *          *****          839479.9          6.0          *
45. 5              *          *****          839318.0          6.0          *
46. 6              *          *****          839282.9          6.0          *
47. 7              *          *****          839408.6          6.0          *
48. 8              *          *****          839472.9          6.0          *
49. 9              *          *****          839430.0          6.0          *
50. 10             *          *****          839376.3          6.0          *
51. 11             *          *****          839433.9          6.0          *
52. 12             *          *****          839485.1          6.0          *
53. 13             *          *****          839546.6          6.0          *
54. 14             *          *****          839631.4          6.0          *
55. 15             *          *****          839759.9          6.0          *
56. 16             *          *****          839798.5          6.0          *
57. 17             *          *****          839674.9          6.0          *
58. 18             *          *****          839616.4          6.0          *
59. 19             *          *****          839659.2          6.0          *
60. 20             *          *****          839710.9          6.0          *

```

JOB: 2030 No BUILD

RUN: 2030 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to

the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM)																			
	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	1.0	1.0	1.0	0.8	0.5	1.5	1.0	1.1	0.5	0.4	0.0	0.1	1.0	0.9	0.7	0.1	0.1	0.2	0.0	0.0
10.	1.0	1.1	1.3	0.9	0.9	1.0	0.7	0.8	0.4	0.3	0.0	0.0	0.6	0.6	0.5	0.3	0.5	0.5	0.1	0.0
20.	1.1	1.2	1.5	1.0	1.2	0.4	0.5	0.6	0.3	0.3	0.0	0.0	0.3	0.2	0.2	0.7	0.9	1.0	0.2	0.1
30.	1.2	1.4	1.3	1.1	1.1	0.1	0.3	0.5	0.3	0.3	0.0	0.0	0.1	0.1	0.1	0.9	1.2	1.2	0.4	0.2
40.	1.3	1.5	1.1	0.9	1.1	0.1	0.3	0.6	0.3	0.3	0.0	0.0	0.0	0.0	0.0	1.0	1.3	1.1	0.5	0.2
50.	1.3	1.5	1.0	1.1	1.1	0.1	0.2	0.7	0.3	0.3	0.0	0.0	0.0	0.0	0.0	1.0	1.2	1.0	0.5	0.4
60.	1.5	1.6	0.8	1.0	1.0	0.1	0.2	0.6	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.1	1.2	0.8	0.6	0.4
70.	1.5	1.5	0.9	1.0	1.0	0.1	0.2	0.7	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.7	0.6	0.4
80.	1.5	1.4	0.9	1.1	1.0	0.1	0.2	0.6	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.6	0.5	0.4
90.	1.4	1.3	0.9	1.1	1.0	0.1	0.2	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.5	0.4	0.4
100.	1.3	1.1	1.0	1.1	1.0	0.1	0.2	0.4	0.5	0.5	0.1	0.1	0.1	0.0	0.0	1.0	1.0	0.6	0.6	0.3
110.	0.9	0.8	1.0	1.0	0.8	0.0	0.1	0.3	0.4	0.4	0.2	0.3	0.3	0.0	0.0	1.0	1.1	0.7	0.6	0.4
120.	0.6	0.6	0.8	0.9	0.7	0.0	0.0	0.2	0.2	0.2	0.4	0.4	0.5	0.1	0.0	1.1	1.1	1.0	0.9	0.6
130.	0.4	0.5	0.8	0.9	0.7	0.0	0.0	0.1	0.1	0.1	0.5	0.5	0.5	0.2	0.1	1.1	1.2	1.0	1.0	0.8
140.	0.3	0.5	0.8	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.2	0.1	1.1	1.1	1.1	1.3	1.2
150.	0.3	0.5	1.0	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	0.2	0.1	1.3	1.1	1.1	1.5	1.1
160.	0.1	0.3	1.0	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	0.2	0.1	1.4	1.3	1.2	1.5	1.1
170.	0.1	0.2	0.9	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	0.2	0.1	1.4	1.1	1.4	1.3	1.1
180.	0.0	0.1	0.5	0.6	0.3	0.1	0.2	0.2	0.0	0.0	0.3	0.3	0.7	0.4	0.3	1.4	1.1	1.3	1.0	0.9
190.	0.0	0.0	0.4	0.3	0.2	0.3	0.6	0.6	0.1	0.0	0.3	0.3	0.9	0.7	0.6	1.0	0.9	1.1	0.9	0.8
200.	0.0	0.0	0.1	0.1	0.0	0.4	0.8	0.9	0.0	0.0	0.3	0.3	1.1	1.0	0.9	0.6	0.7	0.9	1.0	0.8
210.	0.0	0.0	0.0	0.0	0.0	0.6	1.1	1.1	0.1	0.0	0.3	0.4	1.2	1.0	1.2	0.3	0.5	0.9	1.0	0.8
220.	0.0	0.0	0.0	0.0	0.0	0.8	1.2	1.2	0.3	0.0	0.3	0.6	1.0	1.0	1.2	0.4	0.5	0.9	0.9	0.8
230.	0.0	0.0	0.0	0.0	0.0	0.9	1.2	1.1	0.3	0.1	0.4	0.7	1.0	0.9	1.3	0.4	0.6	0.9	1.0	0.8
240.	0.0	0.0	0.0	0.0	0.0	1.0	1.1	1.0	0.4	0.1	0.6	0.8	0.9	1.1	1.3	0.4	0.6	1.1	1.1	0.9
250.	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.4	0.3	0.6	0.8	1.0	1.2	1.3	0.4	0.6	1.1	1.1	0.9
260.	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.9	0.4	0.3	0.6	0.8	1.2	1.4	1.3	0.4	0.6	1.2	1.3	1.0
270.	0.0	0.0	0.0	0.0	0.0	1.1	1.0	0.8	0.4	0.3	0.7	0.9	1.5	1.4	1.3	0.4	0.7	1.3	1.4	1.1
280.	0.3	0.3	0.3	0.0	0.0	1.1	1.0	0.9	0.5	0.5	0.8	1.2	1.8	1.5	1.3	0.4	0.7	1.4	1.5	1.1
290.	0.8	0.9	0.7	0.1	0.0	1.2	1.2	1.1	1.1	0.8	1.0	1.2	1.6	1.3	1.0	0.1	0.4	1.1	1.3	0.9
300.	1.3	1.5	1.2	0.4	0.2	1.3	1.5	1.4	1.4	1.1	0.6	0.8	1.1	1.0	0.9	0.0	0.1	0.6	0.7	0.4
310.	1.5	1.6	1.4	0.5	0.4	1.5	1.7	1.5	1.2	0.9	0.3	0.5	0.8	0.9	0.8	0.0	0.0	0.2	0.2	0.1
320.	1.4	1.5	1.2	0.6	0.4	1.6	1.6	1.4	1.1	0.7	0.3	0.3	0.7	0.9	0.8	0.0	0.0	0.0	0.0	0.0
330.	1.3	1.3	1.2	0.6	0.4	1.7	1.7	1.1	0.8	0.7	0.3	0.3	0.9	1.0	0.8	0.0	0.0	0.0	0.0	0.0
340.	1.2	1.2	1.1	0.5	0.4	1.6	1.5	1.1	0.8	0.7	0.2	0.3	1.1	1.0	0.7	0.0	0.0	0.0	0.0	0.0
350.	1.1	1.2	0.9	0.5	0.3	1.7	1.3	1.2	0.7	0.5	0.1	0.2	1.1	1.0	0.7	0.0	0.0	0.0	0.0	0.0
360.	1.0	1.0	1.0	0.8	0.5	1.5	1.0	1.1	0.5	0.4	0.0	0.1	1.0	0.9	0.7	0.1	0.1	0.2	0.0	0.0
MAX DEGR.	1.5	1.6	1.5	1.1	1.2	1.7	1.7	1.5	1.4	1.1	1.0	1.2	1.8	1.5	1.3	1.4	1.3	1.4	1.5	1.2
	70	310	20	30	20	330	310	310	300	300	290	280	280	280	230	160	160	170	150	140

JOB: 2030 No BUILD

RUN: 2030 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	*	0.4	0.5	0.4	0.2	0.2	0.4	1.1	1.4	0.9	0.5	0.0	0.2	1.0	1.0	1.1	0.1	0.2	0.0	0.0	0.0
10.	*	0.4	0.5	0.4	0.2	0.3	0.4	0.9	1.2	0.6	0.5	0.0	0.0	0.6	0.6	0.6	0.2	0.5	0.3	0.0	0.0
20.	*	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.8	0.5	0.5	0.0	0.0	0.2	0.2	0.2	0.5	1.2	0.8	0.0	0.0
30.	*	0.5	0.5	0.8	0.7	0.6	0.2	0.3	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.8	1.7	1.2	0.3	0.0
40.	*	0.6	0.7	1.0	0.7	0.5	0.2	0.2	0.3	0.5	0.4	0.0	0.0	0.0	0.0	0.0	1.1	2.0	1.5	0.5	0.0
50.	*	0.7	0.9	1.0	0.5	0.4	0.1	0.2	0.4	0.5	0.4	0.0	0.0	0.0	0.0	0.0	1.3	1.9	1.5	0.7	0.2
60.	*	0.9	1.0	0.8	0.3	0.3	0.1	0.2	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	1.4	1.8	1.4	0.7	0.4
70.	*	0.9	0.9	0.8	0.4	0.3	0.1	0.2	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	1.4	1.7	1.3	0.6	0.4
80.	*	0.7	0.8	0.6	0.2	0.3	0.1	0.1	0.5	0.6	0.4	0.1	0.0	0.0	0.0	0.0	1.2	1.6	1.1	0.5	0.5
90.	*	0.6	0.6	0.6	0.2	0.2	0.0	0.1	0.4	0.5	0.4	0.1	0.2	0.2	0.0	0.0	1.3	1.6	1.1	0.7	0.6
100.	*	0.4	0.4	0.3	0.1	0.2	0.0	0.0	0.3	0.3	0.3	0.3	0.5	0.4	0.0	0.0	1.3	1.6	1.0	0.7	0.6
110.	*	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.4	0.7	0.6	0.1	0.0	1.3	1.7	0.9	0.7	0.8
120.	*	0.1	0.1	0.1	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.5	0.8	0.7	0.1	0.1	1.3	1.7	0.8	0.6	0.7
130.	*	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.0	0.5	0.8	0.6	0.2	0.1	1.4	1.8	0.4	0.6	0.7
140.	*	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.6	0.8	0.7	0.3	0.1	1.5	1.9	0.6	0.6	0.7
150.	*	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.7	0.7	0.7	0.3	0.3	1.7	2.0	0.7	0.6	0.7
160.	*	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.7	0.7	0.5	0.3	0.3	1.6	1.8	0.6	0.6	0.7
170.	*	0.1	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.7	0.6	0.5	0.3	0.3	1.6	1.7	0.6	0.6	0.7
180.	*	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.7	0.7	0.4	0.3	0.3	1.4	1.4	0.6	0.7	0.6
190.	*	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.7	0.7	0.4	0.3	0.6	1.0	0.9	0.6	0.7	0.5
200.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.7	0.6	0.3	0.3	0.8	0.5	0.6	0.4	0.4	0.5
210.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.1	0.0	0.6	0.6	0.5	0.5	1.3	0.3	0.2	0.4	0.5	0.5
220.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4	0.1	0.0	0.7	0.7	0.5	0.7	1.8	0.2	0.2	0.3	0.5	0.5
230.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.5	0.1	0.1	0.7	0.7	0.7	1.0	1.9	0.2	0.2	0.4	0.5	0.5
240.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.6	0.1	0.1	0.8	0.9	0.5	1.2	1.8	0.2	0.2	0.5	0.5	0.6
250.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.7	0.1	0.1	0.9	0.9	0.6	1.3	1.7	0.2	0.2	0.5	0.7	0.7
260.	*	0.2	0.2	0.1	0.0	0.0	0.1	0.2	0.9	0.3	0.1	1.1	0.9	1.0	1.4	1.6	0.2	0.3	0.6	0.7	0.7
270.	*	0.5	0.5	0.3	0.1	0.0	0.1	0.3	1.0	0.5	0.4	1.0	1.0	1.0	1.3	1.5	0.1	0.2	0.4	0.7	0.7
280.	*	0.7	0.7	0.5	0.3	0.1	0.2	0.5	1.1	0.7	0.4	0.8	0.9	0.9	1.2	1.4	0.0	0.1	0.2	0.4	0.4
290.	*	0.8	0.8	0.6	0.3	0.1	0.3	0.5	0.9	0.6	0.7	0.5	0.6	0.9	1.1	1.4	0.0	0.0	0.0	0.1	0.1
300.	*	0.6	0.7	0.6	0.2	0.2	0.3	0.4	0.7	0.6	0.9	0.4	0.5	0.9	1.1	1.4	0.0	0.0	0.0	0.0	0.0
310.	*	0.6	0.6	0.6	0.2	0.2	0.3	0.4	0.3	0.7	0.9	0.4	0.6	1.0	1.1	1.4	0.0	0.0	0.0	0.0	0.0
320.	*	0.6	0.6	0.4	0.2	0.2	0.3	0.4	0.6	0.9	0.9	0.4	0.6	1.0	1.1	1.4	0.0	0.0	0.0	0.0	0.0
330.	*	0.6	0.6	0.4	0.2	0.2	0.4	0.4	0.6	1.0	0.9	0.3	0.6	1.1	1.2	1.6	0.0	0.0	0.0	0.0	0.0
340.	*	0.5	0.5	0.4	0.2	0.2	0.3	0.4	0.8	1.1	0.8	0.1	0.6	1.2	1.3	1.6	0.0	0.0	0.0	0.0	0.0
350.	*	0.4	0.5	0.4	0.2	0.2	0.3	0.8	1.3	0.9	0.5	0.0	0.4	1.2	1.3	1.5	0.0	0.0	0.0	0.0	0.0
360.	*	0.4	0.5	0.4	0.2	0.2	0.4	1.1	1.4	0.9	0.5	0.0	0.2	1.0	1.0	1.1	0.1	0.2	0.0	0.0	0.0
MAX	*	0.9	1.0	1.0	0.7	0.6	0.4	1.1	1.4	1.1	0.9	1.1	1.0	1.2	1.4	1.9	1.7	2.0	1.5	0.7	0.8
DEGR.	*	60	60	40	30	30	0	0	0	340	310	260	270	340	260	230	150	40	40	50	110

JOB: 2030 No BUILD

RUN: 2030 No Build

MODEL RESULTS

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0. *	0.0	0.0	0.0	0.0	0.0	1.7	1.6	1.3	1.7	1.0	0.3	0.5	1.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0
10. *	0.0	0.0	0.1	0.1	0.0	1.9	1.6	1.7	1.7	1.0	0.4	0.6	1.2	1.7	1.5	0.2	0.2	0.1	0.0	0.0
20. *	0.0	0.1	0.4	0.5	0.4	2.0	1.8	2.0	1.6	0.9	0.2	0.5	1.3	1.6	1.5	0.7	0.8	0.4	0.1	0.0
30. *	0.1	0.2	0.9	1.1	1.0	1.7	1.6	1.8	1.6	0.8	0.1	0.2	0.9	1.2	1.1	1.5	1.7	1.1	0.2	0.1
40. *	0.3	0.5	1.1	1.3	1.4	1.0	0.9	1.2	1.2	0.6	0.0	0.1	0.3	0.5	0.5	2.0	2.1	1.4	0.5	0.2
50. *	0.4	0.6	0.9	1.1	1.5	0.5	0.6	0.9	1.0	0.6	0.0	0.0	0.0	0.1	0.0	1.9	2.1	1.4	0.6	0.4
60. *	0.4	0.5	0.6	1.0	1.4	0.3	0.5	1.0	1.0	0.7	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.1	0.6	0.4
70. *	0.4	0.4	0.6	1.1	1.4	0.2	0.5	1.1	0.9	0.7	0.0	0.0	0.0	0.0	0.0	1.6	1.7	0.8	0.5	0.3
80. *	0.4	0.3	0.7	1.4	1.3	0.2	0.5	1.3	0.9	0.8	0.0	0.0	0.0	0.0	0.0	1.5	1.5	0.6	0.5	0.3
90. *	0.2	0.3	1.0	1.5	1.2	0.2	0.5	1.3	0.9	0.9	0.1	0.1	0.0	0.0	0.0	1.3	1.4	0.5	0.4	0.3
100. *	0.2	0.5	1.3	1.7	1.1	0.1	0.4	1.3	1.0	1.0	0.2	0.2	0.1	0.0	0.0	1.3	1.4	0.4	0.3	0.2
110. *	0.6	0.7	1.5	1.5	1.1	0.0	0.2	1.0	1.0	0.9	0.4	0.5	0.3	0.0	0.0	1.3	1.4	0.5	0.4	0.3
120. *	0.6	0.8	1.2	1.2	1.0	0.0	0.1	0.5	0.6	0.6	0.8	0.9	0.7	0.1	0.0	1.3	1.4	0.9	0.7	0.5
130. *	0.4	0.5	0.9	1.1	1.0	0.0	0.0	0.2	0.3	0.2	1.0	1.1	1.1	0.3	0.1	1.4	1.4	1.1	0.8	0.6
140. *	0.3	0.5	0.8	1.0	1.0	0.0	0.0	0.1	0.1	0.1	1.0	1.0	1.3	0.3	0.1	1.4	1.5	1.1	0.7	0.3
150. *	0.4	0.4	0.8	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.9	1.0	1.3	0.4	0.2	1.5	1.3	1.1	0.4	0.2
160. *	0.4	0.4	1.0	1.2	1.0	0.0	0.0	0.0	0.0	0.0	0.8	1.0	1.2	0.4	0.2	1.7	1.4	1.0	0.4	0.3
170. *	0.3	0.4	1.0	1.2	1.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0	1.2	0.5	0.2	1.8	1.2	0.8	0.4	0.3
180. *	0.2	0.4	1.0	1.3	1.0	0.0	0.0	0.0	0.0	0.0	0.6	1.1	1.1	0.5	0.3	2.0	1.1	0.8	0.4	0.3
190. *	0.1	0.3	1.1	1.4	0.8	0.1	0.1	0.1	0.0	0.0	0.6	1.2	0.9	0.5	0.3	2.1	1.2	1.0	0.3	0.1
200. *	0.1	0.2	0.9	1.2	0.7	0.3	0.4	0.4	0.0	0.0	0.7	1.4	1.0	0.8	0.7	1.8	1.3	0.9	0.2	0.1
210. *	0.0	0.1	0.5	0.8	0.5	0.7	1.0	1.0	0.1	0.0	0.7	1.5	1.4	1.2	1.0	1.1	0.9	0.6	0.1	0.0
220. *	0.0	0.0	0.2	0.4	0.2	1.2	1.6	1.6	0.3	0.0	0.7	1.6	1.6	1.4	1.3	0.5	0.4	0.3	0.0	0.0
230. *	0.0	0.0	0.0	0.1	0.1	1.5	1.7	1.7	0.5	0.1	0.7	1.7	1.6	1.2	1.4	0.1	0.2	0.0	0.0	0.0
240. *	0.0	0.0	0.0	0.0	0.0	1.5	1.6	1.6	0.6	0.3	1.0	1.9	1.3	0.7	1.3	0.0	0.0	0.0	0.0	0.0
250. *	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.4	0.6	0.3	1.0	2.0	1.1	0.6	1.3	0.0	0.0	0.0	0.0	0.0
260. *	0.0	0.0	0.0	0.0	0.0	1.5	1.4	1.3	0.6	0.4	1.3	2.0	0.8	0.6	1.2	0.0	0.0	0.0	0.0	0.0
270. *	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.1	0.5	0.4	1.3	1.9	0.7	0.6	1.1	0.0	0.0	0.0	0.0	0.0
280. *	0.0	0.0	0.0	0.0	0.0	1.3	1.2	1.0	0.5	0.5	1.4	1.7	0.5	0.6	1.1	0.0	0.0	0.0	0.0	0.0
290. *	0.0	0.0	0.0	0.0	0.0	1.3	1.2	0.8	0.6	0.6	1.3	1.2	0.4	0.8	1.1	0.0	0.0	0.0	0.0	0.0
300. *	0.0	0.0	0.0	0.0	0.0	1.3	1.2	0.7	0.7	1.1	0.8	0.7	0.5	0.9	1.1	0.0	0.0	0.0	0.0	0.0
310. *	0.0	0.0	0.0	0.0	0.0	1.3	1.2	0.7	0.9	1.3	0.5	0.4	0.4	1.0	1.1	0.0	0.0	0.0	0.0	0.0
320. *	0.0	0.0	0.0	0.0	0.0	1.3	1.2	0.7	1.2	1.3	0.3	0.4	0.4	1.1	1.1	0.0	0.0	0.0	0.0	0.0
330. *	0.0	0.0	0.0	0.0	0.0	1.3	1.2	0.7	1.3	1.3	0.3	0.4	0.5	1.1	1.1	0.0	0.0	0.0	0.0	0.0
340. *	0.0	0.0	0.0	0.0	0.0	1.4	1.3	0.9	1.4	1.3	0.4	0.4	0.6	1.2	1.2	0.0	0.0	0.0	0.0	0.0
350. *	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.0	1.7	1.1	0.3	0.5	0.7	1.3	1.3	0.0	0.0	0.0	0.0	0.0
360. *	0.0	0.0	0.0	0.0	0.0	1.7	1.6	1.3	1.7	1.0	0.3	0.5	1.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0
MAX DEGR. *	0.6	0.8	1.5	1.7	1.5	2.0	1.8	2.0	1.7	1.3	1.4	2.0	1.6	1.7	1.5	2.1	2.1	1.4	0.8	0.6

THE HIGHEST CONCENTRATION OF 2.10 PPM OCCURRED AT RECEPTOR REC57.

2030 Build Condition

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

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The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	LINK COORDINATES (FT) Y1	X2	Y2	* LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Lower Newton QL	*	845790.0	*****	846609.7	*	2013.	294. AG	198.	100.0	1.0 20.0	1.86	102.3
2. Rt7 SB QL	*	845855.0	*****	846040.3	*	190.	13. AG	141.	100.0	1.0 20.0	0.81	9.7
3. Upper Nerton QL	*	845727.8	*****	845721.7	*	15.	115. AG	212.	100.0	1.0 20.0	0.24	0.7
4. RT 7 NB QL	*	845706.6	*****	845583.7	*	124.	188. AG	141.	100.0	1.0 20.0	0.55	6.3
5. Lake EB QL	*	842875.2	*****	843079.4	*	2762.	274. AG	87.	100.0	1.0 10.0	1.66	140.3
6. Federal QL	*	842933.7	*****	843275.4	*	361.	19. AG	315.	100.0	1.0 30.0	1.18	18.4
7. Lake WB QL	*	842888.3	*****	842770.7	*	636.	101. AG	85.	100.0	1.0 10.0	1.09	32.3
8. Catherine QL	*	842836.7	*****	842739.1	*	99.	191. AG	178.	100.0	1.0 20.0	0.61	5.1
9. Rt 7 SB QL	*	839649.5	*****	840511.4	*	996.	30. AG	206.	100.0	1.0 20.0	1.54	50.6
10. St Albans QL	*	839510.2	*****	839453.5	*	119.	119. AG	170.	100.0	1.0 20.0	0.65	6.0
11. RT 7 NB QL	*	839481.8	*****	839214.7	*	309.	210. AG	180.	100.0	1.0 20.0	1.02	15.7
12. Nason Conn QL	*	839551.5	*****	839595.7	*	85.	301. AG	158.	100.0	1.0 20.0	0.42	4.3
13. Lower Newton	*	845774.6	*****	846056.9	*	664.	295. AG	1165.	11.7	1.0 60.0		
14. Rt 7 SB	*	845774.6	*****	846440.4	*	681.	12. AG	1425.	11.7	1.0 60.0		
15. Upper Newton	*	845774.6	*****	845436.5	*	815.	114. AG	1165.	11.7	1.0 60.0		
16. Rt7 NB	*	845774.6	*****	845435.3	*	343.	188. AG	1425.	11.7	1.0 60.0		
17. Lake EB	*	842884.2	*****	842956.7	*	1171.	274. AG	790.	11.7	1.0 60.0		
18. Federal	*	843425.2	*****	842884.2	*	550.	191. AG	1125.	11.7	1.0 60.0		
19. Lake WB	*	842884.2	*****	842708.6	*	959.	101. AG	790.	11.7	1.0 60.0		
20. Catherine	*	842889.7	*****	842039.7	*	903.	200. AG	1125.	11.7	1.0 60.0		
21. RT 7 SB	*	839526.1	*****	840064.9	*	619.	30. AG	1425.	11.7	1.0 60.0		
22. ST Albans	*	839526.1	*****	839129.4	*	865.	117. AG	1990.	11.7	1.0 60.0		
23. Rt 7 NB	*	839526.1	*****	838782.4	*	873.	212. AG	1425.	11.7	1.0 60.0		
24. Nason Conn	*	839552.7	*****	839895.8	*	778.	296. AG	745.	11.7	1.0 60.0		

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	* CYCLE	RED	CLEARANCE	APPROACH	SATURATION	IDLE	SIGNAL	ARRIVAL
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	*	LENGTH	TIME	LOST TIME	VOL	FLOW RATE	EM FAC	TYPE	RATE
	*	(SEC)	(SEC)	(SEC)	(VPH)	(VPH)	(gm/hr)		
1. Lower Newton QL	*	120	100	3.0	740	1600	44.30	1	3
2. Rt7 SB QL	*	120	71	3.0	945	1600	44.30	1	3
3. Upper Nerton QL	*	120	107	3.0	50	1600	44.30	1	3
4. RT 7 NB QL	*	120	71	3.0	640	1600	44.30	1	3
5. Lake EB QL	*	120	88	3.0	595	1600	44.30	1	3
6. Federal QL	*	120	106	3.0	425	1600	44.30	1	3
7. Lake WB QL	*	120	86	3.0	420	1600	44.30	1	3
8. Catherine QL	*	120	90	3.0	405	1600	44.30	1	3
9. Rt 7 SB QL	*	120	104	3.0	450	1600	44.30	1	3
10. St Albans QL	*	120	86	3.0	505	1600	44.30	1	3
11. RT 7 NB QL	*	120	91	3.0	650	1600	44.30	1	3
12. Nason Conn QL	*	120	80	3.0	390	1600	44.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
	*	X	Y	Z	*
1. 1	*	*****	845814.4	6.0	*
2. 2	*	*****	845790.6	6.0	*
3. 3	*	*****	845750.0	6.0	*
4. 4	*	*****	845660.9	6.0	*
5. 5	*	*****	845579.5	6.0	*
6. 6	*	*****	845569.8	6.0	*
7. 7	*	*****	845647.4	6.0	*
8. 8	*	*****	845704.2	6.0	*
9. 9	*	*****	845673.5	6.0	*
10. 10	*	*****	845632.9	6.0	*
11. 11	*	*****	845703.3	6.0	*
12. 12	*	*****	845742.1	6.0	*
13. 13	*	*****	845796.8	6.0	*
14. 14	*	*****	845872.9	6.0	*
15. 15	*	*****	845952.8	6.0	*
16. 16	*	*****	845971.9	6.0	*
17. 17	*	*****	845896.9	6.0	*
18. 18	*	*****	845834.3	6.0	*
19. 19	*	*****	845859.2	6.0	*
20. 20	*	*****	845890.7	6.0	*
21. 1	*	*****	842867.4	6.0	*
22. 2	*	*****	842862.6	6.0	*
23. 3	*	*****	842840.3	6.0	*
24. 4	*	*****	842746.4	6.0	*
25. 5	*	*****	842609.4	6.0	*
26. 6	*	*****	842576.9	6.0	*
27. 7	*	*****	842726.3	6.0	*
28. 8	*	*****	842832.1	6.0	*
29. 9	*	*****	842822.3	6.0	*
30. 10	*	*****	842794.8	6.0	*
31. 11	*	*****	842865.8	6.0	*
32. 12	*	*****	842893.3	6.0	*
33. 13	*	*****	842919.0	6.0	*

JOB: 2030BUILD

RUN: 2030Build

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RECEPTOR LOCATIONS

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      RECEPTOR      *          COORDINATES (FT)          *
                      *          X              Y              Z              *
-----*-----*-----*-----*-----*-----*-----*
34. 14                *          *****          843011.7          6.0          *
35. 15                *          *****          843110.8          6.0          *
36. 16                *          *****          843121.3          6.0          *
37. 17                *          *****          843023.4          6.0          *
38. 18                *          *****          842940.3          6.0          *
39. 19                *          *****          842931.8          6.0          *
40. 20                *          *****          842939.6          6.0          *
41. 1                 *          *****          839638.8          6.0          *
42. 2                 *          *****          839590.6          6.0          *
43. 3                 *          *****          839527.4          6.0          *
44. 4                 *          *****          839479.9          6.0          *
45. 5                 *          *****          839318.0          6.0          *
46. 6                 *          *****          839282.9          6.0          *
47. 7                 *          *****          839408.6          6.0          *
48. 8                 *          *****          839472.9          6.0          *
49. 9                 *          *****          839430.0          6.0          *
50. 10                *          *****          839376.3          6.0          *
51. 11                *          *****          839433.9          6.0          *
52. 12                *          *****          839485.1          6.0          *
53. 13                *          *****          839546.6          6.0          *
54. 14                *          *****          839631.4          6.0          *
55. 15                *          *****          839759.9          6.0          *
56. 16                *          *****          839798.5          6.0          *
57. 17                *          *****          839674.9          6.0          *
58. 18                *          *****          839616.4          6.0          *
59. 19                *          *****          839659.2          6.0          *
60. 20                *          *****          839710.9          6.0          *
    
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JOB: 2030BUILD

RUN: 2030Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
 ANGLE * (PPM)

(DEGR) *	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20	
0.	*	0.8	0.8	0.7	0.5	0.4	1.1	0.8	1.0	0.6	0.5	0.0	0.1	0.8	0.7	0.6	0.1	0.1	0.0	0.0	
10.	*	0.7	0.9	0.9	0.9	0.7	0.7	0.7	0.7	0.5	0.4	0.0	0.0	0.6	0.4	0.4	0.3	0.4	0.4	0.1	0.0
20.	*	0.9	0.9	1.2	1.0	1.0	0.3	0.4	0.5	0.4	0.4	0.0	0.0	0.2	0.2	0.2	0.6	0.7	0.7	0.2	0.1
30.	*	0.9	1.1	1.0	1.0	0.8	0.1	0.3	0.4	0.4	0.4	0.0	0.0	0.1	0.1	0.1	0.7	0.9	0.9	0.4	0.2
40.	*	0.9	1.2	0.9	0.8	0.9	0.1	0.2	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.8	0.9	0.9	0.4	0.2
50.	*	1.1	1.2	0.8	0.8	0.8	0.1	0.2	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.8	0.9	0.8	0.4	0.3
60.	*	1.1	1.1	0.9	0.9	0.8	0.1	0.2	0.6	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.7	0.5	0.3
70.	*	1.2	1.0	0.9	0.8	0.7	0.2	0.2	0.6	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.5	0.3	0.3
80.	*	1.1	1.1	0.8	0.8	0.6	0.2	0.2	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.4	0.3	0.3
90.	*	1.0	1.2	0.9	0.8	0.6	0.1	0.2	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.4	0.3	0.3
100.	*	1.1	1.0	1.0	0.8	0.5	0.1	0.2	0.5	0.6	0.6	0.1	0.1	0.1	0.0	0.0	0.7	0.7	0.5	0.4	0.3
110.	*	0.8	0.8	0.8	0.7	0.4	0.0	0.1	0.4	0.5	0.5	0.2	0.3	0.3	0.0	0.0	0.7	0.8	0.7	0.5	0.4
120.	*	0.6	0.5	0.7	0.6	0.4	0.0	0.0	0.2	0.3	0.2	0.4	0.5	0.5	0.1	0.0	0.8	0.9	0.9	0.9	0.5
130.	*	0.4	0.4	0.6	0.7	0.4	0.0	0.0	0.1	0.1	0.1	0.5	0.6	0.6	0.2	0.1	0.8	0.9	1.1	1.0	0.7
140.	*	0.3	0.3	0.7	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.2	0.1	1.0	0.9	0.9	1.0	0.8
150.	*	0.2	0.3	0.7	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.6	0.2	0.1	1.0	1.0	1.0	1.2	1.0
160.	*	0.1	0.2	0.7	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	0.2	0.1	0.9	0.9	1.0	1.2	1.0
170.	*	0.1	0.1	0.6	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	0.2	0.1	1.0	1.0	1.1	1.1	0.7
180.	*	0.0	0.1	0.5	0.4	0.3	0.1	0.1	0.1	0.0	0.0	0.4	0.4	0.7	0.3	0.3	1.0	1.0	1.0	0.9	0.7
190.	*	0.0	0.0	0.2	0.2	0.1	0.2	0.3	0.3	0.0	0.0	0.3	0.4	0.8	0.6	0.5	0.7	0.6	0.8	0.8	0.6
200.	*	0.0	0.0	0.1	0.1	0.0	0.4	0.5	0.6	0.0	0.0	0.4	0.4	1.0	0.8	0.6	0.4	0.5	0.8	0.8	0.6
210.	*	0.0	0.0	0.0	0.0	0.0	0.5	0.7	0.8	0.1	0.0	0.4	0.5	1.1	0.9	0.8	0.2	0.4	0.7	0.8	0.6
220.	*	0.0	0.0	0.0	0.0	0.0	0.5	0.8	0.8	0.1	0.0	0.3	0.5	0.9	0.8	1.0	0.2	0.4	0.8	0.8	0.6
230.	*	0.0	0.0	0.0	0.0	0.0	0.5	0.8	0.8	0.2	0.1	0.5	0.7	0.9	0.9	0.9	0.2	0.4	0.8	0.8	0.6
240.	*	0.0	0.0	0.0	0.0	0.0	0.5	0.8	0.7	0.3	0.1	0.5	0.7	1.0	0.8	0.9	0.3	0.4	0.8	0.8	0.6
250.	*	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.7	0.3	0.1	0.5	0.7	1.0	0.9	1.0	0.4	0.4	0.8	0.8	0.7
260.	*	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.6	0.3	0.2	0.7	0.6	1.2	0.9	0.9	0.4	0.5	0.9	1.0	0.8
270.	*	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.6	0.3	0.2	0.6	0.7	1.2	1.1	0.9	0.3	0.5	1.0	1.1	0.8
280.	*	0.2	0.2	0.2	0.0	0.0	0.5	0.7	0.7	0.6	0.4	0.9	1.0	1.5	1.1	0.9	0.3	0.5	1.1	1.2	0.8
290.	*	0.6	0.7	0.5	0.1	0.0	0.6	0.8	0.9	0.7	0.6	0.8	0.9	1.3	0.9	0.7	0.1	0.3	1.0	1.0	0.7
300.	*	1.0	1.1	0.9	0.3	0.1	0.7	1.1	1.1	1.1	1.0	0.6	0.7	0.9	0.7	0.6	0.0	0.1	0.6	0.6	0.3
310.	*	1.1	1.2	1.0	0.5	0.3	1.0	1.2	1.3	1.1	0.8	0.3	0.5	0.7	0.6	0.6	0.0	0.0	0.2	0.2	0.0
320.	*	1.1	1.1	1.0	0.4	0.3	1.2	1.2	1.1	0.9	0.6	0.2	0.3	0.6	0.7	0.7	0.0	0.0	0.0	0.0	0.0
330.	*	1.0	1.0	0.8	0.4	0.3	1.3	1.3	1.0	0.7	0.7	0.1	0.3	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
340.	*	0.9	0.9	0.8	0.4	0.2	1.3	1.2	1.0	0.7	0.6	0.1	0.3	0.8	0.8	0.7	0.0	0.0	0.0	0.0	0.0
350.	*	0.8	0.8	0.8	0.4	0.2	1.1	1.0	0.9	0.7	0.5	0.1	0.2	0.8	0.8	0.7	0.0	0.0	0.0	0.0	0.0
360.	*	0.8	0.8	0.7	0.5	0.4	1.1	0.8	1.0	0.6	0.5	0.0	0.1	0.8	0.7	0.6	0.1	0.1	0.1	0.0	0.0
MAX	*	1.2	1.2	1.2	1.0	1.0	1.3	1.3	1.3	1.1	1.0	0.9	1.0	1.5	1.1	1.0	1.0	1.0	1.1	1.2	1.0
DEGR.	*	70	40	20	20	20	340	330	310	300	300	280	280	280	270	220	180	170	130	150	150

JOB: 2030BUILD

RUN: 2030Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION																					
ANGLE * (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40	
0.	0.3	0.4	0.3	0.2	0.1	0.4	1.0	1.1	0.6	0.3	0.0	0.2	0.8	0.8	0.9	0.1	0.1	0.0	0.0	0.0	
10.	0.3	0.4	0.3	0.2	0.1	0.5	0.7	1.1	0.5	0.4	0.0	0.0	0.5	0.5	0.5	0.3	0.5	0.2	0.0	0.0	
20.	0.3	0.3	0.5	0.4	0.4	0.3	0.4	0.6	0.3	0.3	0.0	0.0	0.2	0.2	0.3	0.5	1.0	0.7	0.1	0.0	
30.	0.3	0.4	0.6	0.4	0.5	0.1	0.2	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.8	1.3	0.9	0.2	0.0	
40.	0.5	0.7	0.8	0.5	0.5	0.1	0.1	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.0	1.4	1.1	0.5	0.1	
50.	0.7	0.7	0.7	0.4	0.4	0.1	0.2	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.0	1.3	1.1	0.5	0.2	
60.	0.7	0.8	0.6	0.5	0.3	0.1	0.2	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.1	1.3	1.0	0.5	0.3	
70.	0.7	0.7	0.7	0.4	0.3	0.1	0.2	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.0	1.2	0.9	0.5	0.3	
80.	0.7	0.8	0.5	0.5	0.3	0.1	0.2	0.4	0.5	0.5	0.1	0.0	0.0	0.0	0.0	0.9	1.1	0.8	0.3	0.4	
90.	0.4	0.5	0.7	0.4	0.2	0.0	0.1	0.4	0.5	0.5	0.2	0.2	0.2	0.0	0.0	0.9	1.2	0.9	0.5	0.5	
100.	0.4	0.4	0.4	0.2	0.2	0.0	0.0	0.3	0.4	0.4	0.5	0.5	0.3	0.0	0.0	1.0	1.2	0.9	0.7	0.5	
110.	0.1	0.1	0.3	0.2	0.2	0.0	0.0	0.1	0.1	0.1	0.6	0.7	0.5	0.1	0.0	0.9	1.3	0.8	0.8	0.7	
120.	0.1	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.5	0.2	0.1	1.0	1.2	0.7	0.6	0.6	
130.	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.5	0.2	0.1	1.2	1.4	0.5	0.6	0.5	
140.	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.2	0.2	1.2	1.4	0.5	0.7	0.5	
150.	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.2	0.1	1.1	1.3	0.7	0.7	0.5	
160.	0.1	0.1	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.3	0.2	0.1	1.2	1.3	0.5	0.5	0.5	
170.	0.1	0.1	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.3	0.2	0.1	1.2	1.4	0.6	0.5	0.4	
180.	0.0	0.1	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.3	0.1	0.1	1.0	1.2	0.7	0.6	0.5	
190.	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.5	0.5	0.3	0.2	0.4	0.8	0.9	0.7	0.5	0.4	
200.	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.0	0.0	0.5	0.5	0.5	0.5	0.7	0.5	0.6	0.5	0.4	0.3	
210.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.6	0.1	0.0	0.4	0.5	0.6	0.7	1.1	0.2	0.2	0.4	0.4	0.4	
220.	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.7	0.2	0.1	0.6	0.7	0.7	0.8	1.3	0.1	0.1	0.3	0.4	0.4	
230.	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.7	0.2	0.1	0.6	0.8	0.8	0.9	1.3	0.1	0.2	0.3	0.4	0.4	
240.	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.7	0.3	0.1	0.6	0.8	0.6	0.9	1.2	0.2	0.2	0.4	0.4	0.4	
250.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.7	0.3	0.1	0.6	0.8	0.7	1.0	1.2	0.2	0.2	0.4	0.6	0.6	
260.	0.1	0.2	0.0	0.0	0.0	0.2	0.2	0.7	0.2	0.1	0.8	0.8	0.8	1.0	1.2	0.2	0.2	0.4	0.6	0.6	
270.	0.3	0.4	0.2	0.0	0.0	0.2	0.2	0.9	0.4	0.5	0.8	0.8	0.9	1.0	1.0	0.0	0.2	0.3	0.6	0.6	
280.	0.5	0.5	0.4	0.2	0.0	0.2	0.5	1.0	0.6	0.5	0.7	0.8	0.8	0.8	1.0	0.0	0.0	0.2	0.3	0.3	
290.	0.6	0.6	0.5	0.2	0.1	0.3	0.6	0.8	0.7	0.7	0.4	0.5	0.7	0.8	1.0	0.0	0.0	0.0	0.1	0.1	
300.	0.5	0.5	0.5	0.2	0.2	0.4	0.7	0.5	0.6	0.7	0.3	0.3	0.7	0.8	1.0	0.0	0.0	0.0	0.0	0.0	
310.	0.5	0.5	0.5	0.2	0.1	0.3	0.7	0.4	0.5	0.7	0.3	0.5	0.8	0.8	1.0	0.0	0.0	0.0	0.0	0.0	
320.	0.5	0.5	0.3	0.2	0.1	0.3	0.7	0.5	0.8	0.7	0.3	0.5	0.8	0.8	1.0	0.0	0.0	0.0	0.0	0.0	
330.	0.5	0.5	0.3	0.2	0.1	0.3	0.7	0.6	0.9	0.7	0.2	0.5	0.8	0.9	1.2	0.0	0.0	0.0	0.0	0.0	
340.	0.3	0.4	0.3	0.2	0.1	0.3	0.8	0.7	0.9	0.6	0.2	0.5	0.8	1.0	1.2	0.0	0.0	0.0	0.0	0.0	
350.	0.3	0.3	0.3	0.2	0.1	0.5	0.9	1.1	0.8	0.4	0.0	0.3	0.9	0.9	1.2	0.0	0.0	0.0	0.0	0.0	
360.	0.3	0.4	0.3	0.2	0.1	0.4	1.0	1.1	0.6	0.3	0.0	0.2	0.8	0.8	0.9	0.1	0.1	0.0	0.0	0.0	
MAX	0.7	0.8	0.8	0.5	0.5	0.5	1.0	1.1	0.9	0.7	0.8	0.8	0.9	1.0	1.3	1.2	1.4	1.1	0.8	0.7	
DEGR.	50	60	40	40	30	10	0	0	330	290	260	250	270	250	220	130	130	40	110	110	

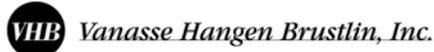
JOB: 2030BUILD

RUN: 2030Build

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum



concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	*	0.2	0.2	0.6	0.3	0.1	1.3	1.2	1.3	1.3	0.8	0.2	0.4	0.8	1.0	1.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.2	0.2	0.5	0.2	0.1	1.5	1.4	1.6	1.3	0.8	0.2	0.4	1.0	1.2	1.1	0.2	0.2	0.0	0.0	0.0
20.	*	0.2	0.2	0.7	0.5	0.4	1.5	1.4	1.6	1.2	0.7	0.1	0.2	0.9	1.1	0.9	0.4	0.5	0.2	0.0	0.0
30.	*	0.2	0.3	1.0	0.8	0.6	1.2	1.1	1.2	1.1	0.7	0.0	0.1	0.6	0.7	0.6	0.9	1.0	0.6	0.1	0.0
40.	*	0.3	0.5	1.0	1.0	1.0	0.8	0.8	1.0	0.9	0.6	0.0	0.0	0.2	0.3	0.2	1.3	1.4	0.9	0.3	0.1
50.	*	0.4	0.6	0.9	1.0	1.2	0.4	0.4	0.8	0.9	0.6	0.0	0.0	0.0	0.1	0.0	1.3	1.4	0.9	0.4	0.1
60.	*	0.5	0.7	0.7	0.8	1.2	0.2	0.4	0.9	0.9	0.7	0.0	0.0	0.0	0.0	0.0	1.2	1.2	0.8	0.4	0.2
70.	*	0.5	0.7	0.6	0.9	1.0	0.2	0.4	1.0	0.8	0.7	0.0	0.0	0.0	0.0	0.0	1.2	1.2	0.6	0.4	0.2
80.	*	0.5	0.8	0.7	1.2	1.0	0.2	0.5	1.1	0.9	0.8	0.0	0.0	0.0	0.0	0.0	1.0	1.1	0.5	0.4	0.2
90.	*	0.5	0.9	1.0	1.2	1.0	0.2	0.4	1.1	0.9	0.9	0.1	0.1	0.0	0.0	0.0	1.0	1.0	0.4	0.3	0.2
100.	*	0.6	0.8	1.2	1.3	0.8	0.1	0.4	1.2	1.0	1.0	0.2	0.2	0.1	0.0	0.0	0.9	0.9	0.4	0.3	0.2
110.	*	0.8	1.2	1.2	1.1	0.8	0.0	0.2	1.0	1.0	0.9	0.4	0.5	0.3	0.0	0.0	1.0	1.0	0.5	0.5	0.3
120.	*	0.6	0.9	1.2	1.0	0.7	0.0	0.1	0.5	0.6	0.6	0.8	0.9	0.7	0.1	0.0	1.0	1.1	0.9	0.9	0.6
130.	*	0.5	0.6	0.8	0.8	0.7	0.0	0.0	0.2	0.3	0.2	1.0	1.1	1.0	0.3	0.1	1.0	1.1	1.0	0.9	0.9
140.	*	0.2	0.4	0.7	0.7	0.7	0.0	0.0	0.1	0.1	0.1	1.0	1.0	1.1	0.3	0.1	1.0	1.0	1.1	0.9	0.7
150.	*	0.2	0.3	0.6	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.9	1.0	1.1	0.3	0.2	1.2	1.1	1.1	0.8	0.6
160.	*	0.2	0.3	0.7	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.9	1.0	0.4	0.2	1.2	1.0	1.0	0.8	0.5
170.	*	0.2	0.3	0.7	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.7	0.9	0.9	0.4	0.2	1.4	1.0	1.0	0.8	0.5
180.	*	0.1	0.3	0.8	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.4	0.2	1.5	1.0	0.9	0.7	0.3
190.	*	0.1	0.2	0.8	1.0	0.7	0.1	0.1	0.1	0.0	0.0	0.6	0.9	0.7	0.4	0.3	1.4	1.0	1.0	0.6	0.3
200.	*	0.1	0.1	0.7	0.9	0.6	0.2	0.3	0.3	0.0	0.0	0.7	1.1	0.9	0.7	0.5	1.4	1.1	0.8	0.4	0.3
210.	*	0.0	0.1	0.4	0.6	0.4	0.5	0.8	0.8	0.1	0.0	0.7	1.1	1.2	0.8	0.8	1.0	0.8	0.7	0.3	0.2
220.	*	0.0	0.0	0.1	0.3	0.2	1.0	1.1	1.2	0.1	0.0	0.6	1.1	1.3	1.1	1.1	0.5	0.6	0.4	0.2	0.2
230.	*	0.0	0.0	0.0	0.1	0.1	1.1	1.2	1.2	0.3	0.1	0.7	1.3	1.3	1.0	1.1	0.2	0.2	0.4	0.2	0.2
240.	*	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	0.4	0.1	0.9	1.4	1.2	0.8	1.1	0.1	0.2	0.4	0.3	0.3
250.	*	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	0.4	0.2	0.9	1.6	0.9	0.7	1.0	0.1	0.1	0.4	0.3	0.3
260.	*	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.9	0.4	0.2	1.0	1.6	0.8	0.7	1.0	0.1	0.1	0.4	0.3	0.3
270.	*	0.0	0.0	0.0	0.0	0.0	1.0	0.9	0.8	0.4	0.2	1.2	1.6	0.9	0.7	1.0	0.1	0.1	0.4	0.3	0.3
280.	*	0.1	0.0	0.0	0.0	0.0	0.9	0.8	0.7	0.4	0.3	1.3	1.5	0.9	0.6	0.7	0.0	0.1	0.3	0.4	0.4
290.	*	0.2	0.1	0.1	0.0	0.0	0.9	0.8	0.7	0.6	0.6	1.3	1.3	0.8	0.7	0.7	0.0	0.1	0.3	0.3	0.3
300.	*	0.3	0.3	0.3	0.1	0.0	0.9	0.9	0.8	0.9	0.9	0.8	0.8	0.7	0.7	0.8	0.0	0.0	0.1	0.2	0.2
310.	*	0.4	0.3	0.4	0.1	0.0	0.9	0.9	0.9	1.1	1.2	0.5	0.4	0.5	0.7	0.7	0.0	0.0	0.0	0.1	0.1
320.	*	0.3	0.3	0.6	0.2	0.0	1.0	0.9	0.9	1.1	1.3	0.3	0.3	0.5	0.7	0.7	0.0	0.0	0.0	0.0	0.0
330.	*	0.3	0.3	0.6	0.3	0.1	1.1	1.1	1.0	1.3	1.1	0.2	0.3	0.4	0.9	0.9	0.0	0.0	0.0	0.0	0.0
340.	*	0.3	0.3	0.6	0.2	0.1	1.1	1.1	1.0	1.3	1.1	0.2	0.3	0.5	0.9	0.9	0.0	0.0	0.0	0.0	0.0
350.	*	0.3	0.2	0.6	0.3	0.1	1.1	1.1	1.1	1.3	0.9	0.2	0.4	0.6	1.0	0.9	0.0	0.0	0.0	0.0	0.0
360.	*	0.2	0.2	0.6	0.3	0.1	1.3	1.2	1.3	1.3	0.8	0.2	0.4	0.8	1.0	1.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.8	1.2	1.2	1.3	1.2	1.5	1.4	1.6	1.3	1.3	1.3	1.6	1.3	1.2	1.1	1.5	1.4	1.1	0.9	0.9
DEGR.	*	110	110	100	100	50	10	10	10	330	320	280	260	220	10	10	180	40	140	120	130

THE HIGHEST CONCENTRATION OF 1.60 PPM OCCURRED AT RECEPTOR REC52.

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	0.3	0.3	1.1	0.6	0.1	1.4	2.1	1.7	2.3	1.3	0.3	0.6	1.2	1.8	1.8	0.0	0.0	0.0	0.0	0.0
10.	0.3	0.3	1.0	0.7	0.2	1.9	2.0	2.1	2.2	1.2	0.2	0.6	1.4	1.9	1.8	0.2	0.2	0.1	0.0	0.0
20.	0.3	0.3	1.1	0.9	0.5	2.1	2.0	2.3	2.0	1.0	0.0	0.3	1.3	1.7	1.4	0.6	0.8	0.4	0.0	0.0
30.	0.3	0.4	1.4	1.3	1.3	1.8	1.7	2.1	1.8	0.9	0.0	0.1	0.8	1.1	0.9	1.4	1.7	1.0	0.1	0.0
40.	0.4	0.7	1.6	1.4	1.4	1.0	1.1	1.4	1.4	0.9	0.0	0.0	0.3	0.4	0.4	2.1	2.4	1.6	0.3	0.0
50.	0.6	0.9	1.2	1.4	1.8	0.6	0.9	1.3	1.3	0.9	0.0	0.0	0.0	0.1	0.0	2.3	2.6	1.6	0.6	0.2
60.	0.7	1.0	1.0	1.3	1.5	0.4	0.8	1.4	1.2	1.0	0.0	0.0	0.0	0.0	0.0	2.2	2.3	1.3	0.7	0.4
70.	0.8	1.0	0.9	1.4	1.5	0.3	0.7	1.6	1.1	1.0	0.0	0.0	0.0	0.0	0.0	2.0	2.2	0.9	0.7	0.4
80.	0.8	1.1	0.9	1.8	1.2	0.3	0.6	1.7	1.2	1.1	0.1	0.1	0.0	0.0	0.0	1.9	2.0	0.7	0.6	0.4
90.	0.7	1.3	1.3	1.9	0.9	0.3	0.5	1.7	1.3	1.3	0.1	0.1	0.0	0.0	0.0	1.7	1.8	0.6	0.5	0.4
100.	1.1	1.6	1.7	2.1	0.7	0.2	0.5	1.7	1.5	1.5	0.2	0.2	0.1	0.0	0.0	1.7	1.8	0.4	0.4	0.4
110.	1.2	1.8	1.9	1.9	0.6	0.1	0.4	1.3	1.4	1.3	0.6	0.7	0.4	0.0	0.0	1.7	1.7	0.6	0.7	0.5
120.	1.1	1.5	1.6	1.5	0.5	0.0	0.1	0.8	0.9	0.8	1.2	1.2	1.0	0.2	0.0	1.7	1.9	1.0	1.0	1.0
130.	0.7	1.0	1.2	1.4	0.5	0.0	0.0	0.3	0.4	0.4	1.5	1.5	1.5	0.4	0.1	1.8	1.8	1.4	1.5	1.4
140.	0.4	0.6	0.9	1.2	0.5	0.0	0.0	0.1	0.1	0.1	1.4	1.4	1.8	0.5	0.2	1.9	1.8	1.6	1.4	1.0
150.	0.4	0.5	1.0	1.3	0.5	0.0	0.0	0.0	0.1	0.1	1.2	1.2	1.8	0.6	0.3	2.0	1.7	1.3	1.4	0.9
160.	0.3	0.5	1.1	1.4	0.5	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.8	0.5	0.3	2.2	1.6	1.3	1.4	0.6
170.	0.2	0.3	1.2	1.4	0.6	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.7	0.7	0.2	2.3	1.4	1.1	1.1	0.6
180.	0.2	0.3	1.1	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.9	1.0	1.5	0.7	0.3	2.4	1.3	1.3	1.0	0.5
190.	0.1	0.2	1.0	1.3	0.7	0.1	0.1	0.1	0.0	0.0	0.9	1.1	1.3	0.7	0.3	2.5	1.4	1.3	0.8	0.4
200.	0.1	0.2	0.8	1.1	0.7	0.2	0.3	0.4	0.0	0.0	0.9	1.2	1.4	1.0	0.7	2.2	1.4	1.3	0.6	0.4
210.	0.0	0.1	0.5	0.7	0.5	0.5	0.8	1.0	0.1	0.0	0.9	1.6	1.7	1.2	1.1	1.5	1.2	1.1	0.4	0.3
220.	0.0	0.0	0.2	0.3	0.2	0.7	1.4	1.6	0.2	0.0	1.0	1.9	2.0	1.5	1.4	0.8	0.7	0.8	0.3	0.3
230.	0.0	0.0	0.0	0.1	0.1	0.8	1.7	1.9	0.4	0.1	1.0	2.1	1.9	1.4	1.8	0.3	0.5	0.7	0.3	0.3
240.	0.0	0.0	0.0	0.0	0.0	0.7	1.8	1.9	0.5	0.2	1.2	2.5	1.6	1.1	1.8	0.1	0.4	0.7	0.3	0.3
250.	0.0	0.0	0.0	0.0	0.0	0.6	1.8	1.7	0.6	0.2	1.4	2.6	1.4	1.0	1.7	0.1	0.3	0.7	0.4	0.3
260.	0.0	0.0	0.0	0.0	0.0	0.6	1.8	1.6	0.7	0.3	1.7	2.8	1.1	0.9	1.6	0.1	0.2	0.5	0.4	0.4
270.	0.0	0.0	0.0	0.0	0.0	0.5	1.6	1.3	0.7	0.5	1.7	2.6	1.2	0.9	1.5	0.1	0.2	0.5	0.4	0.4
280.	0.1	0.1	0.0	0.0	0.0	0.5	1.6	1.2	0.6	0.5	1.9	2.5	1.2	0.9	1.5	0.0	0.2	0.4	0.5	0.5
290.	0.2	0.2	0.1	0.0	0.0	0.5	1.6	1.2	0.9	0.9	1.9	2.0	1.1	1.0	1.4	0.0	0.1	0.3	0.4	0.4
300.	0.4	0.3	0.4	0.1	0.0	0.5	1.7	1.1	1.2	1.5	1.2	1.3	0.9	1.1	1.4	0.0	0.0	0.2	0.3	0.2
310.	0.5	0.4	0.7	0.2	0.0	0.5	1.7	1.3	1.5	1.9	0.7	0.6	0.6	1.3	1.4	0.0	0.0	0.1	0.1	0.1
320.	0.4	0.4	1.0	0.3	0.1	0.6	1.8	1.3	1.9	1.9	0.4	0.4	0.5	1.3	1.3	0.0	0.0	0.0	0.0	0.0
330.	0.4	0.4	1.2	0.4	0.1	0.6	2.0	1.2	1.9	1.7	0.4	0.5	0.5	1.4	1.4	0.0	0.0	0.0	0.0	0.0
340.	0.4	0.3	1.3	0.5	0.1	0.8	2.0	1.4	2.0	1.6	0.5	0.6	0.7	1.5	1.5	0.0	0.0	0.0	0.0	0.0
350.	0.3	0.3	1.3	0.6	0.1	1.1	2.1	1.4	2.3	1.5	0.4	0.6	0.9	1.6	1.6	0.0	0.0	0.0	0.0	0.0
360.	0.3	0.3	1.1	0.6	0.1	1.4	2.1	1.7	2.3	1.3	0.3	0.6	1.2	1.8	1.8	0.0	0.0	0.0	0.0	0.0
MAX DEGR.	110	110	110	100	50	20	0	20	0	310	290	260	220	10	230	190	50	40	130	130

THE HIGHEST CONCENTRATION OF 3.00 PPM OCCURED AT RECEPTOR REC37.

Traffic Summary

Microscale Analysis		Peak Hour Free flow Volumes								
Roadways		Lengths	2010	2010	2030	2030				
		Miles	Existing	Build	No Build	Build				
	Newton St	0.13	905	1010	1065	1165				
	Route 7	1.18	1365	1155	1640	1425				
	Newton St	0.13	905	1010	1065	1165				
	Route 7	1.18	1365	1155	1640	1425				
	Lake St	0.15	685	640	805	790				
	*LACA	1.29	705	950	825	1125				
	Lake St	0.15	685	640	805	790				
	*LACA	1.29	705	950	825	1125				
	Route 7	1.18	1365	1155	1640	1425				
	St Albans	1.11	1990	1990	1990	1990				
	Route 7	1.18	1365	1155	1640	1425				
	Nason St Connector	0.20	0	670	0	745				
* (LACA) Lenmach St, Allen St, Catherine St, Federal St										
Roadways		CO	CO	Peak Hour Queue Volumes				Red	Total	
		2010	2030	2010	2010	2030	2030	Time	Cycle	
		Emision Factor	Emision Factor	Existing	Build	No Build	Build			
#	Intersection Approach Streets									
1	Lower Newton St EB	16.6	11.7	505	625	595	740	100	120	
	Rt 7 SB	16.6	11.7	755	755	885	945	71		
	Upper Newton St WB	16.6	11.7	35	35	50	50	107		
	Rt 7 NB	16.6	11.7	730	555	855	640	71		
		16.6	11.7							
2	Lake St EB	16.6	11.7	620	315	730	595	88	120	
	Federal St SB	16.6	11.7	355	430	415	425	106		
	Lake St WB	16.6	11.7	315	360	375	420	86		
	Catherine St NB	16.6	11.7	100	340	120	405	90		
3	Rt 7 SB	16.6	11.7	715	365	830	450	86	120	
	St Albans State Highway WB	16.6	11.7	430	425	500	505	91		
	Rt 7 NB	16.6	11.7	555	555	650	650	80		
	Nason St Connector EB	16.6	11.7	0	355	0	390	104		
			2010							
		Idle CO	Idle EF							
		44.3	110.75							
			2030							
		Idle CO	Idle EF							
		30.5	76.25							

Microscale Results

Pollutant: Carbon Monoxide (CO)					
Concentrations: 1-Hour Final					
Background (ppm)		2			
Persistence Factor		-			
Intersection	Receptor	2010 Existing	2010 Build	2030 No Build	2030 Build
Rt 7/ Newton	SW 1	4.0	4.2	3.5	3.2
	SW 2	4.2	4.3	3.6	3.2
	SW 3	3.9	3.9	3.5	3.2
	SW 4	3.4	3.3	3.1	3.0
	SW 5	3.5	3.4	3.2	3.0
	SE 6	4.2	4.1	3.7	3.3
	SE 7	4.3	4.3	3.7	3.3
	SE 8	3.9	4.0	3.5	3.3
	SE 9	3.6	3.7	3.4	3.1
	SE 10	3.2	3.3	3.1	3.0
	NE 11	3.2	3.3	3.0	2.9
	NE 12	3.5	3.6	3.2	3.0
	NE 13	4.2	4.3	3.8	3.5
	NE 14	3.9	3.9	3.5	3.1
	NE 15	3.8	3.7	3.3	3.0
	NW 16	3.8	3.7	3.4	3.0
	NW 17	3.6	3.5	3.3	3.0
	NW 18	3.8	4.0	3.4	3.1
	NW 19	4.0	4.1	3.5	3.2
	NW 20	3.7	3.6	3.2	3.0
Lake/Federal	SW 1	3.2	2.9	2.9	2.7
	SW 2	3.2	3.3	3.0	2.8
	SW 3	3.1	3.5	3.0	2.8
	SW 4	2.7	3.0	2.7	2.5
	SW 5	2.5	2.9	2.6	2.5
	SE 6	2.5	2.9	2.4	2.5
	SE 7	3.1	3.9	3.1	3.0
	SE 8	3.5	4.1	3.4	3.1
	SE 9	3.2	3.5	3.1	2.9
	SE 10	3.0	3.3	2.9	2.7
	NE 11	3.2	3.5	3.1	2.8
	NE 12	3.4	3.4	3.0	2.8
	NE 13	3.4	3.8	3.2	2.9
	NE 14	4.0	4.0	3.4	3.0
	NE 15	3.5	4.6	3.9	3.3
	NW 16	3.7	4.4	3.7	3.2
	NW 17	4.6	5.0	4.0	3.4
	NW 18	3.9	4.3	3.5	3.1
	NW 19	2.9	3.1	2.7	2.8
	NW 20	3.0	3.0	2.8	2.7
Nason Conn/Rt 7	SW 1	2.8	3.2	2.6	2.8
	SW 2	3.1	3.8	2.8	3.2
	SW 3	3.9	3.9	3.5	3.2
	SW 4	4.2	4.1	3.7	3.3
	SW 5	3.9	3.8	3.5	3.2
	SE 6	4.4	4.1	4.0	3.5
	SE 7	4.3	4.1	3.8	3.4
	SE 8	4.6	4.3	4.0	3.6
	SE 9	4.5	4.3	3.7	3.3
	SE 10	3.9	3.9	3.3	3.3
	NE 11	3.8	3.9	3.4	3.3
	NE 12	4.9	4.8	4.0	3.6
	NE 13	4.2	4.0	3.6	3.3
	NE 14	4.2	3.9	3.7	3.2
	NE 15	4.1	3.8	3.5	3.1
	NW 16	4.7	4.5	4.1	3.5
	NW 17	4.8	4.6	4.1	3.4
	NW 18	3.9	3.6	3.4	3.1

Bolded Values represent highest CO concentrations in each Quadrant

Pollutant: Carbon Monoxide (CO)						
Concentrations: 8-Hour Final						
Background (ppm)			2			
Persistence Factor			0.7			
Intersection	Receptor		2010 Existing	2010 Build	2030 No Build	2030 Build
Rt 7/ Newton	SW	1	3.4	3.5	3.1	2.8
	SW	2	3.5	3.6	3.1	2.8
	SW	3	3.3	3.3	3.1	2.8
	SW	4	3.0	2.9	2.8	2.7
	SW	5	3.1	3.0	2.8	2.7
	SE	6	3.5	3.5	3.2	2.9
	SE	7	3.6	3.6	3.2	2.9
	SE	8	3.3	3.4	3.1	2.9
	SE	9	3.1	3.2	3.0	2.8
	SE	10	2.8	2.9	2.8	2.7
	NE	11	2.8	2.9	2.7	2.6
	NE	12	3.1	3.1	2.8	2.7
	NE	13	3.5	3.6	3.3	3.1
	NE	14	3.3	3.3	3.1	2.8
	NE	15	3.3	3.2	2.9	2.7
	NW	16	3.3	3.2	3.0	2.7
	NW	17	3.1	3.1	2.9	2.7
	NW	18	3.3	3.4	3.0	2.8
	NW	19	3.4	3.5	3.1	2.8
	NW	20	3.2	3.1	2.8	2.7
Lake/Federal	SW	1	2.8	2.6	2.6	2.5
	SW	2	2.8	2.9	2.7	2.6
	SW	3	2.8	3.1	2.7	2.6
	SW	4	2.5	2.7	2.5	2.4
	SW	5	2.4	2.6	2.4	2.4
	SE	6	2.4	2.6	2.3	2.4
	SE	7	2.8	3.3	2.8	2.7
	SE	8	3.1	3.5	3.0	2.8
	SE	9	2.8	3.1	2.8	2.6
	SE	10	2.7	2.9	2.6	2.5
	NE	11	2.8	3.1	2.8	2.6
	NE	12	3.0	3.0	2.7	2.6
	NE	13	3.0	3.3	2.8	2.6
	NE	14	3.4	3.4	3.0	2.7
	NE	15	3.1	3.8	3.3	2.9
	NW	16	3.2	3.7	3.2	2.8
	NW	17	3.8	4.1	3.4	3.0
	NW	18	3.3	3.6	3.1	2.8
	NW	19	2.6	2.8	2.5	2.6
	NW	20	2.7	2.7	2.6	2.5
Nason Conn/Rt 7	SW	1	2.6	2.8	2.4	2.6
	SW	2	2.8	3.3	2.6	2.8
	SW	3	3.3	3.3	3.1	2.8
	SW	4	3.5	3.5	3.2	2.9
	SW	5	3.3	3.3	3.1	2.8
	SE	6	3.7	3.5	3.4	3.1
	SE	7	3.6	3.5	3.3	3.0
	SE	8	3.8	3.6	3.4	3.1
	SE	9	3.8	3.6	3.2	2.9
	SE	10	3.3	3.3	2.9	2.9
	NE	11	3.3	3.3	3.0	2.9
	NE	12	4.0	4.0	3.4	3.1
	NE	13	3.5	3.4	3.1	2.9
	NE	14	3.5	3.3	3.2	2.8
	NE	15	3.5	3.3	3.1	2.8
	NW	16	3.9	3.8	3.5	3.1
	NW	17	4.0	3.8	3.5	3.0
	NW	18	3.3	3.1	3.0	2.8

Appendix E – Noise Analysis

Appendix Noise Analysis



-
- Noise Monitoring Data
 - M1
 - M2
 - M3
 - M4
 - Traffic Noise Model (TNM)
 - Calibration
 - 2010 No Build
 - 2030 Build

Noise Monitoring Data

M1

Summary

Filename 12022800.LD0
 Serial Number 2555
 Model 831
 Firmware Version 2.000
 User
 Location M1 - Federal St 125' s/o Lower Newton
 Job Description Federal St - St Albans
 Note
 Measurement Description
 Start 2012/02/28 14:18:04
 Stop 2012/02/28 14:38:11
 Duration 0:20:07.5
 Run Time 0:20:07.5
 Pause 0:00:00.0

Pre Calibration 2012/02/28 13:35:22
 Post Calibration None
 Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
 Peak Weight A Weighting
 Detector Slow
 Preamp PRM831
 Integration Method Linear
 OBA Range Normal
 OBA Bandwidth 1/3 Octave
 OBA Freq. Weighting A Weighting
 OBA Max Spectrum Bin Max
 Gain 0.0 dB
 Overload 143.6 dB
 Under Range Peak A C Z
 76.1 73.1 78.1 dB
 Under Range Limit 26.2 26.5 32.1 dB
 Noise Floor 17.1 17.4 22.7 dB

Results

LAeq	64.8 dB
LAE	95.6 dB
EA	406.842 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2012/02/28 14:30:05 98.9 dB
LASmax	2012/02/28 14:33:01 79.5 dB
LASmin	2012/02/28 14:25:29 42.5 dB
SEA	-99.9 dB

LAS > 65.0 dB (Exceedence Counts / Duration) 73 446.3 s
 LAS > 85.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LApeak > 135.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LApeak > 137.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LApeak > 140.0 dB (Exceedence Counts / Duration) 0 0.0 s

Community Noise

	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00
	64.8	64.8	-99.9	64.8	64.8
LCeq	73.5 dB				
LAeq	64.8 dB				
LCeq - LAeq	8.7 dB				
LAleq	66.8 dB				
LAeq	64.8 dB				
LAleq - LAeq	2.0 dB				
# Overloads	0				
Overload Duration	0.0 s				
# OBA Overloads	0				
OBA Overload Duration	0.0 s				

Statistics

LAS1.00 75.0 dB
 LAS5.00 70.1 dB
 LAS10.00 68.2 dB
 LAS50.00 61.1 dB
 LAS70.00 56.3 dB
 LAS90.00 50.1 dB

Noise Monitoring Data

M2

Summary

Filename 12022802.LD0
 Serial Number 2555
 Model 831
 Firmware Version 2.000
 User
 Location M2 - at Police Dept on Lower Welden
 Job Description Federal St - St Albans
 Note
 Measurement Description
 Start 2012/02/28 15:04:09
 Stop 2012/02/28 15:26:51
 Duration 0:22:41.9
 Run Time 0:22:41.9
 Pause 0:00:00.0

Pre Calibration 2012/02/28 13:35:22
 Post Calibration None
 Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
 Peak Weight A Weighting
 Detector Slow
 Preamp PRM831
 Integration Method Linear
 OBA Range Normal
 OBA Bandwidth 1/3 Octave
 OBA Freq. Weighting A Weighting
 OBA Max Spectrum Bin Max
 Gain 0.0 dB
 Overload 143.6 dB
 A C Z
 Under Range Peak 76.1 73.1 78.1 dB
 Under Range Limit 26.2 26.5 32.1 dB
 Noise Floor 17.1 17.4 22.7 dB

Results

LAeq	65.1 dB
LAE	96.4 dB
EA	485.851 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2012/02/28 15:24:07 101.5 dB
LASmax	2012/02/28 15:24:08 87.8 dB
LASmin	2012/02/28 15:26:31 38.1 dB
SEA	-99.9 dB

LAS > 65.0 dB (Exceedence Counts / Duration)	56	299.7 s
LAS > 85.0 dB (Exceedence Counts / Duration)	1	3.7 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

Community Noise

	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00
LCeq	65.1	65.1	-99.9	65.1	65.1
LAeq	73.7 dB				
LAeq	65.1 dB				
LCeq - LAeq	8.6 dB				
LAleq	66.5 dB				
LAeq	65.1 dB				
LAleq - LAeq	1.4 dB				
# Overloads	0				
Overload Duration	0.0 s				
# OBA Overloads	0				
OBA Overload Duration	0.0 s				

Statistics

LAS1.00	73.4 dB
LAS5.00	69.4 dB
LAS10.00	67.3 dB
LAS50.00	55.3 dB
LAS70.00	50.0 dB
LAS90.00	45.1 dB

Noise Monitoring Data

M3

Summary

Filename 12022803.LD0
 Serial Number 2555
 Model 831
 Firmware Version 2.000
 User
 Location M3 - Nason Street (5' off EOP)
 Job Description Federal St - St Albans
 Note
 Measurement Description
 Start 2012/02/28 15:36:26
 Stop 2012/02/28 15:56:28
 Duration 0:20:01.8
 Run Time 0:20:01.8
 Pause 0:00:00.0

Pre Calibration 2012/02/28 13:35:22
 Post Calibration None
 Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
 Peak Weight A Weighting
 Detector Slow
 Preamp PRM831
 Integration Method Linear
 OBA Range Normal
 OBA Bandwidth 1/3 Octave
 OBA Freq. Weighting A Weighting
 OBA Max Spectrum Bin Max
 Gain 0.0 dB
 Overload 143.6 dB
 Under Range Peak A C Z
 76.1 73.1 78.1 dB
 Under Range Limit 26.2 26.5 32.1 dB
 Noise Floor 17.1 17.4 22.7 dB

Results	
LAeq	64.9 dB

LAE 95.7 dB
 EA 409.823 $\mu\text{Pa}^2\text{h}$
 LApeak (max) 2012/02/28 15:54:18 98.1 dB
 LASmax 2012/02/28 15:54:19 82.5 dB
 LASmin 2012/02/28 15:36:26 34.7 dB
 SEA -99.9 dB

LAS > 65.0 dB (Exceedence Counts / Duration) 54 300.7 s
 LAS > 85.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LApeak > 135.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LApeak > 137.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LApeak > 140.0 dB (Exceedence Counts / Duration) 0 0.0 s

Community Noise

	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00
	64.9	64.9	-99.9	64.9	64.9
LCeq	74.3 dB				
LAeq	64.9 dB				
LCeq - LAeq	9.4 dB				
LAleq	66.9 dB				
LAeq	64.9 dB				
LAleq - LAeq	2.1 dB				
# Overloads	0				
Overload Duration	0.0 s				
# OBA Overloads	0				
OBA Overload Duration	0.0 s				

Statistics

LAS1.00 76.2 dB
 LAS5.00 71.7 dB
 LAS10.00 69.1 dB
 LAS50.00 53.7 dB
 LAS70.00 47.5 dB
 LAS90.00 40.8 dB

Noise Monitoring Data

M4

Summary

Filename 12022804.LD0
 Serial Number 2555
 Model 831
 Firmware Version 2.000
 User
 Location M4 - Nason Street -s/o Back yard
 Job Description Federal St - St Albans
 Note
 Measurement Description
 Start 2012/02/28 16:08:29
 Stop 2012/02/28 16:26:33
 Duration 0:18:03.4
 Run Time 0:18:03.4
 Pause 0:00:00.0
 Pre Calibration 2012/02/28 13:35:22
 Post Calibration None
 Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
 Peak Weight A Weighting
 Detector Slow
 Preamp PRM831
 Integration Method Linear
 OBA Range Normal
 OBA Bandwidth 1/3 Octave
 OBA Freq. Weighting A Weighting
 OBA Max Spectrum Bin Max
 Gain 0.0 dB
 Overload 143.6 dB
 Under Range Peak A C Z
 76.1 73.1 78.1 dB
 Under Range Limit 26.2 26.5 32.1 dB
 Noise Floor 17.1 17.4 22.7 dB

Results

LAeq	45.9 dB
LAE	76.3 dB
EA	4.711 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2012/02/28 16:08:48 90.0 dB
LASmax	2012/02/28 16:17:45 57.4 dB
LASmin	2012/02/28 16:11:41 40.3 dB
SEA	-99.9 dB

LAS > 65.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LAS > 85.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LApeak > 135.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LApeak > 137.0 dB (Exceedence Counts / Duration) 0 0.0 s
 LApeak > 140.0 dB (Exceedence Counts / Duration) 0 0.0 s

Community Noise

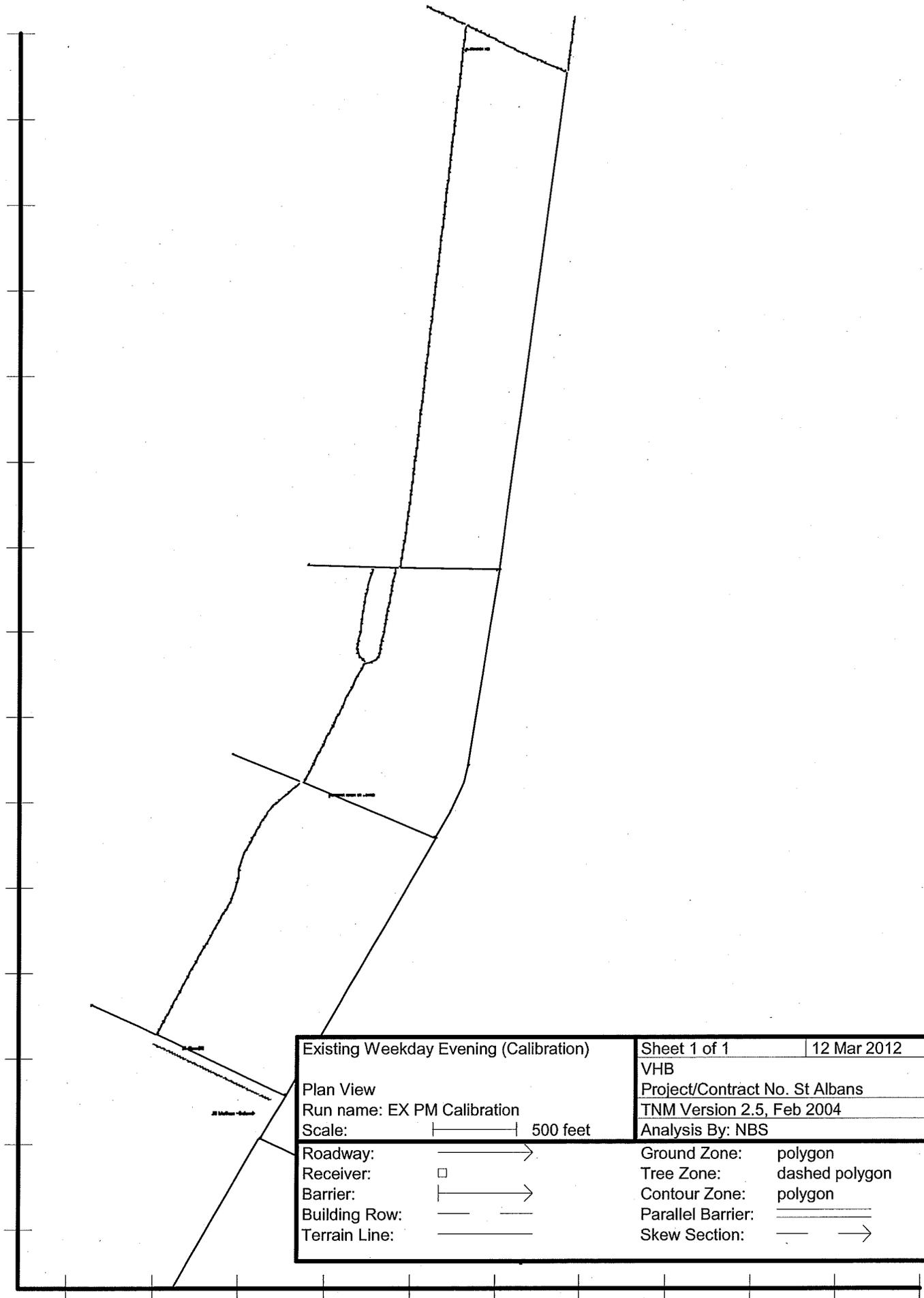
	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00
	45.9	45.9	-99.9	45.9	45.9
LCeq	60.9 dB				
LAeq	45.9 dB				
LCeq - LAeq	15.0 dB				
LAeq	48.0 dB				
LAeq	45.9 dB				
LAeq - LAeq	2.0 dB				
# Overloads	0				
Overload Duration	0.0 s				
# OBA Overloads	0				
OBA Overload Duration	0.0 s				

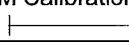
Statistics

LAS1.00 52.2 dB
 LAS5.00 49.1 dB
 LAS10.00 47.9 dB
 LAS50.00 44.9 dB
 LAS70.00 43.8 dB
 LAS90.00 42.3 dB

Traffic Noise Model

Calibration



Existing Weekday Evening (Calibration)		Sheet 1 of 1	12 Mar 2012
Plan View		VHB	
Run name: EX PM Calibration		Project/Contract No. St Albans	
Scale:  500 feet		TNM Version 2.5, Feb 2004	
Analysis By: NBS			
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

RESULTS: SOUND LEVELS

St Albans

12 March 2012
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: St Albans
Existing Weekday Evening (Calibration)

RUN: INPUT HEIGHTS

BARRIER DESIGN:

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS: 68 deg F, 50% RH

Receiver Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB
			LAeq1h	dBA	LAeq1h	dBA	Calculated	Crit'n		Calculated	Crit'n	
M1 (Federal St)	1	1	0.0	65.2	66	65.2	10	----	65.2	8	0.0	-8.0
M2 (Lower Welden St - SAPD)	3	1	0.0	63.6	66	63.6	10	----	63.6	8	0.0	-8.0
M3 (Nason St)	5	1	0.0	62.2	66	62.2	10	----	62.2	8	0.0	-8.0
M4 (s/o Nason - Backyard)	7	1	0.0	48.6	66	48.6	10	----	48.6	8	0.0	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		4	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

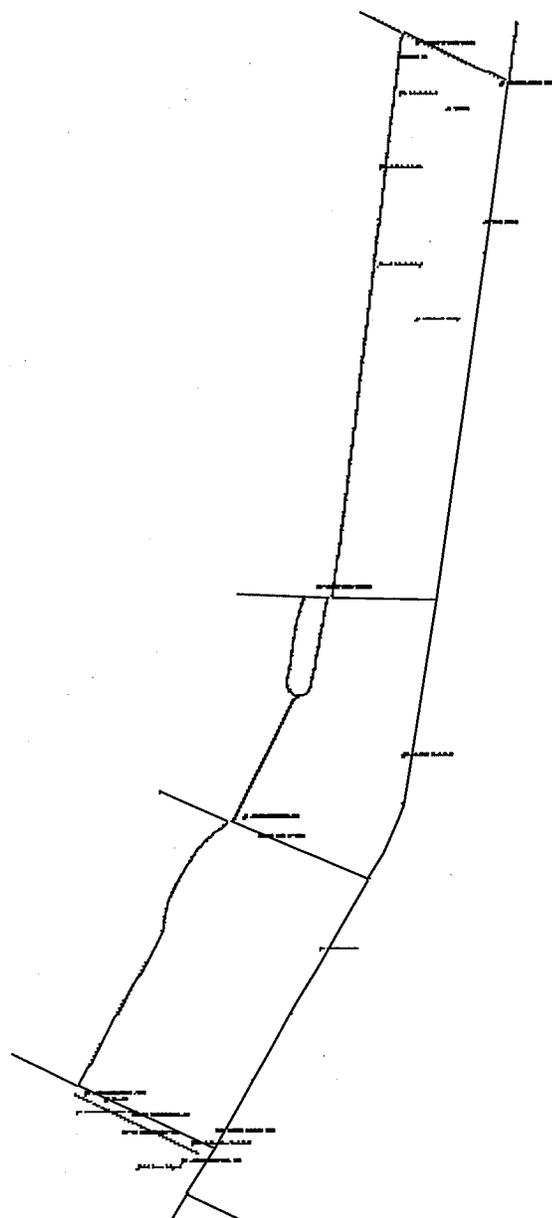
Noise Monitoring / TNM Calibration

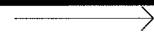
<u>Locations</u>	<u>Existing Sound Level</u>		
	<u>Monitored</u>	<u>TNM</u>	<u>delta</u>
M1 (Federal St)	64.8	65.2	0.4
M2 (Lower Welden St - SAPD)	65.1	63.6	-1.5
M3 (Nason St)	64.9	62.2	-2.7
M4 (s/o Nason St)	45.9	48.6	2.7

Calibration: YES

Traffic Noise Model

2010 No Build



2010 Weekday Evening		Sheet 1 of 1	30 Apr 2012
Plan View		VHB	
Run name: 2010 PM N Build Final		Project/Contract No. St Albans	
Scale:  1000 feet		TNM Version 2.5, Feb 2004	
Analysis By: NBS			
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

1486000

1487000

1488000

1489000

1490000

1491000

1492000

1493000

RESULTS: SOUND LEVELS

St Albans

30 April 2012
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

St Albans

2010 Weekday Evening

BARRIER DESIGN: INPUT HEIGHTS

ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB	
			LAeq1h	dBA	LAeq1h	Crit'n	Calculated	Crit'n		Calculated	LAeq1h		Calculated
M1 (Federal St)	1	1	0.0	65.2	66	65.2	10	---	---	65.2	0.0	8	-8.0
M2 (Lower Welden St - SAPD)	3	1	0.0	63.6	66	63.6	10	---	---	63.6	0.0	8	-8.0
M3 (Nason St)	5	1	0.0	62.2	66	62.2	10	---	---	62.2	0.0	8	-8.0
M4 (s/o Nason - Backyard)	7	1	0.0	48.6	66	48.6	10	---	---	48.6	0.0	8	-8.0
R2 - SW corner of N Main & Newton	9	1	0.0	65.2	66	65.2	10	---	---	65.2	0.0	8	-8.0
R3 - Federal w/o Best	11	1	0.0	62.2	66	62.2	10	---	---	62.2	0.0	8	-8.0
R5 - w/o Federal n/o Aids	12	1	0.0	62.2	66	62.2	10	---	---	62.2	0.0	8	-8.0
R8 - e/o Federal n/o Hoyt	14	1	0.0	51.1	66	51.1	10	---	---	51.1	0.0	8	-8.0
R9 - n/o Lake (Market-Catherine)	16	1	0.0	61.9	66	61.9	10	---	---	61.9	0.0	8	-8.0
R10 - w/o S Main St n/o Stowll	18	1	0.0	60.0	66	60.0	10	---	---	60.0	0.0	8	-8.0
R11 - NE corner of Welden & Allen	19	1	0.0	60.2	66	60.2	10	---	---	60.2	0.0	8	-8.0
R13 - NW corner of S Main & Nason	21	1	0.0	65.0	66	65.0	10	---	---	65.0	0.0	8	-8.0
R14 - s/o Nason (Front Yard - West)	22	1	0.0	58.8	66	58.8	10	---	---	58.8	0.0	8	-8.0
R15 - s/o Nason (Back Yard - West)	23	1	0.0	50.3	66	50.3	10	---	---	50.3	0.0	8	-8.0
R16 - s/o Nason (Front Yard - Mid)	25	1	0.0	56.7	66	56.7	10	---	---	56.7	0.0	8	-8.0
R17 - s/o Nason (Back Yard - Mid)	26	1	0.0	48.5	66	48.5	10	---	---	48.5	0.0	8	-8.0
R18 - s/o Nason (Fron Yard - East)	27	1	0.0	57.5	66	57.5	10	---	---	57.5	0.0	8	-8.0
R19 - s/o Nason (Back Yard - East)	28	1	0.0	55.3	66	55.3	10	---	---	55.3	0.0	8	-8.0
R1 - SE corner of Federal & Newton	30	1	0.0	64.1	66	64.1	10	---	---	64.1	0.0	8	-8.0
R4 - Best Ct	31	1	0.0	51.4	66	51.4	10	---	---	51.4	0.0	8	-8.0
R7 - e/o Federal n/o Hoyt	33	1	0.0	63.0	66	63.0	10	---	---	63.0	0.0	8	-8.0
R6 - N Main n/o Hoyt	35	1	0.0	65.1	66	65.1	10	---	---	65.1	0.0	8	-8.0
R12 - S Main s/o Welden	36	1	0.0	63.9	66	63.9	10	---	---	63.9	0.0	8	-8.0

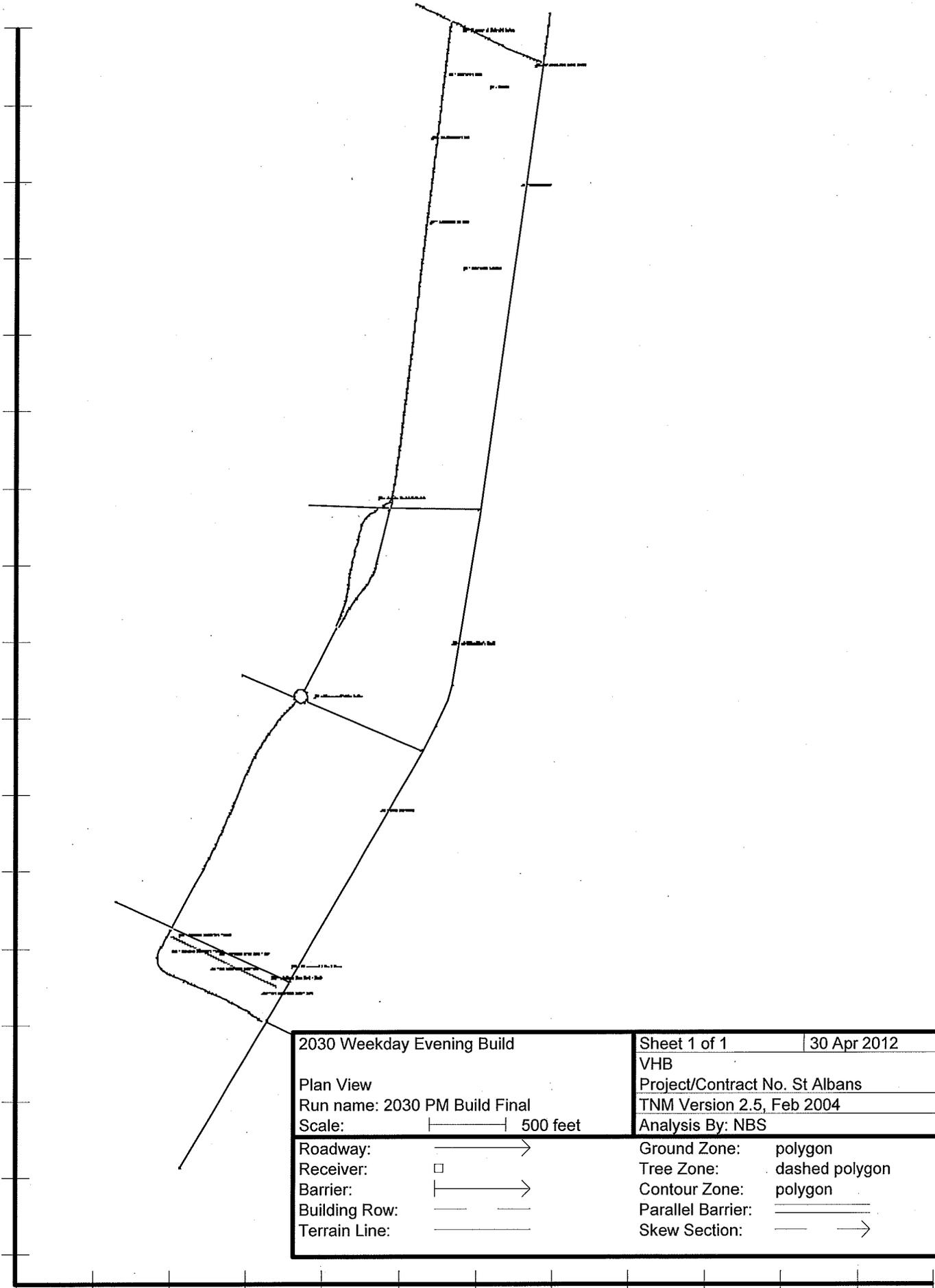
RESULTS: SOUND LEVELS

St Albans

Dwelling Units	# DUs	Noise Reduction		
		Min dB	Avg dB	Max dB
All Selected	23	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Traffic Noise Model

2030 Build



2030 Weekday Evening Build		Sheet 1 of 1	30 Apr 2012
Plan View		VHB	
Run name: 2030 PM Build Final		Project/Contract No. St Albans	
Scale:  500 feet		TNM Version 2.5, Feb 2004	
Analysis By: NBS			
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

RESULTS: SOUND LEVELS

St Albans

30 April 2012
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

St Albans
2030 Weekday Evening Build
INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

68 deg F, 50% RH

ATMOSPHERICS:

Receiver

Name	No.	#DUs	Existing LAeq1h dBA	No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB		
				LAeq1h Calculated	dBA	Crit'n	dBA		Calculated LAeq1h	dBA		Noise Reduction	
												Calculated	Crit'n
R2 - SW corner of N Main & Newton	9	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0	
R3 - Federal w/o Best	11	1	0.0	63.6	66	63.6	10	----	63.6	0.0	8	-8.0	
R5 - w/o Federal n/o Aids	12	1	0.0	63.6	66	63.6	10	----	63.6	0.0	8	-8.0	
R8 - e/o Federal n/o Hoyt	14	1	0.0	52.2	66	52.2	10	----	52.2	0.0	8	-8.0	
R9 - n/o Lake (Market-Catherine)	16	1	0.0	63.5	66	63.5	10	----	63.5	0.0	8	-8.0	
R10 - w/o S Main St n/o Stowil	18	1	0.0	60.0	66	60.0	10	----	60.0	0.0	8	-8.0	
R11 - NE corner of Weldon & Allen	19	1	0.0	61.2	66	61.2	10	----	61.2	0.0	8	-8.0	
R13 - NW corner of S Main & Nason	21	1	0.0	64.5	66	64.5	10	----	64.5	0.0	8	-8.0	
R14 - s/o Nason (Front Yard - West)	22	1	0.0	59.7	66	59.7	10	----	59.7	0.0	8	-8.0	
R15 - s/o Nason (Back Yard - West)	23	1	0.0	58.6	66	58.6	10	----	58.6	0.0	8	-8.0	
R16 - s/o Nason (Front Yard - Mid)	25	1	0.0	54.1	66	54.1	10	----	54.1	0.0	8	-8.0	
R17 - s/o Nason (Back Yard - Mid)	26	1	0.0	55.6	66	55.6	10	----	55.6	0.0	8	-8.0	
R18 - s/o Nason (Front Yard - East)	27	1	0.0	55.2	66	55.2	10	----	55.2	0.0	8	-8.0	
R19 - s/o Nason (Back Yard - East)	28	1	0.0	56.5	66	56.5	10	----	56.5	0.0	8	-8.0	
R1 - SE corner of Federal & Newton	30	1	0.0	65.3	66	65.3	10	----	65.3	0.0	8	-8.0	
R4 - Best Ct	31	1	0.0	52.5	66	52.5	10	----	52.5	0.0	8	-8.0	
R7 - e/o Federal n/o Hoyt	32	1	0.0	64.5	66	64.5	10	----	64.5	0.0	8	-8.0	
R6 - N Main n/o Hoyt	33	1	0.0	65.4	66	65.4	10	----	65.4	0.0	8	-8.0	
R12 - S Main s/o Weldon	34	1	0.0	63.6	66	63.6	10	----	63.6	0.0	8	-8.0	

Dwelling Units	# DUs	Noise Reduction	
		Min dB	Max dB
All Selected	19	0.0	0.0

RESULTS: SOUND LEVELS

St Albans

All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Federal Street Corridor - St Albans, VT
TNM Sound Level Results (Leq)

Receptor Location	2010 No Build	2030 Build	Increase over Existing
R1 - SE corner of Federal & Newton	64.1	65.3	1.2
R2 - SW corner of N Main & Newton	65.2	65.9	0.7
R3 - Federal w/o Best	62.2	63.6	1.4
R4 - Best Ct	51.4	52.5	1.1
R5 - w/o Federal n/o Alds	62.2	63.6	1.4
R6 - N Main n/o Hoyt	65.1	65.4	0.3
R7 - e/o Federal n/o Hoyt	63.0	64.5	1.5
R8 - e/o Federal n/o Hoyt	51.1	52.2	1.1
R9 - n/o Lake (Market-Catherine)	61.9	63.5	1.6
R10 - w/o S Main St n/o Stowll	60.0	60.0	0.0
R11 - NE corner of Weldon & Allen	60.2	61.2	1.0
R12 - S Main s/o Welden	63.9	63.6	-0.3
R13 - NW corner of S Main & Nason	65.0	64.5	-0.5
R14 - s/o Nason (Front Yard - West)	58.8	59.7	0.9
R15 - s/o Nason (Back Yard - West)	50.3	58.6	8.3
R16 - s/o Nason (Front Yard - Mid)	56.7	54.1	-2.6
R17 - s/o Nason (Back Yard - Mid)	48.5	55.6	7.1
R18 - s/o Nason (Fron Yard - East)	57.5	55.2	-2.3
R19 - s/o Nason (Back Yard - East)	55.3	56.5	1.2

Appendix F – National Register of Historic Places Eligibility Analyses

- Three Federal Street Homes
- Lake / Federal / Catherine Streets Intersection



Vanasse Hangen Brustlin, Inc.

7056 U.S. Route 7
P.O. Box 120
North Ferrisburgh, VT
05473
802-425-7788 (phone)
802-425-7799 (fax)

Memorandum

To: Scott Newman, Historic Preservation
Officer, Vermont Agency of
Transportation

Date: March 18, 2011

Project No.: 57414.00

From: Rita Walsh, Senior Preservation Planner
and Deborah Finnigan, P. E., Deputy
Project Manager

Re: St. Albans HPP 8000 (17)
Analysis of the National Register
eligibility/Significance of the
Lake/Federal/Catherine Street
intersection, St. Albans, Vermont

Introduction

This memo was prepared at your request to further understand the significance and National Register eligibility of the intersection of Lake, Federal, and Catherine Streets and the buildings that front it in the city of St. Albans. Proposed road and intersection improvements are being studied at this location for the Federal Street multi-modal connector project that may physically change its current appearance.

Discussion

All four corners of this irregularly-configured intersection contain buildings that are already either individually listed in the National Register of Historic Places (NRHP) or are within an established National Register historic district. The intersection is included in one of the listings – the Central Vermont Railroad Headquarters Historic District – although the boundaries of this district are not well-justified in relationship to the complex’s significance and the buildings discussed in the nomination.¹ These buildings and the intersection, however, have not been evaluated for their collective historic association with the Central Vermont Railroad and corollary commercial/industrial activities. More specifically, these buildings and their National Register status is as follows (see Figure 1 for their location):

¹ Rita Walsh of Vanasse Hangen Brustlin, Inc. (VHB) conferred with Devin Colman of the Vermont Division for Historic Preservation on the boundaries for the Central Vermont Railroad Headquarters Historic District as the written boundary description encompasses a much larger area than is discussed in the nomination. Vermont’s nomination reviewer from the National Register (NR) office in Washington DC determined that the written boundary as stated in the NRHP nomination remains the boundary today and will not be changed or re-worded. Buildings located within that boundary, even if they are not described in the nomination, should be considered to be listed in the NRHP provided they meet the following criteria:

- * Based on the dates listed for the buildings, the period of significance would be c. 1862 - 1924.
- * The areas of significance are architecture, engineering, and transportation.
- * Historic resources within the district boundary, within the period of significance, and with ties to one of the listed areas of significance should be considered contributing.

- General Offices, Central Vermont Railroad (CVRR), Northwest corner of Lake and Federal Streets, listed in the NRHP as part of the Central Vermont RR Headquarters Historic District (listed 1974)
- St. Albans Foundry and Implement Company, Northeast corner of Lake and Federal Streets (1 Federal Street) – listed in the NRHP as part of the St. Albans Historic District (listed 1980)
- St. Albans Hotel, Southeast corner of Lake and Catherine Streets, 60 Lake Street, listed in the NRHP as part of the St. Albans Historic District (listed 1980)
- Giroux Furniture Company Building, Southwest corner of Lake and Catherine Streets, 10-18 Catherine Street, individually listed in the NRHP (listed 2006)²

The intersection retains approximately the same configuration that it had in the mid-19th century when the railroad line was first built to St. Albans. The two main thoroughfares of this complicated intersection are Lake Street, which was the original stage coach road that led west from the village to St. Albans Bay, and the north-south Federal Street, originally called Furnace Street, and then re-named Foundry Street for its proximity to the St. Albans Foundry that was established at this intersection in 1840. Federal Street intersects Lake Street to the north; this intersection is the south terminus of Federal Street. The narrower north-south Catherine Street intersects with Lake Street to the south, but does not directly align with Federal Street. Catherine Street only runs from Lake Street at the north to Stebbins Street on the south. Catherine Street functioned more as an alley/back street in the 19th and early 20th centuries, while Market Street, west of and parallel to Catherine Street, previously functioned as the main entry to and hub for the freight loading/unloading area next to the railroad line. In the 19th century this wide thoroughfare was known as Market Square, with a large, long freight station, presumably built in the 1860s with the other headquarters structures, anchoring the square at its south end with Stebbins Street. While the configuration of these streets at this intersection made sense in the 19th century and early 20th century when the railroad line was more active and served several functional purposes, its uneven layout today is hazardous for motorists and pedestrians alike.

Even before the railroad line was built to St. Albans, the intersection of Lake and Federal streets hosted the St. Albans House hotel, which originally served stagecoach traffic and the St. Albans Foundry, both of which were established in 1840 at the two eastern corners. After the railroad line (originally called the Vermont and Canada Railroad) came to St. Albans in 1850 and the subsequent merger in 1860 that resulted in the Central Vermont Railroad, this intersection served as the new nexus for a variety of businesses and railroad-related activities. These activities included an updated St. Albans House in the 1870s which then mainly served railroad passengers and an expanded St. Albans Foundry operation (with extant buildings that date to ca. 1870 and ca. 1890 on the northeast corner of Lake and Federal Street) and several additional ancillary structures closer to the railroad line on Catherine Street and Market Square (now demolished). Along with these two older businesses, the area hosted the general office building of the Central Vermont Railroad at the northwest corner of Lake and Federal streets, which was built in 1867, and the passenger depot (removed in 1963) just west of the general office building. These two buildings were part of the Central Vermont Railroad's extensive infrastructure investment in the railroad yard beginning in the early 1860s and continuing to 1923.

Other businesses at this intersection included Hiram B. Week's flour, feed and phosphate store on the southwest corner of Lake and Market Street/Catherine Street by the early 1880s, if not earlier, and a

² The Giroux Furniture Building is technically within the boundaries of the Central Vermont Railroad Headquarters Historic District as it is currently defined.

saloon that served an obvious clientele. Weeks built the existing structure known as the Giroux Furniture Company/City Feed Store in 1896 with an addition in 1905. A number of businesses, which included the St. Albans Foundry storehouse, were housed in small buildings south of Week's business throughout the 19th and early 20th centuries. These businesses, or more specifically their warehouses or storage functions, located here due to the adjacent freight loading/unloading activities that took place in Market Square. Both the Giroux Furniture Company/City Feed Store at 10-18 Catherine Street and the Willard Manufacturing Company building further south at Stowell and Allen streets had railroad sidings leading to the main railroad line. A large lumber yard – the W. B. Fonda Lumber, Coal and Wood yard – on the east side of Catherine Street north of Stebbins Street was another business that relied on the railroad line for its successful operations. However, the fire that leveled much of downtown St. Albans in 1895 started at this lumber yard, causing many nearby building owners to construct their new structures with more fireproof resistance materials. Other businesses nearby on Catherine Street included associated services including liverys, blacksmith shops, and harness/wheel repair shops.

While many businesses were concentrated and flourished in this area in the 19th and early 20th centuries due to the proximity of the freight station and railroad lines, an increase in shipping by truck in the early 20th century and the reduction of the Central Vermont Railroad's operations in St. Albans in the 1950s caused many of the businesses to either close or leave the area. Based on Sanborn map research, National Register and inventory form documentation, and field observation of the existing buildings, it is apparent that the area no longer contains many remnants of the wholesale/shipping activities that predominated here in the 19th and early 20th centuries. The only other major building that remains within the vicinity is the Willard Manufacturing Building at Allen and Stowell Street (25 Stowell Street) to the south (listed individually in the NRHP in 2007); the building housed a garment factory and other later industries that were dependent on the railroad line for shipping.

Conclusion

The Federal, Lake, and Catherine Street intersection and the buildings that front it are recommended eligible for the National Register of Historic Places as a small, cohesive district that conveys a strong association with the Central Vermont Railroad and the attendant commercial activities that resulted from its location just west of this intersection.

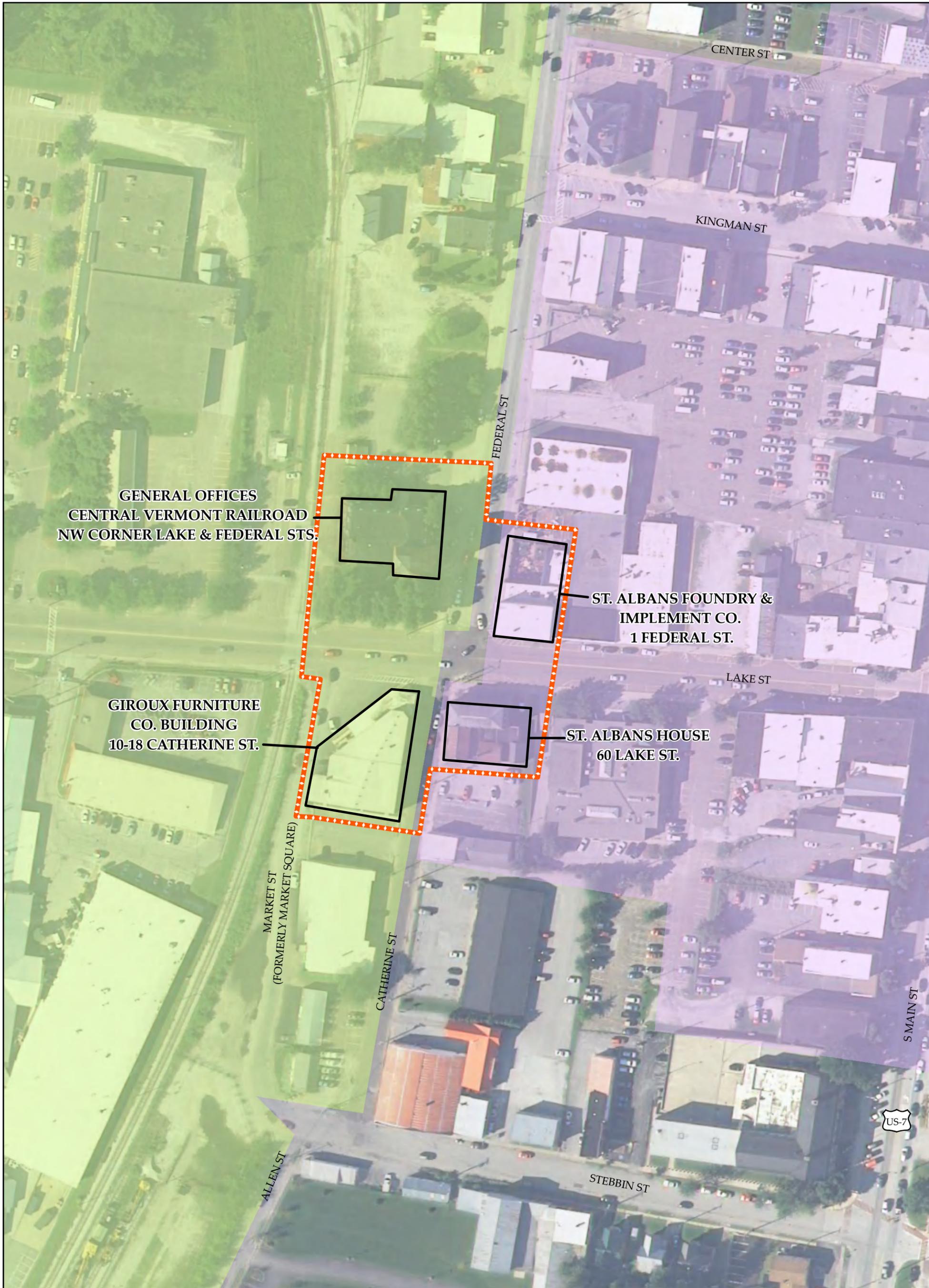
The current configuration of the intersection itself is the result of two major roads that were connected at a T-shaped intersection prior to the railroad line. The configuration then changed after the railroad line came through as Market Square and the narrower Catherine Street behind and east of it both were intersected with Lake Street. Catherine Street in some respects has become an extension of Furnace/Federal Street, although the connection at Lake Street between the two streets is at an angle. The intersection's configuration is not considered a significant element in the important events associated with the Central Vermont Railroad and its contributions to St. Alban's development and growth. The intersection, however, is included within the boundaries of a recommended historic district discussed below.

It is the buildings at the four corners of the Lake, Federal and Catherine streets that most effectively and strongly display the area's historic association with the Central Vermont Railroad line. These buildings are the Central Vermont Railroad general office building, the St. Alban's Foundry buildings, the St. Albans House, and the Giroux building. Although the city's industrial, warehouse, and railroad-related functions were spread over a larger area historically, the removal of many of these structures in the 20th century and the lack of integrity of the few that do remain negates the possibility of a larger significant complex that might be considered eligible for the NRHP.

The general office building of the Central Vermont Railroad is the most visible and prominent of the complex's structures and is one of the earliest buildings that remain. The St. Albans House at the

southeast corner of Lake and Federal streets, although originally built in 1840 to serve travelers on the stage road that would become Lake Street, was greatly expanded in the 1870s and thrived for decades on its proximity to the railroad. The two remaining structures associated with the St. Albans Foundry – one of the most extensive industrial concerns in the city – are on the intersection’s northeast corner at 1 Federal Street. The ca. 1890 corner building was part of the foundry until 1911 when it closed and became a cigar-making shop. There is no doubt that the product’s shipment via the railroad line contributed to its location here. Two other buildings associated with the foundry were located on the east side of Catherine Street as late as 1980 and were included in the St. Albans Historic District boundaries, but the buildings have since been demolished. The 1980 St. Albans Historic District nomination noted that the buildings in this area were not associated with Taylor Park, the focus of most of the buildings within the district, but with the industrial growth of the community after the railroad line was established here.

The more recent National Register nomination of the Giroux building, the fourth building at the intersection, recognized the strong association of this building with the railroad line. The Giroux Furniture Company/City Feed Store building at 10-18 Catherine Street was originally erected in 1896 to replace an earlier group of buildings that had the same function and owner. The building originally had a Market Street address, signifying the dominance of this street. The flour, feed, and phosphate store and warehouse function is documented here as early as 1884, and likely existed earlier in the 1870s. Although the building did not have its own railroad siding connection to the railroad until after 1920, its long-term occupation of this corner next to Market Square and the freight operations also demonstrates its significant association with the railroad line.



**GENERAL OFFICES
CENTRAL VERMONT RAILROAD
NW CORNER LAKE & FEDERAL STS.**

**ST. ALBANS FOUNDRY &
IMPLEMENT CO.
1 FEDERAL ST.**

**GIROUX FURNITURE
CO. BUILDING
10-18 CATHERINE ST.**

**ST. ALBANS HOUSE
60 LAKE ST.**

MARKET ST
(FORMERLY MARKET SQUARE)

CATHERINE ST

ALLEN ST

STEBBIN ST

S MAIN ST



- Legend
-  Recommended National Register Boundary
 -  Central VT Railroad Headquarters Historic District
 -  St. Albans Historic District
 -  City/Town Boundary

Prepared by: JAT

**Figure 1:
Federal Street Multi-Modal Connector
St. Albans, VT
Location of Buildings within
Federal/Lake Street Intersection**

March 16, 2011



Sources: Background - Imagery by 3001 Inc. (2008) downloaded from VCGI (2009); County and Town boundary data (2008) downloaded from VCGI (2009); VTrans roads data downloaded from VCGI (2009); Recommended National Registry boundary by VHB (2011); Historic data gathered and collected by VHB (2010-11).





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Memorandum

To: Scott Newman, Historic Preservation
Officer, Vermont Agency of
Transportation

Date: March 18, 2011

Project No.: 57414.00

From: Rita Walsh, Senior Preservation Planner,
Nicole Benjamin-Ma, Preservation
Planner, and Deborah Finnigan, P.E.,
Deputy Project Manager

Re: St. Albans HPP 8000 (17)
Individual National Register Eligibility
Analysis for three St. Albans' Federal
Street houses

Introduction

This memo was prepared at your request to examine the individual National Register of Historic Places (NRHP) eligibility of several houses on Federal Street that are adjacent to the Federal Street section of the Federal Street multi-modal connector project. We understood from you that the collection of houses on the street does not constitute a historic district, due mainly to the serious level of alterations and additions to many of the buildings. However, you asked for National Register evaluation of certain houses on the street that should be considered for individual eligibility. This assessment focused on three candidates: 163 Federal Street, 174 Federal Street, and 180 Federal Street.¹ Current photographs, the relevant pages of the Federal Street inventory form, and a figure (Figure 1) showing the locations of these three houses are attached to this memo.

In summary, our conclusion is that none of the three houses considered exhibit the potential to be individually eligible for the National Register of Historic Places. Individual recommendations for all three houses are included below. All three are representative of the house types seen on Federal Street and are associated with the housing boom that occurred on the street after 1850 when the Central Vermont Railroad was established in St. Albans. Although each one of them exhibits a less altered appearance than many of their neighbors and most possess some important original features, they do not meet the higher standard of integrity required for individually eligible properties.

Methods

Rita Walsh of VHB conducted a field reconnaissance of the street to determine which houses possessed characteristics that presented the best potential for individual National Register eligibility. The characteristics considered included the retention of original features and form and uniqueness of style or form. Assessment of the National Register eligibility involved review of historic maps, assessment of the

¹ We also preliminarily considered the double house (with a small ell holding a third residence) at 128 Federal Street, a side gable, 4-bay rectangular plan house with paired front entrances. The house has a small ell with what appears to be an original Queen Anne porch. We determined that the house form was not unusual and that alterations, including vinyl siding, door hood and window sash replacement, and chimney removal, resulted in issues with its integrity that would negate its individual National Register eligibility.

current integrity of the buildings, and comparison of the 1985 Federal Street Historic Sites and Structures Survey form information, which provides limited detail about and a contemporary photograph of each building on the street, with the current appearance of the building.

Historic/Architectural Context

Federal Street is located near the center of St. Albans, between the Main Street commercial core and the Central Vermont Railroad (CVRR) complex, and running south to north between Lake Street and Lower Newton Street. The street has a mix of primarily 19th and early 20th century commercial and residential structures, with commercial uses concentrated on the south end and residential buildings located along the northerly portion of the street.

The street was originally laid out as Furnace Street in the early 19th century, and soon renamed Foundry Street in the 1840s in recognition of the St. Albans Foundry built at the south end near Lake Street. A number of wood-frame commercial blocks were constructed near the foundry around Kingman Street, but were lost in the 1895 St. Albans City fire. Subsequently, the south end of Federal Street was filled in with several turn-of-the-century flat roofed two- and three-story brick commercial blocks with storefronts in the first story and apartments on the upper levels. The two-story brick courthouse on Kingman Street was constructed ca. 1900, and the street was once again renamed Federal Street.

Commercial development expanded north along Federal Street in the early and mid-20th century; two gas stations dating from the 1920s and 1930s are still extant north of Kingman Street. Other automotive and office-based businesses were established nearby in the center section of the street in the first half of the 20th century, including a mix of earlier structures converted to other uses and new development.

Many of the commercial structures along the south portion of Federal Street have been extensively altered during the 20th century, including reconstructed facades, entrance additions with new doors, and replacement siding. Many of the original windows with 6/6 and 2/2 sash have been replaced.

The north end of Federal Street beyond Hoyt and Hudson Streets is dominated by residential buildings, constructed in the 1860s and 1870s for employees of the CVRR, with a smaller number of later houses indicating continuing residential development into the early 20th century. The houses were built for both single and two-family occupancy. Many of the single-family dwellings are 1 ½ to 2 ½ story wood houses in a vernacular Italianate style, featuring sidehall plans, front gable roofs, rear kitchen ells, short cornice returns and full-width porches. Other styles utilized include Greek Revival details such as corner pilasters, as well as Gothic Revival and Colonial Revival structures. Many of the houses still have intact brick chimneys and late 19th century details added to the houses include decorative wood shingles and Queen Anne turned porch supports. A number of gable and hipped roof duplexes were also constructed to serve employees of the railroad, some featuring Italianate bay windows on the front elevation and paired entrances with sheltered either by a single full-width porch or individual door hoods. The large St. Albans Co-op Creamery complex represents the main departure from this residential trend, occupying the entire area on the west side of Federal Street between Deal Street and Aldis Street and serving as a major commercial draw west of the Main Street commercial corridor. The numerous buildings in the complex date from the 1930s to the end of the 20th century.

The residential structures concentrated at the north end of Federal Street have had a number of late 20th century alterations, with the most common being replacement window sash and siding, asphalt shingle roofing, and enclosure of the front full-width porches. Some of the houses have had their facades reconfigured in order to move the primary entrances elsewhere on the façade or to another elevation.

Houses Examined for Individual National Register Eligibility

163 Federal Street – Old Newton House/Bilodeau House

This 1 ½ story sidehall front gable house is dated c. 1860 according to the Federal Street survey form. The house was owned by “D. Newton” on the 1871 Beers Atlas of St. Albans. Short-return boxed cornices are typical of the houses on the north end of Federal Street, but its brick exterior marks this house as the only extant example of this construction material on the street. The facade has three bays on the first story and two centered windows above, with a south entrance. A façade porch that was enclosed in the 20th century with a shed roof and paired windows, which appears in the photograph of the house on the Federal Street survey form, has been removed recently; it has been replaced by a small porch deck with a concrete floor and metal porch rail. There is a small addition in the rear of the house, dating to the original construction. While an internal brick chimney in the roof ridge is still extant, the windows have been replaced with aluminum 1/1 sash, and the roof has been covered in new sheet metal roofing. An entrance porch on the east side of the south elevation dates to ca. 1945, and a gable dormer on the north elevation with paired 2/2 sash windows was added ca. 1915. Decorative vergeboards were added under the front gable ca. 1970, at the same time that an attached garage was constructed in the rear of the house.

Despite the relatively uncommon use of brick for the house, numerous alterations have greatly affected the integrity. As one of the numerous extant examples of modest vernacular houses constructed on the north half of Federal Street for employees of the CVRR, this house retains integrity of feeling, location, and association. The house is notable as an example of brick construction in an area dominated by wood-framed dwellings which were originally clad in clapboard siding. However, the extensive alterations including addition of the dormer, replacement windows, and the enclosure and recent replacement of the front porch with a concrete deck have diminished the house’s integrity of materials, workmanship, and design.

This house is recommended not individually eligible for the National Register of Historic Places. As with many of the surrounding dwellings, this house was associated with the CVRR’s activities during the mid-19th century, when a number of company-built houses and those developed by others for railroad employees were constructed. Its brick construction is uncommon on the street. However, the extensive alterations during the 20th century have severely diminished the house’s integrity as a significant example of the housing of the period.

174 Federal Street – Wagner House

This three-bay house is 1 ½ stories tall, and was recorded on the Federal Street survey form as dating ca. 1870. The house has a sidehall plan, with an original side ell and an enclosed glazed porch with 3/1 sash placed in the space between the main block and the ell. A brick end chimney is visible at the rear of the house. A one-story Queen Anne porch with a hip roof, turned posts, and diagonal brackets extends the full width of the façade. The house retains Italianate details such as a boxed cornice with short returns on the front gable, as well as an Italianate style door with round arched windows. Despite the addition of clapboard siding, original clapboards remain underneath. Likewise, original 2/2 sash windows are extant behind added storm windows.

The house is located in a residential area which contains a number of houses of similar scale and form, and retains integrity of feeling, association, and location. The addition of a glazed porch between the main block and ell has adversely affects integrity of design. However, the retention of original details such as the Italianate door and windows and clapboard siding beneath modern materials contributes to the structure’s higher level of integrity of materials and workmanship than that of a number of its neighbors.

The house is not recommended eligible for the National Register of Historic Places. The time period and style for this house likely associate it with the extensive residential development along the north side of Federal Street after the CVRR was established nearby. Despite the retention of some original architectural details, the house has sustained a number of physical alterations and is therefore not considered a significant individual example of housing built during the period of the railroad's initial development.

180 Federal Street – Thuot House

This two-story duplex has a center entrance flanked by a three-sided two story bay on each side. Recorded on the 1985 Federal Street survey form as an example of Colonial Revival style constructed ca. 1910, the three-bay house has a hipped roof with wide overhanging eaves. A recessed center entrance is echoed on the second floor of the façade, which has a wood deck with a square balustrade outside the door. A distinctive pierced valance runs beneath the eaves along the second story deck and the outside of each bay, featuring rounded pendants at the front corners of the house. Square-edge wood window surrounds contain replacement 1/1 sash windows. A hipped dormer located above the center entrances is recorded on the Federal Street survey form, but has since been removed. Aluminum siding is a fairly recent addition to the duplex, although clapboard siding remains underneath.

Located at the north end of Federal Street in an area developed as a residential district for employees of the CVRR, this relatively well-preserved duplex retains many original details and exhibits integrity of location, feeling, setting, and association. Extant details such as the balustrade, valance, and pendants contribute to integrity of materials and workmanship, as do the original clapboards retained beneath the modern aluminum siding. However, the removal of the hip dormer and replacement of window sash throughout the duplex compromise integrity of design, materials, and workmanship.

This house is recommended not eligible for the National Register of Historic Places. It is located in a residential area associated with the development of the CVRR, which included both single- and multi-family houses built by the company itself and by individual owners. The significant alterations, including the removal of the dormer, have diminished the integrity of the duplex as a significant representative of the early 20th century housing developed along Federal Street for railroad employees and other workers in St. Albans.



180 Federal Street



174 Federal Street



163 Federal Street



Legend

- Subject Building
- City/Town Boundary



Prepared by: JAT

Figure 1:
Federal Street Multi-Modal Connector
St. Albans, VT
Location of Three Buildings Assessed
for National Register Eligibility

March 16, 2011



Sources: Background - Imagery by 3001 Inc. (2008) downloaded from VCGI (2009); County and Town boundary data (2008) downloaded from VCGI (2009); VTrans roads data downloaded from VCGI (2009); Project centerline and segment divides done by VHB (2010, 2011).

VHB Vanasse Hangen Brustlin, Inc.

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163 Federal StreetThe Old Newton House/The Bilodeau House

A 1½ story, 3 x 2 bay, gable front, brick, vernacular style house built c.1860 by "D. Newton" (see 1871 Beer's Atlas map). Sidehall plan. Concrete-reinforced stone foundation. Sheet metal gable roof. One original, brick stove chimney remains on trait interior gable end. Molded box cornice at eaves, returning slightly on gable ends. New "vergeboards" added c.1970. Newer 1/1 sash. Aluminum storms. Gable front facade. Right side entrance, sheltered under a c.1945 shed roof vernacular porch. 1/1 sash. Clapboard base. Some 2/2 sash and original 6/6 sash on north eaves elevation. Attached garage at rear c.1970. Smaller, rear wing built at same time as main house. Gabled dormer added to north roof slope c.1915. (85-A-526 #3A)

164 Federal StreetThe Tool House

A modest, 1½ story, 3 x 2 bay, gable front vernacular style house built c.1872. Sidehall plan. Concrete-faced stone foundation. Sheet metal gable roof. Pair of cinder block stove chimney on interior gable ends, replacing original, brick stove chimneys. Asbestos siding over original clapboards. Molded box cornice at eaves, returning slightly on gable ends. Friezeboard. Corner posts. Original 2/2 sash with lip molded heads. Newer aluminum storms. Gable front facade. Right side entrance, sheltered under a c.1930 glazed in porch. 1/1 sash, Right side entry bay. Small kneewall window on north eaves elevation. Attached, rear shed ell (c.1900). Door with large glazed top light. 2/2 sash. (85-A-526 #4A)

165 Federal StreetThe St. Pierre House

A large, 2½ story, 3 x 2 bay, gable front vernacular style house built c.1885. Sidehall plan. Concrete-faced stone foundation. Original slate roof. Newer cinder block chimney at rear. Original clapboard sheathing. Fascia trim and corner boards. Molded box cornice at eaves. Original 2/2 sash with wooden storms. Gable front facade. Fishscale shingles in gable peak. Right side entrance, sheltered under a c.1970 shed roof glazed-in porch with Chicago window on gable end. Small 1/1 sash in gable peaks. Well-preserved. (85-A-526, #5A)



173 Federal StreetThe Old S. C. Noble House/The Robinson House

A 1½ story, 3 x 2 bay, gable front vernacular style house built c.1862. Sidehall plan. Stone foundation. Asphalt shingled gable roof. Pair of brick stove chimney's on interior gable ends. Asbestos over original clapboards. Plain box cornice at eaves. Newer 1/1 sash with aluminum storms. Plain surrounds. Gable front facade. Left side entrance. c.1900 door with large, glazed top light. Aluminum storm door. Full-length, hip roof Queen Anne style porch. Turned posts. Square balustrade and valance. Lattice skirt. Rear wing added c.1880. Screened in Bungoloid style porch at south eaves elevation. Wood shingled apron. (85-A-526 #9A)

Carriage Barn: c.1865/Garage: c.1915

A detached, 1½ story, carriage barn. Asphalt shingle wall & roof sheathing. Gable roof. Wide box cornice at eaves. 6 set sash & hay loft bay on south gable end elevation. Pair of pass doors on west eaves elevation. Attached shed roofed section to north with original, hinged double doors on facade. Well-preserved example of an early carriage barn converted to a garage c.1915. (85-A-526 #9A)

174 Federal StreetThe Wagner House

A 1½ story, 3 x 2 bay, gable front, vernacular style house with a contemporaneous, 1½ story recessed side ell built c.1870. Sidehall plan. Stone foundation. Asphalt shingled gable roof. Rear gable end stove chimney. Asbestos over original clapboards. Molded box cornice at eaves, returning slightly on gable ends. Original 2/2 sash. New aluminum storms. Gable front facade. Left side entrance. Italianate style door with round-headed lights in it. Wooden storm door. One story hip roof Queen Anne style porch. Turned posts with angle brackets. Square balustrade. Side ell with eaves center entrance. Ell fronted by 1-story vernacular porch, now glazed in with 3/1 sash (c.1940). (85-A-526 #10A)



179 Federal StreetThe Old Goulen House

A modest, 1½ story gable front vernacular style house with an L-plan. Built c.1868 for "W. Goulen" (see Beers 1871 Atlas map). Concrete-reinforced stone foundation. Asphalt shingled gable roof. Center, brick stove chimney. Asbestos shingle over original clapboards. Plain box cornice at eaves. Some original 2/2 sash and newer 1/1 sash. Wooden storms. Entrance on south eaves elevation of main block. Newer doors. Full length, vernacular wraparound porch on facade and side sheltering the entrance. Turned posts. Cattice skirt. Attached side ell with shed roof added c.1900. (85-A-526 #15A)

180 Federal StreetThe Thuot House

A 2½ story, 3 x 3 bay, vernacular Colonial Revival style duplex built c. 1910. Stove-faced concrete foundation. Asphalt shingled hip roof. Brick stove chimney. Aluminum siding over original clapboards. Molded box cornice at eaves. 1/1 sash with aluminum storms. Eaves facade. Center entrance. period door with lare, glazed top light. Flanked by two story trapezoidal bay windows. Center entrance in second story with similar door opens out onto a period porch. Square balustrade and valance. Valance with pendant drops on front corners (2nd story level) of house. Hipped dormer on roof above entrances. Small 1/1 sash. A well-preserved, 20th century duplex. (85-A-526 #14A)

81 Federal Street

A modest, 1½ story, vernacular style house with L-plan. Built c.1868. Concrete-faced stone foundation. Aluminum siding. Asphalt shingled gable roof with center cinder block stove chimney. Plain box cornice at eaves. Original 2/2 sash with plain surrounds. Entrance on south eaves elevation of sheltered under a c.1925 porch with wood shingled base. Now screened in. (85-A-526 #16A)

182 Federal StreetThe Himingway House

Non-contributing. A 2½ story, 3 x 2 bay vernacular house built c.1880. Concrete-faced stone foundation. Asphalt shingled gable roof. Block stove chimney. Wide clapboards added c.1965. Molded box cornice at eaves. Newer, smaller 1/1 sash put in on south & north gable ends, changing character of design. Wooden shutters are new. Vernacular, vertical board front porch. Center entrance. New door. Alters original appearance of building greatly. Non-contributing due to alterations. (85-A-526 #17A)

