Airport Drive / Airport Parkway Improvements

Scoping Study

October 7, 2005

Chittenden County Metropolitan Planning Organization

Communities working together to meet Chittenden County's transportation needs

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Contents

Table List

Figure List

Introduction

The Chittenden County Metropolitan Planning Organization (CCMPO) working with the City of South Burlington and the Town of Colchester contracted Dufresne-Henry (DH) to provide scoping services for the improvements to the Airport Drive/Airport Parkway/Lime Kiln Road. This route provides access to the Burlington International Airport, VT National Guard facilities, numerous businesses, and the Ethan Allen Drive development area. This route is functionally classified as a major connector, linking two principal arterials, VT Route 15 and US Route 2. Currently, the corridor traffic passes through the residential areas of Airport Drive, White Street, and Airport Parkway. Approximately 50% of the PM peak hour traffic is through traffic.

This scoping report examines the need for improvements to the existing corridor and reviews the advantages and impacts of creating a link from the Airport Drive/White Street intersection northward to Airport Parkway. DH conducted field reviews of the area to become familiar with the existing traffic operations, identified potential issues and documented existing conditions. Services included obtaining turning movement count data, gathering intersection geometries and developing growth and design year volumes. Important resource information was assembled to identify project constraints. This scoping report is based on input from local officials, residents, VAOT officials, and field observations.

The objective of the report is to generate a recommended alternative which would be carried forward into future stages of project development. This report has been created to identify and develop alternative solutions to satisfy the project purpose and need. Included are construction cost estimates for the alternatives and an evaluation matrix which summarizes the impacts and benefits of each alternative.

No Action
Alternative A – No Connector
Alternative B – Build Connector

The report concludes with recommendations that satisfy the purpose and need of the project.

Purpose and Need Statement

Purpose

The purpose of this project is to improve the link from US Route 2 to VT Route 15, while addressing traffic impacts on local neighborhoods and providing pedestrian and bicycle connections.

Need

The following outlines the needs for this project.

- Reduce traffic impact to neighborhoods.
- Provide intersection safety and performance for the design year 2028.
- Maintain existing Airport Access by providing adequate capacity.
- Provide bicycle and pedestrian connections for existing and proposed facilities at Kennedy Drive and the VT 15 Corridor.

Project Location

Study Area

The Airport Drive and Parkway study area is shown in Figure 1. The south end of the study area is located at the Williston Road intersection with Airport Drive and Kennedy Drive. The north end of the study area is located north of the Lime Kiln Bridge with the intersection of Route 15. Recommendations in this study focus throughout this corridor at particular intersection improvements and a new Airport Parkway Connector Road. A table of the intersections along the corridor is listed below. They are numbered for ease of location for the traffic volume analysis further in this report.

Street Names at each Numbered Intersection		
Intersection	Major Street	Minor Street
1	Williston Road	Airport Drive
2	Airport Drive	Airport Road
3	Airport Drive	Airport Entrance
4	Airport Drive	Airport Exit
5	Airport Drive	White Street
6	Airport Parkway	White Street
7	Airport Parkway	Kirby Street
8	Airport Parkway	Proposed Extension
9	Airport Pkway & Lime Kiln Rd	Ethan Allen Road
10	Airport Parkway	College Parkway (Rt 15)

Table 1: Corridor intersections with corresponding intersection numbers..

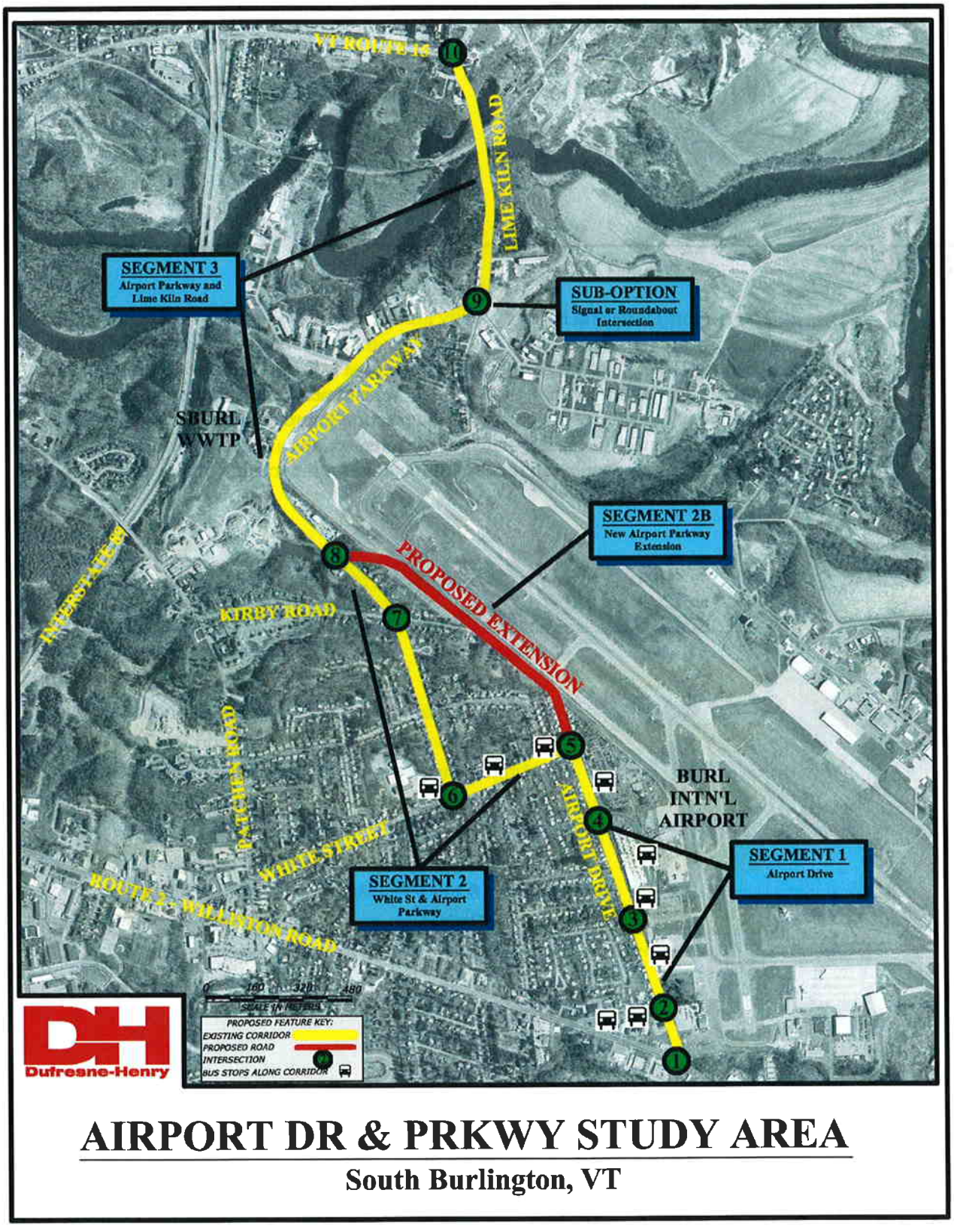


Figure 1: The Airport Drive, White Street and Airport Parkway Corridor Study Area, noted intersections and bus stops..

Background Information

Existing Conditions

The following text outlines the existing condition at each roadway and intersection. Photos from each section are located throughout the report. All intersection geometries are located in the Appendix.

Airport Drive

Airport Drive is characterized as a curbed two-lane urban highway with flat terrain and 32 feet wide. It is a major two-lane collector road that carries approximately 12,000 vehicles per day. The Burlington International Airport is located on this road and generates traffic throughout the day. This road is also a commuter road, carrying traffic north-south with high traffic peaks during the AM and PM hours. Residences line the west side and experience delay entering and leaving during peak hours. Some residences have been purchased by the Airport as part of an FAA funded noise mitigation program. Deficiencies here include the non-continuous sidewalk on the east side of the road, no dedicated bike lanes or a shared use facility. The posted speed limit on Airport Drive is 30 mph.

Photograph 1: Looking north on Airport Drive, this roadway is currently 52 feet wide, curb-to-curb, with a 5 foot sidewalk on the west (left) side.

Williston Road-Airport Drive Intersection

The intersection of Airport Drive, Williston Road and Kennedy Drive unite at the eastern end of the study corridor, at a traffic signal,. The Airport Drive approach has four lanes, the Kennedy Drive has four lanes and the Williston Road approaches each have five lanes. Based on field observations, the three southbound lanes from Airport Drive are insufficient in length for the high number of queuing vehicles here. Therefore, turning vehicles can not access their auxiliary lanes.

Photograph 2: Looking south on Airport Drive at Kennedy Road and the perpendicular traffic on Williston Road. There is a need for the length of these left and right hand turn lanes on Airport Drive in the foreground to be lengthened for design years 2008 and 2028.

Airport Road-Airport Drive Intersection

The Airport Road intersection is characterized by a stop sign at the T-intersection with Airport Drive. There are two lanes in all directions. Airport Drive is the through road. Airport Road has numerous small businesses located there. A need for a traffic signal may become more prominent in the future due to higher traffic volumes on Airport Drive.

Airport Entrance-Airport Drive Intersection

Traffic turning into the Airport Entrance has a right turn lane approaching from the south and a left turn lane approaching from the north. The physical length of these turning lanes is sufficient and currently there is no significant delay.

Airport Exit-Airport Drive Intersection

The Airport Exit is characterized by two turning lanes, one left and one right, split around a landscaped island. During peak airline departure and arrival times, there are queues on the Airport exit approach. A need for a traffic signal may become more

prominent in the future due to higher traffic volumes on Airport Drive and the Airport Exit approach.

White Street-Airport Drive Intersection

The south Airport Drive approach is uncontrolled while the traffic from the shuttle parking drive on the east approach and the parking areas on the north approach have a stop sign. The White Street (west) approach is yield controlled. This intersection control condition favors the major turning movement of Airport Drive to White Street.

Photograph 3: The White Street (west) approach includes a yield condition and pedestrian crosswalk.

White Street

White Street is a 32' wide two-lane road with a speed limit of 30 mph. Average daily traffic volumes approach 10,000 vehicles per day. There are no defined shoulders but there are curbs on both sides. A continuous sidewalk is located on the south side.

Airport Parkway-White Street Intersection

The intersection of Airport Parkway and White Street is a three-way stop. Future delay times and queues may create the need for a traffic signal in the future.

Airport Parkway

Airport Parkway is a two lane road with lanes approximately 15 feet wide, curbing, and no shoulders. There is a sidewalk on the west side lined with street trees. Residences line the southern end of the street and small businesses occupy the

northern lots on the street. The speed limit varies from 30 to 35 mph along the road length.

Photograph 4: Looking north on Airport Parkway, this road is lined primarily with residential homes on the southern end and small businesses on the northern end.

Kirby Road-Airport Parkway Intersection

The intersection of Kirby Road and Airport Parkway is a four-way intersection. Airport Parkway is the through street, the two side streets are stop controlled. Some homes on the side street to the east have been purchased by the Burlington International Airport due to noise mitigation. This area creates an opportunity to provide improvements on the Airport property. A traffic signal may be warranted in the future due to higher traffic volumes on Airport Parkway. Some traffic uses Kirby Road as a connection to Patchen Road.

Lime Kiln Road-Airport Parkway Intersection

This intersection is a non-traditional intersection, as seen in Photograph 5. The Lime Kiln Road-Airport Parkway road has the right of way with Ethan Allen and Shamrock Roads intersecting at stop controlled intersections. The geometry and confusing turning movements make this a difficult intersection.

Photograph 5: Here, looking south is the existing Airport Parkway, Lime Kiln Road and Shamrock Road intersection. This intersection could be geometrically redesigned to accommodate a traffic signal or a modern roundabout.

Community Character

Numerous one family homes, residential side streets, a school, an International Airport and small businesses are located within this corridor. The existing conditions in the residential areas are inconsistent with neighborhood characteristics such as reduced speeds, bike and pedestrian facilities and reduced traffic and trucks.

Photograph 6: This photograph, taken looking north on Airport Drive, looking at Gino's Airport Deli on the left and the 15 minute parking on the right. There are a number of residential homes that line Airport Drive, as seen here.

Existing Utilities

The following utilities are known to exist in the project area. Overhead utility poles are generally located behind the curb and outside the clear zone.

- Underground electric
- Overhead power, telephone and cable
- Gas
- Sanitary sewer and water
- Underground storm drainage (drop inlets and catch basins).

Right-of-Way

Below are the approximate right-of-way widths for the three thru roads in this project. Refer to the plans in the Alternatives Evaluation section for an approximate location of the right-of-way boundaries.

Airport Drive:	20 meter right-of-way
White Street:	15 meter right-of-way
Airport Parkway:	20 meter right-of-way

Intermodal Facilities

Three Chittenden County Transportation Authority (CCTA) bus lines travel in the vicinity of the Airport Drive and Airport Parkway Study Area, allowing bus system access between the downtown Burlington Cherry Street bus terminal and their stated destinations.

University Mall / Airport
The University Mall / Airport route makes stops in the project study area, on Airport Road, Airport Drive and White Street. There are approximately nine bus stops located on these streets in the project corridor.

Williston
This bus route makes stops along Williston Road, immediately south of the Study Area.

Essex Junction
The third bus route makes stops along Route 15, to the north of this corridor.

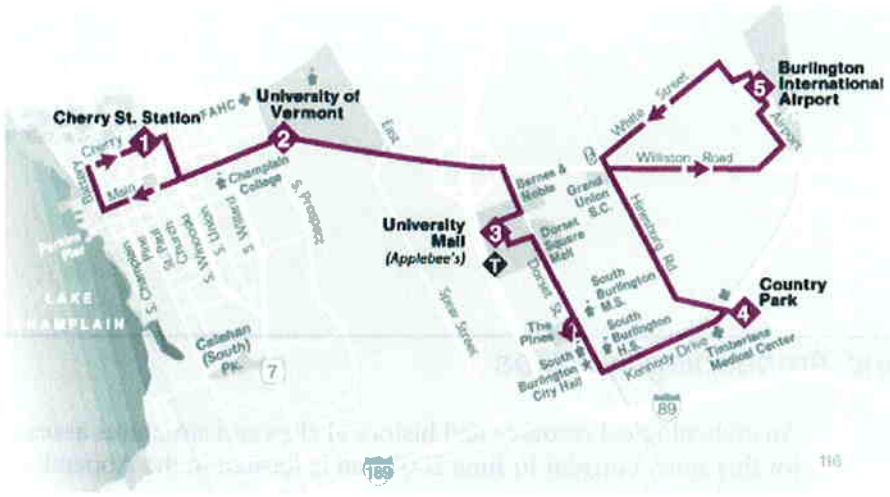


Figure 2: CCTA University Mall/Airport bus route map, August 2004, CCTA Map.

Refer to the Airport Drive and Parkway Study Area figure for approximate bus stop locations along the corridor. The University Mall / Airport bus route map is shown above.

Resources

Historic and Archaeological Sites

An archeological resource and historical sites and structures assessment was prepared for this study corridor in June 2000 and is located in the Appendix. The archeological report was written in regards to the approximate study area, when no definite alternatives had been proposed. This report states that relevant structures lie outside the proposed project's limits and therefore will likely not be disturbed by the proposed project elements. No known archeological sites have been identified within the project area at this time.

A follow-up Memo dated November 29, 2004 took into consideration the proposed project alternative plans when making a recommendation. This Memo states that due to the current conceptual stage plans that have been proposed for this project, it is recommended that a Phase 1 Identification Study occur when the proposed construction site is more precisely described and located. In the absence of a detailed structures survey, some of the house yard areas may be sensitive for historic remains due to the proximity to the Winooski River. This detailed study would investigate the potential archeological sensitivity within the project area.

Land and Conservation Fund (LWCF) Sites

The Vermont Agency of Natural Resources maintains a list of LWCF sites which have particular protection from impacts on projects which use Federal funding. There are 12 LWCF sites located in South Burlington and 11 LWCF sites located in Colchester. However, none of these sites are directly in the area of study. The list of sites in both towns is in the Appendix.

Hazardous Material Sites

The Vermont Agency of Natural Resources maintains a list of hazardous materials sites. No sites within this project area were identified. However, a table that lists adjacent sites and their details can be found in the Appendix.

Stormwater

Due to potential road reconstruction, stormwater drains may be added or relocated to capture water runoff and comply with state stormwater standards. If substantial reconstruction or expansion of the roadway occurs - a stormwater discharge permit may be required. This permit would allow the new road to be designed for a proper stormwater runoff catchment system. The current threshold for requiring a permit is when new and existing impervious areas are greater than one acre or there is 5000 square feet of new impervious area, added or fully reconstructed. The alternatives proposed in this report will be required to have a stormwater discharge permit.

This north end of the project is located in the watershed of an unnamed tributary of the Winooski River. The middle of the project is located in the watershed of Centennial Brook and the south end is in the Potash Brook watershed. These watersheds are listed as Agency of Natural Resources Impaired Watersheds. A map of these watersheds is located in the Appendix. New stormwater policies are being implemented at the state level at the time of this report for impaired watersheds. They should be revisited and reviewed at the time this project is carried forward.

Agricultural Resources

Agricultural comments state that except for a small Christmas tree farm located inside a power-line area near the Ethan Allen intersection in South Burlington, there appear to be no agricultural resources in the immediate project area. The letter stating this is located in the Appendix.

Environmental Sites

An environmental investigation was performed in the project study area to identify potential impacts to wetlands, wildlife, wildlife habitat, rare threatened and endangered species, rivers and streams and prime agricultural soils. Since the project follows previously developed areas, it encounters little natural environment.

The following environmental conclusions were recognized:

Wildlife and Wildlife Habitat.
The potential for significant wildlife habitat is minimal since the areas of habitat occur near the roadway are small and fragmented. Individuals representative of more rural or forest-land species may occur in the area, but only as transients.

Rare, Threatened and Endangered Species.
There are no identified rare, threatened, or endangered species for the proposed relocation of Airport Parkway. The land use pattern and degree of existing development reduce the likelihood that any such species would occur in the area.

Wetlands.
Three Class Three wetlands have been identified within the project area. None of the wetland's functions will be adversely affected by any of the proposed alternatives, even though a minor fill is necessary for Alternative B, Segment 2 at the upstream end of the ravine wetland.

Rivers and Streams.
Neither alternative proposed for this area will adversely affect the minor intermittent streams that drain through the wetlands near Airport Parkway (Segment 2). Minor impacts to an area of wetland and its drainage stream will occur with Alternative B, but none of the recognized functions of the affected wetland will be compromised.

Prime Agricultural Soils.
The soil within this area is noted as having either highest or good potential for agricultural uses but when the size, location, accessibility and current land use are evaluated, all soils over which the project passes can be eliminated as having any agricultural potential.

Refer to the assessment report dated June 12, 2000 and the letter report dated November 18, 2004 included in Appendix C. Appendix C also contains the Agency of Natural Resources's significant habitat map for the project area, showing no areas of concern outside of Lime Kiln Gorge.

Traffic

Accidents

Airport Drive and US Route 2 was a high accident location (HAL) between 1990-1994. The ADT at that time was 22,325 vehicles. Intersection improvements have been made since then. The following table is a compilation of recorded VTrans accidents between January 1998 and December 2002. Please refer to the Appendix for detailed lists of these recorded accidents.

VTrans General Yearly Accidents Summary January 1998 to December 2002			
Location	# Injuries	# Fatalities	# Accidents
Airport Drive - Williston Road	27	0	37
Airport Drive - Airport Road	1	0	2
Airport Drive	1	0	6
Airport Drive - Airport Entrance	0	0	1
Airport Drive - Airport Exit	0	0	0
White Street - Airport Drive Int.	1	0	2
White Street - Airport Parkway Int.	0	0	3
Airport Parkway	12	2	18
Lime Kiln Road	4	0	4
Lime Kiln Road - Ethan Allen Int.	0	0	3
Lime Kiln Road - Route 15	8	1	19
Unknown	1	0	2
TOTAL ACCIDENT SUMMARY	**55**	**3**	**97**

Table 2: VTrans General Yearly Accident Summary, January 1998 to December 2002..

Traffic Volumes

Intersection traffic counts were performed by VTrans on the dates listed in Table 3. These counts were then adjusted to the year 2008 Design Hour Volumes.

Traffic Count Information		
Location of Count:	**AM or PM**	**Count Data Taken on:**
Airport Dr & Airport Rd	AM & PM	July 18, 2001
Kirby Rd & Airport Pkway	AM & PM	July 18, 2001
VT 15 & Lime Kiln Rd	AM & PM	June 20, 2001
US 2, Kennedy Dr, Airport Dr	AM	June 18, 2002
US 2, Kennedy Dr, Airport Dr	PM	June 17, 2002
Airport Dr & Ext, White St & Ext	AM & PM	July 18, 2001
White St & Patchen Rd	AM	July 20, 2001
White St & Patchen Rd	PM	July 19, 2001
US 2 & White St	AM	July 17, 2001
US 2 & White St	PM	July 16, 2001
US 2, VT 116 & Patchen Rd	AM & PM	June 19, 2001

Table 3: Noted North Avenue Intersections and Dates of Traffic Counts performed by the CCMPO.

The Chittenden County Transportation model was used to forecast the traffic growth from 2008 to 2028. This growth was added to the 2008 volumes to produce the design year 2028 Design Hour Volumes. The transportation model accounted for planned area transportation improvements and proposed developments, such as:

- Completion of the Champlain Parkway in Burlington
- Completion of Circumferential Highway Segments A and B (Williston Sections)
- Kennedy Drive widened to four lanes
- Extension of Market Street in South Burlington from Dorset Street to Hinesburg Road

Background growth was also included in the model. Volumes were produced for a "proposed connection" alternative. A comparison of segment traffic volumes are shown on the following page.

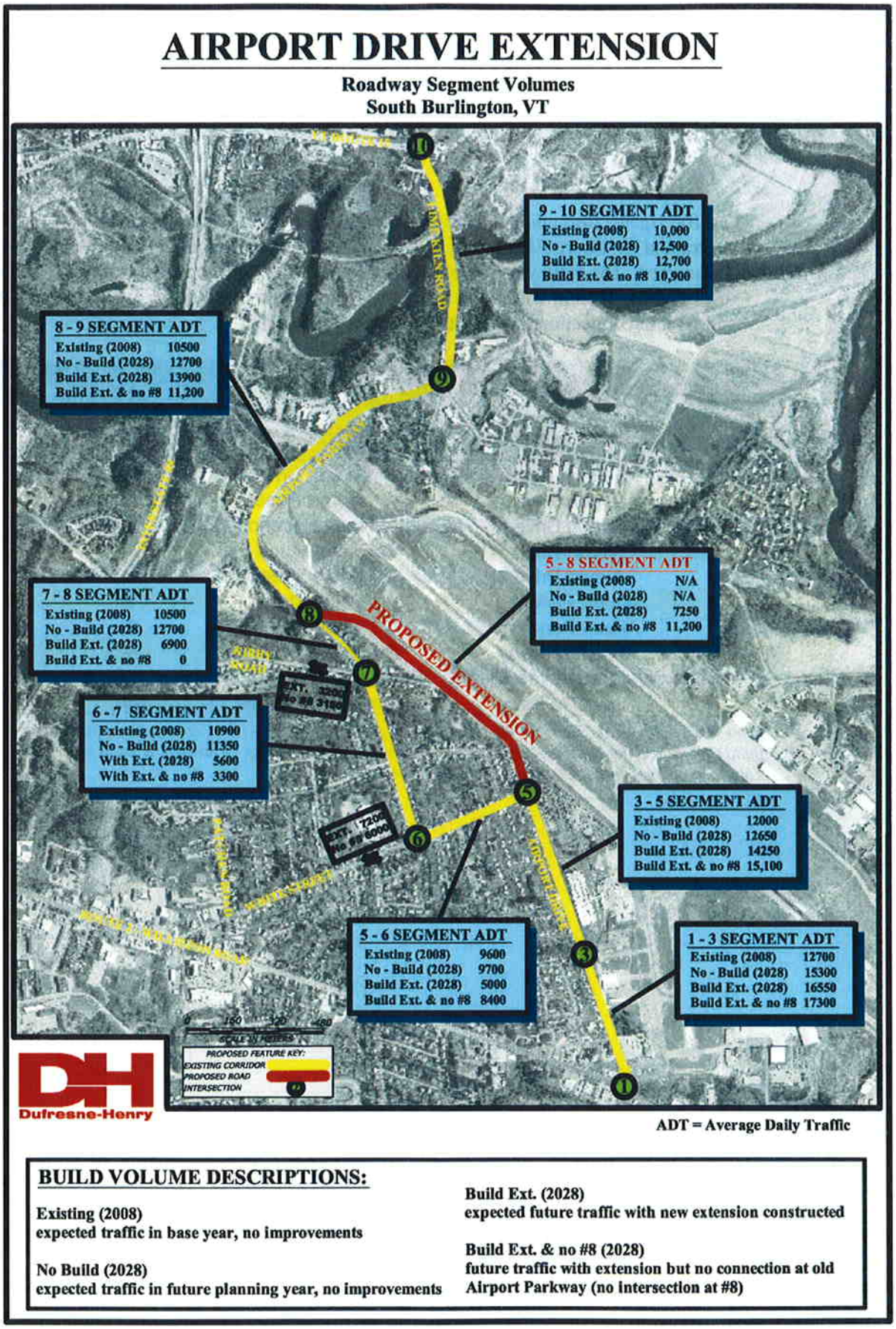


Figure 3: Airport Drive Extension, Roadway Segment Volumes for 2008 and 2028 for different build scenarios.

Signal Warrants

Traffic signals throughout the Airport Drive and Airport Parkway corridor are warranted for future Alternative A: No Connector and Alternative B: Build Connector. The following table is a corridor summary of the signal warrant analysis for each intersection within this corridor. Consideration should be given to potential signal interconnections with future engineering design.

Street Names at each Numbered Intersection			MUTCD Signal Warrants Met	
Intersection	Major Street	Minor Street	ALT. A 2028	ALT. B 2028
1	Williston Road	Airport Drive	N/A	N/A
2	Airport Drive	Airport Road	1, 2	1, 2
3	Airport Drive	Airport Entrance	--	--
4	Airport Drive	Maryland/Airport Exit	1	1
5	Airport Drive	White Street	--	--
6	Airport Parkway	White Street	1	1
7	Airport Parkway	Kirby Street	1	--
8	Airport Parkway	Proposed Extension	--	1, 2
9	Airport Pkway-Lime Kiln Rd	Ethan Allen/Shamrock Rd	1, 2	1, 2
10	Airport Parkway	College Parkway (Rt 15)	N/A	N/A

Table 4: Signal Warrant Table for all intersections for the Alternative A: No Connector and Alternative B: Build Connector. Warrants indicated are based on the MUTCD criteria. Warrant 1 is Eight Hour Vehicular Volume, and Warrant 2 is Four Hour Vehicular Volume.

Alternatives Evaluation

Alternatives A and B have been pursued by the CCMPO and the City of South Burlington. The alternatives are as follows and are described in the following sections:

No Action
Alternative A – No Connector
Alternative B – Build Connector

Refer to the typical cross sections for Airport Drive and Airport Parkway, located at the end of this section. Each alternative is composed of three segment design plans, also located at the end of this section.

No Action

The No Action Alternative is a decision that would end further action following this study for the Airport Drive and Airport Parkway corridor improvement. This alternative leaves the corridor in its current condition and it assumes that any normal maintenance would continue.

Advantages

This alternative has no initial cost. This alternative has no construction or related temporary traffic delays.

Disadvantages

This alternative does not satisfy the purpose and need statement for this project. It does nothing to reduce traffic in neighborhoods, improve bicycle/pedestrian facilities, remove trucks from residential streets or improve the regional and local road network.

Alternative A – No Connector

The No Connector Scenario is designed to improve existing intersections along existing roadways, without building new road connections. This alternative does not reduce traffic on local residential streets. As a consequence, new traffic signals are warranted.

Alternative Plans

Refer to these plans at the back of this section:

Segment 1: Airport Drive
Segment 2, Alternative A: Airport Parkway
Segment 3: Airport Parkway / Lime Kiln Road

Improvements to Section 1: Airport Drive from Williston Road to White Street

- Reduce road width from 32' to 30' (4'-11'-11'-4') by moving the west side curb 2'. Refer to typical cross sections at the end of this section.
- Delineation of shoulders suitable for bicycle use (4').
- Widen the west sidewalk to a 10' shared path.
- Add sidewalk on the east side where it is not existing.
- Increase storage lengths on north approach to Williston Road.
- Add a northbound left turn lane at White Street (intersection 5).
- Add parking at Gino's Airport Deli, across from the Airport. The cross-section will be 4' shoulder/bike lane, 2-11' lanes, 5' bike lane, 8' parking.
- Install signal at Airport Drive and Airport Road (intersection 2) once values reach warranted levels.
- Install signal at Airport Drive and the Airport Exit (intersection 4) with one left turn lane on exit approach once values reach warranted levels.

Improvements to Section 2, Alternative A: White Street and Airport Parkway

- Install signal at White Street and Airport Parkway (intersection 6).
- Install signal at Kirby Road and Airport Parkway (intersection 7).

Improvements to Section 3: Airport Parkway and Lime Kiln Road

- Construct new shared use path along Airport Parkway.
- Reconfigure Airport Parkway/Lime Kiln Road/Shamrock Road/Ethan Allen Drive intersection and install signal or construct a roundabout. An evaluation of these intersection alternatives is in the next section.

Order of Magnitude of Cost

$7.1 million - This is the construction cost to improve the complete corridor, Segments 1-3, with the proposed improvements. It includes installing the additional traffic signals.

Photograph 7: Looking east at the Kirby Road and Airport Parkway Intersection. For Alternative A, this intersection is warranted for a traffic signal. For Alternative B, the buildings across Airport Parkway are to be demolished and a new Airport Parkway Connector Road built, a signal would still be warranted.

Advantages

- Construction cost is less that Alternative B.
- Provides capacity to maintain operation and performance of corridor.
- Provides bicycle and pedestrian connector facilities connecting US 2 and VT 15.
- Minimizes impact to adjacent properties and does not require total property acquisitions.

Disadvantages

- Does not address the need to reduce traffic and remove truck traffic from residential streets.
- Improving access to Airport is minimal.

Alternative B – Build Connector

The Build Connector Scenario is designed to be a connecting link for commercial and commuter traffic traveling north-south in this corridor between Route 15 and Williston Road, including traffic accessing the airport from the north. Segments 1 and 3 from the No Connection Alternative remain the same. Segment 2 includes building a new connection and making intersection improvements. The estimated speed on this road will be consistent with the speed on Airport Parkway, 35 mph. This alternative will result in significantly less truck and car traffic on White Street and the south end of Airport Parkway. Signs posted for these roadways may read "No through truck traffic allowed."

Alternative Plans

Refer to this plans at the back of this section:
Segment 2, Alternative B: Airport Parkway

There are numerous properties the Airport has stated they will purchase to provide for FAA founded noise mitigation. The Airport currently acquires adjacent homes when the homeowners are agreeable. This project has been designed considering many properties will be acquired due to noise mitigation from the Airport, regardless of this project. These properties are highlighted in color on the conceptual plans.

Improvements to Section 1: Airport Drive from Williston Road to White Street

Improvements for this section are the same as Alternative A. Refer to Alternative A "Improvements to Section 1."

Improvements to Section 2, Alternative B: White Street, Airport Parkway, and new Connector Roadway Extension

- Signal at White Street and Airport Parkway (intersection 6) when warranted.
- Signal at White Street and Airport Drive is not warranted but the northbound left turn is warranted (intersection 7).
- Signal is warranted at the proposed extension and existing Airport Parkway intersection with single lane approaches (intersection 8).
- Construction of new connector roadway.
- Construction of new shared use path along Airport Parkway.

Improvements to Section 3: Airport Parkway and Lime Kiln Road

Refer to Alternative A "Improvements to Section 3", this section is the same.

Order of Magnitude of Cost

$9.9 million - This construction cost includes improvements on the Airport Drive segment, the addition of the stated traffic signals, and building of a new Airport Parkway connector road.

Advantages

- Increases capacity to maintain operation and performance of corridor.
- Addresses the need to reduce traffic and remove truck traffic from residential streets.
- Provide bicycle and pedestrian connector facilities connecting US 2 and VT 15.
- Improves access to the Airport.

Disadvantages

- Construction cost is more than Alternative A.
- Total property acquisition is necessary, although the Airport is anticipated to acquire these properties to mitigate noise. This acquisition is separate from this project.
- Wetlands are impacted requiring a COE 404 permit.
- FAA and FHWA coordination will be necessary.

Section 3 – Sub-Option: Signalized Intersection - Airport Parkway, Lime Kiln Road, Ethan Allen Drive and Shamrock Road

Due to its existing confusing geometry, and its anticipated future capacity needs this intersection was evaluated for reconfiguration and control. Alternatives evaluated were a signalized intersection and roundabout. The signalized intersection design will provide some traffic calming due to the intersection realignment, appropriate sight distances, and additional turning lanes.

Intersection Improvements

- Realign the intersection geometry to combine Ethan Allen Drive and Shamrock Road approaches.
- Provide a new traffic signal.

Order of Magnitude of Cost

$1.3 million - This construction cost includes improvements on the Airport Drive segment, the addition of the stated traffic signal, the realignment of the intersection geometry and the construction of a new shared use path.

Advantages

- Signalized intersection control is common and therefore familiar to the typical Vermont driver.
- Initial lower cost than a roundabout.
- Less construction and associated disturbance is required (than a roundabout).
- Intersection operation will be safer due to the geometry redesign of the existing intersection, providing greater sight distances and less confusion.

Disadvantages

- Higher long term cost compared to roundabouts due to the traffic signal maintenance required and equipment depreciation.
- A signalized intersection has more conflicting traffic movements (32 vs. 8 for a roundabout).
- A signalized intersection generally has lower capacity than the roundabout.
- Signalized intersections have the potential for drivers to run red lights.
- Vehicles can drive at higher speeds when the signal is on the green phase.
- Traffic noise levels, air pollution and vehicle fuel consumption increase with traffic signal installation.

Section 3 – Sub-Option: Roundabout Intersection - Airport Parkway, Lime Kiln Road, Ethan Allen Drive and Shamrock Road

A modern one lane roundabout at this intersection will allow continuous movement of traffic through the intersection at low speeds. Lower speeds typically result in greater efficiency and reduced accident rates. Modern roundabouts include these general characteristics:

- Vehicles entering a roundabout must yield to vehicles in the roundabout.
- The design of the roundabout lowers vehicle speeds to 15-20 miles per hour.
- All intersection legs are allowed to operate simultaneously, which increases the capacity of the intersection.

Bicyclists traveling in the roundabout need to merge into a roundabout lane at low speeds, which precludes cars from attempting to pass the bicycle.

Intersection Improvements

- Redesign the intersection geometry to combine Ethan Allen Drive and Shamrock Road approaches.
- Install a conventional one lane roundabout with four legs.

Order of Magnitude of Cost

$1.7 million - This construction cost includes improvements on the intersection approaches, the realignment of the intersection geometry, the construction of the roundabout and shared use path.

Photograph 8: Here, looking northbound is the existing Airport Parkway, Lime Kiln Road and Shamrock Road intersection, signalized. This intersection could be geometrically redesigned to accommodate a traffic signal or a modern roundabout.

Advantages

- Speed is always controlled.
- Creates and provides a visual and practical traffic calming approach
- Landscaped central islands provide improved aesthetics.
- Visual clutter is minimized due to no traffic signal equipment or overhead signal.
- A roundabout has a high vehicle capacity and thus delay is minimized.
- No operating costs associated with traffic signal maintenance and equipment costs.
- There is less pavement area in a roundabout intersection because fewer turning lanes are required for capacity.
- By reducing the number and duration of stops, a roundabout intersection reduces traffic noise levels, air pollution and vehicle fuel consumption.
- Fewer and less severe accidents are expected. Typically 51% fewer injury crashes, 37% fewer overall crashes than a signal (Roundabouts: An Informational Guide, June 2000).

Disadvantages

- Greater impact to wetlands and adjacent properties.
- Higher initial cost than a signalized intersection.
- There is low public acceptance before construction.
- Public education may be necessary for smooth transition and proper driver behavior.
- Traffic disruptions may be more significant during construction.
- The decision point for bicycles at the approach may be confusing.
- Trucks may be reluctant to use the truck apron.
- Does not have a protected pedestrian signal which may intimidate people with disabilities.
- Reduced opportunity for traffic gaps.

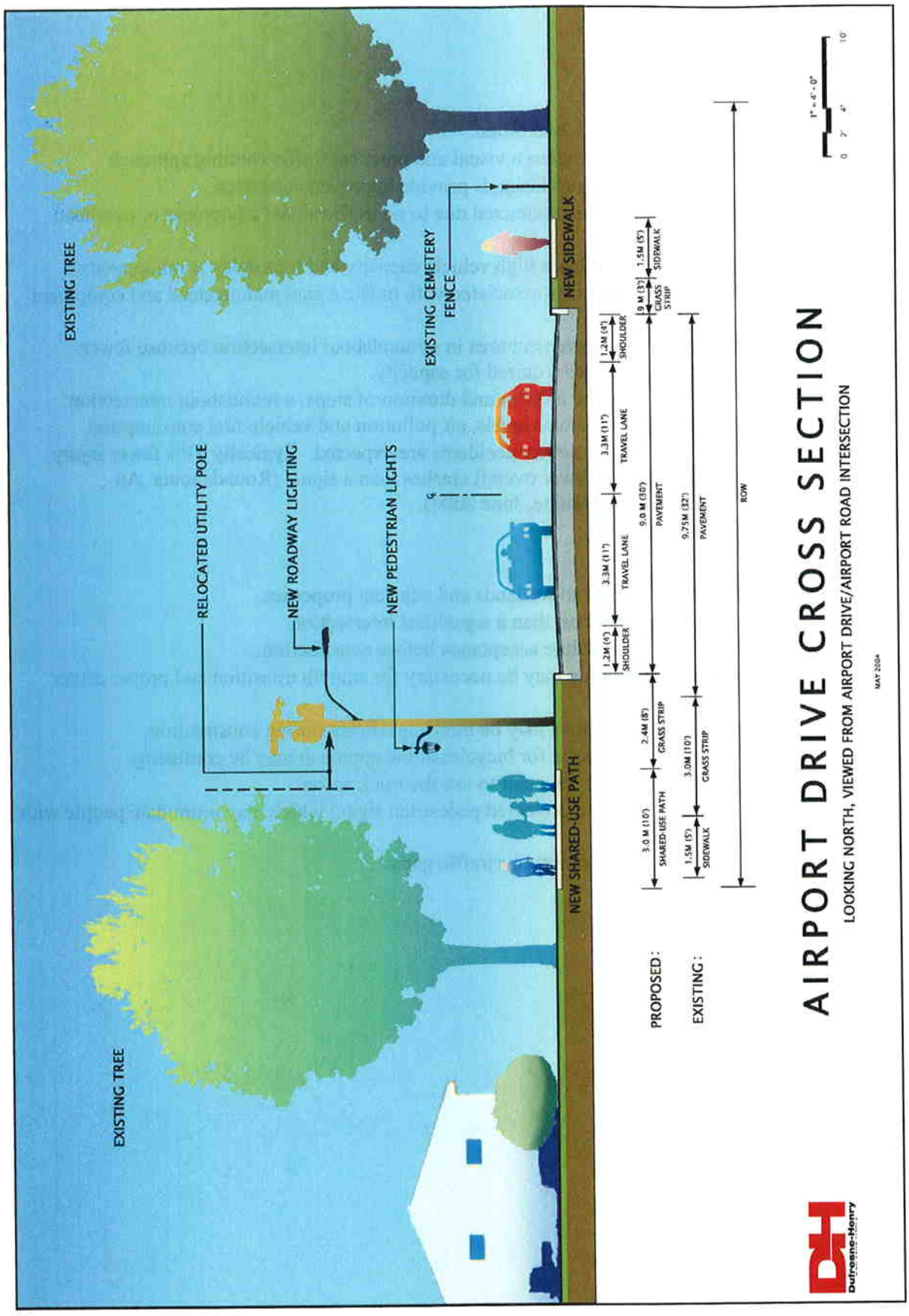


Figure 4: Airport Parkway Cross Section between Williston Road and White Street.

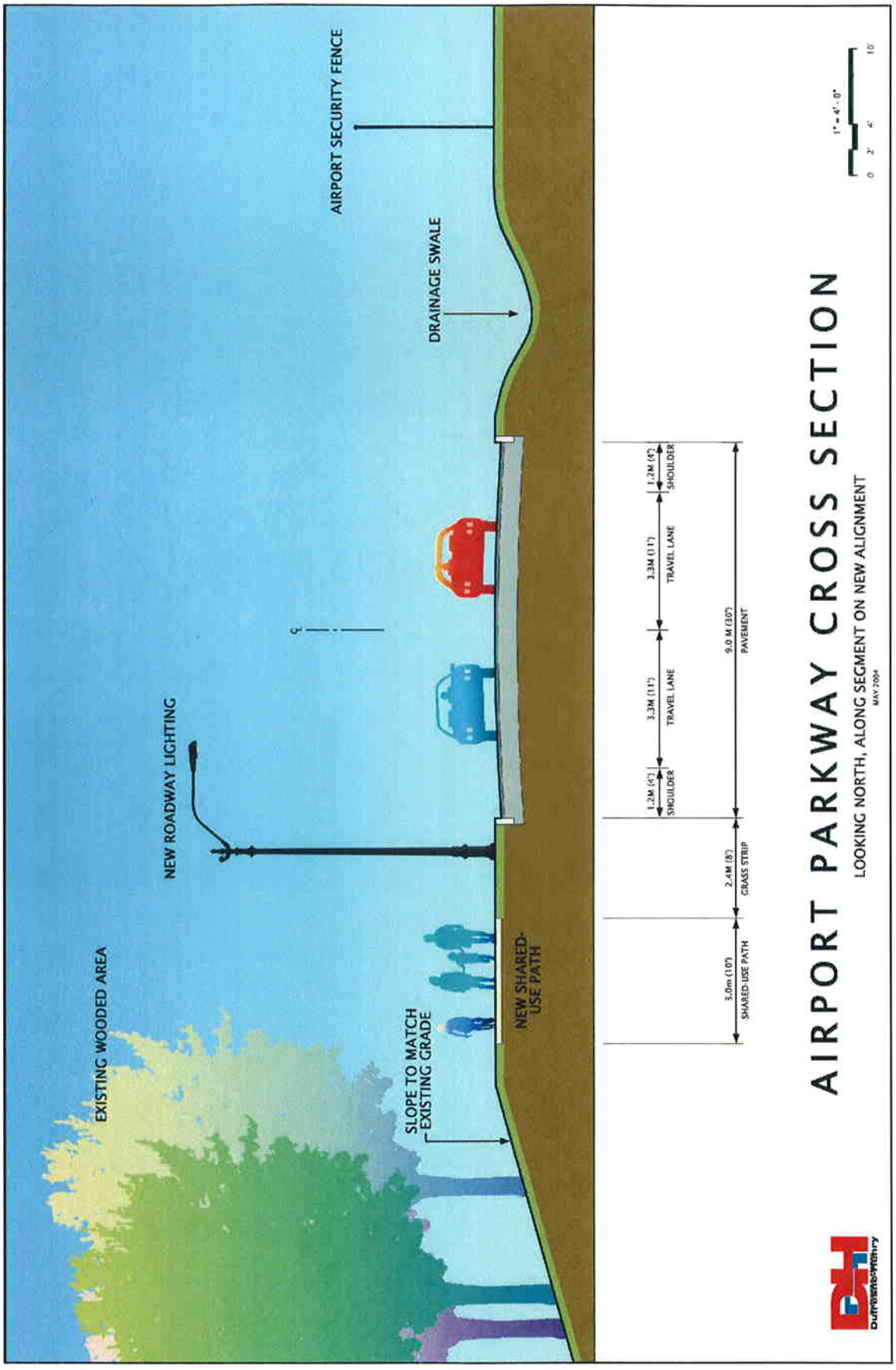


Figure 5: Airport Parkway Cross Section between Williston Road and White Street.

0 20 40 60 m

0 50 100 150 200 ft

NOTES

1. PROPERTY LINES WERE GENERATED FROM GIS FILES CONTAINING THE CITY TAX MAPS.
2. THE FOLLOWING SHOWN CONDITIONS ARE PROPOSED BY OTHERS AND ASSUMED TO BE COMPLETED BEFORE CONSTRUCTION OF THIS PROJECT:
   - BURLINGTON AIRPORT PARKING, LANDSCAPING AND ACCESS CIRCLE RENOVATIONS (SOURCE: BTV)
   - KENNEDY DRIVE IMPROVEMENTS (SOURCE: VTRANS)

LEGEND

- APPROXIMATE LIMIT OF WORK
- HIGHWAY / STREET R.O.W. LINE
- PROPERTY LINE
- EXISTING OR PROPOSED TRAFFIC SIGNAL
- TREE TO BE REPLACED OR TRANSPLANTED

Airport Drive / Airport Parkway Improvements Study
PL 03 (1) – 9

ALTERNATIVES ANALYSIS

SEGMENT 1:
AIRPORT DRIVE
WILLISTON ROAD TO WHITE STREET

PROPOSED IMPROVEMENTS:
- INTERSECTION CAPACITY IMPROVEMENTS
- CONSTRUCTION OF NEW PEDESTRIAN / BICYCLIST FACILITIES

CCMPO

Dufresne-Henry

0 20 40 60 m

0 50 100 150 200 ft

NOTES

1. PROPERTY LINES WERE GENERATED FROM GIS FILES CONTAINING THE CITY TAX MAPS.
2. WETLANDS DELINEATED BY WILLIAM COUNTERMAN AND ASSOCIATES.
3. THE FOLLOWING SHOWN CONDITIONS ARE PROPOSED BY OTHERS AND ASSUMED TO BE COMPLETED BEFORE CONSTRUCTION OF THIS PROJECT:
   - BURLINGTON AIRPORT PARKING, LANDSCAPING AND ACCESS CIRCLE RENOVATIONS (SOURCE: BTV)

LEGEND

- APPROXIMATE LIMIT OF WORK
- HIGHWAY / STREET R.O.W. LINE
- PROPERTY LINE
- BROOK OR OTHER WATER COURSE
- WETLAND LIMIT
- EXISTING OR PROPOSED TRAFFIC SIGNAL

Airport Drive / Airport Parkway Improvements Study
PL 03 (1) - 9

ALTERNATIVES ANALYSIS

ALTERNATIVE A:
INTERSECTION IMPROVEMENTS ALONG EXISTING ROADWAYS

SEGMENT 2:

WHITE STREET
AIRPORT DRIVE TO AIRPORT PARKWAY

AIRPORT PARKWAY
WHITE STREET TO
SOUTH BURLINGTON WWTP

PROPOSED IMPROVEMENTS:

- INTERSECTION CAPACITY IMPROVEMENTS
- CONSTRUCTION OF NEW SHARED USE PATH ALONG AIRPORT PARKWAY

CCMPO

DH Dufresne-Henry

NEW SIGNAL AT WHITE STREET / AIRPORT PARKWAY INTERSECTION

NEW NORTHBOUND LEFT-TURN LANE AT OLD AIRPORT PARKWAY / KIRBY ROAD INTERSECTION

ACCESS TO THESE (2) PROPERTIES WILL NEED TO BE RE-ESTABLISHED

CITY LANDFILL CLOSED

SOUTH BURLINGTON WWTP

BUDGET CAR RENTAL

EUROTECH

AIRPORT MAINTENANCE ROAD

TRAFFIC SIGNAL WOULD BE WARRANTED AT NEW AIRPORT PARKWAY / OLD AIRPORT PARKWAY INTERSECTION

WOODED AREA TO BE BISECTED BY NEW AIRPORT PARKWAY

NEW AIRPORT PARKWAY CROSS SECTION
2 - 3.3 m (11') TRAVEL LANES
2 - 1.2 m (4') SHOULDERS
SB SIDE: 2.4 m (8') GRASS STRIP
3.0 m (10') MULTI-USE PATH

WETLAND AREA TO BE IMPACTED

(11) TREES TO BE IMPACTED (NORTH OF WHITE STREET

WHITE STREET

HANOVER STREET

AIRPORT PARKWAY

KIRBY ROAD

HOWARD STREET

HARPER TERRACE

PETERSON TERRACE

N. HENRY COURT

S. HENRY COURT

DUMONT AVENUE

DELAWARE STREET

AIRPORT TAXIWAY

0 20 40 60 m

0 50 100 150 200 ft

NOTES

1. PROPERTY LINES WERE GENERATED FROM GIS FILES CONTAINING THE CITY TAX MAPS.
2. WETLANDS DELINEATED BY WILLIAM COUNTRYMAN AND ASSOCIATES.
3. THE FOLLOWING SHOWN CONDITIONS ARE PROPOSED BY OTHERS AND ASSUMED TO BE COMPLETED BEFORE CONSTRUCTION OF THIS PROJECT:
   - BURLINGTON AIRPORT PARKING, LANDSCAPING AND ACCESS CIRCLE RENOVATIONS (SOURCE: BTV)

LEGEND

- APPROXIMATE LIMIT OF WORK
- HIGHWAY / STREET R.O.W. LINE
- PROPERTY LINE
- BROOK OR OTHER WATER COURSE
- WETLAND LIMIT
- EXISTING OR PROPOSED TRAFFIC SIGNAL
- TREE TO BE REPLACED OR TRANSPLANTED
- PAVEMENT TO BE REMOVED
- PROPERTY IS CURRENTLY OWNED BY BUSLINGTON INTERNATIONAL AIRPORT
- PROPERTY IS ELIGIBLE FOR VOLUNTARY SALE TO BURLINGTON INT'L AIRPORT (PLEASE CONTACT THE ENGINEERING AND DEVELOPMENT OFFICE FOR MORE INFORMATION.)

Airport Drive / Airport Parkway Improvements Study
PL 03 (1) - 9

ALTERNATIVES ANALYSIS

ALTERNATIVE B:
NEW CONNECTOR ROADWAY BETWEEN AIRPORT DRIVE AND AIRPORT PARKWAY

SEGMENT 2:

AIRPORT PARKWAY
WHITE STREET TO
SOUTH BURLINGTON WWTP

PROPOSED IMPROVEMENTS:

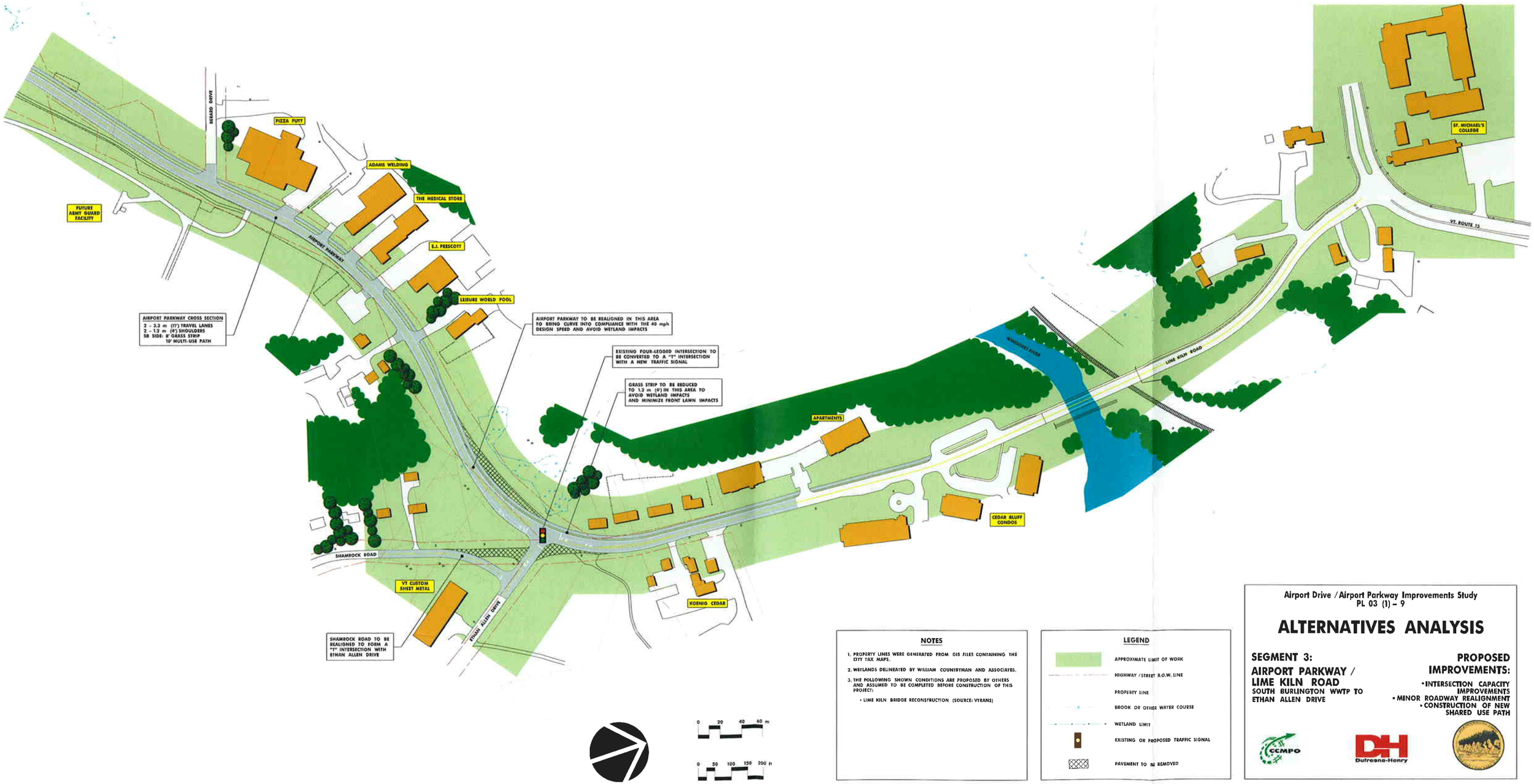
- INTERSECTION CAPACITY IMPROVEMENTS
- CONSTRUCTION OF NEW CONNECTOR ROADWAY AND SHARED USE PATH

CCMPO

Dufresne-Henry

ROUNDABOUT ADVANTAGES:

- REDUCED NUMBER OF CONFLICT POINTS AND SLOWER SPEEDS INCREASES SAFETY
- LOWER MAINTENANCE COSTS THAN SIGNALIZED INTERSECTIONS
- LANDSCAPED CENTRAL ISLANDS PROVIDE IMPROVED AESTHETICS; REDUCED DELAYS CORRESPONDS TO A DECREASE IN FUEL CONSUMPTION AND AIR POLLUTION



NOTES

1. PROPERTY LINES WERE GENERATED FROM GIS FILES CONTAINING THE CITY TAX MAPS.
2. WETLANDS DELINEATED BY WILLIAM COUNTRYMAN AND ASSOCIATES.
3. THE FOLLOWING SHOWN CONDITIONS ARE PROPOSED BY OTHERS AND ASSUMED TO BE COMPLETED BEFORE CONSTRUCTION OF THIS PROJECT:
   - LIME KILN BRIDGE RECONSTRUCTION (SOURCE: VTRANS)

LEGEND

- APPROXIMATE LIMIT OF WORK
- HIGHWAY / STREET R.O.W. LINE
- PROPERTY LINE
- BROOK OR OTHER WATER COURSE
- WETLAND LIMIT
- EXISTING OR PROPOSED TRAFFIC SIGNAL
- PAVEMENT TO BE REMOVED

Airport Drive / Airport Parkway Improvements Study
PL 03 (1) – 9

ALTERNATIVES ANALYSIS

SEGMENT 3:
AIRPORT PARKWAY / LIME KILN ROAD
SOUTH BURLINGTON WWTP TO ETHAN ALLEN DRIVE

PROPOSED IMPROVEMENTS:
- INTERSECTION CAPACITY IMPROVEMENTS
- MINOR ROADWAY REALIGNMENT
- CONSTRUCTION OF NEW SHARED USE PATH

CCMPO
Dufresne-Henry

Evaluation Matrices

The future intersection improvement design process will encounter the need for various permits and applications as well as various funding sources. This matrix table, on the following page, summarizes the various impacts expected for the given alternatives (build and no-build) and the intersection sub-options at Shamrock and Ethan Allen Road.

Airport Drive and Parkway Evaluation Matrix

		CORRIDOR		ETHAN ALLEN / SHAMROCK INTERSECTION	
		ALT A	ALT B	SUB - OPTIONS	
		Existing Geometry	New Segment & Intersection Improvements	Signalized Alternative	Roundabout Alternative
Cost	~ Estimated Cost ~	$7.1 mil	$9.9 mil	$1.3 mil	$1.7 mil
Impacts	Agricultural	No	No	No	No
	Archaeological	Sensitive	Sensitive	Sensitive	Sensitive
	Historic Structures, Sites and Districts	None	None	None	None
	Hazardous Materials	No	No	No	No
	Floodplain	No	No	No	No
	Fish and Wildlife	No Sig. Change	No Sig. Change	No Sig. Change	No Sig. Change
	Rare, Threatened and Endangered Species	No	No	No	No
	Public Lands - Section 4(f)	No	No	No	No
	LWCF - Section 6(f)	No	No	No	No
	Noise	Same	Reduced	Increase	Increase
	Wetlands	No	Yes	Yes	Yes
Local and Regional Issues	Right-of-way	Yes	Yes	Yes	Yes
	Satisfies Local Concerns	No	Yes	Yes	Yes
	Enhanced Community Character	No	Yes	Yes	Yes
	Economic Impacts	Same	Positive	Positive	Positive
	Conformance to Regional Transp. Plan	No	Yes	Yes	Yes
	Provides Traffic Calming	Yes	Yes	No	Yes
	Satisfies Purpose and Need Statement	No	Yes	Yes	Yes
Permits	VTrans Access Permit	No	No	No	No
	Act 250	No	Yes	Yes	Yes
	401 Water Quality	Yes	Yes	Yes	Yes
	404 COE Permit	No	Yes	Yes	Yes
	Stream Alteration	No	No	No	No
	Conditional Use Determination	No	Yes	Yes	Yes
	Stormwater Discharge	Yes	Yes	Yes	Yes
	Lakes and Ponds	No	No	No	No
	SHPO (Historic and Archaeological)	Yes	Yes	Yes	Yes
Engineering	Typical Section	10' shared use path, 8' green belt, 4' shoulder, 11' lanes, 5' sidewalk	10' shared use path, 8' green belt, 4' shoulder, 11' lanes, 5' sidewalk	See plan.	See plan.
	Traffic Safety	Enhanced	Enhanced	Enhanced	Enhanced
	Bicycle/Pedestrian Access	Enhanced	Enhanced	Enhanced	Compre-hensive
	Curbs	Yes	Yes	Yes	Yes
	Drainage Improvements	Yes	Yes	Yes	Yes

Table 5: Evaluation Matrix for Project Alternatives.

Public Meetings

Dufresne-Henry held two public meetings in association with this study that focused on the local concerns and the corridor alternatives. One meeting was held in October, 1999 and a second meeting was held in June, 2004.

Public Local Concerns Meeting – October 25, 1999

The Local Concerns Meeting focused on identifying local concerns from the community. Questions that were raised from this meeting are summarized as follows:

- When will anything happen?
- Are private homes being taken to do this project? By whom?
- How wide will the road be?
- What is being done about truck traffic in our neighborhoods?
- Will there be bicycle access?
- When will the Shamrock Road intersection be fixed.
- Does this coordinate with the Lime Kiln Bridge replacement?
- Was access to driveways considered? (signals and narrowing?)
- Was traffic calming, narrowing and signals coordinated to 25 mph, considered?

Complete meeting minutes are located in the Appendix. Due to the extensive concerns and lack of a published Airport Master Plan confirming its access would remain on Airport Drive, the project was put on hold. The CCMPO conducted an Airport Access study confirming the existing access on Airport Drive. The scoping study resumed in 2003. The public alternatives meeting following this local concerns meeting in June 2004, addressed these questions in the presentation of the three project alternatives.

Public Alternatives Presentation - June 10, 2004

The alternatives presentation focused on identifying a preferred corridor alignment for the Airport Drive - Airport Parkway corridor. The City of South Burlington presented an overview of the project history and outlined the purpose of the meeting. Dufresne-Henry provided details on the two proposed corridor alternatives. The meeting was attended by approximately 65 residents near the Burlington International Airport, local citizens from the area, and local government officials at the Chamberlain School. The purpose of the local concerns meeting was to gather a public opinion and to identify their preferred alternative. Generally, attendees where concerned with the acquisition of homes required by Alternative B. After learning

these acquisitions were part of a separate Airport program and would be acquired eventually, many supported Alternative B. The roundabout intersection alternative at Airport Parkway/Lime Kiln Road/Ethan Allen Drive/Shamrock Road was not strongly supported by the public. Minutes from this meeting are included in the Appendix. Minutes from meetings prior to this with the Steering Committee are also located in the Appendix.

Draft Conclusions and Recommendations

Alternative B – Build Connector has been identified as the preferred alternative because it improves the link from US Route 2 to VT Route 15, addressing traffic impacts on local neighborhoods and providing pedestrian and bicycle connections. The building of this new road will reduce the volume of traffic on neighborhood roads, provide intersection safety and performance for future years, maintain existing Airport Access by providing adequate capacity, and provide bicycle and pedestrian facilities in the area. The preferred alternative of the Ethan Allen Drive/Shamrock Road intersection is the signalized intersection.

The proposed alignment outlined in this report was designed with the understanding that the Airport's acquisition plans will occur. The significant properties the Airport stated they desire to purchase are highlighted in color on the conceptual plans. The acquisition of these properties will occur due to noise mitigation from the Airport, regardless of this project.

The public who attended the Alternatives Meeting held on June 10, 2004 were in favor of building the new roadway alignment, Alternative B (Build Connector). The roundabout alternative of Ethan Allen Drive/Shamrock Road was not strongly supported.

The City Council met on September 20, 2004 to discuss and make a final decision regarding which project alternative will advance to the next project phase. The City Council made a motion to, "Support the preferred alternative and to have that reflected in the final report. Mr. Smith seconded. Motion passed unanimously." Alternative B, building the connector road, will be advanced to future stages of project development.

Appendix Summary

Appendix A: Meeting Minutes
Local Concerns Meeting, October 25, 1999
Steering Committee Meeting Minutes, #1 August 8, 2003
Steering Committee Meeting Minutes, #2 January 26, 2004
Steering Committee Meeting Minutes, #3 March 8, 2004
Steering Committee Meeting Minutes, #4 April 12, 2004
Public Meeting Minutes, CCMPO, June 10, 2004
Attendance at Public Meeting, June 10, 2004
City Council Meeting Minutes, Airport Drive/Airport Parkway Study Presentation, September 20, 2004

Appendix B: Correspondence
Memo: M. Smith to Steering Committee Members, Segment Volumes, 3-31-04
Memo: M. Smith to B. McEwing, Status Report, 5-25-04

Appendix C: Resources
Stormwater Impaired Watersheds: Centennial Brook and Potash Brook
South Burlington Hazardous Sites adjacent to project area, April 2004
South Burlington and Colchester Land & Water Conservation Fund Projects (LWCF), Spring 2004
Archeological Resources Assessment, Werner Archeological Consulting, July 2000
Archeological Resources Assessment Update, Werner Archeological Consulting, November 29, 2004
Environmental Assessment, William D. Countryman, June 12, 2000
Environmental Assessment Letter Report, William D. Countryman, November 18, 2004
Corps of Engineers, Letter from Michael S. Adams, October 21, 1999
Department of Agriculture, Food and Markets, Letter from Christopher White, October 28, 1999
Winooski Valley Park District, Letter from Jennifer Ely, September 22, 1999
Agency of Natural Resources, Jon Groveman Comments, Act 250 Review Committee, February 4, 1999

Appendix D: Traffic
Existing Condition: Intersections #1-10
Traffic Volumes Summary, 2008 DHV, Tables #1-10
VTrans General 5 Year Summaries Information, Accident Data from 1-1-98 to 12-31-02
- -Williston Road Intersection with Airport Drive (Rt2 at Mile Marker 1.9)
- -Rt 15 Intersection with Lime Kiln Road (at Mile Marker 0.38)
- -Airport Drive, Airport Parkway and White Street
- -South Burlington Town Highway Crash Summary
- -Lime Kiln Road Summary

Mile Markers from Route Logs and VTrans
Traffic volumes from the Chittenden County Transportation Model

Appendix E: Conceptual Cost Estimates
Assumptions for Conceptual Cost Estimate 6-3-2004
Conceptual Cost Estimate Alternatives Cost Summary and Items of Work, November 30, 2004

Appendix A – Meeting Minutes

Airport Drive/Airport Parkway Improvements
Scoping Study
South Burlington, Vermont

Meeting Minutes

Dufresne-Henry, Inc.
P.O. Box 2246
South Burlington, VT 05407
802-864-0223 Fax: 802-864-0165
e-mail: Christopher.Pecor@dhburlington.com

Meeting: Local Concerns Meeting
Meeting Date: 10/25/99
D-H Project No.: 6390001.01

Local Concerns Meeting					
Date	Start	End	Next Meeting	Next Time	Prepared by
10/25/99	7:00 p.m.	8:45 p.m.	N/A	N/A	Chris Pecor

Attended By	Copies To
See attached list	Attendees

If content contained within is not complete, accurate, or in context, please notify Chris Pecor of such discrepancy in writing within ten (10) days of this record.

Item	Summary of Meeting
1	Introduction/Project History/Meeting Purpose: Christine Forde from the CCMPO began the meeting by discussing the role of the CCMPO. CCMPO is a federally mandated organization that=s responsible for coordinating the use of federal transportation funds in Chittenden County. CCMPO is made up of representatives from each of the 18 municipalities in the County as well as the Agency of Transportation, the Regional Planning Commission, CCTA and Burlington International Airport. The purpose of this meeting is to discuss a project that has been brought forward by the City of South Burlington for improvements to the Airport Drive/Airport Parkway corridor. This project been included in South Burlington=s master plan for many years. Among the goals of this project are to reduce the impacts of through traffic in the residential areas along Airport Drive, Airport Parkway and White Street, improve access to the airport and improve bicycle and pedestrian facilities.
2	VTrans Scoping Process: Chris Pecor, from the consulting firm Dufresne-Henry, spoke about the general phases of the project development process which begins with the Scoping, or Project Definition Phase. The second step of the development process is the design phase which will begin following the Scoping Phase. Upon completion of the design the project will go to construction. The project development process can take many years and this Scoping process is just the beginning. Mr. Pecor then discussed the Scoping Process in more detail. The first part of the Scoping Process is the information collection phase which includes collecting traffic studies which may be relevant to the area, regional planning that may have been done along with local planning such as the South Burlington Comprehensive Plan, Alternative Transportation Paths Plan, The Burlington Airport Master Plan and in this case the Lime Kiln Bridge project. The conclusion of the collection phase is marked by this Local Concerns Meeting. The purpose of the meeting is to gather information and foster a working relationship with the local community. Based on the information received at the meeting the second part of the Scoping Process will be formulated. This includes the development of the Purpose and Need Statement. The Purpose and Need Statement will discuss the problems that currently exist within the corridor and define the need for improvements. The third part of the Scoping Process is to prepare an Initial Scoping Report (ISR). This phase includes identification of resources (ie: Wetlands, Flood Plains, etc.), development of different alternatives including a Ano-build@ alternative which is always a possibility. The alternatives will be evaluated using an evaluation matrix and that information will be presented at an Alternatives Presentation Meeting which is scheduled to happen some time in the Spring of 2000. D-H is hopeful that we will be able to develop consensus in order to select a preferred alternative at the Alternatives Presentation Meeting, if so the ISR will be prepared and presented for review by various agencies within the department, the local and regional planning organizations and the public. The final portion of the Scoping Process is to take any comments that may be received from various state, regional and local agencies along with public concerns and address those comments and concerns to put together a Final Scoping Report (FSR). The FSR will be submitted with Conceptual Plans of the preferred alternative at the completion of this project.
3	Existing Conditions/Public Comment: A. General: The public that turned out for the Local Concerns Meeting had a preconceived notion that the Scoping Report had already been completed and that alternatives had already been decided. This was due, in part, to an article in South Burlington=s local newspaper the AOther Paper@. This article stated that the Scoping Study had been completed and the results were going to be presented at this meeting. Greg Edwards from Dufresne-Henry assured the public in attendance that the Scoping Report has NOT

Item	Summary of Meeting
	been completed and that we are in the very early stages of the Scoping Study. The residents in attendance seem to think the airport has already dictated the widening of Airport Drive to four lane and an extension of Airport Drive from the intersection of Airport Drive and White Street to Airport Parkway near the end of the North runway. Mr. Edwards explained that this was not the case. The contract with the CCMPO calls for D-H to look at the potential for the extension of Airport Drive as well as the widening of Airport Drive south of White Street, but any recommendation to construct any of those alternatives will be based on traffic studies and technical analysis which D-H is preparing at this time. B. Users, Activities and Needs: The predominant use for this corridor was pointed out to be as a commuter route for through traffic from the Winooski/Colchester area southbound to the Williston Road/South Burlington area as well as the reverse. Other uses include residential for the area along Airport Drive, White Street and Airport Parkway and commercial destination use by trucks, sometimes heavy trucks, onto Berard Drive and into Ethan Allen Drive. Safety and rescue vehicles also use this corridor. C. Safety Concerns: 1. Driveway access on Airport Drive during peak hours. 2. The White Street/Airport Parkway Intersection. Request to consider a stop sign along White Street. 3. High speeds on White Street, and northbound along Airport Parkway. Budget Rent-A-Car was noted as an offender of exceeding the speed limit. Airport Drive also has high speeds. 4. The intersection across from the Control Tower Access Road was noted as very high use and difficult to access by the traffic coming from the western road. 5. Dumont Drive is frequently used as a bypass for the White Street/Airport Parkway intersection. The additional traffic is creating a safety concern for these residents. D. Possible Alternate Routes: 1. Access to the Airport from Williston Road via a frontage road or access from Williston Road along the southeast side of the Airport. 2. Access to the Airport from the north using the proposed alternative directly into the airport thereby bypassing Airport Drive. 3. From Williston Road near Pete=s RV Center. 4. From Ethan Allen Drive along River Road and eventually connecting to Poor Farm Road in Williston. 5. Another comment regarding additional alternatives included offsite long-term parking away from the airport in order to reduce traffic in and around the airport and generate revenue for the City of South Burlington. 6. Another resident requested that the Scoping Team look at potential low cost short term such as stop signs, left turn lanes, signal improvements that would help alleviate some of the safety concerns mentioned in the meeting in addition to the long-term plan for this corridor. E. Schedule/Next Steps: Mr. Edwards reviewed the plan to proceed with the project which may include a working session with the CCMPO, the City of South Burlington, Burlington International Airport, The Vermont Agency of Transportation and members of the public to convene prior to the Alternatives Presentation Meeting which is scheduled for Spring of 2000. The working session was suggested to be used to get into the details of the traffic analysis, intersection analysis, airport master planning as well as regional and local master planning. The working session would be conducted some time in February 2000 and members of the public who would like to participate in the working session are invited to contact Chris Pecor at Dufresne-Henry. The Final Scoping Report (FSR) is scheduled to be presented in the Fall of 2000.
4	Other Comments/Concerns: A. The traffic study should include the affect the new airline may have on ridership for the airport. B. It was suggested that the bike path link from VT Route 15 to Williston Road potentially be included into this project. C. Some property owners were concerned with housing values being reduced by having a roadway in front and behind their homes. These residents live along Airport Parkway just south of Budget Rent-A-Car and North of Kirby Lane. D. It was noted that the Lime Kiln Bridge may be completed as early as the year 2001. Discussions with VTrans has confirmed that the proposed start of construction will be 2003 with completion by 2004. E. Attendees expressed concern with lack of knowledge regarding the Burlington International Airport=s long term plans. F. It was noted that if Airport Drive was to be changed to four lanes that all the homes along Airport Drive would have to be purchased by the airport and this would reduce the already low percentage of affordable housing in South Burlington. G. It was suggested by a member of the public that traffic will increase along Airport Drive if the alternative which bypasses White Street and Airport Parkway is constructed. D-H will review the traffic data and make a recommendation regarding this question.
	Meeting was concluded at approximately 8:45 p.m. and everyone who attended a meeting will receive a copy of the minutes. D-H and the CCMPO sincerely appreciate the turnout for the Public Concerns Meeting.

Airport Drive/ Airport Parkway Corridor Scoping

Meeting Minutes

Dufresne-Henry, Inc.
55 Green Mountain Drive, P.O. Box 2246
South Burlington, Vermont 05407
Tel: 802-864-0223 Fax: 802-864-0165
e-mail: firstinitial.lastname@dufresne-henry.com

Meeting: **Steering Committee Meeting #1**
Meeting Date: August 8, 2003
Project No.: 6320020.01

Team Meeting					
Date	Start	End	Next Meeting	Next Time	Prepared by
08/08/03	10:00 am	11:30 pm	~2ND Week of Dec	TBD	Mark Smith

Attended By		Copies To
CCMPO:	Christine Forde	ALL ATTENDEES
VTrans:	Bob Shattuck	
S. Burl:	Sonny Audette, Juli Beth Hoover, Jim Condos, Chuck Hafter	
BTV:	Bob McEwing	
DH:	Chris Pecor, Mark Smith	

If content contained within is not complete, accurate, or in context, please notify Dufresne-Henry of such discrepancy within ten (10) days of this record.

Item	Summary of Meeting
1	GENERAL: • project is to include the entire corridor from Rte 2 to Rte 15, including the bridge. • no changes to the Rte 15 intersection need to be examined, however. • result will be a 20 year corridor master plan with recommendations that can be implemented piece by piece, as needed, or as can be funded. •
2	TRAFFIC MODEL: • recent zoning changes in SB will not affect outcome of traffic model • assumptions – should reflect what's in the 25 yr MTP: – YES CCCH section A-B & G-H complete-interstate to interstate – NOT CCCH section I-J – YES I-89 exit 12b (Rte 116) – NOT widening of I-89 exit 12-15 – NOT completion of exit 13 (I-189/Kennedy) – NOT completion of exit 15 (Winooski) • development in S. Burlington to include: – 500 resident units on Poor Farm Rd (between Kimble & Rte. 116) – 500 units at City Center – City Center connection to 116

	• BTV exit should be located at White Street (BTV "10 year plan") • do not prevent turning/proceeding down White St – but it should be discouraged with signing. • check to make sure that the 5 condo blds. at Lime Kiln Bridge are included
3	BTV PLANS: • S Development project traffic should be included • Army Guard Blackhawk facility should be included – access at Shamrock
4	ROADWAY SECTIONS • Airport Drive – a median island (boulevard) is too speculative at this point – do not include – the planned 80 ft ROW will easily accommodate this if ever needed – show current curbed section with sidewalks on both sides • New Connector and Airport Parkway – curbed section with shoulders and separate shared use path on west side – consider pull off on east side with viewing area for airport runway.
5	INTERSECTIONS: • Roundabouts should be considered (as well as convention types of intersections(
6	PUBLIC MEETING: • Important to focus on connector • Strive to get a more regional audience
7	SCHEDULE • Goal is for next steering committee meeting in the second week of December • Public meeting in early January

end meeting minutes

Airport Drive/ Airport Parkway
CCMPO - Corridor Scoping

Meeting Minutes

Dufresne-Henry, Inc.
55 Green Mountain Drive, P.O. Box 2246
South Burlington, Vermont 05407
Tel: 802-864-0223 Fax: 802-864-0165
e-mail: firstinitial.lastname@dufresne-henry.com

Meeting: **Steering Committee Meeting # 02**
Meeting Date: **January 26, 2004**
Project No.: **6320020.01**

Team Meeting					
Date	Start	End	Next Meeting	Next Time	Prepared by:
01-26-04	1:00 PM	2:30 PM	TBA	TBA	Mark Smith

Attended By		Copies To
CCMPO:	Christine Forde	All Attendees
VTrans:	Bob Shattuck	
S. Burl:	Sonny Audette, Juli Beth Hoover, Jim Condos, Chuck Hafter, Bruce Hoar	
BTV:	Heather Kendrew	
DH:	Chris Pecor, Mark Smith, Greg Edwards	

If content contained within is not complete, accurate, or in context, please notify Dufresne-Henry of such discrepancy within ten (10) days of this record.

Item	Summary of Meeting Items Discussed
1	**Project Goals:** • Finish scoping end of summer / early fall • Get project on TIP • Purpose of this meeting is to show Steering Committee what the traffic volume projections and analysis is showing for needed improvements, and verify it meets the goals. • Review purpose and need
2	**Verify appropriate road cross-section:** • City wants to connect Kennedy Drive bike path to new roadway and Lime Kiln Bridge. This would require a 10 ft path, most likely on the west side of Airport Drive • Highway Dept. wants 6 ft. min., 8 ft. preferred green strips, if possible. • Existing sidewalk is close to west side of existing 66 ft ROW

2 cont.	• [DH to verify fit, and possibility of narrower shoulders than 4 feet] *NOTE: minor urban arterial with a design speed of 30 mph or greater and a Design Hour Volume > 400 vph requires a minimum shoulder width of 4 ft. [Vt. State Standards, pg. 42]*
3	**Reviewed traffic model results & intersection improvements:** • New turn lanes required: a. South approach to Williston Rd b. Double left out of Airport (need 2 receiving lanes) c. South approach to Kirby on Airport Parkway d. All approaches to Ethan Allen • New traffic signals required at: a. Airport Rd. b. White St. / Airport Pkwy c. Airport exit / White St. d. Connector rd. & old Airport Pkwy. e. Ethan Allen / Shamrock • City concerned that BTV exit at White Street may put too many cars on White St. The Committee agreed this is not an issue to be decided now, but in the future when/if the Airport proposes it. • Presentation should include a diagram indicating the level of traffic on each road segment (particularly White St.) *[NOTE: existing exit traffic is 76% left 24% right. Estimated 2028 traffic with connector would be 63% left, 18% thru, 19% right, thus the use of White St would go down with the connector]* • City does not prefer roundabout at Ethan Allen. Present to public, but no need to study further. Signal appears workable, thus preferable. [DH to check for impacts to sheet metal business on Ethan Allen, due to Shamrock realignment]

3 cont.	Questions: • Were the new Air Guard Blackhawk facility trips included in model? Yes. • Did analysis include the latest CCMPO Rte 15 analysis that shows 2 left turns off of Rte 15 onto Lime Kiln? The RSG analysis used the model developed by CCMPO, however we did not look at necessary improvements on Rte 15. • Was vertical alignment taken into account in design at Ethan Allen/Shamrock? The roundabout design was done in 3D, and would be worst case. Approaches to intersection were made relatively flat, but resulting road grades are as much as 10% beyond that.
4	**Review alternative connector alignments:** • Airport may have issue with closer alternative if taxiway needs widening in future. [DH to request specific setback in area of concern.] • After reviewing Airports acquisition plans it may be best to tie in to the old alignment south of Budget Rental Car lot. [DH to indicate which properties are being acquired or planned to be acquired on plans.] •
5	**New intersection with connector and existing Airport Pkwy:** BTV has acquired properties between Kirby and Budget Rental to north (east side). Use this area for connection to minimize cost.
6	**Cross-section issues due to widening:** • Parking at Airport Deli – maintain, but reduce to less than 10 spaces, only enough to accommodate business. • Widening required for 4 foot shoulder where turn lanes exist or are required: a. north approach to Williston Road b. at airport Entrance c. south approach to White St / airport exit • [DH to check if 4 ft is necessary – see #2 above] • Bus stops – on Airport Rd and at BTV Terminal, none on Airport Dr [DH to confirm]

CCMPO - Airport Drive / Parkway
PL 03 (1) – 9 CCMPO

Meeting Minutes

Dufresne-Henry, Inc.
55 Green Mountain Drive, P.O. Box 2246
South Burlington, Vermont 05407
Tel: 802-864-0223 Fax: 802-864-0165
e-mail: firstinitial.lastname@dufresne-henry.com

Meeting: **Steering Committee Mtg Minutes #3**
Meeting Date: **03-08-04**
Project No.: **6320020.01**

Team Meeting					
Date	Start	End	Next Meeting	Next Time	Prepared by
03-08-04	1:00 PM	2:30 PM	04-12-04	1:00 PM	Mark Smith

Attended By	Copies To
Christine Forde, CCMPO Peter Keating, CCMPO Chuck Hafter, SB – City Manager Sonny Audette, SB – State Representative Brian Robertson, SB – Associate Planner Bruce Hoar, SB – Public Works Bob Shattuck, VTrans – Roadway Program Manager Bob McEwing, BTV Heather Kendrew, BTV Mark Smith, DH Greg Roy, DH	All attending Greg Edwards, DH Juli Beth Hoover, SB Jim Condos, SB

If content contained within is not complete, accurate, or in context, please notify Dufresne-Henry of such discrepancy within ten (10) days of this record.

Item	Summary of Meeting Items Discussed
1	**Purpose** of meeting is to review presentation plans per the input from the steering committee on January 26, 2004.
2	**Review volume diagram:** Existing ADT volume on Airport Parkway (segment 7-8) seems low (5100 vpd). DH will review and revise, if necessary. What would volumes be if old Airport Parkway dead ends north of Kirby? City is concerned about cars traveling south that want to cut through to Patchen Rd / Hinesburg Rd / Rte 2 intersection. Possibly adds traffic to White St. [DH to submit an estimate to perform additional traffic modeling.]

3	**Review cross-sections:** Lighting - city prefers "cobrahead" lights in green strip between the path and roadway north of White St. Pedestal or special lighting for path is not required. BTV noted that aircraft traffic is very sensitive to ground lighting pattern changes, and these should be reviewed in detail from an aviation perspective in final design. Lighting south of White St. could be period type lighting, but attached to power poles.
4	**Review Plans:** Property impacts: Current alignment of new road impacts as few residences as possible. BTV is concerned that new alignment will cut off property that they plan to acquire, negating incentive for them to acquire these properties. Thus BTV does not support this alignment. BTV prefers an alignment that maximizes their use of the properties they intend to acquire. DH will develop an alternative alignment that addresses this issue, but does not impact any more properties that those identified by BTV as eligible for purchase. [DH to submit an estimate to perform alternative analyses.] **Note that the steering committee must eventually identify a preferred alternative. Typically, a preferred alternative reflects a balance between cost and minimization of impacts on properties and resources.** Bike path on Airport Drive is not desired in the "no-connector" alternative. Southern end of bike path is at Kirby for this alternative. Northern path end is at the parking lot near the Lime Kiln Bridge – west side.
5	**Public Meeting:** No public meeting will be scheduled until the decision to connect old Airport Parkway (or not) is made.
6	**Next Meeting:** April 12, 1 pm to review findings of DH's additional traffic analysis and alternative roadway alignment.

3	**Review cross-sections:** Lighting - city prefers "cobrahead" lights in green strip between the path and roadway north of White St. Pedestal or special lighting for path is not required. BTV noted that aircraft traffic is very sensitive to ground lighting pattern changes, and these should be reviewed in detail from an aviation perspective in final design. Lighting south of White St. could be period type lighting, but attached to power poles.
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5	**Public Meeting:** No public meeting will be scheduled until the decision to connect old Airport Parkway (or not) is made.
6	**Next Meeting:** April 12, 1 pm to review findings of DH's additional traffic analysis and alternative roadway alignment.

CCMPO - Airport Drive / Parkway
PL 03 (1) – 9 CCMPO

Meeting Minutes

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Tel: 802-864-0223 Fax: 802-864-0165
e-mail: firstinitial.lastname@dufresne-henry.com

Meeting: **Steering Committee Meeting Minutes #4**
Meeting Date: **4-12-04**
Project No.: **6320020.01**

Team Meeting					
Date	Start	End	Next Meeting	Next Time	Prepared By
4-12-04	1:00 PM	2:30 PM	TBA	TBA	Mark Smith

Attended By	Copies To
Christine Forde, CCMPO Peter Keating, CCMPO Bruce Hoar, SB – Public Works Mark Smith, DH Greg Edwards, DH Juli Beth Hoover, SB – Director of P&Z	All attending Jim Condos, SB – City Council Chuck Hafter, SB – City Manager Sonny Audette, SB – State Representative Bob Shattuck, VTrans – Roadway Program Manager Bob McEwing, BTV Heather Kendrew, BTV

If content contained within is not complete, accurate, or in context, please notify Dufresne-Henry of such discrepancy within ten (10) days of this record.

Item	Summary of Meeting
Items Discussed	
1	**Purpose** of meeting is to review the results of the new traffic simulation and a new alignment alternative.
2	**Reviewed the revised Roadway Segment Volume diagram** which reflects Airport Parkway as a dead end street north of Kirby Rd: Results indicate that while Airport Parkway will see less traffic, White St will see more traffic, reducing much of the benefit of the connector for White Street. Since White St is a similar residential street, the City wants to keep the affects more balanced by allowing the use of Airport Parkway. Vehicle speed and truck traffic remain concerns that must be addressed. Consider prohibiting trucks on these neighborhood streets. Traffic should be encouraged through design elements to use the connector. The new alternative will not be developed further or presented at the public meeting, except as a consideration.

3	**Review new alignment alternative** which uses the land identified as eligible for purchase by the Airport and pulls the road away from the airport as much as possible: This alignment must be approved and supported by the Airport. The intent is to have an alternative that would be pursued <u>if</u> the Airport acquired the needed property. DH and the City will schedule a meeting with the Airport to review the new alternative.
4	**Brief Review of Presentation Plans & Cross-Sections:** Access management, where possible, should be considered. Particularly near Berard Dr. where each business has a separate driveway. Lighting will be "cobraheads" 25 – 30 ft high, and should be black. Some period type features should be considered on the Airport Drive portion.
5	**Public Meeting:** The public meeting will be warned in May and held in early June, if possible (before school lets out). The City will facilitate the accommodations at the Chamberlain School. The mailing should go to those listed on existing mailing list – which the city will update and amend for current owners on Airport Drive, White Street, Dumont, Henry Court (N&S) and Airport Parkway. It should be the airport's responsibility to contact directly any owners impacted by the new alternative and identified as "eligible for purchase" - prior to the public meeting.
	END MEETING MINUTES

Alternatives Presentation Meeting
Airport Drive Extension
June 10, 2004
CCMPO

Juli Beth Hoover, Director of Planning and Zoning for South Burlington, opened the meeting by introducing the consultants and city officials present.

Ms. Hoover explained that Burlington International Airport (BIA) has a property acquisition program for adjacent properties that are impacted by airport noise. The preferred alternative for the Airport Drive Extension project impacts 14 properties. These properties have also been identified by BIA for acquisition. South Burlington has contacted all 14 property owners, and has met with half of them. The intention of this evening's meeting is to discuss other issues associated with this project. South Burlington would prefer to talk to the 14 property owners separately so they can better address their specific issues.

Tonight's meeting will go through the alternatives that have been developed. The consultant will show what they think to be the best alternatives and address how the neighborhood traffic will be impacted.

Mark Smith, from Dufresne-Henry, said that this project is intended to address three major issues: traffic impacts to the neighborhood; improved airport access and to make regional connections.

The project corridor starts at Williston Road and extends to Route 15. The corridor is characterized by conflicting land uses, including: industrial, residential and airport. The corridor has a lot of truck traffic.

One important issue for this corridor is that it makes a regional connection. Kennedy Drive is being reconstructed and the Lime Kiln Bridge is being replaced. When those two projects are completed, with an Airport Drive Extension there could be an upgraded connection between Route 15 and I-89 in South Burlington.

The first public meeting for this project, the Local Concerns Meeting, was held in 1999. Numerous questions were raised at that meeting regarding when the project would be constructed, and specifically what would be constructed. The construction year being assumed for this study is 2008. We are not sure if that date is realistic, but it is being used for planning purposes.

Greg Edwards, from Dufresne-Henry, reviewed the existing conditions in the corridor. Generally, traffic volumes in the corridor range from 10,000 to 13,000 vehicles per day in 2008. About half the traffic is through traffic and half has a destination within the corridor. In 20 years traffic volumes are projected to increase. The new range will be from 10,000 to 15,000 vehicles per day, depending on the specific location. If the new connection is built, about 7,000 vehicles per day would use the connection. With the

connection, traffic on Airport Parkway would be reduced by about half. Building the connection is projected to increase the through movement by about eight percent.

Mark Smith then presented specifics of this study, and generally presented details by roadway segment. The main environmental constraint in the corridor is wetlands. There are several areas of wetlands in the corridor.

- Airport Drive/Kennedy Drive/Williston Road Intersection – the levels of service at this intersection are OK, but longer queuing lanes would be required.

- The cross section of Airport Drive would result in a slightly narrower road. The cross section would include (looking north, left to right): a 10 foot shared use path; a 6-8 ft green strip; 4 foot shoulder; 2-11 foot travel lanes; 4 foot shoulder; 5-10 foot green strip; 5 foot sidewalk. The road cross section would be maintained through the corridor. The sidewalk will end north of White Street, but the shared use path will continue to the Lime Kiln Bridge.

- There would be no parking along Airport Drive except in front of Gino's Deli where the road would be 8 feet wider for 4-6 parking spaces.

- A traffic signal would be required at the airport exit.

- Airport Drive/White Street - If the connector is not build, a signal would be required in the future. If the connector is built a left turn lane would be required to turn from Airport Drive onto White Street.

- A signal would be required at the intersection of Airport Parkway and the new connector.

- The connector would go through houses that BIA has already identified for acquisition.

- If the connector is not build a signal would be required at Kirby/Airport Parkway and White Street/Airport Parkway.

- Shamrock/Airport Parkway – there is a large wetland near this intersection. The proposed improvements would make a wider curve and add a signal. Also evaluated, but not recommended, was a roundabout. The benefits of a roundabout are that it slows traffic, it has a higher capacity, and accidents are less significant because traffic is traveling slower.

- The end point of the project is at the new condominiums near the Lime Kiln Bridge

Questions and Comments:

What are the speed limits in the corridor?
Response: Airport Drive is 25mph and Airport Parkway is 35 mph. Currently the speed limit is reduced to 25 mph over the Lime Kiln Bridge.

Does the modeling take into account that truck traffic will increase with the completion of the new Lime Kiln Bridge?
Response: The modeling is not sensitive enough to show the current reduced use of the bridge because of the weight limitation.

Will the new Shamrock intersection be able to handle truck traffic from the Air Guard?
Response: Yes, the design will allow for turning trucks.

Would the City convene a meeting with the Airport to find out more about what the airport is doing?
Response: Chuck Hafter said South Burlington would be glad to convene such a meeting, and the attendance list for this meeting would be used for notification.

Residents are concerned with noise impacts, especially from trucks, on Picard Circle and Dumont Avenue.
Response: Noise impacts would be evaluated as part of the design of this project. Also, landscaping would be included in the design.

It is a good idea to move the traffic away from the areas where kids are walking.

What would the traffic control be at Airport Drive and White Street?
Response: In the build condition there would be a stop for White Street and the airport long term parking lot. Free flow conditions would exist on Airport Drive/Airport Drive Extension.

What traffic calming measures could be considered on White Street? Speeding is really a problem.
Response: Under the current conditions the road cannot be narrowed. If the connector is built, traffic volumes on White Street would be reduced and would make it possible to implement some traffic calming measures.

A resident was concerned with the parking on front of the airport because there is not enough room to get around parked cars.
Response: Chuck Hafter said that once the airport resolves their parking issues there will be no parking in front of the airport except for Ginos.

Can we take a vote to find out how many people support this project?

Response: A show of hands showed that approximately 75 – 85 percent of those present supported this project.

How would the project be paid for?
Response: The project would be funding mainly with federal funds. South Burlington would likely need to pay 10 percent of the project cost. Juli Beth Hoover said that there may be other sources of funding including airport access funds, federal earmarks and traffic impact fees. South Burlington will explore all funding options.

Will this project be a target by the same groups that oppose the Circumferential Highway?
Response: People have a legal right to appeal any project. However, this project is in a developed area and, as a result, has very different issues than the Circ does.

If the property owners are willing to sell, can the project move forward faster?
Response: Potentially yes. Acquiring right of way can take a long time. If there are no problems the project may be able to move more quickly.

When is this going to be decided?
Response: The next step is for the steering committee to get together and discuss the preferred alternative. The City Council will then be asked for concurrence. Following that the project will move into the states system for design and construction.

Does the airport have eminent domain?
Response: The airport can't force property owners to sell for noise. The airport has an annual budget for property acquisition. They can't buy all properties at once.

6/10/2004
Dufresne-Henry
Project # 6320020.01

Approximately 65 Residents attended the Alternatives Presentation for the Airport Drive and Airport Parkway Realignment on Thursday June 10, 2004. Another 5 people were there giving the presentation (Mark, Steph, Greg, Julie Beth, and Christine).

Sign-In Sheet

	Name	Address	Email
1, 2	Leonard and Dorothy Thibault	1184 Reynolds Rd St. Albans, VT	letdot@surfglobal.net
3,4	Ed and Gail Garvey	44 Dumont Ave. So. Burlington	--
5	Liz Bossi	171 White Street So. Burl.	lbossi@pizagalli.com
6	Bea Bouredeau	10 Duval St. So. Burl.	--
7	Corinne Guiness	5 Hanover St. So. Burl.	--
8	Theress Audette	62 Airport Parkway	--
9	Kim Gaboriault	195 Kirby Road	--
10,11	Gary and Sandy Hall	222 Airport Parkway	--
12	Mike Paustian	518 County Club Drive	--
13.14	Brenda and George Maglaris	12 Dumont Ave.	--
15	Claudette Thibault	6 Picard Circle	--
16	James Kirk	12 Picard Circle	--
17	illegible name	--	--
18,19	Robert and Eileen Bouvier	26 Airport Parkway	--
20	Wendall Corron	360 White Street	--

21	Sheila Quenneville	364 White Street	--
22	Eric Schmilt	13 Dumont Avenue	eric@hut.org
23, 24	Helen and Garland Withers	265 Kirby Rd (2227 Crane Lakes Blvd. Port Orange, FL 32128)	gfw1938@aol.com
25	Jon Watt	31 Airport Parkway	jaww03@aol.com
26,27	Dan and Laurie Parct	19 Airport Parkway	paratgang@aol.com
28	Hans H___?	74 Airport Parkway	--
29	Dennis Deloney	Charlotte	dennis@madriver.coh
30	David Laualette	85 Airport Parkway	lavey1950@yahoo.com
31	Richard Wells	200 Airport Parkway	--
32	Jared Hall	110 Airport Parkway	--
33	Tom Barry	1387 Airport Drive	barrys1010@adelphia.net
34	Sandra Pierce	76 Dumont Ave.	sandrapierce205@hotmail.com
35	Lori Willette	76 Dumont Ave.	--
36	William C. Knoff	1 Elizabeth St	bknoff@aol.com
37	Tom Sissel	17 Hanover St.	--
38,39	John and Cihoria Van Graben	5 Delaware St	--
40	Don Edron	14 Airport Parkway	dmex2@worldnet.att.net
41	Betty Dalton	1383 Airport Drive	--

CITY COUNCIL 20 SEPTEMBER 2004

The South Burlington City Council held a regular meeting on Monday 20 September 2004, at 7:30 p.m., in the Conference Room, City Hall, 575 Dorset St.

Members Present: J. Condos, Chair; C. Smith, T. Sheahan, S. Magowan, D. O'Rourke

Also Present: C. Hafter, City Manager; D. Gravelin, Assistant City Manager; J. B. Hinds, Director of Planning & Zoning; M. Kupersmith, L. Kumferman, Development Review Board; T. Duff, Planning Commission; Rep. A. Audette; E. Farrell, B. Cimonetti, J. Dietrich, D. & L. Cummings, J. Britt, L. Bresee, L. Ravin, D. Schramm, Dr. Trembley, D. Jones, D. Muir, J. Rabideau, J. Meyers, G. Edwards, C. Ford, R. Goodrich

1. **Comments & Questions from the Audience, not related to Agenda items:**
2. **Announcements & City Manager's Report:**
3. **Presentation of Spear Street Corridor Study:**
4. **Update on Southern Connector Project:**

5. **Presentation of Airport Drive/Airport Parkway Improvement Scoping Study:**

   Mr. Condos said a main purpose of this study is to get traffic out of the residential neighborhoods.

   Ms. Ford of the MPO noted that the project was started a few years ago but was put on hold in order to do an Airport access study. When that was done, it was determined that this was still a useful project.

   Mr. Edwards said part of the study looks at alternatives. The project would extend from Route 2 to Route 15 (about 3 miles) and would be broken into 3 segments: US 2/Airport Drive to White Street, White Street to Airport Parkway, and the northern section of Airport Parkway across the proposed Lime Kiln Bridge. The purpose would be to improve mobility for Route 2 to Route 15 while addressing impacts on local roads.

   Mr. Edwards reviewed a cross section of Airport Drive. The study found that the best thing to do would be to reduce the width of the road to allow for pedestrian/bike movement. This would impact some of the trees. Amenities along the road would include a signal at Kirby Road/Airport Parkway and the realignment of the Shamrock Road 3-way intersection. There would also be a signal there within the design life of the project.

   The project would cost $6,000,000. With a new connector, it would be $8,000,000.

Rep. Audette felt most of the plan was good. He suggested trying to get it into the TIP when there is room for it.

Members were unanimous in support of alternative "B."

Mr. Magowan moved to support the preferred alternative and to have that reflected in the final report. Mr. Smith seconded. Motion passed unanimously.

6. **Consideration of Capital Equipment Note for Fire Department Thermal Imaging Cameras:**
7. **Consideration of Approval of Errors and Omissions from 2005 Grand List (new requirement of Act 68):**
8. **Appointment to City Charter Committee:**
9. **Review Development Review Board Agenda for meeting of 21 September 2004:**
10. **Review Minutes of 7 September 2004:**
11. **Sign Disbursement Orders:**
12. **Executive Session:**
13. **Regular Session:**

Appendix B – Correspondence

Memorandum

Creating Better Places To Live, Work And Play

To:	Steering Committee Members
From:	Mark Smith
Date:	3-31-04
Subject:	Airport Dr/ Pkwy DH#6320020.01

Dear Steering Committee Members:

Please review the attached segment volume diagram. As suggested in the last meeting, we have revised this to more accurately reflect existing volumes on Airport Parkway in the "existing" condition. In addition we have added the expected future volumes if the Extension was constructed, but Airport Parkway dead ends just north of Kirby Rd.

These volumes (average daily traffic) were derived from data developed by Resource Systems Group using the MPO's traffic model. The result can be summarized as follows:

SEGMENT	EXTENSION **WITH** CONNECTION	EXTENSION **WITHOUT** CONNECTION	DIFFERENCE
1-3 (Airport Dr. S)	16,550	17,300	+750
3-5 (Airport Dr. N)	14,250	15,100	+850
5-6 (White St. E)	5,000	8,400	+3,400
5-8 (New Extension)	7,250	11,200	+3,950
8-9 (Airport Pkwy.)	13,900	11,200	- 2,700
9-10 (Airport Pkwy.)	12,700	10,900	-1,800
White to Patchen	7,200	6,000	-1,200
Kirby to Patchen	3,200	3,150	-50

We interpret these results as showing that there is a significant demand to travel between the Rte. 2 / Hinesburg Rd intersection and the Rte. 15 Lime Kiln Rd intersection, which will be rerouted, but not drastically eliminated by this change.

If this alternative still seems attractive to the Steering Committee, we will proceed with developing additional presentation boards for discussion at our next meeting. I will e-mail or call everyone early next week. <end of memo>

K:\6320020.01 (CCMPO-Airport Dr & Pkwy)\Documents\Correspondence\Memos\rev seg vols 3-31-04.doc

Engineers Planners Landscape Architects Environmental Scientists
Post Office Box 2246 South Burlington, Vermont 05407
Voice: 802-864-0223 Fax: 802-864-0165 E-mail: sburl@dufresne-henry.com

Memorandum

Creating Better Places To Live, Work And Play

To:	Bob McEwing, Burlington International Airport
From:	Mark Smith, P.E.
Date:	May 25, 2004
Subject:	Airport Drive Traffic Analysis – STATUS REPORT
Project:	CCMPO-Airport Drive/Parkway Extension 6320020.01

After considering several alternatives for connecting Airport Drive and Airport Parkway, the Steering Committee has chosen a preferred alternative which allows access to old Airport Parkway from the new Airport Drive Extension. (See attached diagram.)

Our preliminary analysis of future traffic for this alternative results in the following recommended improvements:

- A new traffic signal at Airport Road (intersection #2).
- Delineation of shoulders suitable for bicycle access (4 feet min), which requires minor widening where on street parking is delineated (Gino's Airport Deli).
- Widening the sidewalk on the west side to 10 feet for shared bike and pedestrian use.
- A new traffic signal at the Airport Exit (intersection #4).
- A northbound left turn lane at White Street (intersection #5).

No additional through lanes on Airport Drive are shown to be necessary for this alternative.

Please see attached summary of Recommended Improvements for the entire corridor.

-END OF MEMO-

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Engineers Planners Landscape Architects Environmental Scientists
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Appendix C – Resources

Stormwater - Impaired Watersheds

There are currently 17 rivers and streams in Vermont that do not meet Water Quality Standards primarily due to runoff from impervious surfaces.

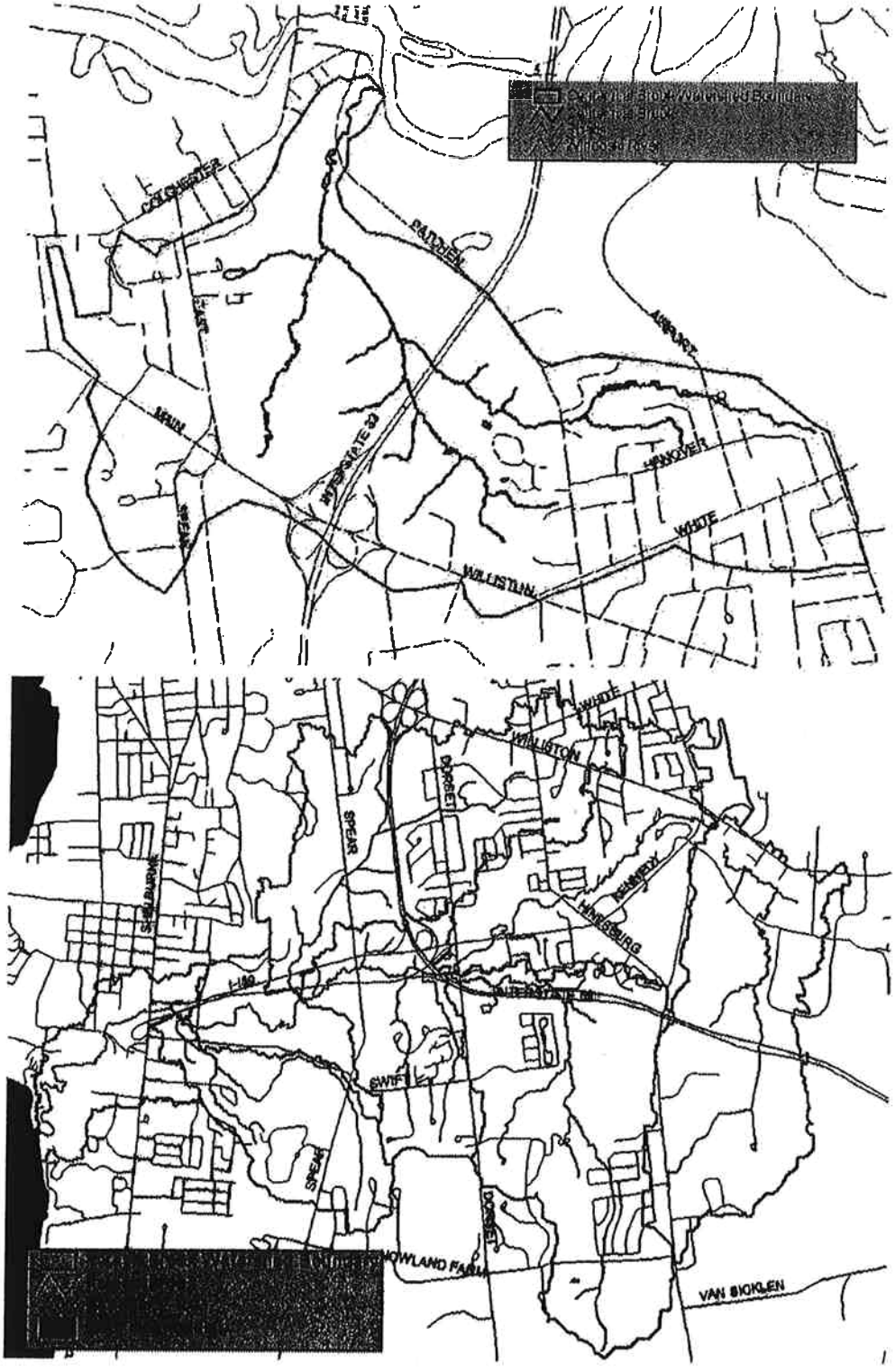
The list of stormwater-impaired waters is adopted by the Secretary of ANR in the bi-annual 303(d) listing of impaired waters within the State of Vermont. This listing makes reference to specific points of measured impairment within these watersheds. All new development or redevelopment projects draining to these points of impairment will be referred to as "impaired water projects". A map delineating the geographic areas draining to the downstream-most point of impairment is shown below for each of the 17 stormwater-impaired watersheds.

The Vermont Legislature recently adopted new statutory language providing specific requirements for permitting within these stormwater-impaired drainage areas. The VTDEC is required to develop either a Total Maximum Daily Load (TMDL) or a Water Quality Remediation Plan (WQRP) for each of these 17 impaired watersheds, by October 2007. The legislation also included specific guidance for how to proceed with stormwater permitting during this interim three-year period.

The primary factors considered in developing at TMDL or WQRP are the need to reduce the amount of flow and pollutants entering impaired streams in order to attain water quality standards. Management of stormwater volume to provide channel protection, water quality treatment, groundwater recharge and flood control are the design standards utilized by ANR.

Stormwater-Impaired Watersheds:

Watershed	Town	Map of Watershed
Centennial Brook	South Burlington	Map (jpg, 145 KB)
Potash Brook	South Burlington	Map (jpg, 91 KB)



August 2004

South Burlington - Vermont Active Hazardous Sites List - April 2004
Airport Drive / Airport Parkway Study Area

770043 - - Vermont Air National Guard - - South Burlington - - Site 1, Fire Dept Training Area/Old Landfill - construction of interception trench to contain migration of contaminated groundwater off-base scheduled for summer '03. Site 2, Construction Debris Landfill - In-situ groundwater treatment pilot study underway, potential interim remedial measures by '04. Sites 3/4, Petroleum Storage Area - Expanded free-product recovery system installed and operational June '03. Site 5, Former Flight Line Fuel Storage Tanks and Refueling Pits - Draft Remedial Investigation Tech Memo has identified soil and groundwater contamination in this area. Definition of extent will require additional investigation, tentatively scheduled for '04.

900496 - - U-Save Beverage - - Williston Rd - - South Burlington - - Ust Contamination Found. Site Assessment Completed. Monitoring Ongoing.

900632 - - Airport Mobil - - 1801 Williston Rd - - South Burlington - - Monitoring Ongoing Following Ust Removal And Assessment.

921327 - - Williston Road Mobil - - 1314 Williston Rd - - South Burlington - - Gw Impacted From Ust. Invest Needed

---

931503 - - Burlington International Airport - - Airport Rd - - South Burlington - - Annual groundwater monitoring ongoing, with last sampling event occurring in November, 1999. Site is located at the hanger which used to have a dirt floor, directly across from Airport Road. We are awaiting report. Also weekly free product removal occurs from one monitoring well.

20002783 - - Kelco Facility - - 73 Ethan Allen Drive - - South Burlington - - UST removed and contamination found. Investigation underway.

921313 - - Hertz Rent A Car/National Car - - Burlington Intrntnl Airport - - South Burlington - - Annual groundwater and soil pile monitoring. Next round scheduled April 2000. Status letter mailed out Feb. 2003. Site to be monitored spring 2003.

SOUTH BURLINGTON LWCF SITES
SPRING 2004

1971 South Burlington Red Rocks Acq. (ID #5000095)
1972 South Burlington Red Rocks Development (ID #5000119)
1972 South Burlington Jaycee Park Dev (ID #5000134)
1974 South Burlington Garvey Parkway Acquistion (ID #500160)
1974 South Burlington Tennis Courts (ID #5000161)
1975 South Burlington (Dumont) Rec. Area Acq. (ID # 5000210)
1976 South Burlington De Graff Acquisition (ID #5000248)
1978 South Burlington Park Lighting (ID #5000271)
1980 South Burlington Nowland/Stonehedge Acq. (ID #5000325T)
1981 South Burlington Potter Property Dev (ID #5000328L)
1982 South Burlington Potter Development Continued (ID #5000347G)
1991 South Burlington Recreation Path (ID #5000492)

COLCHESTER LWCF SITES
SPRING 2004

1969 Colchester Malletts Bay Acquisition (ID #5000066)
1972 Colchester Bayside Park Dev. (ID #5000126)
1975 Colchester Bayside Park Imp Ph I (ID #5000315)
1979 Colchester Bayside Park Seawall (ID #5000351)
1980 Colchester Heritage Park Dev. (ID #5000325D)
1983 Colchester Champlain Airport Pk Acq. (ID #5000351)
1984 Colchester Bayside Park Imp Ph II (ID #5000390)
1987 Colchester Airport Park Dev Ph I (ID #5000453)
1988 Colchester Airport Park Ph II (ID #5000455)
1991 Colchester Airport Park Ph III (ID #5000487)
1992 Colchester Bayside Park Imp Ph III (ID #5000494)

AIRPORT DRIVE RELOCATION

CHITTENDEN COUNTY REGIONAL PLANNING ORGANIZATION

CITY OF SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT

SCOPING REPORT

PRELIMINARY CULTURAL RESOURCE INVESTIGATION

(BACKGROUND SEARCH AND FIELD INSPECTION)

prepared for

Dufresne-Henry, Inc.
1025 Airport Drive
South Burlington, Vermont 05407

July 2000

WAC

WERNER ARCHAEOLOGICAL CONSULTING
P.O. Box 14136
Albany, New York 12212-4136
(518) 869-1313

VT-CH-705: This is a prehistoric quarry site attributed to the Late Archaic period on the basis of the recovery of an Otter Creek projectile point in a Phase IB study (D. Frink and B.W. Fahy 1997). The site is located to the southwest of the study area.

*Three archaeological surveys have been completed in the northern part of the project area which have not yet been registered on the DHP map. One was a scoping study (S.U. and M.R. Werner 1993), and two were Phase I studies with subsurface testing (P. Doherty and K. Kenny 1999; S.U. and M.R. Werner 1999). No new sites were identified in the project area. Two other studies (C. Baker and D. Frink 1996; D. Frink and B.W. Fahy 1997) were completed within a one-mile radius of the study area. A prehistoric quarry site was identified in the 1997 study to the southwest of the study area.

B. Town Files - Archaeology: The South Burlington town file does not record any archaeological sites within the study area.

C. Town Files - Historic Sites and Structures: The South Burlington town file does not record any historic sites, structures or districts in the study area.

D. Vermont Historic Sites and Structures Survey (VT HS&SS): Two structures (VT HS&S Nos. 0404-30 and 31, Prevel Hall and St. Edmunds/Salmon Hall) are listed in the study area, and one listed bridge (VT HS&SS No. 0404-38, the Lime Kiln Bridge) is located in the project area. The structures are adjacent to the roadway on the St. Michael's College campus near the intersection with VT Route 15. No other sites, structures or districts are listed within the study area in either Colchester or South Burlington.

E. National Register (NR) of Historic Places: The Lime Kiln Bridge has been determined NR eligible; see G. below. At the time of writing of this report the bridge is scheduled for replacement (S.U. and M.R. Werner 1999: 1-2)

The two SR structures (VT HS&S Nos. 0404-30 and 31) noted above are potentially eligible for National Register listing since the Vermont Advisory Council for Historic Preservation has not specifically disqualified them from eligibility (C.B. Johnson and E. Gilbertson, eds. 1992: xii-xiii).

No other sites, structures or districts are listed within the study area.

F. National Register of Historic Places Preliminary Reviews: The Champlain Valley Lime Kiln (VT-CH-284) was reviewed and found National Register eligible on December 15, 1989 by the State Advisory Council for Historic Preservation. The boundaries of the complex were determined to be the property lines of the factory when the kiln was in operation. [It is reported that before action could be taken on the determination, the complex was dismantled by the owners, effectively transforming it into an archaeological ruin.] No other sites, structures or districts are listed within the study area.

Phase 1 – Identification of Archaeological and Historical Resources

a. Project Area Background Search: To identify cultural resource issues related to the Project Area, the documentation available for the Project Area at the Vermont Division for Historic Preservation and relevant historical maps in the Vermont Historical Society Library in Montpelier and/or the University of Vermont Bailey/Howe Library (Wilbur Local History Collection) were consulted. Based on that research an archaeological sensitivity rating was developed for the project area (see below, Phase 2). Included in the assessment is any type of architectural, historical or archaeological resource. The sensitivity rating is based on but not limited to the Environmental Predictive Model for Locating Archaeological Sites (distributed by Vermont DHP and VAOT). This material is presented below in Sections 2, 3 and 5.

b. Site Inspection: A site inspection was conducted to identify or confirm the existence and condition of cultural resources, including Section 106 and Section 4(f) properties in the Project Area. Data collected in this component, together with the information developed in the Background Search, was used to determine whether additional study is needed. (Section 4 below)

Phase 2 - Initial Scoping Report, Cultural Resource Assessment

a. Review of Alternatives and Assessment of Impacts: Project plans for the proposed alternatives would be reviewed to determine impacts on identified or probable cultural resources. Since the project was not progressed to the stage of presentation of alternatives, project location was based on the relevant USGS map (fig. 1) Recommendations for avoidance or the minimization of impacts on identified cultural resources are incorporated in this letter report and transmitted to the design consultant. (Sections 5 and 6 below)

b. Preparation of Letter Report with NEPA Documentation: This letter report summarizes the results of Phase 1 and Phase 2.a. above, including as appropriate Act 250 evaluation, Section 106 determination of effect, Section 4(f) analysis. For Act 250 purposes the total affected area (areas anticipated to be disturbed by construction) includes a ten foot wide construction zone outside limits of the existing roadway. Data supplied in this report allows for the updating of cultural resource sections (sections 9 and 10) of the VAOT Categorical Exclusion environmental analysis sheet (Appendix B).

RESOURCE IDENTIFICATION AND RECOMMENDATIONS

1. Definition and Location of Study Area: The study area is located along an approximately 5843 km (3.630 mi) of Airport Drive between the intersection of VT Route 15 and Lime Kiln Road and a point 500 ft south of the intersection of Airport Drive with US Route 2 in the City of South Burlington, Chittenden County. Included in the project is consideration of improvements to the intersection of Airport Drive and US Route 2 and an alternative transportation path. The study area includes the project area and its immediate environs. The project area is the area of potential effect (APE) for the proposed construction. The northern section of the road, from its intersection with Airport Parkway to its intersection with VT Route 15, is known as Lime Kiln Road.

Figure 1. Study Area, Project Orientation Map; sections from USGS 7.5 minute Burlington Quadrangle 1948.

For orientation and location included here is a section from the relevant USGS topographic map showing project location (fig. 1) and a section from a representative nineteenth century historical map (F. W. Beers county atlas; fig. 2). *Appendix A, Draft Environmental Predictive Model for Locating Prehistoric Archaeological Sites* and *Appendix B, Categorical Exclusion, Environmental Analysis Sheet*, summarize cultural resource data for the project. The parts of *the Categorical Exclusion Environmental Analysis Sheet* are from the VAOT revised version of October 27, 1997. Modern road names follow those printed in *The Vermont road atlas and guide* (Northern Cartographic, Burlington 1989: 18, 87).

2. Resource Identification. Archaeological Sites, Historic Sites and Structures, File Review, Division for Historic Preservation (DHP): The Vermont DHP files in Montpelier were consulted by the principal investigator on October 28, 1999.

A. Prehistoric Site Files - Archaeological Sites and Surveys (DHP map 25-A, USGS 7.5 minute topographic map, Burlington Quadrangle, 1948): No archaeological sites or surveys* are recorded in the project area. Five archaeological sites are recorded within a one-mile radius of the project area. There is also a notation on the map for a rockshelter located in a limestone ridge just to the south of VT-CH-282.

F.S. 61: This is a historic industrial site, a lime kiln, located to the west of the study area.

VT-CH-17: This is a prehistoric site without cultural or chronological attribuition which was identified on the basis of surface finds of lithic material. There is a map notation that the site was destroyed. It was located to the southeast of the project area.

VT-CH-282: This is the site of early nineteenth century lime burning and quarrying operations in the southeast quadrant of the study area. Remains of an earth bed for a tramway and a quarry were identified here, as were probable furnace remains. The facility probably fell out of use in 1907. (see also, V. R. Rolando 1992: 240-242)

VT-CH-284: This is the site of the abandoned Champlain Valley Lime Company in the northeast quadrant of the study area adjacent to the east quarry. There are substantial remains of the facility in ruinous condition. (see also, Cultural Resource Group 1989; V.R. Rolando 1992: 223-224, 240-242)

Prehistoric rockshelter: On the map next to the circle which locates VT-CH-282 there is an "x" marked in pencil with the notation "rockshelter in limestone ledge". In the top margin of the map there is the further notation in pencil "G[iovanna] P[eebles] & DFC & EG found rockshelter near CH 282 on 12-05-89. No testing done." This site was revisited during the Lime Rock Village survey and was determined to be a cave of adequate size to provide shelter for a prehistoric family. No prehistoric archaeological remains were identified during the site visit. The site lies well outside of the present project area. (P. Doherty and K. Kenny 1998: 23-24)

VT-CH-705: This is a prehistoric quarry site attributed to the Late Archaic period on the basis of the recovery of an Otter Creek projectile point in a Phase IB study (D. Frink and B.W. Fahy 1997). The site is located to the southwest of the study area.

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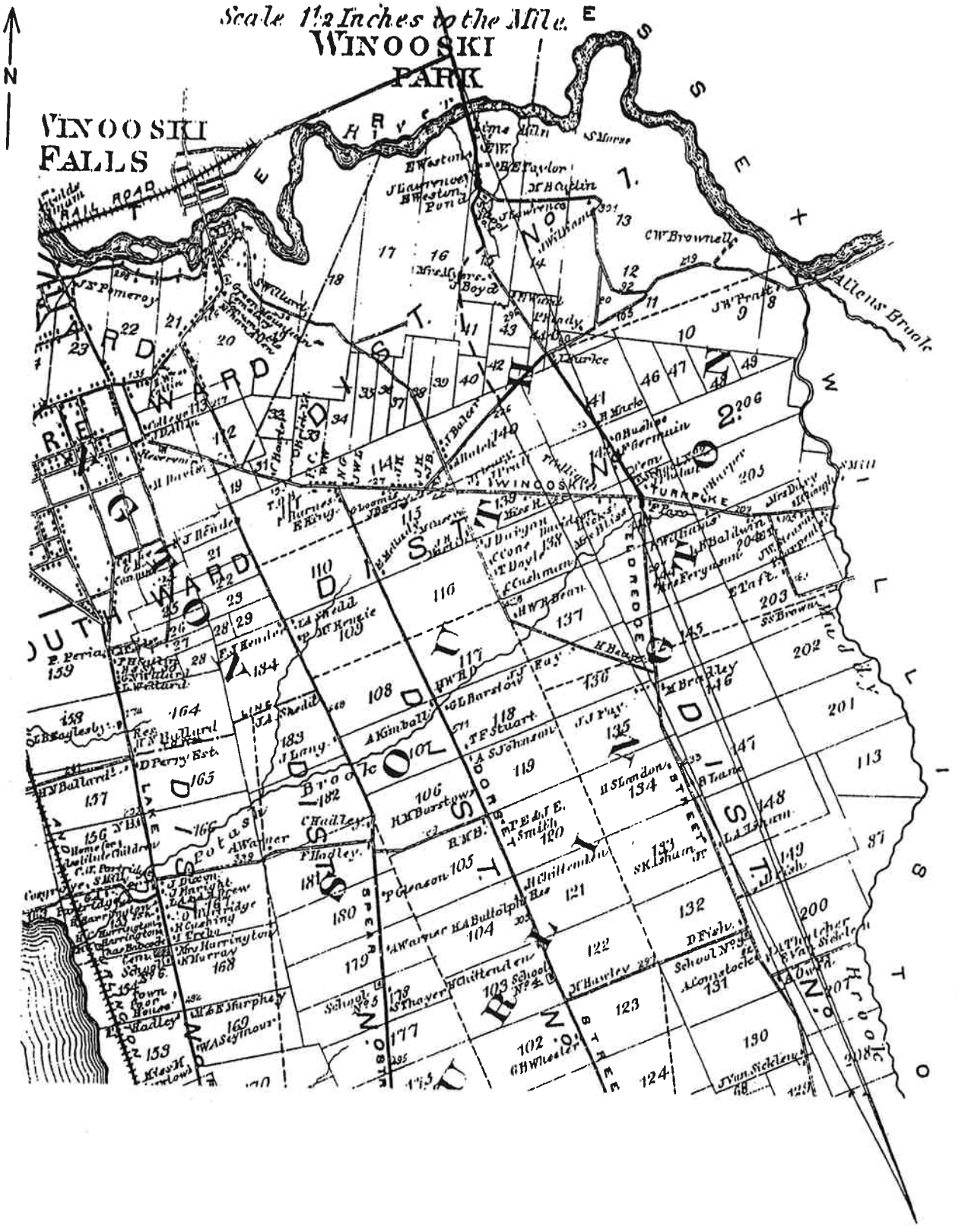

Figure 2. 1869 map; F.W. Beers 1869: 19; City of Burlington and South Burlington [Town of].

G. Vermont Division for Historic Preservation Bridge Survey: The Lime Kiln Bridge crossing of the Winooski River (VT HS&SS no. 0404-38) is listed on the State and National Registers (Chittenden County, Colchester volume; H. Rudge 1989: E-7, F-14, Appendix 1.1, CH-11; S.U. and M.R. Werner 1999: 46-53).

H. Vermont Rivers Study: The study area is located in Drainage Basin 8, the Winooski River. The study area is within a zone of known archaeological sensitivity; no historic sites are indicated for the study area. (Vermont Agency of Environmental Conservation 1986: 124, 128, 136-137)

3. Resource Identification. Historic Map Review, University of Vermont Bailey/Howe Library (Documents and Maps Department, Wilbur Local History Collection): Historical mapping relevant to the study area were consulted by the principal investigator on October 27, 1999. The following document was consulted:

1869 F.W. Beers map/City of Burlington and Town of South Burlington (19; scale 1 ½ in = 1 mi): The southern and central part of the project area is sparsely settled in this period, and the lots appear to primarily be under cultivation. At the time of the Beers survey there was a straight connection between US Route 2 (Beers' Winooski Turnpike) with VT Route 15. However, the construction of Burlington International Airport necessitated the round about route which the alignment follows today. From the south, the first two segments (Airport Drive and part of White Street) of the modern alignment follow sections of roads which were in use in 1869. The third segment, Airport Parkway, is a new road which avoids the airport runway to connect with Lime Kiln Road (compare figure 1 with figure 2). On the Beers map the northern part of the project at the Winooski crossing has sites connected with lime burning activities.

4. Field Inspection: The site inspection was conducted by the principal investigator on October 29, 19998. Weather conditions were clear and dry, with overcast skies and temperatures in the 50's. There were no impediments to observation in the study area. The method employed for the survey was windshield inspection with driving over the project area twice at low speeds. The authors were already familiar with the northern end of the project through their work on the Lime Kiln Bridge Project.

A. Major Geographic Features: The southern part of the project is primarily residential and, of course, contains access roads to the Burlington International Airport and parking facilities. The central part of the project is not as densely developed and contains scattered residences and commercial structures. Adjacent to that part of the project are navigational devices for the airport and the end of one runway. The Lime Kiln Road section has some residential development and, after the Winooski crossing, is flanked by elements of St. Michael's College.

B. Impacts of Proposed Construction: The project has not yet been developed to the extent that alternatives with known impacts have been designed.

5. Cultural Resource Issues and Archaeological Sensitivity: There is one historic property, the Lime Kiln Bridge, in the project area; that structure is planned for replacement. Two historic properties, on the St. Michael's campus, flank the project area. There are no other identified historic sites, structures or districts in the project area.

A. Sensitivity for Prehistoric Remains: Because of identified prehistoric sites in the general vicinity of the study area, any undisturbed sections of the project area are sensitive. An overall evaluation of the study area with the Environmental Predictive Model indicates a rating of high sensitivity (project total of 60 points with a minimum of 20 points required for a high sensitivity rating; see *Appendix A* below)

B. Sensitivity for Historic Remains: The yard areas of the historic structures are sensitive for historic remains.

C. Section 106 Issues - Presence of Historic Sites, Structures or Districts: Except for the structure the Lime Kiln Bridge, no historic properties have been identified in the project area as it is now constituted and the provisions of Section 106 do not apply.

6. Recommendations: As the project now stands a determination of no historic properties affected is recommended. At present, no further study is recommended.

Rationale: The impacts of the proposed construction have not yet been developed for this project, and so this survey is based on the present alignment of Airport Drive and its environs.

REFERENCES

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1996 *Phase IA archaeological sensitivity study for the proposed runway safety area at Burlington International Airport, South Burlington, Chittenden County, Vermont.* Archaeology Consulting Team, Inc., Essex Junction. July. [on file, Division for Historic Preservation]

Beers, Frederick W.
1869 *Atlas of Chittenden County, Vermont.* F.W. Beers, New York. [Bailey/Howe Library, Wilbur Collection, University of Vermont]

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1998 *Phase 1 archaeological assessment for Lime Rock Village, South Burlington, Vermont.* University of Vermont, Consulting Archaeology Program, Colchester. October. Report No. 208. [provided by kind courtesy of Dr. Peter Thomas]

Frink, Douglas and Benjamin W. Fahy
1997 *Phase IB archaeological site identification study of the proposed Cedar Ridge Townhomes Project, South Burlington, Vermont.* Archaeology Consulting Team, Essex Junction. June. [on file, Division for Historic Preservation; evidently no Phase IA study was completed for the project]

Johnson, Curtis B. and Elsa Gilbertson, eds.
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1992 *2000 years of soot and sweat. The history and archaeology of Vermont's iron, charcoal and lime industries.* Vermont Archaeological Society, Burlington.

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1989 *National Register of Historic Places Multiple Property Documentation Form. Metal truss, masonry, and concrete bridges in Vermont.* Division for Historic Preservation, Montpelier. [on file, Division for Historic Preservation]

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1948. *7.5 minute topographic map, Burlington Quadrangle.* photorevised 1987. Reston, VA. [Division for Historic Preservation site location; illustrated for this report from Maptech 1997. U.S. Terrain Series, edition 1.0. Vermont CD; USGS reference code: 44073-D2-TF-024]

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1986 *Vermont Rivers Study.* with the assistance of the National Park Service, Mid-

Atlantic Regional Office. Montpelier, February. [on file, Division for Historic Preservation]

Werner, Slobodanka U. and Michael R.

1993 *Lime Kiln Road Bridge Replacement: STP SPR PL-1(31)-1-9E, Chittenden County, Vermont. Letter Report, Cultural Resources Investigation, Preliminary Project Review.* Werner Archaeological Consulting, Albany. October. [on file, Agency of Transportation]

1999 *Colchester-South Burlington BRM 5600(6), Lime Kiln Road Bridge Replacement, Towns of Colchester and South Burlington, Chittenden County, Vermont: Cultural Resources Investigation, Phase I Identification Study.* Werner Archaeological Consulting, Albany. December. [on file, Agency of Transportation]

APPENDIX A:
DRAFT ENVIRONMENTAL PREDICTIVE MODEL FOR LOCATING PREHISTORIC ARCHEOLOGICAL SITES*

N.B. For the purposes of this project the entire project area is evaluated as a single unit for a generalized sensitivity rating.

Environmental Variable	Proximity	Value	Assigned Score
1. Distance to Existing or Relict River or Permanent Stream	0-60 m.	12	12
	60-120 m.	8	
	120-180 m.	4	
2. Distance to Pond or Lake	0-60 m.	12	
	60-120 m.	8	
	120-180 m.	4	
3. Distance to Intermittent Stream	0-60 m.	8	
	60-120 m.	4	
	120-180 m.	2	
4. Distance to Wetland	0-60 m.	8	
(wetlands > one acre in size)	60-120 m.	4	
	120-180 m.	2	
5. Confluence of River/River or River/Brook	0-60 m.	12	12
	60-120 m.	8	
	120-180 m.	4	
6. Confluence of Intermittent Streams	0-60 m.	8	
	60-120 m.	4	
	120-180 m.	2	
7. Falls or Rapids	0-60 m.	8	
	60-120 m.	4	
	120-180 m.	2	
8. Restricted Access/Drainage Divides	0-60 m.	8	
	60-120 m.	4	
9. Head of Draw	0-60 m.	8	
10. Isolated Spring	0-60 m.	8	
	60-120 m.	4	
11. Major Floodplain/Alluvial Terrace	0-60 m.	8	8
	60-120 m.	4	
12. Lithic Outcrop	0-180 m.	20	
13. Knoll Top/Ridge Crest/Promontory	0-60 m.	8	8
14. Kame/Outwash Terrace (valley edge features)	0-60 m.	8	
15. Other Major Topographic Break	0-60 m.	8	
16. Relict Beach or Shore Line	0-60 m.	12	
17. Caves/Rockshelters	0-60 m.	12	12

18. Excessive Slope (>15%) or Steep Erosional Slope (>20%)		-8	
19 Very Poorly Drained Soils		-8	
20. Excessively Disturbed		-24	
21. Lake Cove/Peninsula/Head of Bay		12	
22. Special Environmental or Natural Area (i.e., Milton acquifer, mountain top, cave, etc.). [these may be historic or prehistoric sacred or traditional site locations and prehistoric site types as well		12	
23. Stable Riverine Islands		12	
24. High Recorded Site Density		8	8
25. Sole or Important Access to Another Drainage		8	
26. Dissected Outwash Plain		8	
Rating: Archeologically Sensitive		Total Score	60

Key: 20+ points = Archeologically Sensitive 0-18 points = Archeologically Non-sensitive

*Version of February 7, 1992 with new fields added (nos. 21-26).

APPENDIX B: CATEGORICAL EXCLUSION

ENVIRONMENTAL ANALYSIS SHEET*

Town: City of South Burlington Project: Airport Drive Relocation Route: Airport Drive

* 9. **Historical or Archaeological Resources (Section 106)**
Historic Resources: Present in project area Yes _____ No ___xx___
Archeological Resources: Present in project area Yes _____ No ___xx___
Section 106 findings ___no historic properties affected___
Memorandum of Agreement needed Yes _____ No ___xx___ Executed _____
SHPO coordination completed _____n/a_____
Advisory Council coordination completed _____n/a_____

* 10. **Section 4(f) Resources**
Present in project area Yes _____ No ___xx___
Nature of Section 4(f) involvement: n/a
____ Public Land _____ Wildlife and Waterfowl Refuge _____ Historic Property
Temporary use Yes ___ No ___xx___ (Coordinate with FHWA on determination)
Section 6(f) involvement (LWCF Funding) Yes _ No ___xx___
Dept. of Interior coordination completed n/a____ (Not required for Programmatic 4(f)s)

*revised version of October 27, 1997.

6320020.01
GAE, SR2, FILE

WERNER ARCHAEOLOGICAL CONSULTING, LLC
P.O. BOX 14136
ALBANY, NEW YORK 12212-4136
TEL./FAX 518-869-1313
e-mail: wacalbany@aol.com

via facsimile (802-864-0165)

MEMORANDUM

DATE: 11-29-04

TO: Dufresne-Henry
55 Green Mountain Drive
P.O. Box 2246
South Burlington, Vermont 05407-2246

ATTN: Stephanie Zehler, E.I.
Staff Engineer

FROM: Michael R. Werner, Ph.D.
Client Liaison

SUBJECT: Airport Drive Relocation Project

As a follow up to our telephone conversation, please note the following. Based on the conceptual plans which you submitted to us it is possible only to make a generalized observation concerning the various alternatives. The green areas on the plans which indicate approximate limits of proposed work, unless the impacts of the proposed construction are more precisely described and located, should be subjected to a Phase I Site Identification study. This recommendation is based on the conclusions about archaeological sensitivity arrived at in our earlier report, dated July 2000. Proximity to the Winooski River is a factor of sensitivity for prehistoric remains, and, in the absence of a detailed structures survey, some of the house yard areas will be sensitive for historic remains.

WM. D. COUNTRYMAN
Environmental Assessment and Planning
868 Winch Hill Road
Northfield, Vermont 05663
(802) 485-8421

12 June 2000

6390001.01
Mark S.
Chris

Dufresne-Henry, Inc.
ATTN: Mark Smith, P.E.
P.O. Box 2246
South Burlington, VT 05407

Subject: Wildlife and rare species, Airport Parkway (PL 99 (1)-32-CCMPO)

Dear Mark,

This is to summarize our findings with regard to wildlife, wildlife habitat, and rare, threatened and endangered species along the proposed relocation of Airport Parkway in South Burlington and Colchester. It is our understanding that the gorge at Lime Kiln was not part of this particular study, having been investigated in depth during planning for replacing Lime Kiln Bridge[1].

With the exception of the Winooski River Gorge, the route of the proposed relocation of Airport Parkway has not been documented to support any rare, threatened or endangered species. The pattern of land use and degree of existing development have reduced the likelihood that any such species would occur in the area, and our work on this project and others in this area have revealed no occurrences. Similarly, the potential for significant wildlife habitat is minimal. The areas of habitat that do occur near the roadway are small and fragmented, and can be expected to support only those species of wildlife common to urban and suburban areas. The ANR's significant habitat map for the area (enclosed) shows no areas of concern outside Lime Kiln Gorge.

If you have questions or need additional information, please call.

Sincerely,

Errol C. Briggs

ECB/s
Encls.

[1] In regard to Lime Kiln Gorge, I enclose copies of a 1991 report from the Nongame & Natural Heritage Program and supplemental comments from the ANR to the District Commission concerning what the State regards as a "rare and irreplaceable natural area" at that site.

Biological Natural Areas of Chittenden County

Brett Engstrom/Nongame and Natural Heritage Program, January, 1991

SITE NAME: Twin Bridges
TOWN: Colchester and South Burlington
MAPS: Burlington, VT, 7.5' quadrangle (photorevised 1987); Vermont Base Map 096220 (1988)
LOCATION: The area along the "S" curve of the Winooski River between Lime Kiln Road bridge and the dam in the Winooski Gorge
LATITUDE/LONGITUDE: 44°29'47"/73°10'02"
SOURCE OF INFORMATION: 1990 inventory field survey (May and September); Vermont Nongame and Natural Heritage Program files; "The Waterfalls, Cascades, and Gorges of Vermont" by Jerry Jenkins and Peter Zika for the Agency of Natural Resources (1987)

SIGNIFICANCE:

1. Site for two state-threatened plant species: yellow panic-grass (Panicum xanthophysum) and harsh sunflower (Helianthus strumosus). Also, a site for two rare plants: wild rye (Elymus wiegandii) and slender mountain-rice (Oryzopsis pungens). This is the largest known population of slender mountain-rice in Vermont.

2. Includes one of Vermont's deepest and most spectacular limestone gorges, with an associated warm calcareous cliff natural community.

3. Three small but good examples of uncommon natural communities: calcareous outcrop community, dry oak-hickory-hophornbeam woodland, and pine-oak-heath sandplain woodland. Good examples of calcareous cliff communities are in the gorge.

4. A host of uncommon plants, many associated with limy soils or rock: Bicknell's cranebill (Geranium bicknellii), Poor-Robin's plantain (Hieracium venosum), buffaloberry (Shepherdia canadensis), slender ladies' tresses (Spiranthes lacera), four-leaved milkweed (Asclepias quadrifolia), smooth-stemmed cliffbrake (Pellaea glabella), purple clematis (Clematis occidentalis), wall-rue (Asplenium ruta-muraria), and Seneca snakeroot (Polygala senega).

5. Historical site for these plants listed as endangered, threatened, or rare in Vermont: early thimbleweed (Anemone multifida), large whorled pogonia (Isotria verticillata), ram's head lady'sslipper (Cypripedium arietinum), and giant bird's nest (Pterospora andromedea).

GENERAL DESCRIPTION: The Twin Bridges site includes the Winooski River's Lime Kiln or High Bridge gorge (now traversed by the Lime Kiln bridge), and the land along the river's sharp bend immediately downstream, especially the "point" of land on the Colchester side of the river.

The gorge, of intrinsic geological significance, displays impressive limestone walls rising 70 feet or more above the river. Northern white cedar (Thuja occidentalis) crowd the cliff shoulders and even spill down the gorge walls, finding cracks in the bedrock for rooting. A few plants, notably the columbine (Aquilegia canadensis) and the smooth-stemmed cliffbrake

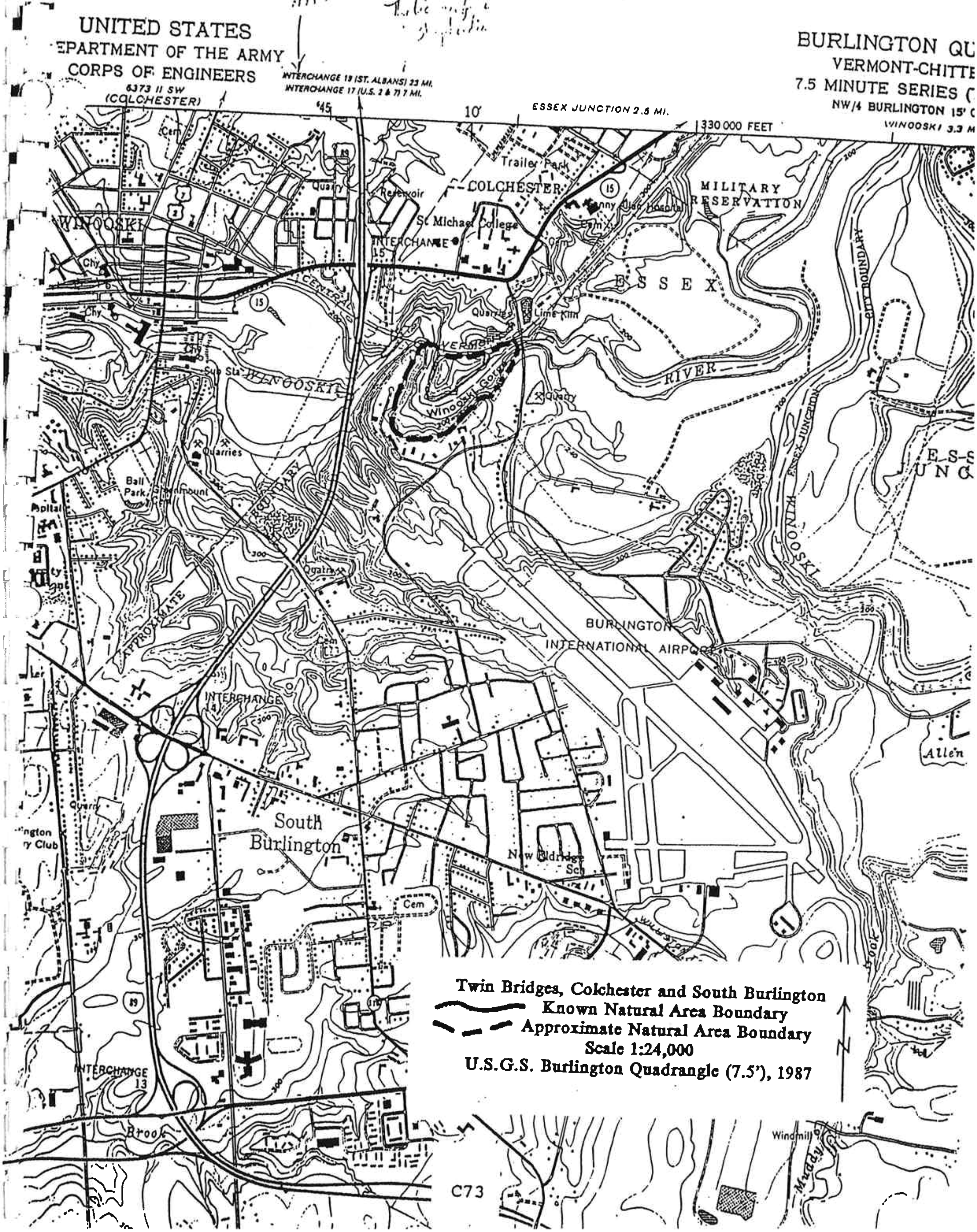
fern, also make an existence on the dry limestone cliffs.

Back from the gorge, the cedar is replaced by a dry oak-hickory-hophornbeam woodland growing in generally rocky soil with scattered outcrops. Lacking a heavy canopy, a variety of high and low shrubs occur, round-leaved dogwood (Cornus rugosa) being the most conspicuous. A curious aspect to the vegetation at the site is the close proximity of typically acid vegetation to a limestone flora. Both red pine-oak-heath and pine-oak-heath sandplain woodlands occur adjacent to the distinctly different limestone flora of the oak-hickory-hophornbeam woodland.

At present Twin Bridges may seem botanically impoverished when compared to a hundred years or more ago when the site was evidently a botanical hotspot. However, Twin Bridges today still retains an impressive plant diversity within a small area. Despite the Burlington airport traffic, a powerline right-of-way, a hydro-electric dam, and a railroad all affecting it, the site, especially along the river, is remarkably tranquil.

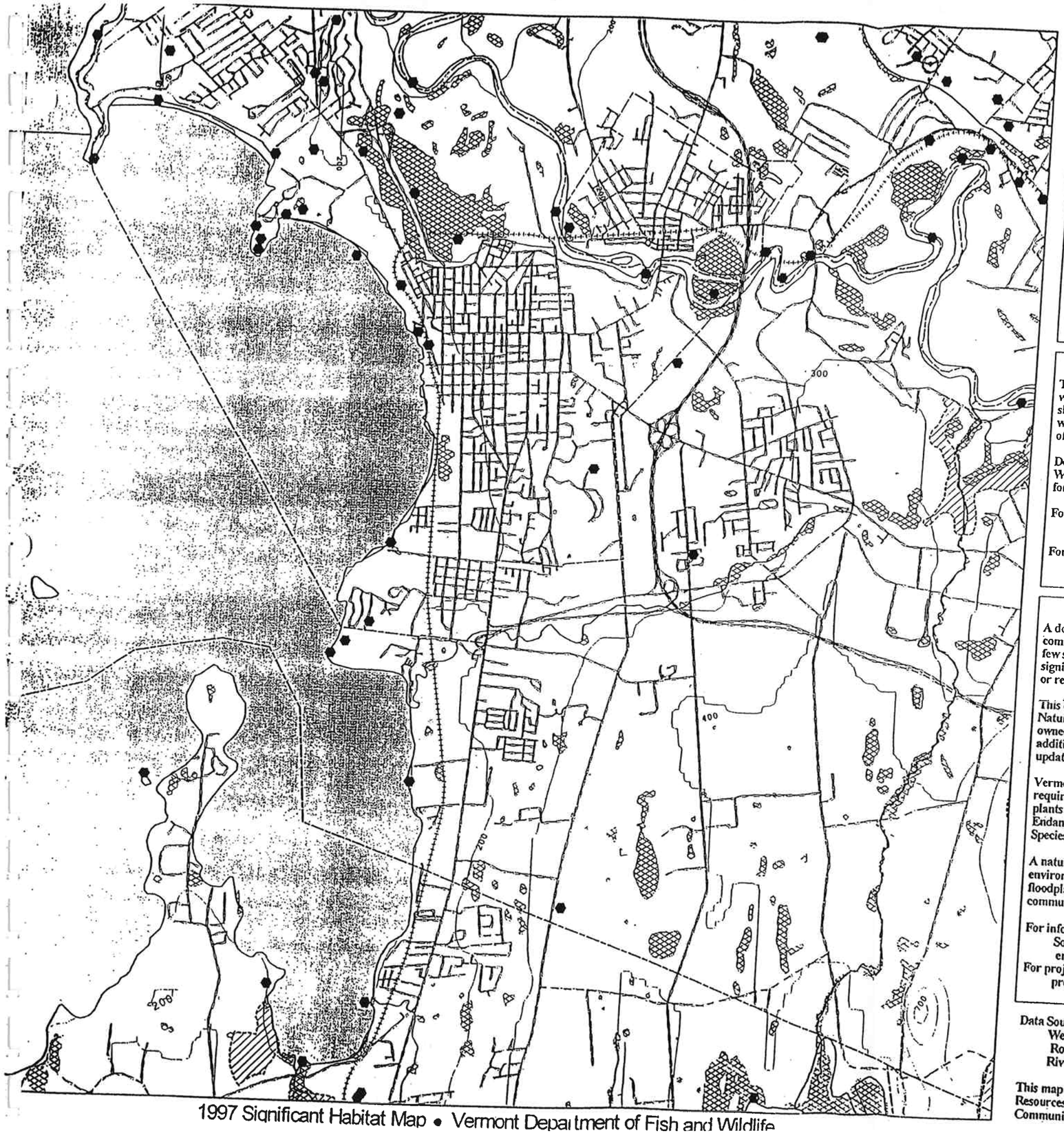
NATURAL AREA ACREAGE: Approximately 25 acres, including the South Burlington side of the river corridor

COMMENTS AND MANAGEMENT GUIDELINES: At present the site is a de facto natural area. However, given development pressures of the area (the site is in the midst of an industrial and urban setting), it may not be this way for long. With its rich plant diversity, good examples of a variety of natural communities, and wonderful scenic qualities, the site needs permanent protection.



Twin Bridges, Colchester and South Burlington
Known Natural Area Boundary
Approximate Natural Area Boundary
Scale 1:24,000
U.S.G.S. Burlington Quadrangle (7.5'), 1987

Town of South Burlington
Significant Habitat Map



1997 Significant Habitat Map • Vermont Department of Fish and Wildlife

Legend

- Rare, Threatened or Endangered Species or Significant Natural Communitiy
- Deer Wintering Area
- River
- Road
- Railroad
- Town
- Wetland
- 100 Foot Contour
- Lake

N

Scale 1:50,000

3000 0 3000 6000 Feet

Notes on Deer Wintering Areas

The locations and boundaries of deer wintering areas shown were determined using color infrared aerial photos. (Not all deer wintering areas have been identified and mapped within the state of Vermont. Some, but not all, of the deer wintering areas shown have been field checked by department wildlife biologists to confirm use and boundaries. The boundaries of the deer wintering areas on this map are generally accurate to within 500 feet. The Dept. of Fish and Wildlife may consider protection of deer wintering areas as Necessary Wildlife Habitat under criterion 8(a) of Act 250 (10 V.S.A. 1086(a)(8)(A)).

Deer wintering area is not the only habitat type considered for protection by the Dept. of Fish and Wildlife under Necessary Wildlife Habitat of Act 250. As examples, Necessary Wildlife Habitat for bear (beech stands that are important feeding areas for bear) and Bicknell's thrush (high elevation spruce-fir areas that support this species) are not included in this map.

For information on Addison, Chittenden, Caledonia, Essex, Franklin, Grand Isle, Lamoille, Orleans, and Washington Counties, contact John Austin, Vermont Dept. of Fish and Wildlife, 324 No. Main St., Barre VT 05641. Telephone: 802-479-3621; Email: jaustin@anrbarre.anr.state.vt.us

For information on Bennington, Orange, Rutland, Windham, and Windsor Counties, contact Forrest Hammond, Vermont Dept. of Fish and Wildlife, RR1, Box 33, 363 River St., No. Springfield, VT 05150-9726. Telephone: 802-886-2215; Email: fhammond@anrspring.anr.state.vt.us

Notes on Rare, Threatened, and Endangered Species and Significant Natural Communities

A dot represents the location for one or more rare, threatened, or endangered species or one or more significant natural community. Depending on what feature is present, the actual area represented by the dot may be hundreds of acres, only a few square yards or even a mile or long stretch of a river. The locations for rare, threatened, and endangered species and significant natural communities are mapped accurately within 200 yards; however, for information gathered from remote areas or received from other sources, the accuracy level varies up to one-half mile.

This data layer is provided for planning purposes and general information. The database is maintained by the Nongame and Natural Heritage Program (NNHP), Vermont Dept. of Fish and Wildlife. The NNHP staff and contractors do not enter privately owned lands without permission from the landowner. Please note, all areas in the town have not been inventoried, therefore additional locations may exist. Field verification may also be necessary by the user(s) of our data. This database is continually updated, so for the most up-to-date information contact NNHP. (See below.)

Vermont's rare native plants and animals shown on the map are cataloged by the NNHP because they have particular habitat requirements, are at the edges of their ranges, are vulnerable to disturbance or collection, or have difficulty reproducing. Rare plants and animals include those that are state-listed as threatened or endangered and therefore protected by the Vermont Endangered Species Law (10 V.S.A. Chap. 123), and those that are federally-listed and protected by the Federal Endangered Species Act (P.L. 93-205)

A natural community is an assemblage of plants and animals that is found recurring across the landscape under similar environmental conditions where natural processes, rather than human disturbances, prevail. Examples are a bog, a riverine floodplain forest, and a dry oak woodland. The Dept. of Fish and Wildlife may consider protection of significant natural communities as Rare and Irreplaceable Natural Areas under Criterion 8 of Act 250.

For information contact Everett Marshall, Nongame and Natural Heritage Program, Vermont Dept. of Fish and Wildlife, 103 So. Main St., Waterbury, VT 05671-0501. Telephone: 802-241-3715 or 802-241-3700; Email: emarshall@fpr.anr.state.vt.us

For project or site review, please send the following: a letter with a short summary of the project including your relation to the project, what permit(s) the review pertains to, and a site location map (preferably a USGS map).

Data Sources: Rare, Threatened, and Endangered Species and Significant Natural Communities; Deer Wintering Areas; and Wetlands: 1:24,000, Vermont Center for Geographic Information (VCGI)
Roads (major and minor); and Railroads: 1:5,000, VCGI; and Town Boundaries: best known source, VCGI
Rivers; and Lakes: 1:100,000, U.S. Geological Survey (USGS); and 100 Foot Contour: Digital Elevation Model (DEM), USGS

This map was produced on 4/3/97 using ArcView GIS by the Dept. of Fish and Wildlife of the Vermont Agency of Natural Resources. The Deer Wintering Area and the Rare, Threatened, and Endangered Species and Significant Natural Community data are current to 2/97.

WM. D. COUNTRYMAN
Environmental Assessment and Planning
868 Winch Hill Road
Northfield, Vermont 05663
(802) 485-8421
wdcenv@together.net

18 November 2004

Stephanie Zehler, E.I.
Dufresne-Henry
P.O. Box 2246
So. Burlington, VT 05407

Subject: Airport Drive Alternatives Analysis

Dear Ms. Zehler,

I have reviewed the proposed improvements of Airport Drive in South Burlington, and offer the following comments. My areas of investigation include wetlands, wildlife, wildlife habitat, rare threatened and endangered species, rivers and streams, and prime agricultural soils. Because the project traverses a previously developed area and for the most part utilizes existing streets, it encounters little natural environment. Two undeveloped ravines (between Dumont Avenue and Picard Street and just south of the Budget Car Rental facility) constitute the only remaining areas containing original topography and vegetative cover.

Wildlife & Wildlife Habitat. There is little opportunity for wildlife at or near the eastern side of the airport except for resident species typical for a suburban environment. Individuals representative of more rural or forest-land species may occur in the area, but only as transients. The proposed improvements will have no adverse impact on existing habitats.

Rare, Threatened and Endangered Species. Searches in the area have not revealed any rare, threatened or endangered species. Although there is potential in the ledges forests nearest Lime Kiln Bridge, the project ends in an already disturbed area where there is no existing natural habitat.

Wetlands. The following areas of wetland have been identified: (1) Emergent palustrine wetland in the ravine between Dumont Avenue and Picard Street; (2) Emergent palustrine wetland in ravine north of the Budget Car Rental facility; and (3) Wet meadow wetlands west of the intersection of Airport Drive, Shamrock Road and Ethan Allen Drive. Another wetland on the north side of Airport Parkway opposite the 15 end of the airport lies beyond the area of impact from the project. All of these wetlands are Class Three wetlands, *i.e.*, wetlands not protected under provisions of the Vermont Wetland Rules.

These wetlands perform few functions. The primary function of wetlands in a developed environment is the protection of surface and ground water resources by receiving and cleaning runoff from nearby streets and developed property. There is limited potential for wildlife habitat, mostly for amphibians and small mammals, and no open water that might support waterfowl. Other functions include open space and aesthetics because the wetlands abut developed property, and erosion control because wetland vegetation stabilizes soil adjacent to flows. None of these functions will be adversely affected by any of the proposed alternatives, even though a minor fill is necessary for Alternative B, Segment 2 at the upstream end of the ravine wetland.

Rivers and Streams. Minor intermittent streams drain through the wetlands in the ravines near Airport Parkway (Segment 2). Neither alternative proposed for this area will adversely affect these streams because existing crossings will be utilized, and the minor wetland fill proposed for Alternative B affects only a short section at the upstream end of flow.

Prime Agricultural Soils. The project passes through areas of Adams and Windsor loamy fine sand (primarily along most of the eastern side of the airport), Munson and Raynham silt loams (at of the Airport Drive/Shamrock Road intersection), and Agawam fine sandy loam (just north of the intersection), all of which are listed as having either highest or good potential for agricultural uses. The 1983 list of Vermont's Primary Agricultural Soils did not, however, consider size and location, accessibility and current land use in the evaluations. When these factors are taken into consideration, all soils over which the project passes can be eliminated as having any agricultural potential. Not only are there no undeveloped sites of any size, there is also little likelihood that agricultural operations would be initiated in the project area.

Summary. Proposed improvements to Airport Parkway, including using existing streets and Alternative B that involves construction of a new section of street that avoids the existing White Street-Airport Parkway intersection, will have no impacts to wildlife, rare threatened or endangered species or prime agricultural soils. Minor impacts to an area of wetland and its drainage stream will occur with Alternative B, but none of the recognized functions of the affected wetland will be compromised.

Sincerely,

Errol C. Briggs

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO
ATTENTION OF

Camp Johnson, Building 10-18
Colchester, Vermont 05446
October 20, 1999

Regulatory Branch
CENAE-CO-R-62-199902765

Mr. Chris Pecor
Project Manager
Dufresne-Henry, Inc.
P.O. Box 2246
South Burlington, Vermont 05407

Dear Mr. Pecor:

I have received your notice regarding the proposed work on Airport Parkway in South Burlington, Vermont. I would like to take this opportunity to thank you for your early coordination on this project. I will not be attending the October 25, 1999 meeting, but offer the following comments:

Since you have not provided any details as to the proposed alternatives, I cannot, at this time, make a preliminary judgment as to what type of permit, and thus how much involvement by the Corps, would be required. Once a preliminary design has been formulated, you should forward a copy to me so that I may then be able to make an initial determination. Generally, my concerns would be with the extent of any impacts to waterways and/or wetlands, the availability of alternatives to minimize or avoid any of these impacts, and whether or not any historic properties would be impacted.

Again, thank you for providing the opportunity to comment at this early phase of the project. Please call me at 802 655-0334 if you have any questions.

Sincerely,

Mike

Michael S. Adams
Project Manager
Regulatory Branch

STATE OF VERMONT

DEPARTMENT OF AGRICULTURE, FOOD & MARKETS

October 28, 1999

Chris Pecor, P.E.
Dufresne-Henry
P.O. Box 2246
South Burlington, VT 05407

Re: Scoping Report for Airport Drive/Airport Improvements, South Burlington, VT

Dear Chris:

Thank you for contacting the Department of Agriculture for comments regarding the above-referenced project, which is depicted on a map that you enclosed with your August 25, 1999 letter to Deputy Commissioner of Agriculture Louise Calderwood. As well, I enjoyed meeting with you during our visit to the envisioned project area yesterday.

As discussed during our drive around the project area, my assessment is that, except for what may be a small Christmas tree farm located inside a power-line area near the Ethan Allen intersection in South Burlington, there appear to be no agricultural resources in the immediate project area. As we discussed yesterday, I recommend that you determine who owns the land where the Christmas trees are located, and that you consult with the individual(s) before going ahead with any plans. In addition, I again wish to stress that the Department would be opposed to any plan or project that would significantly interfere with or jeopardize the continuation of the Belter Farm, the Onion River Farm (Gifford Riding Academy), or any other agricultural operation located in the vicinity of the project area.

Again, it was good to meet with you yesterday. If I can be of any further assistance, please do not hesitate to contact me.

Sincerely,

Christopher L. White
Agricultural Policy Analyst

SEAL OF QUALITY
Vermont
DEPT. OF AGRICULTURE

116 STATE STREET
DRAWER 20
MONTPELIER, VT 05620-2901

Winooski Valley Park District
ETHAN ALLEN HOMESTEAD
Burlington, Vermont 05401
Tel: (802) 863-5744 Fax: (802) 865-0647

September 22, 1999

RECEIVED
SEP 2 1999
DUFRESNE - HENRY
SOUTH BURLINGTON, VT
6390001.01
Greg
Chris

Chris Pecor
Dufresne-Henry, Inc.
POB 2246
South Burlington, VT 05407

Dear Chris,

This letter is being written with regards to the Airport Drive/Airport Parkway Scoping project, your job #6390001.01.

After review of the map you sent us outlining the project's location, we feel it may potentially have impact on lands managed by the Winooski Valley Park District. The Park District has signage along the Winooski for a Canoe Trail. There is a canoe portage take-out on the Rte. 15 side of the river to the west of Lime Kiln Bridge and as such there is signage.

Additionally, on the other side of the river to the east of Lime Kiln Bridge a proposed condominium development was recently denied an Act 250 permit as that area overlooking the Winooksi Gorge is home to endangered plant species and habitat. As a result, the Park District is in negotiations with South Burlington on the possibilities of future management and/or ownership of that area with discussions of a parking area and overlook being constructed there by the AOT. Should that come to pass in the future, then this project would indeed impact the Park District.

If you have any further questions or need further clarification, please do not hesitate to contact us.

Sincerely,

Jennifer Ely
Director

JE/kbe
Enc.

STATE OF VERMONT
AGENCY OF NATURAL RESOURCES
INTERAGENCY ACT 250 REVIEW COMMITTEE

RE: Far Water Ltd.

DISTRICT ENVIRONMENTAL COMMISSION#4

APPLICATION#4C1036

February 4, 1999

SUPPLEMENTAL COMMENTS

The Agency of Natural Resources ("Agency"), State of Vermont, by and through its attorney, Jon Groveman, Esq., submits the following supplemental comments in the above-captioned matter.

Criteria 1(A) - HEADWATER, 1(F) - SHORELINES, 4 - EROSION AND 8 RARE AND IRREPLACEABLE NATURAL AREAS

The Agency has worked closely with the applicant since the hearing to address the concerns raised with regard to the projects impact under the above criteria. To refresh the Commission's memory, at the hearing the Agency questioned the proximity of the project to the top of the steep bank, which leads down to the Winooski River. The Agency also expressed concern about the impacts of the project on a well developed cedar-pine bluff forest, and associated calcareous cliff on limestone bedrock. The forest is considered a rare and irreplaceable natural area by the State's Nongame and Natural Heritage Program.

To address these issues the Agency has recommended, and the applicant has agreed, to following permit conditions:

1. The permittee shall provide a minimum 50' naturally vegetated, undisturbed buffer as measured from the top of bank. The buffer shall be laid out in such a way as to fully protect all trees from damage by construction vehicles. This will require barriers at the drip edge of all trees within the buffer, and some directional felling during clearing operations.

2. The applicant shall notify the Agency and the Commission at least one week prior to commencement of construction, to schedule a pre-construction conference on-site. The conference shall take place prior to construction, and will include an inspection of the buffer demarcation to ensure that it is conforms with the permit conditions and

applicable exhibits. To be clear, the buffer must be flagged prior to the pre-construction conference.

3. To minimize the clearing associated with the project, and maximize protection of the cedar-pine bluff forest, the permittee shall locate the water and gas lines so that they follow either the roadway or the sidewalk.

Final plans should be submitted by the applicant, which memorialize the above conditions.

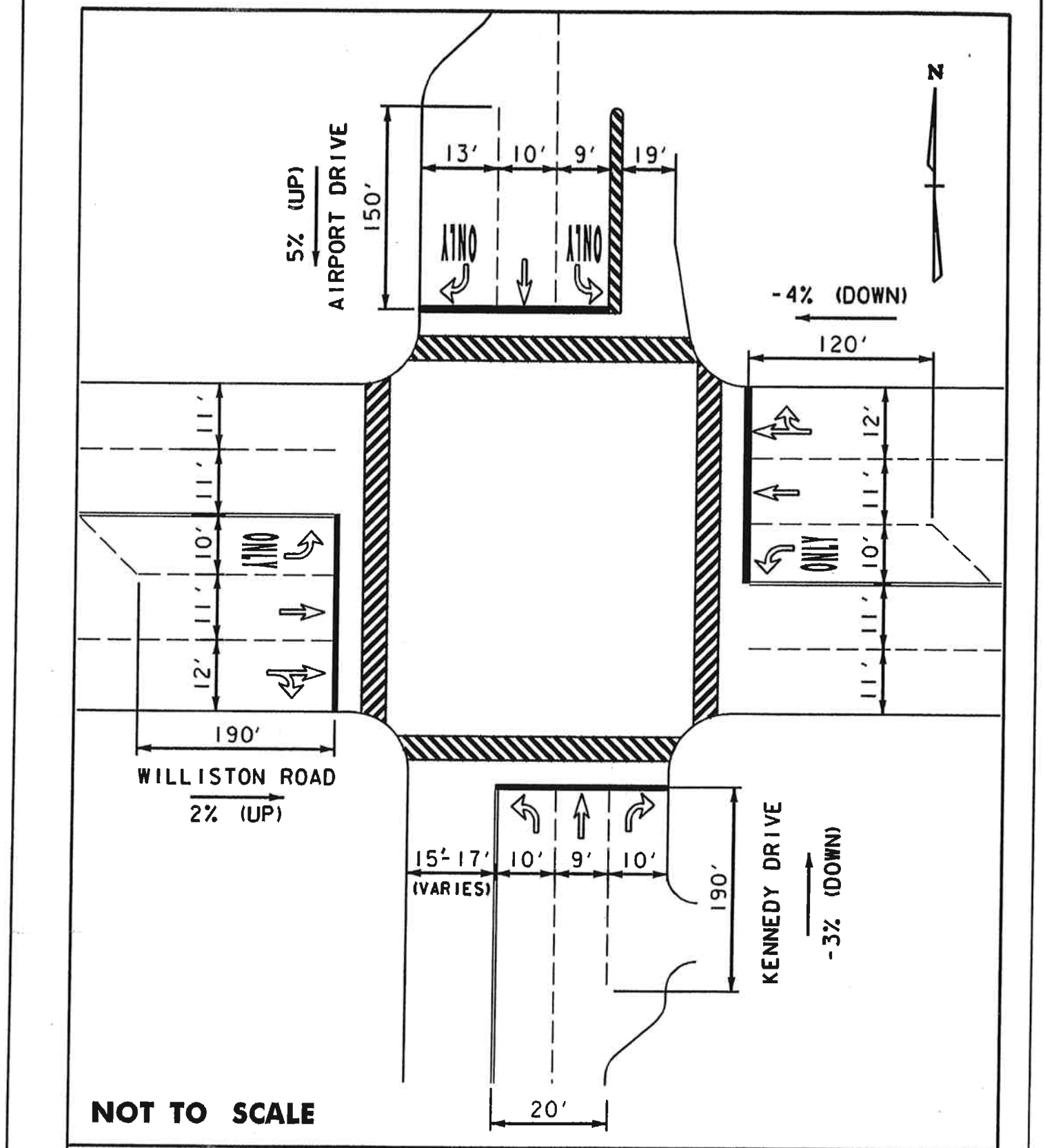
Dated February 4, 1999, at Waterbury, Vermont.

Respectfully submitted,

State of Vermont
Agency of Natural Resources

By _____
Jon Groveman, Esq.

Appendix D - Traffic



EXISTING CONDITION: INTERSECTION #1
INTERSECTION OF WILLISTON ROAD/
AIRPORT DRIVE/AND KENNEDY DRIVE

Dufresne-Henry, Inc.
Consulting Engineers

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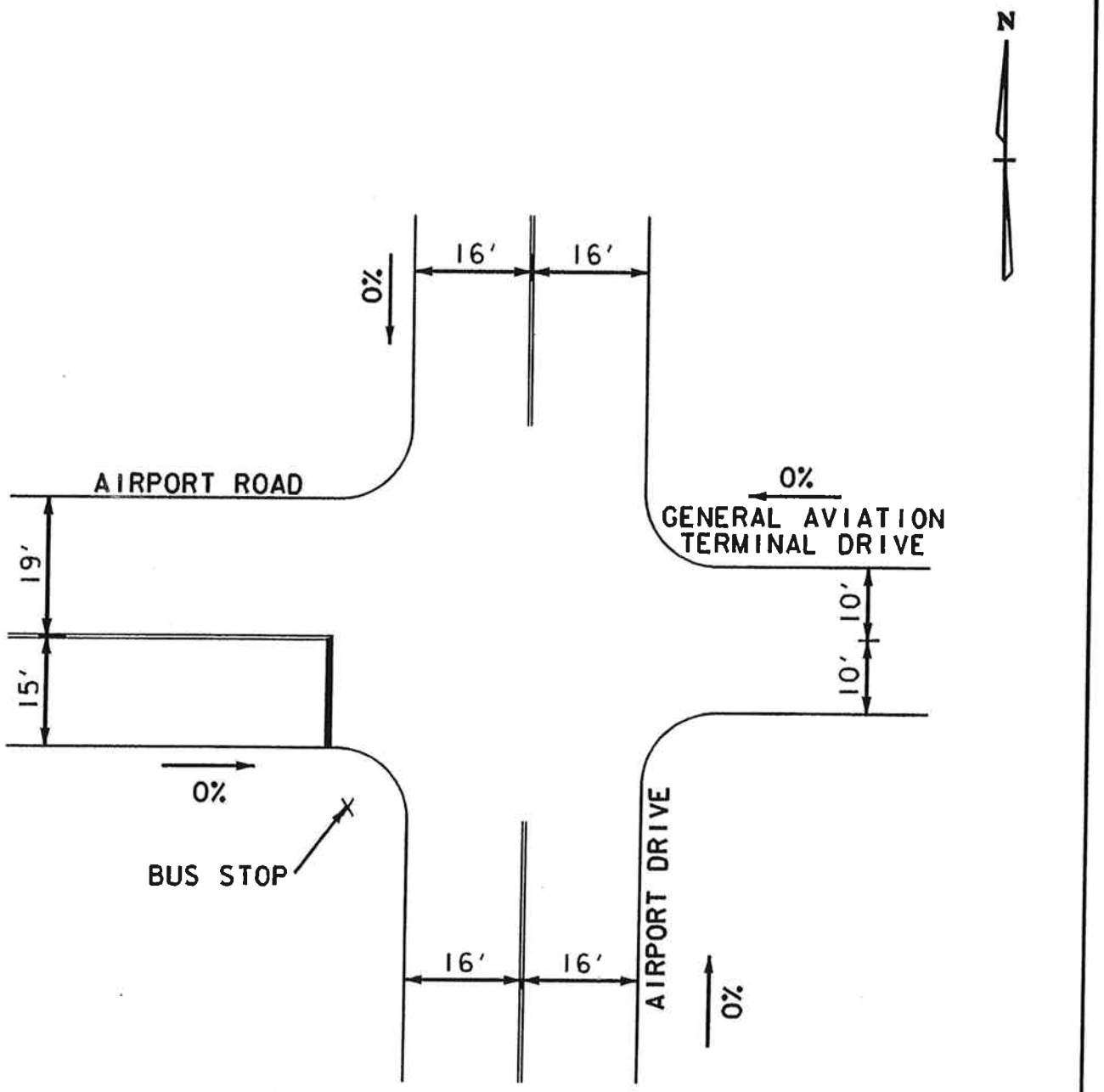
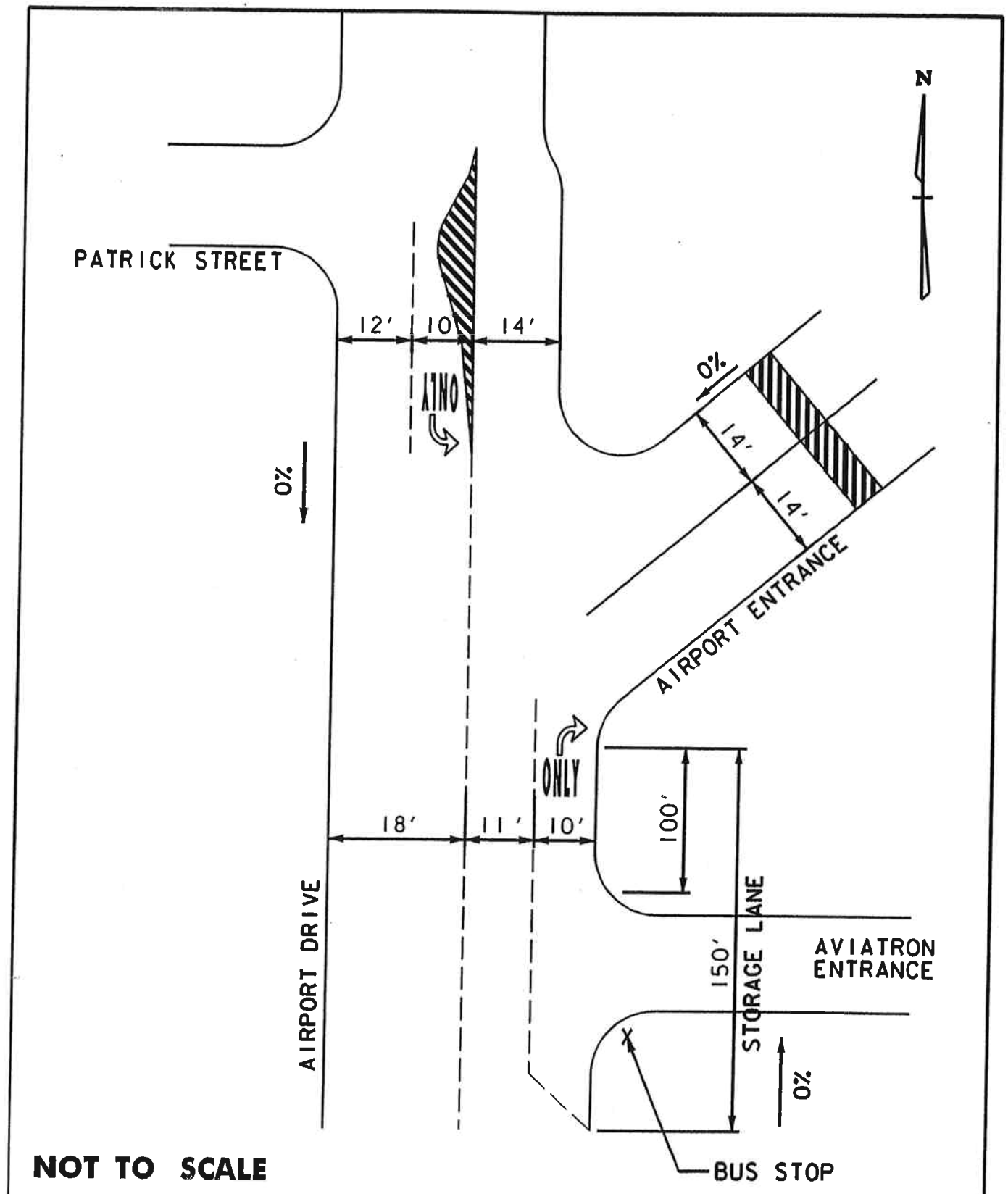


NOT TO SCALE

EXISTING CONDITION: INTERSECTION #2
INTERSECTION OF AIRPORT ROAD/
AIRPORT DRIVE

Dufresne-Henry, Inc.
Consulting Engineers

...\Airport Proj Intersections.dgn 08/19/2004 03:39:02 PM



EXISTING CONDITION: INTERSECTION #3
INTERSECTION OF AIRPORT ENTRANCE/
AND AIRPORT DRIVE

Dufresne-Henry, Inc.
Consulting Engineers

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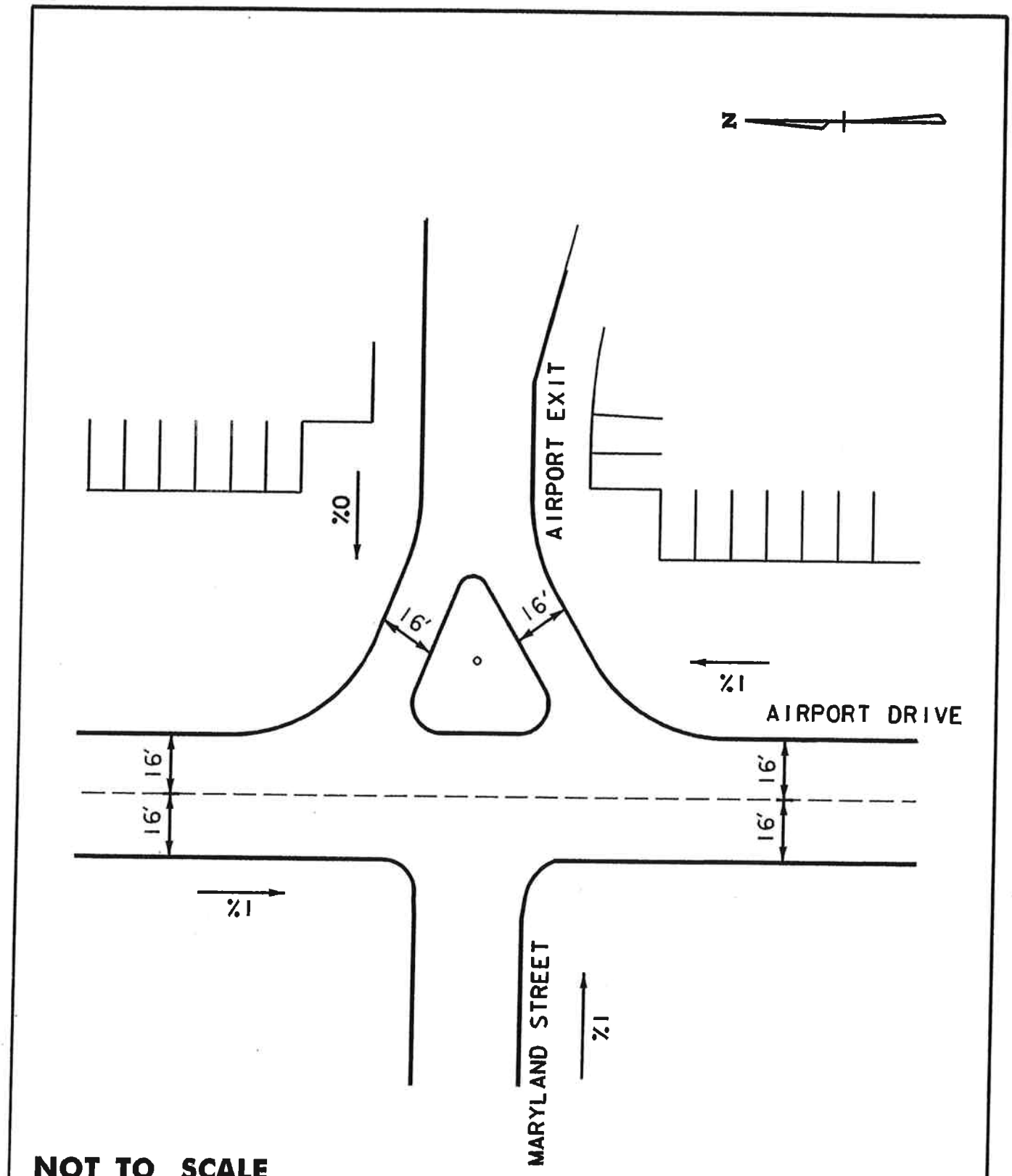

NOT TO SCALE

EXISTING CONDITION: INTERSECTION #4
INTERSECTION OF AIRPORT EXIT/
LEDOUX TERRACE/AND AIRPORT DRIVE

Dufresne-Henry, Inc.
Consulting Engineers

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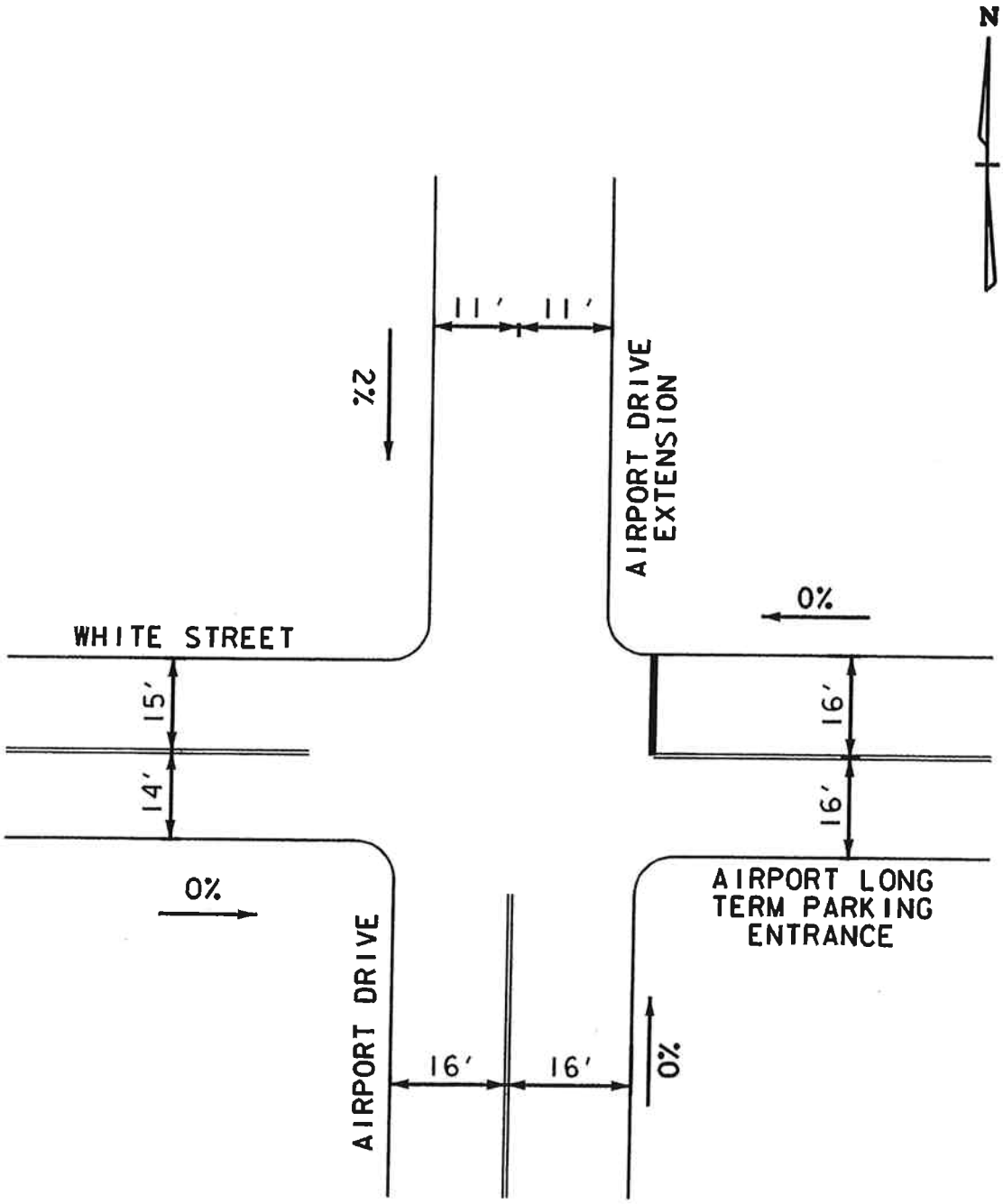

NOT TO SCALE

EXISTING CONDITION: INTERSECTION #5
INTERSECTION OF AIRPORT DRIVE/WHITE STREET/
AND AIRPORT LONG TERM PARKING ENTRANCE

Dufresne-Henry, Inc.
Consulting Engineers

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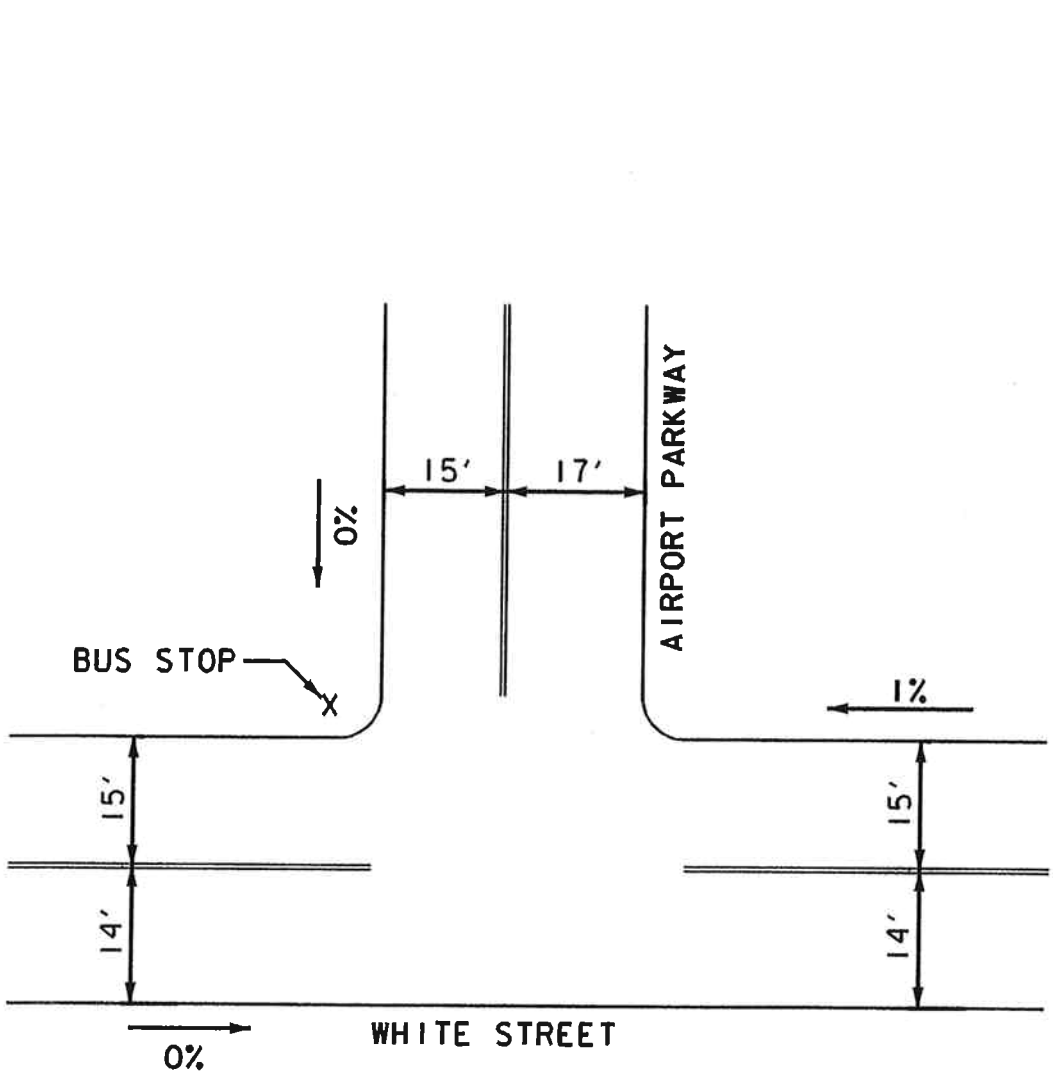

NOT TO SCALE

EXISTING CONDITION: INTERSECTION #6
INTERSECTION OF AIRPORT PARKWAY AND WHITE STREET

Dufresne-Henry, Inc.
Consulting Engineers

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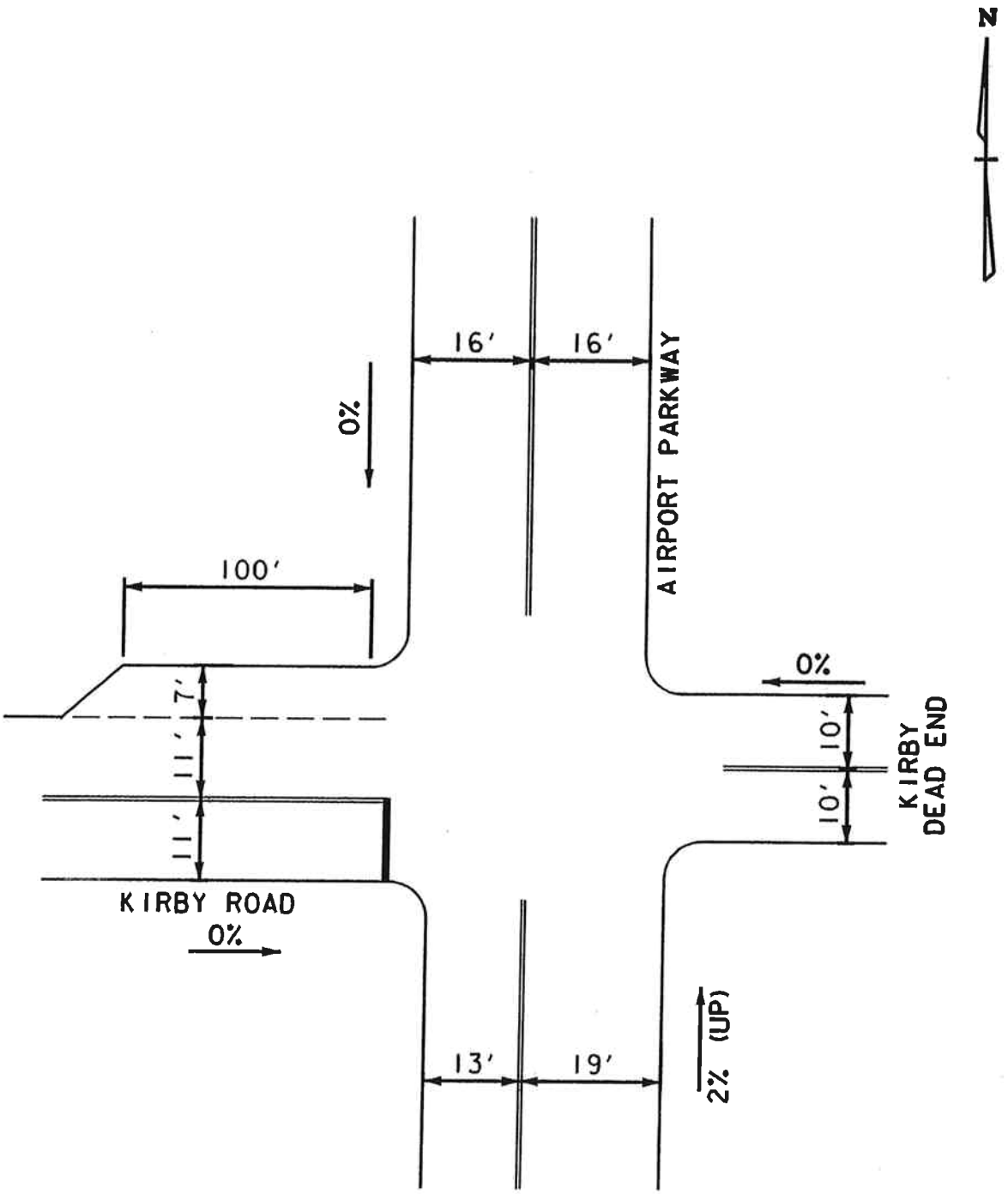

NOT TO SCALE

EXISTING CONDITION: INTERSECTION #7
INTERSECTION OF AIRPORT PARKWAY/
AND KIRBY ROAD

Dufresne-Henry, Inc.
Consulting Engineers

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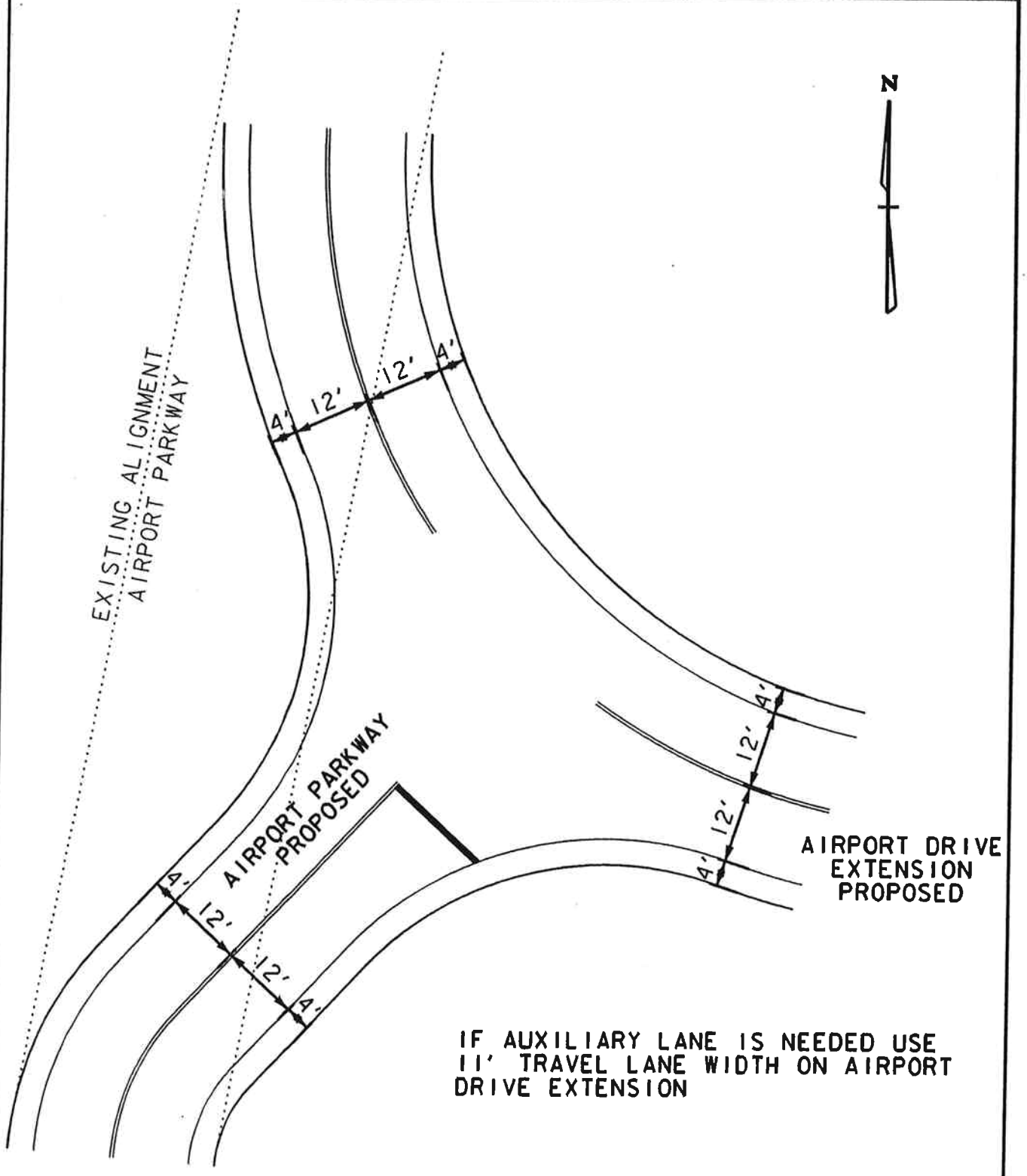

NOT TO SCALE

PROPOSED CONDITION: INTERSECTION #8
INTERSECTION OF AIRPORT PARKWAY/
AND PROPOSED AIRPORT DRIVE EXTENSION

Dufresne-Henry, Inc.
Consulting Engineers

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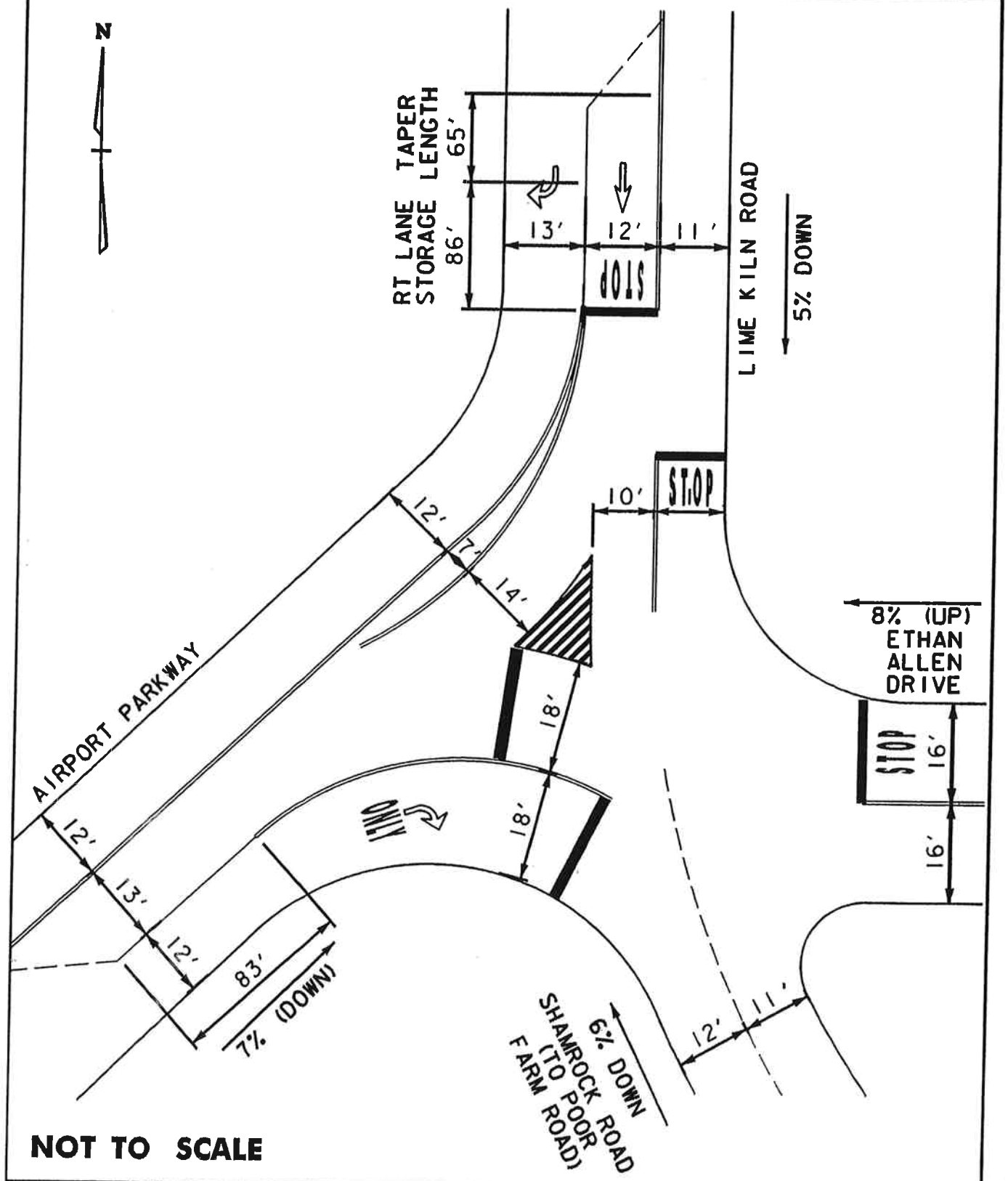
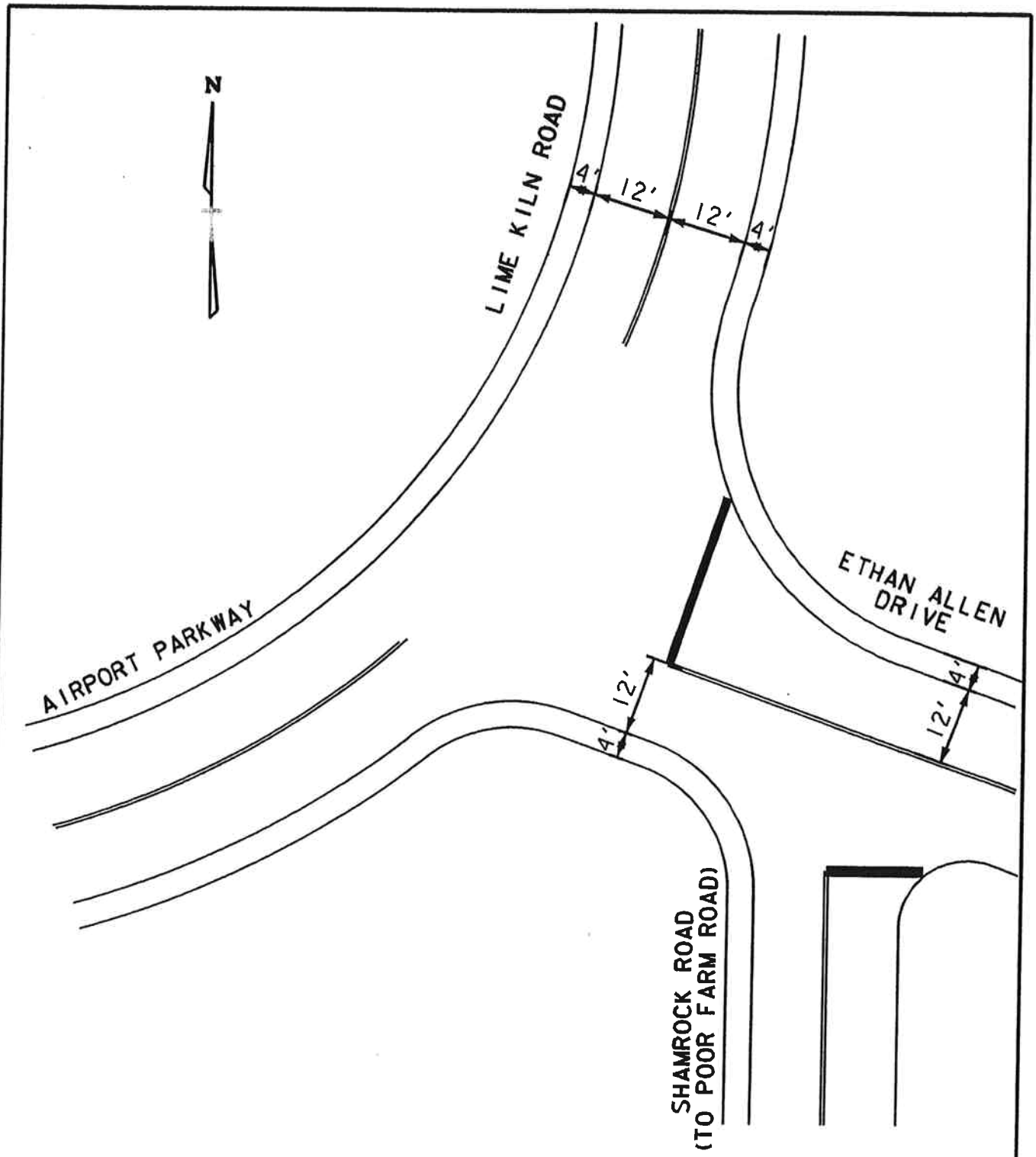


EXISTING CONDITION: INTERSECTION #9
INTERSECTION OF AIRPORT PARKWAY/SHAMROCK ROAD/
ETHAN ALLEN DRIVE/AND LIME KILN ROAD

Dufresne-Henry, Inc.
Consulting Engineers

...\Airport Proj Intersections.dgn 08/19/2004 03:56:35 PM



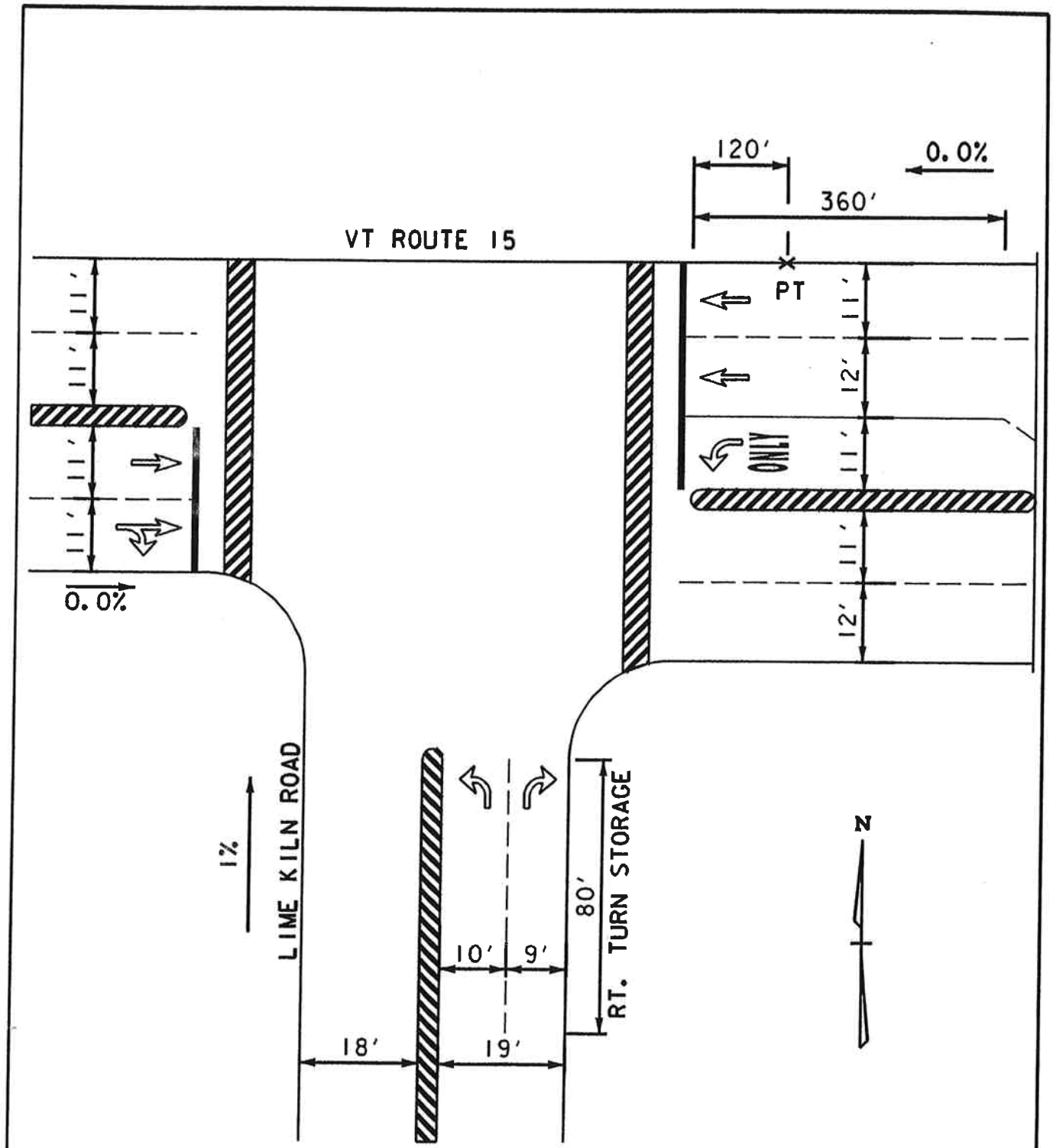
IF AUXILIARY LANE IS NEEDED USE 11' WIDTH

NOT TO SCALE

PROPOSED CONDITION: INTERSECTION #9 ALT.
INTERSECTION OF AIRPORT PARKWAY/
ETHAN ALLEN DRIVE/AND LIME KILN ROAD

DH
Dufresne-Henry, Inc.
Consulting Engineers

...\Airport Proj Intersections.dgn 08/19/2004 03:56:46 PM



NOT TO SCALE

EXISTING CONDITION: INTERSECTION #10
INTERSECTION OF LIME KILN ROAD
AND VT ROUTE 15

Dufresne-Henry, Inc.
Consulting Engineers

...\Airport Proj Intersections.dgn 08/19/2004 03:56:57 PM

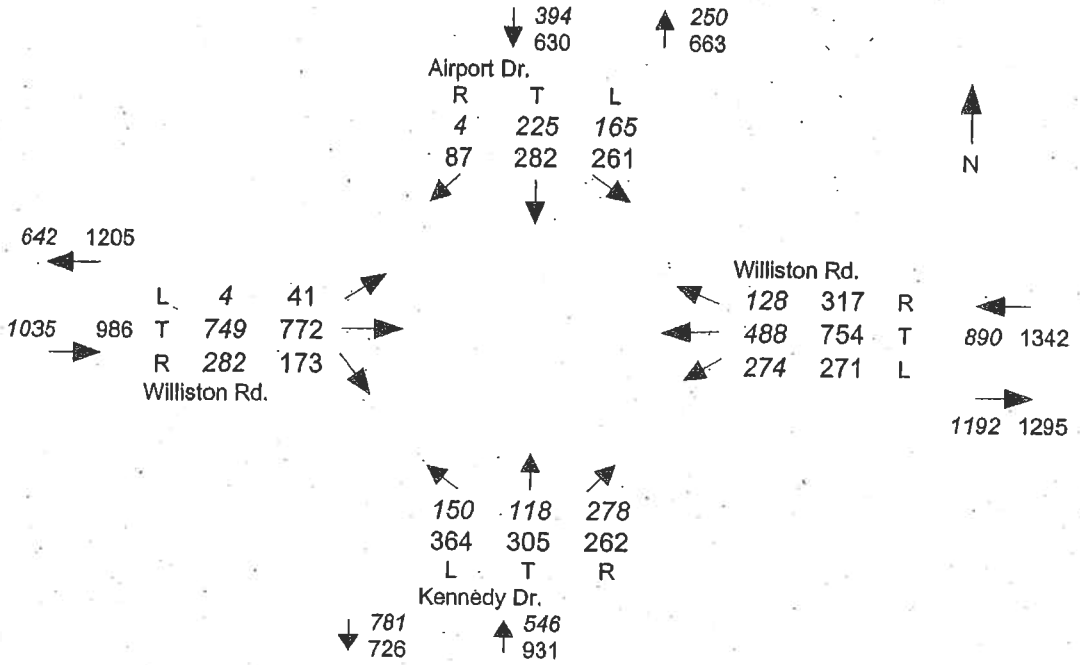
6320020.01
GGG
MCS
5/21

TABLE 1

TRAFFIC VOLUMES SUMMARY

Airport Dr., Kennedy Dr., and Williston Rd.

2008 DHV



a.m. peak hour - 0730-0830
p.m. peak hour - 1615-1715

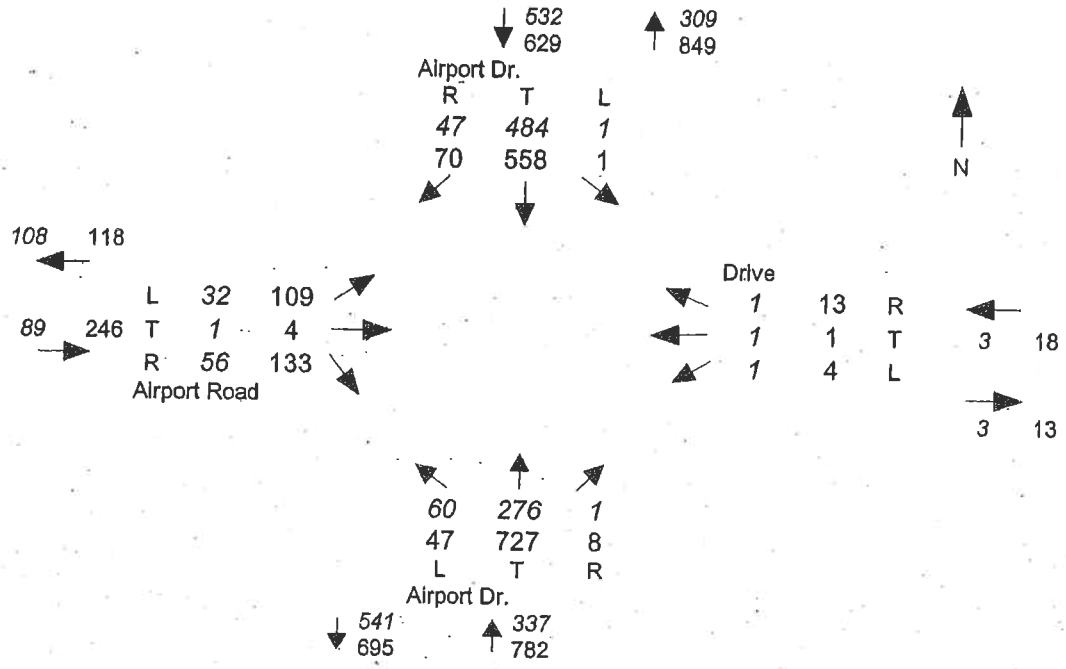
Data Source - VAOT/01

TABLE 2

TRAFFIC VOLUMES SUMMARY

Airport Drive and Airport Road

2008 DHV



a.m. peak hour - 0730-0830
p.m. peak hour - 1615-1715

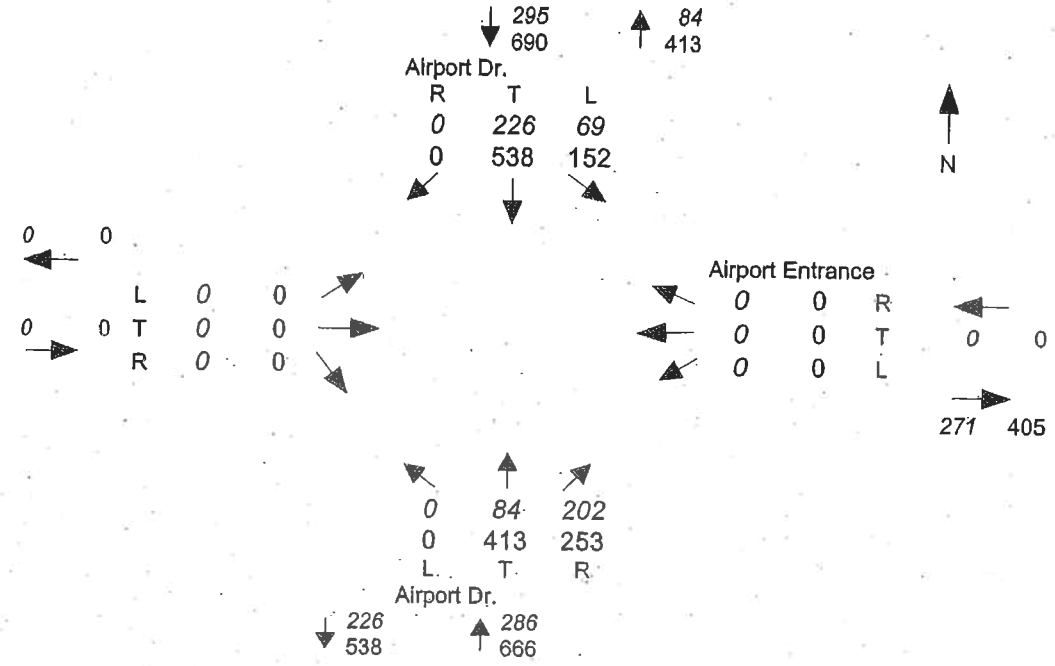
Data Source - VAOT/01

TABLE 3

TRAFFIC VOLUMES SUMMARY

Airport Drive and Airport Entrance

2008 DHV



a.m. peak hour - 0715-0815
p.m. peak hour - 1630-1730

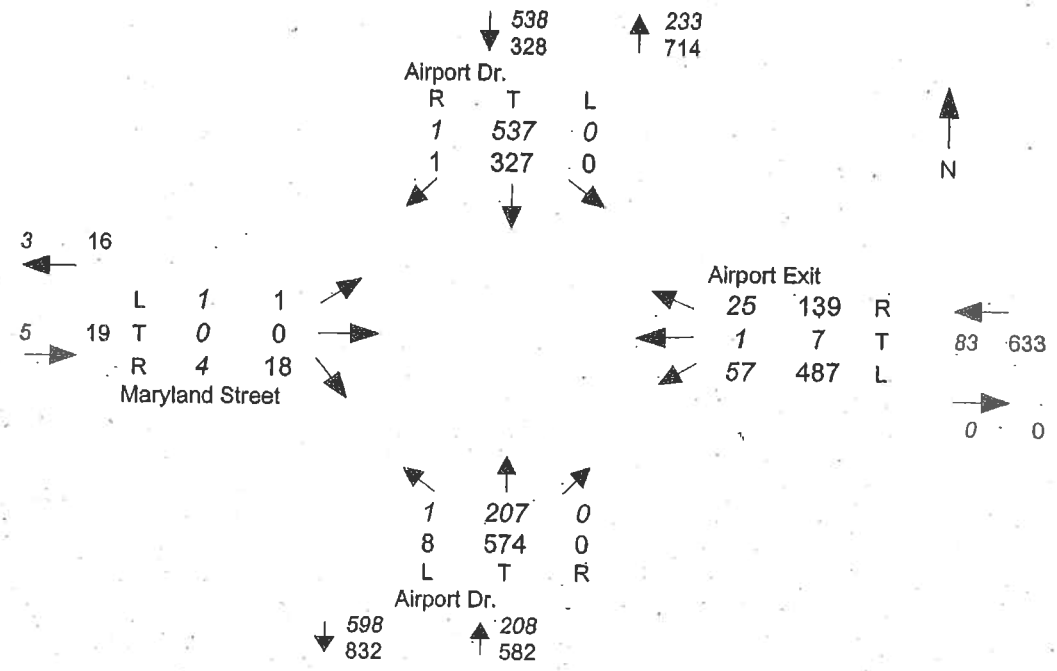
Data Source - D-H/02

TABLE 4

TRAFFIC VOLUMES SUMMARY

Airport Drive, Airport Exit, and Maryland Street

2008 DHV



a.m. peak hour - 0730-0830
p.m. peak hour - 1600-1700

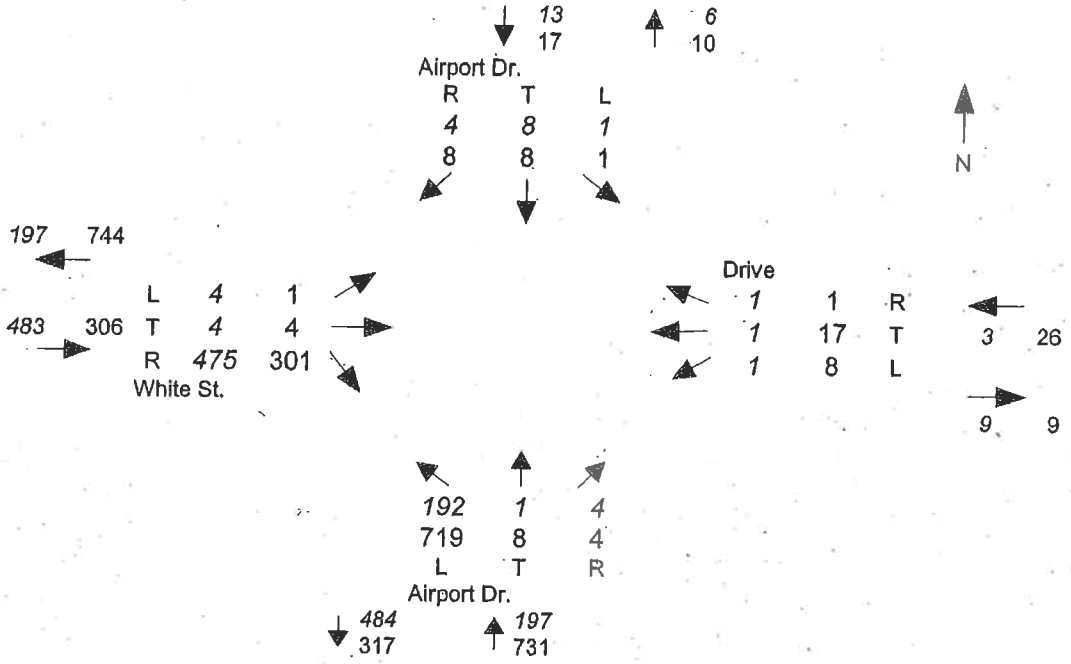
Data Source - D-H/02

TABLE 5

TRAFFIC VOLUMES SUMMARY

Airport Drive and White Street

2008 DHV



a.m. peak hour - 0730-0830
p.m. peak hour - 1615-1715

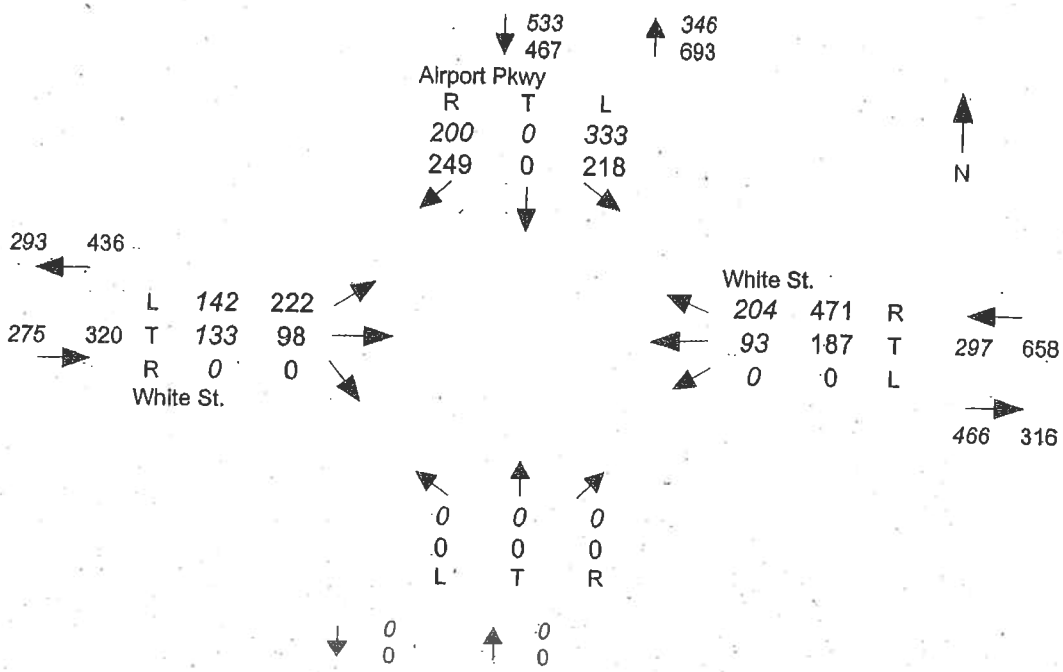
Data Source - VAOT/01

TABLE 6

TRAFFIC VOLUMES SUMMARY

Airport Parkway and White Street

2008 DHV



a.m. peak hour - 0730-0830
p.m. peak hour - 1630-1730

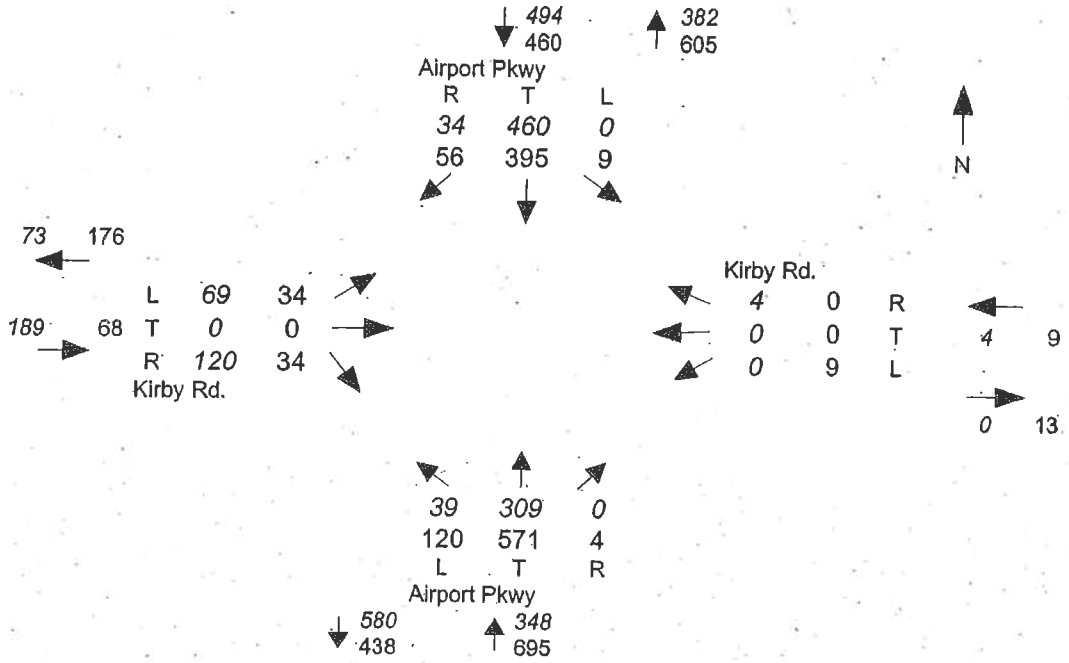
Data Source - D-H/03

TABLE 7

TRAFFIC VOLUMES SUMMARY

Airport Parkway and Kirby Road

2008 DHV



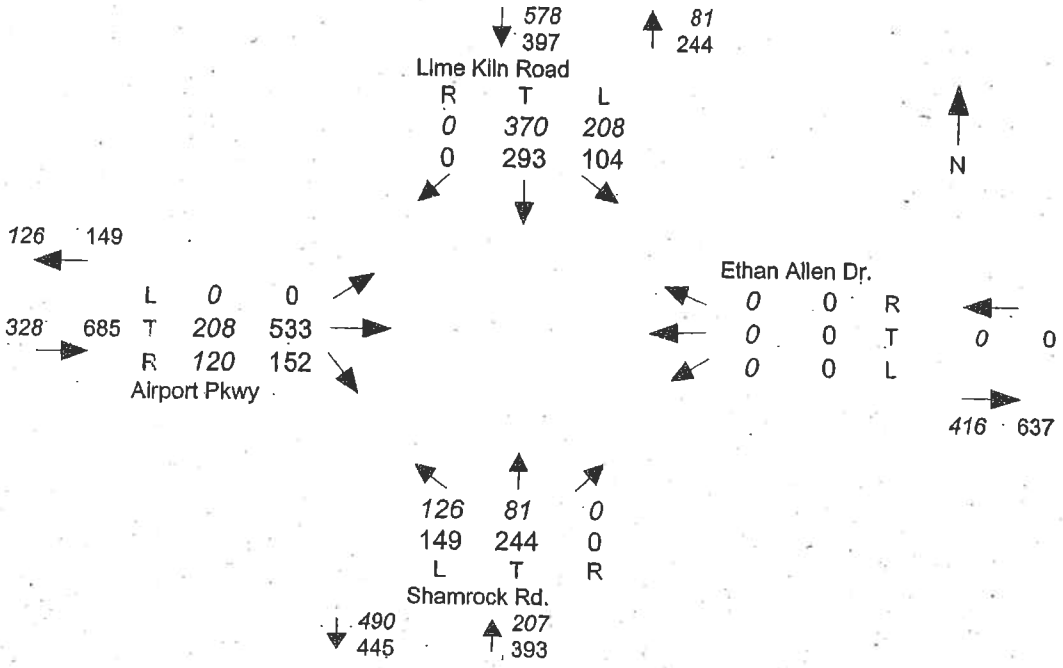
a.m. peak hour - 0730-0830
p.m. peak hour - 1630-1730

Data Source - VAOT/01

TABLE 9-1

TRAFFIC VOLUMES SUMMARY

Lime Kiln Road, Ethan Allen Drive, Shamrock Road and Airport Parkway 2008 DHV



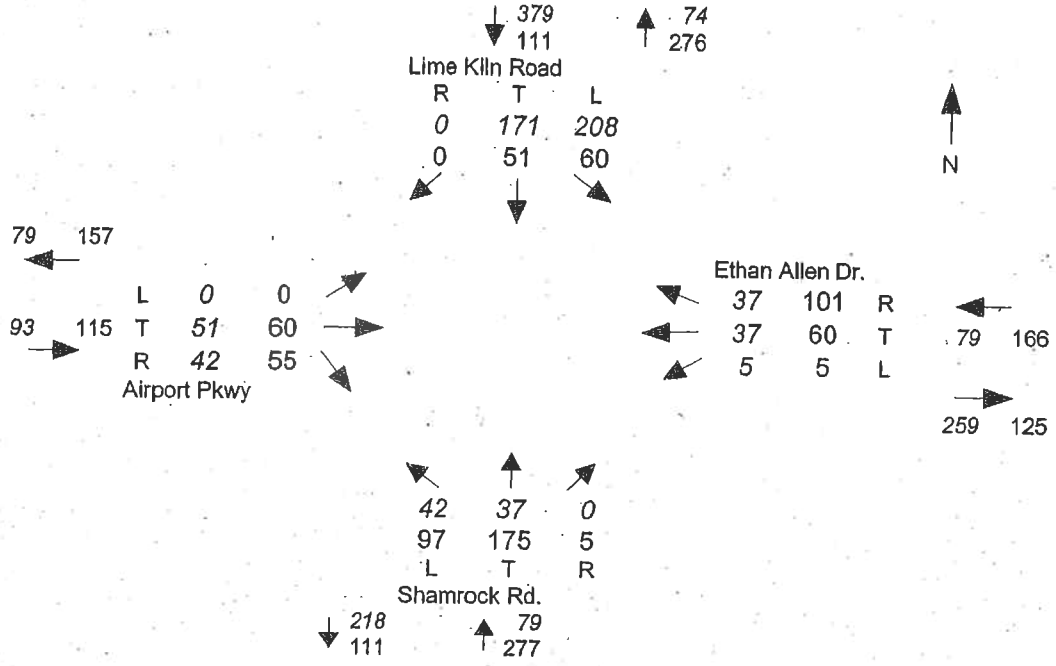
a.m. peak hour - 0730-0830
p.m. peak hour - 1615-1715

Data Source - D-H/03

TABLE 9-2

TRAFFIC VOLUMES SUMMARY

Lime Kiln Road, Ethan Allen Drive, Shamrock Road and Airport Parkway 2008 DHV



a.m. peak hour - 0645-0745
p.m. peak hour - 1530-1630

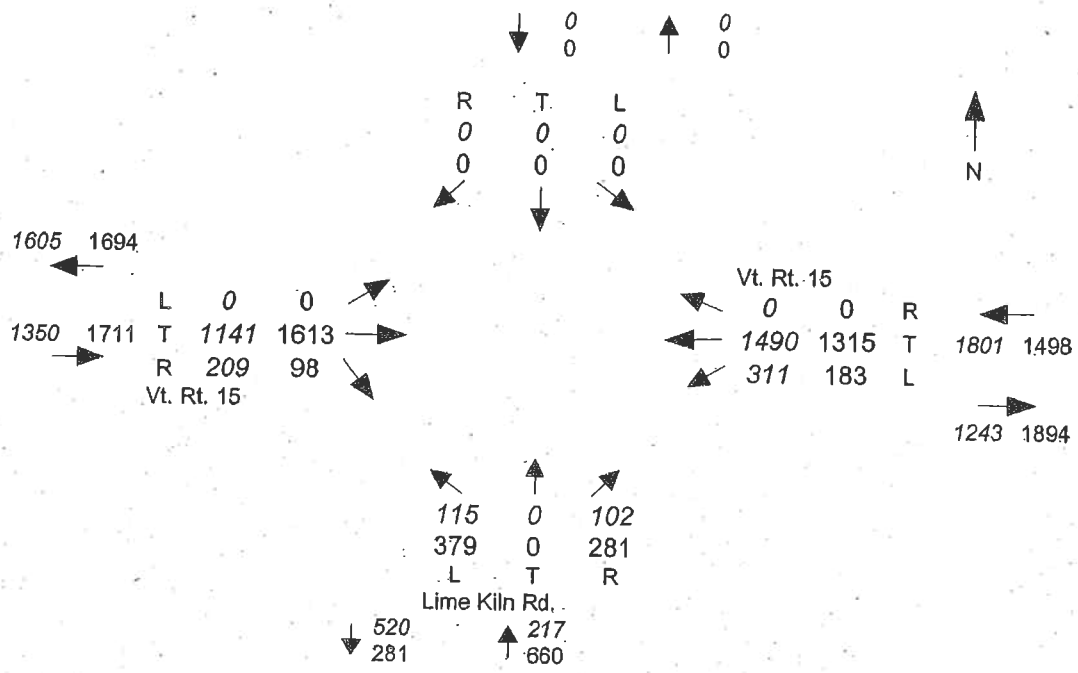
Data Source - D-H/03

TABLE 10

TRAFFIC VOLUMES SUMMARY

Lime Kiln Road and Vermont Route 15

2008 DHV



a.m. peak hour - 0715-0815
p.m. peak hour - 1630-1730

Data Source - VAOT/01

Williston Road (Rt 2) & Airport Drive Intersection @ MM 1.9

Vermont Agency of Transportation

Date: 08/31/2004

General Yearly Summaries - Summary Listing

From 01/01/98 To 12/31/02 General Yearly Summaries Information

Reporting Agency/ Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Manner Of Collision	Number Of Injuries	Number Of Fatalities	Directio	Road Group
Route: US-2	35 total accidents							27 injuries	0 fatalities		
0414/1029	South Burlington	1.85	04/24/1998	16:1	Clear	Followed too closely	Rear End	2	0	E	SH
0414/8572-02	South Burlington	1.87	09/19/2002	11:4	Clear	Failed to yield right of way, Inattention	Other	0	0	E	SH
0414/02SB02792	South Burlington	1.89	07/03/2002	16:0	Clear	Inattention, No improper driving	Rear End	0	0	W	SH
0414/11037-02	South Burlington	1.89	10/26/2002	11:3	Rain	Followed too closely, No improper driving	Rear End	0	0	W	SH
0414/283	South Burlington	1.9	02/12/1998	06:2	Rain	Visibility obstructed	Other	1	0	W	SH
0414/870	South Burlington	1.9	04/07/1998	16:5	Clear	Failed to yield right of way	Rear End	1	0	S	SH
0414/1862	South Burlington	1.9	08/06/1998	22:4	Fog, Smog, Smoke	Visibility obstructed	Other	1	0	E	SH
0414/2186	South Burlington	1.9	08/24/1998	16:5	Clear	Visibility obstructed, Failed to yield right of way	Other	1	0	S	SH
0414/2184	South Burlington	1.9	09/04/1998	22:1	Clear	Failed to yield right of way	Other	0	0	E	SH
0414/5096	South Burlington	1.9	05/04/1999	19:3	Rain	Failed to yield right of way	Other	2	0	E	SH
0414/6733	South Burlington	1.9	10/08/1999	07:2	Clear	Failed to yield right of way	Other	0	0	E	SH
0414/7404	South Burlington	1.9	12/19/1999	15:1	Cloudy	Made an improper turn	Other	1	0	E	SH

0414/8128	South Burlington	1.9	01/20/2000	19:33	Snow	Failed to yield right of way, Other Improper action	Other	1	0	E	SH
0414/9299	South Burlington	1.9	05/23/2000	10:27	Clear	Disregarded traffic signs, signals, road markings	Other	0	0	E	SH
0414/9728	South Burlington	1.9	08/28/2000	09:3	Clear	Other improper action, Followed too closely	Rear End	1	0	E	SH
0414/13674	South Burlington	1.9	12/23/2001	18:20	Cloudy	Disregarded traffic signs, signals, road markings	Other	2	0	W	SH
[illegible]	South Burlington	1.9	05/13/2002	08:5[illegible]	Rain	Failure to keep in proper lane or running off road, Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway etc, Failed to yield right of way, Made an improper turn	Other	[illegible]	0	E	[illegible]
0414/6336-02	South Burlington	1.9	06/18/2002	13:5	Cloudy	Unknown	Other	0	0	E	SH
0414/7707-02	South Burlington	1.9	07/30/2002	05:1	Cloudy	No improper driving, Failed to yield right of	Other	0	0	E	SH
0414/8473-02	South Burlington	1.9	08/21/2002	09:15	Clear	Disregarded traffic signs, signals, road markings	Opp Direction Sideswipe	0	0	E	SH
0414/3169	South Burlington	1.98	10/15/1998	13:0	Cloudy	Followed too closely	Rear End	0	0	W	SH
0414/02SB01607	South Burlington	1.99	04/17/2002	16:56	Cloudy	No improper driving, Failed to yield right of way, Visibility obstructed	Other	0	0	W	SH
0414/5496	South Burlington	2	06/17/1999	17:	Clear	Failed to yield right of way	Other	3	0	E	SH

Rt 15
Colchester

Vermont Agency of Transportation

Date: 08/31/2004

General Yearly Summaries - Summary Listing

From 01/01/98 To 12/31/02 General Yearly Summaries Information

"This document is exempt from discovery or admission under 23 USC 409."

Route: VT-15

19 total accidents

Reporting Agency/ Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Manner Of Collision	Number Of Injuries	Number Of Fatalitie	Directio	Road Group
								8 injuries	1 fatality		
0405/2931	Colchester	0.28	01/19/1998	14:5	Clear	Followed too closely	Rear End	0	0	E	SH
[redacted]											
0405/2277	Colchester	0.32	08/31/1998	18:1	Clear	Followed too closely	Rear End	0	0	E	SH
[redacted]											
0405/8320	Colchester	0.32	03/01/2000	06:5	Clear	Visibility obstructed	Rear End	0	0	E	SH
[redacted]											
0405/2828	Colchester	0.35	09/23/1998	17:2	Clear	Followed too closely	Rear End	0	0	E	SH
[redacted]											
0405/334	Colchester	0.38	02/20/1998	18:2	Unknown	Wrong side or wrong way	Other	0	0	E	SH
[redacted]											
0405/2275	Colchester	0.38	09/15/1998	12:3	Cloudy	Followed too closely	Rear End	0	0	W	SH
[redacted]											
0405/7673	Colchester	0.38	01/27/1999	17:1	Snow	Other Improper action	Other	0	0	W	SH
[redacted]											
0405/7676	Colchester	0.38	03/08/1999	06:5	Clear	Inattention	Rear End	0	0	E	SH
[redacted]											
0405/9508	Colchester	0.38	07/22/2000	19:3	Rain	Other improper action	Rear End	2	0	E	SH
[redacted]											
0405/13355	Colchester	0.38	09/07/2001	22:3 0	Clear	Exceeded authorized speed limit, Operating vehicle in erratic, reckless, careless, negligent, or aggressive manner	Rear End	1	0	E	SH
[redacted]											
0405/2824-02	Colchester	0.38	03/23/2002	06:5	Clear	Unknown	Other	0	0	S	SH
[redacted]											
0405/3901-02	Colchester	0.38	04/23/2002	17:4	Cloudy	Followed too closely, No Improper driving	Rear End	0	0	W	SH

the Kiln Rd intersection

0405/12271-02	Colchester	0.38	10/22/2002	16:3	Clear	Followed too closely, No Improper driving	Rear End	1	0	E	SH
0405/9268	Colchester	0.39	06/28/2000	15:5	Unknown	Followed too closely	Rear End	0	0	W	SH
0405/11034	Colchester	0.48	12/18/2000	17:0	Clear	Followed too closely	Rear End	0	0	E	SH

Note: THIS DOCUMENT IS EXEMPT FROM DISCOVERY OR ADMISSION UNDER 23 U.S.C 409.

Vermont Agency of Transportation

Date: 08/23/2004

General Yearly Summaries - Summary Listing

"Summary Listing"

From 01/01/98 To 12/31/02 General Yearly Summaries Information

Reporting Agency/ Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Manner Of Collision	Number Of Injuries	Number Of Fatalities	Directio	Road Group
Route: AIRPORT DRIVE, SOUTH BURLINGTON											
0414/02SB01788	South Burlington	0	04/29/200 2	17:3 0	Cloudy	Inattention, No improper driving	Rear End	0	0	E	FAU
0414/02SB03071	South Burlington	0.04	07/23/200 2	12:2 0	Rain	Other improper action, No improper driving	Same Direction Sideswipe	0	0	N	FAU
0414/9922-02	South Burlington	0.11	10/26/200 2	14:4 0	Rain	No improper driving, Failed to yield right of	Other	0	0	E	FAU
0414/7705-02	South Burlington	0.41	03/07/200 2	22:1 0	Cloudy	No improper driving	Other	0	0		FAU
0414/02SB04533	South Burlington	0.45	10/24/200 2	18:2 0	Clear	Made an improper turn	Rear to rear	0	0	E	FAU
0414/02SB03157	South Burlington	0.61	07/29/200 2	08:5 0	Cloudy	No improper driving	Same Direction Sideswipe	0	0	N	FAU
Route: AIRPORT PARKWAY, SOUTH BURLINGTON											
0414/3433	South Burlington	0.1	12/30/199 2	08:0 0	Cloudy	Other improper action	Head On	2	0	S	FAU
0414/8980-02	South Burlington	0.18	08/27/200 2	16:1 0	Clear	No improper driving, Failed to yield right of way, Inattention	Other	0	0	N	FAU
0414/13904-02	South Burlington	0.25	12/02/200 2	16:4 6	Cloudy	Followed too closely, Inattention, No improper driving	Rear End	0	0	S	FAU
0414/12241-02	South Burlington	0.45	11/01/200 2	07:3 0	Snow	Driving too fast for conditions, No improper driving	Rear End	0	0	S	FAU

0414/9749-02	South Burlington	0.53	09/25/200	11:3	Clear	Followed too closely, No improper driving	Rear End	1	0	N	FAU
0414/2135	South Burlington	0.74	01/23/199 8	16:4 9	Snow	Failure to keep in proper lane or running off road	Head On	0	0	S	FAU
0414/6061	South Burlington	1.02	07/10/199	03:1	Rain	Driving too fast for conditions	Other	4	0	E	FAU
0414/4767	South Burlington	1.34	03/06/199 9	12:3 9	Snow	Distraction caused by technology, Other improper action	Other	1	0	S	FAU
0414/02SB01738	South Burlington	1.39	04/26/200	07:1	Clear	Other improper action, No improper driving	Rear End	0	0		FAU
0414/9746-02	South Burlington	1.39	10/19/200	05:5	Cloudy	No improper driving	Single Vehicle Crash	0	0	N	FAU
0414/7262	South Burlington	UNK	11/08/199	07:3	Clear	Other improper action	Other	1	0	S	FAU
Route: WHITE ST., SOUTH BURLINGTON											
0414/11834	South Burlington	0.59	02/09/200 1	23:5 4	Unknown	Other improper action, Driving too fast for conditions	Other	0	0	S	FAU
0414/02SB04425	South Burlington	0.59	10/17/200	09:3	Cloudy	Failed to yield right of way, No improper	Rear End	0	0	W	FAU

Vermont Agency of Transportation

General Yearly Summaries - Town Highway Crash Summary

From 01/01/98 To 12/31/02 General Yearly Summaries Information

Reporting Agency/ Number	County	Town	Route	Date MM/DD/Y	Time	Weather	Contributing Circumstances	Manner Of Collision	#Inj	#Fat
0414/1014	Chittenden	South Burlington	0000	04/22/1998	20:2	Clear	Failed to yield right of way	Other	1	0

Note: THIS DOCUMENT IS EXEMPT FROM DISCOVERY OR ADMISSION UNDER 23 U.S.C 409.

Location:
Airport Parkway
@ Dumont Ave.

"South Burlington Town
Highway Crash Summary"

Vermont Agency of Transportation

Date: 08/23/2004

General Yearly Summaries - Summary Listing

From 01/01/98 To 12/31/02 General Yearly Summaries Information

Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Manner Of Collision	Number Of Injuries	Number Of Fatalitie	Directio	Road Group
0	07/08/2002	21:3	Clear	No improper driving	Rear End	0	0	N	FAU
0.21	03/07/2001	06:3	Clear	Failed to yield right of way	Other	1	0	W	FAU

Colchester

"Lime Kiln Road Summary"

COMPARISONS
BASE Volumes by Joe Oppenlander

2008 AM DHV

intersection

1

AM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
	North	East	South	West
Right	4	128	278	282
Thru	225	488	118	749
Left	165	274	150	4
2865	394	890	546	1035

2

AM DHV	Airport Dr./Airport Road			
	North	East	South	West
Right	47	1	1	56
Thru	484	1	276	1
Left	1	1	60	32
961	532	3	337	89

3

AM DHV	Airport Drive/Airport Entrance			
	North	East	South	West
Right	0	0	202	0
Thru	226	0	84	0
Left	69	0	0	0
581	295	0	286	0

4

AM DHV	Airport Drive/Maryland Street			
	North	East	South	West
Right	1	0		4
Thru	594	0	207	
Left	0	0	1	1
808	595	0	208	5

5

AM DHV	Airport Drive/White St/Airport Exit			
	North	East	South	West
Right	4	1	4	475
Thru	8	26	8	4
Left	1	58	67	4
660	13	85	79	483

6

AM DHV	Airport Parkway/White Street			
	North	East	South	West
Right	200	204		0
Thru		93		133
Left	333	0		142
1105	533	297	0	275

7

AM DHV	Airport Parkway/Kirby Road			
	North	East	South	West
Right	34	4	0	120
Thru	460	0	309	0
Left	0	0	39	69
1035	494	4	348	189

8

AM DHV	Airport Parkway/Airport Drive			
	North	East	South	West
Right	494		0	0
Thru	0		0	0
Left	0		0	378
872	494		0	378

9

AM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
	N. (Lime K	E. (EA Driv	S. (Airport Pkwy)	
Right		81	152	
Thru	370	0	544	
Left	208	126		
1481	578	207	696	0

10

AM DHV	Lime Kiln Road/VT 15			
	North	East	South	West
Right		0	102	209
Thru		1490	0	1141
Left		311	115	0
3368		1801	217	1350

2008 PM DHV

intersection

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
	North	East	South	West
Right	87	317	262	173
Thru	282	754	305	772
Left	261	271	364	41
3889	630	1342	931	986

2

PM DHV	Airport Dr./Airport Road			
	North	East	South	West
Right	70	13	8	133
Thru	558	1	727	4
Left	1	4	47	109
1675	629	18	782	246

3

PM DHV	Airport Drive/Airport Entrance			
	North	East	South	West
Right			253	
Thru	538		413	
Left	152			
1356	690	0	666	0

4

PM DHV	Airport Drive/Maryland Street			
	North	East	South	West
Right	1	0	0	18
Thru	823	0	574	0
Left	0	0	8	1
1425	824	0	582	19

5

PM DHV	Airport Drive/White St/Airport Exit			
	North	East	South	West
Right	8	1	4	301
Thru	8	156	8	4
Left	1	494	580	1
1566	17	651	592	306

6

PM DHV	Airport Parkway/White Street			
	North	East	South	West
Right	249	471		
Thru		187		98
Left	218			222
1445	467	658	0	320

7

PM DHV	Airport Parkway/Kirby Road			
	North	East	South	West
Right	56		4	34
Thru	395		571	
Left	9	9	120	34
1232	460	9	695	68

8

PM DHV	Airport Parkway/Airport Drive			
	North	East	South	West
Right	460		0	0
Thru	0		0	0
Left	0		0	605
1065	460		0	605

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
	N. (Lime K	E. (EA Driv	S. (Airport Pkwy)	
Right	0	249	152	
Thru	300	0	544	
Left	106	152		
1503	406	401	696	0

10

PM DHV	Lime Kiln Road/VT 15			
	North	East	South	West
Right		0	281	98
Thru		1315	0	1613
Left		183	379	0
3869		1498	660	1711

Airport Drive Scoping

Volume Comparison - November 25, 2003

2028 PM **BUILD minus NO-BUILD**
Airport Drive 2 Lanes
Intersection **Model Constrained**

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	4	13	0	-57
Thru	65	-6	30	-5
Left	8	-4	-22	11
36	76	3	7	-51

2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	3		0	0
Thru	73		42	0
Left	0		0	29
147	76		42	29

3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	-6	
Thru	79	0	88	
Left	6	0	0	
168	86	0	82	

4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	0
Thru	88		86	0
Left	0		0	0
174	88		86	0

5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	198	0	-192
Thru	315	-160	234	0
Left	0	-38	-145	0
212	315	0	88	-192

6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	-63	-319		0
Thru	0	13		0
Left	-192	0		-37
-597	-255	-305		-37

7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	11	0	0	-6
Thru	-249	0	-347	0
Left	0	0	-9	-5
-604	-238	0	-356	-11

8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	-31	-2	0
Thru	14	0	52	0
Left	-10	34	0	0
58	5	3	51	0

10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	35	1
Thru		-6	0	-18
Left		4	-13	0
3		-2	22	-17

2028 PM **BUILD minus NO-BUILD**
Airport Drive 2 Lanes
Intersection **Model Un-Constrained**

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	24	27	-1	-2
Thru	120	-6	57	-8
Left	4	-2	-3	12
222	148	19	53	2

2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	20	0	0	0
Thru	124	0	83	0
Left	0	0	0	32
259	144	0	83	32

3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	-10	
Thru	168	0	137	
Left	10	0	0	
305	177	0	127	

4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	0
Thru	137		177	0
Left	0		0	0
314	137		177	0

5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	167	0	-242
Thru	438	-148	276	0
Left	0	-19	-139	0
333	438	0	137	-242

6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	-129	-279		0
Thru	0	-8		0
Left	-242	0		-74
-733	-371	-287		-74

7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	3	0	0	-6
Thru	-365	0	-328	0
Left	0	0	-25	0
-721	-362	0	-354	-5

8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	-15	8	0
Thru	45	0	95	0
Left	-11	18	0	0
140	34	3	102	0

10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right	0	0	48	16
Thru	0	-9	0	-12
Left	0	19	32	0
93	0	9	80	4

2028 AM **BUILD minus NO-BUILD**
Airport Drive 2 Lanes
intersection **Model Constrained**

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	23	2	0	-6
Thru	38	4	41	-8
Left	11	-1	-1	1
105	73	5	40	-12

2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	27		0	0
Thru	49		43	0
Left	0		0	10
129	76		43	10

3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	-8	
Thru	78	0	62	
Left	8	0	0	
140	86	0	54	

4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	0
Thru	62		86	0
Left	0		0	0
148	62		86	0

5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	38	0	-181
Thru	274	-31	90	0
Left	0	-7	-29	0
155	274	0	62	-181

6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	-54	-57		0
Thru	0	-3		0
Left	-181	0		-36
-331	-236	-59		-36

7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	-4	0	0	-10
Thru	-226	0	-92	0
Left	0	0	-2	-26
-358	-230	0	-93	-36

8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	-1	1	0
Thru	25	0	-14	0
Left	-14	-4	0	0
-7	11	-5	-13	0

10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	-14	5
Thru		2	0	20
Left		6	0	0
17		8	-15	24

2028 AM **BUILD minus NO-BUILD**
Airport Drive 2 Lanes
intersection **Model Un-Constrained**

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	23	2	0	-9
Thru	63	-3	61	-14
Left	21	-2	-1	1
143	108	-3	60	-21

2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	27	0	0	0
Thru	84	0	63	0
Left	0	0	0	12
185	111	0	63	12

3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	-7	
Thru	113	0	83	
Left	7	0	0	
196	120	0	76	

4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	0
Thru	83		120	0
Left	0		0	0
203	83		120	0

5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	37	0	-133
Thru	262	-29	126	0
Left	0	-8	-43	0
211	262	0	83	-133

6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	-60	-70		0
Thru	0	-2		0
Left	-133	0		-37
-301	-193	-72		-37

7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	-1	0	0	-4
Thru	-189	0	-102	0
Left	0	0	-4	1
-299	-189	0	-107	-3

8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	-1	14	0
Thru	61	0	36	0
Left	-26	0	0	0
85	36	-1	51	0

10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right	0	0	29	12
Thru	0	-2	0	-20
Left	0	24	6	0
50	0	22	35	-8

2028 AM BUILD Airport Drive: 4 lane scenario minus 2 lane scenario (model constrained)

Intersection 1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	0	0	0	-1
Thru	1	0	2	-2
Left	2	0	0	0
3	4	0	2	-3

Intersection 2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	0		0	0
Thru	4		2	0
Left	0		0	0
6	4	0	2	0

Intersection 3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	0	
Thru	4	0	2	
Left	0	0	0	
6	4	0	2	0

Intersection 4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	0
Thru	2		4	0
Left	0		0	0
6	2	0	4	0

Intersection 5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	0	0	0
Thru	4	0	2	0
Left	0	0	0	0
6	4	0	2	0

Intersection 6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	0	0		0
Thru	0	0		0
Left	0	0		0
0	0	0	0	0

Intersection 7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	0	0	0	0
Thru	0	0	0	0
Left	0	0	0	0
0	0	0	0	0

Intersection 8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

Intersection 9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr			
Approach:	North	East	South	West
Right	0	0	2	0
Thru	4	0	0	0
Left	-2	0	0	0
3	1	0	2	0

Intersection 10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	0	1
Thru		0	0	0
Left		0	0	0
1	0	0	0	1

2028 PM BUILD Airport Drive: 4 lane scenario minus 2 lane scenario (model constrained)

Intersection 1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	5	0	-1	-2
Thru	33	-1	13	-3
Left	4	-1	-1	0
48	42	-1	12	-5

Intersection 2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	4		0	0
Thru	37		13	0
Left	0		0	0
54	41		13	0

Intersection 3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	-2	
Thru	46	0	14	
Left	2	0	0	
61	48	0	12	

Intersection 4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	0
Thru	14		48	0
Left	0		0	0
63	14		48	0

Intersection 5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	-1	0	1
Thru	46	0	14	0
Left	0	1	0	0
62	46	0	14	1

Intersection 6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	-37	0		0
Thru	0	0		0
Left	0	0		-10
-47	-37	0		-10

Intersection 7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	0	0	0	0
Thru	-37	0	-10	0
Left	0	0	0	0
-47	-37	0	-10	0

Intersection 8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

Intersection 9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	-1	1	0
Thru	6	0	1	0
Left	-2	3	0	0
9	5	2	2	0

Intersection 10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	0	3
Thru		0	0	0
Left		2	1	0
5		2	0	3

2028 PM **BUILD** **Model Unconstr.- Model Constr.**
Airport Drive 2 lanes

intersection

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	9	62	-147	-16
Thru	123	-198	89	-124
Left	6	-95	-51	-4
-345	138	-230	-110	-143

2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	8		0	0
Thru	129		152	0
Left	0		0	11
299	137		152	11

3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	-3	
Thru	146	0	161	
Left	3	0	0	
307	149	0	158	

4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	0
Thru	161		149	0
Left	0		0	0
310	161		149	0

5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	-31	0	22
Thru	123	27	43	0
Left	0	5	118	0
307	123	1	161	22

6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	-69	152		0
Thru	0	-7		0
Left	30	0		-116
-10	-39	145		-116

7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	18	0	0	-2
Thru	-36	0	-88	0
Left	0	0	124	-39
-22	-18	0	37	-42

8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	2	-4	0
Thru	94	0	-88	0
Left	19	36	0	0
59	114	38	-93	0

10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	-86	68
Thru		-84	0	-951
Left		46	1	0
-1006		-38	-85	-883

2028 PM **NO-BUILD Model Unconstr.- Model Constr.**
Airport Drive 2 lanes

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	-11	48	-146	-70
Thru	68	-198	62	-121
Left	10	-97	-71	-5
-531	66	-247	-155	-196

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	-9		0	0
Thru	77		111	0
Left	0		0	8
187	68		111	8

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	0	
Thru	57	0	112	
Left	0	0	0	
170	57	0	113	

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	0
Thru	112		57	0
Left	0		0	0
170	112		57	0

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	0	0	72
Thru	0	15	0	0
Left	0	-14	112	0
186	0	1	112	72

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	-3	113	0	0
Thru	0	14	0	0
Left	80	0	0	-79
126	77	128	0	-79

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	26	0	0	-3
Thru	80	0	-106	0
Left	0	0	140	-44
94	107	0	34	-47

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	-14	-14	0
Thru	63	0	-130	0
Left	21	51	0	0
-23	84	37	-144	0

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	-99	52
Thru		-80	0	-957
Left		32	-45	0
-1097		-48	-143	-905

2028 AM BUILD minus 2008 AM Base
Model Constrained, Airport Drive 2 lanes

intersection

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	26	-2	-74	153
Thru	43	-103	125	-116
Left	-38	-143	100	8
-22	30	-248	151	45

2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	28	0	0	0
Thru	4	0	123	0
Left	0	0	0	138
293	33	0	123	138

3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	225	
Thru	35	0	43	
Left	-52	0	0	
252	-16	0	268	0

4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	
Thru	43		-16	
Left	0		0	
27	43	0	-16	

5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	38	0	-302
Thru	274	0	90	0
Left	0	13	-47	0
66	274	51	43	-302

6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	-57	-62		0
Thru	0	16		-73
Left	-229	0		-24
-430	-286	-47		-97

7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	9	0	0	-59
Thru	-227	0	-89	0
Left	0	0	3	43
-320	-218	0	-86	-16

8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	25	50	
Thru	52	0	10	
Left	24	-3	0	
158	76	22	60	

10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	-6	53
Thru		-614	0	-72
Left		24	10	0
-604	0	-590	4	-19

2028 PM BUILD minus 2008 PM Base
Model Constrained, Airport Drive 2 lanes

intersection

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	22	-25	-90	268
Thru	211	-17	78	-173
Left	-14	-44	66	65
346	218	-86	54	159

2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	17	0	0	0
Thru	196	0	53	0
Left	0	0	0	177
443	213	0	53	177

3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	306	
Thru	235	0	-12	
Left	-48	0	0	
481	187	0	294	0

4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	
Thru	-12		187	
Left	0		0	
174	-12	0	187	

5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	198	0	-291
Thru	315	26	234	0
Left	0	162	-246	0
398	315	386	-12	-291

6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	16	-318		0
Thru	0	98		-48
Left	-195	0		-63
-510	-179	-220		-111

7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	40	0	0	20
Thru	-199	0	-301	0
Left	0	0	-80	115
-405	-159	0	-381	135

8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	107	71	
Thru	15	0	153	
Left	-2	74	0	
418	13	180	224	

10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	117	-7
Thru		-225	0	520
Left		20	142	0
568	0	-205	259	513

2028 AM NO-BUILD minus 2008 AM Base

Model Constrained, Airport Drive 2 lanes

intersection

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	2	-4	-73	159
Thru	4	-107	84	-109
Left	-49	-142	101	7
-127	-43	-253	111	57

2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	2		0	0
Thru	-45		80	0
Left	0		0	128
164	-43		80	128

3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	232	
Thru	-43	0	-18	
Left	-59	0	0	
112	-102	0	214	0

4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	
Thru	-18		-102	
Left	0		0	
-121	-18	0	-102	

5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	0	0	-121
Thru	0	31	0	0
Left	0	20	-18	0
-89	0	51	-18	-121

6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	-3	-6		0
Thru	0	18		-73
Left	-48	0		12
-99	-51	13		-61

7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	13	0	0	-49
Thru	-2	0	2	0
Left	0	0	4	69
38	12	0	7	20

8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr			
Approach:	North	East	South	West
Right	0	26	49	
Thru	27	0	24	
Left	38	1	0	
165	65	27	73	

10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	8	48
Thru		-616	0	-92
Left		18	11	0
-622	0	-597	19	-44

2028 PM NO-BUILD minus 2008 PM Base

Model Constrained, Airport Drive 2 lanes

intersection

1

PM DHV	Williston Rd./Kennedy Dr./Airport Dr.			
Approach:	North	East	South	West
Right	18	-37	-90	325
Thru	146	-11	49	-169
Left	-22	-40	88	54
310	142	-89	47	210

2

PM DHV	Airport Dr./Airport Road			
Approach:	North	East	South	West
Right	14	0	0	0
Thru	124	0	10	0
Left	0	0	0	148
296	138	0	10	148

3

PM DHV	Airport Drive/Airport Entrance			
Approach:	North	East	South	West
Right	0	0	313	
Thru	156	0	-101	
Left	-55	0	0	
313	101	0	212	

4

PM DHV	Airport Drive/Maryland Street			
Approach:	North	East	South	West
Right	0		0	0
Thru	-101		101	0
Left	0		0	0
0	-101		101	0

5

PM DHV	Airport Drive/White St/Airport Exit			
Approach:	North	East	South	West
Right	0	0	0	-99
Thru	0	186	0	0
Left	0	200	-101	0
186	0	386	-101	-99

6

PM DHV	Airport Parkway/White Street			
Approach:	North	East	South	West
Right	79	1	0	0
Thru	0	84	0	-48
Left	-4	0	0	-26
87	76	85	0	-74

7

PM DHV	Airport Parkway/Kirby Road			
Approach:	North	East	South	West
Right	29	0	0	26
Thru	50	0	45	0
Left	0	0	-71	120
200	79	0	-25	146

8

PM DHV	Airport Parkway/Airport Drive			
Approach:	North	East	South	West
Right				
Thru				
Left				
0				

9

PM DHV	Lime Kiln Rd/Airport Parkway/Ethan Allen Dr.			
Approach:	North	East	South	West
Right	0	138	73	0
Thru	1	0	101	0
Left	8	40	0	0
360	8	178	174	0

10

PM DHV	Lime Kiln Road/VT 15			
Approach:	North	East	South	West
Right		0	82	-8
Thru		-219	0	538
Left		16	156	0
565		-203	238	530

Mile Markers from Route Logs and VTrans General Yearly Summaries – Summary Listing

MM used to identify VTrans Accident locations

Williston Road (Rt2)

- Airport Drive Intersection: 1.90 mile marker

Airport Drive

- Williston Road Intersection: 0.0 mile marker
- Airport Road: 0.11
- Airport Entrance: 0.34
- Airport Exit: 0.54
- White Street: 0.68

White Street

- Airport Parkway Intersection: 0.59 mile marker
- Airport Drive: 0.85

Airport Parkway

- Kirby Road Intersection: 0.0 (or 0.38) mile marker
- Ethan Allen Drive: 1.39
- Lime Kiln Road: 1.42
- Winooski River: 1.72

VT 15

- Lime Kiln Road: 0.38 mile marker

Appendix E – Conceptual Cost Estimates

Assumptions for Conceptual Cost Estimate:

Airport Drive Improvements - Route 2 to White Street
Segment Length = 1200m

- Widen 60m length of approach to Route 2 by 3.6m
  - Curbing on both sides of the street will be removed and reset to compensate for the street widening
  - Modifications are required to the existing signal at Route 2
- Excavate and remove sidewalk on the west side of the street
- Add 2.5m (8') greenspace to the west side of the street with a 3m (10') shared use path
- Add new sidewalk to the east side of the street from the Airport Entrance to Route 2
- Narrow street to 9m (30') wide with 1.2m (4') shoulders and 3.3m (11') lanes by removing concrete curbing to the west and resetting as new granite curb 0.6m (2') in from existing location
- Drainage on the west side will be moved 0.6m (2') in to narrow the road
- Add signal at Airport Road
- Add signal at Airport Exit
- New Lighting will be attached to existing utility poles approximately every 60m
- New overlay for the entire segment
- All trees in the greenbelt will be removed and replaced

New Road Connector Alignment, Airport Parkway
Segment Length = 850m

- Existing pavement will be excavated and removed
- Clearing and grubbing for entire segment (limits + 3m or 10')
- new granite curbing along both sides of road
- New catch basins 90m apart on both sides of the road
- New drainage treatment area required, location TBD
- New signal at Old Airport Parkway
- New lighting poles every 60m

New Path Along Airport Parkway
Segment Length = 2550m

- New shared use path, 3m (10') wide with a 2.5m (8') green belt
- Fill and grading will be necessary
- 150m x 1.5m retaining wall required gust east of Waste Water Treatment Plant with 150m fence

- New lighting along this entire segment
- No new road work is required along this roadway segment

Kirby Road Intersection: Old Airport Parkway - BUILD
Segment Length = 170m

- Existing pavement will be excavated and removed
- Widen street by 3.6m to add a new left turning lane, 70 m long
- New road for some of the segment
- Curbing on both sides of the street will be removed and replaced
- New signal and loops at White Street
- Add new sidewalk to this segment, 170m long
- Two new lighting poles at this location
- New catch basins 90m apart on both sides of the road

Kirby Road: Old Airport Parkway - NO BUILD
Segment Length = N/A

- New signal and loops at White Street
- New signal and loops at Kirby Street
- New pavement overlay at these intersections

Ethan Allen Parkway / Shamrock - Signal
Segment Length = 830m

- Existing pavement will be excavated and removed
- New road to realign this segment
- New granite curbing along both sides of road
- New catch basins 90m apart on both sides of the road
- New signal and loops at Ethan Allen
- New lighting poles approximately every 60m

Ethan Allen Parkway / Shamrock - Roundabout
Segment Length = 830m

- Existing pavement will be excavated and removed
- New roundabout intersection
- New road to realign this segment
- New granite curbing along both sides of road
- New catch basins 90m apart on both sides of the road
- New lighting poles every 60m

CCMPO - Airport Drive Conceptual Cost Estimate - S. Burlington 11/30/2004
DH 6320020.01
Calc'd by: SRZ
Checked by: GAE

Cost Summary for each Alternative

Alternative A

Segment 1	Improved Corridor on Airport Parkway	$2,400,000
Segment 2A	Signals at White & Kirby	$600,000
Shared Path	Shared Path from Kirby to Ethan Allen	$2,800,000
Segment 3	Signalized Int.	$1,300,000
TOTAL:		**$7,100,000**

Alternative B

Segment 1	Improved Corridor on Airport Parkway	$2,400,000
Segment 2B	New Road Connector	$2,400,000
Segment 2B @ Kirby	New Int. at Kirby w/ signals at White & Kirby	$1,000,000
Shared Path	Shared Path from Kirby to Ethan Allen	$2,800,000
Segment 3	Signalized Int.	$1,300,000
TOTAL:		**$9,900,000**

Note: Alternative cost estimates above include a signal at Ethan Allen / Shamrock and not a roundabout.

CCMPO - Airport Drive & Parkway
Conceptual Cost Estimate
DH 6320020.01

11/30/04

AIRPORT DRIVE IMPROVEMENTS - ROUTE 2 to WHITE STREET
Segment #1
Segment Length = 1200m

	ITEM of WORK	UNIT	UNIT COST	QUANTITY	ITEM COST	SOME ASSUMPTIONS
60m approach	remove and reset new granite curbing in new location	meter	$ 80	120	$ 9,600	60m*2
	widen road (excavate, gravel base + pavement)	s.m.	$ 60	240	$ 14,400	4m*60
	existing signal upgrading/redesign	l.s.	$ 50,000	1	$ 50,000	each
	overlay - emulsified asphalt over existing roadway	mton	$ 75	85	$ 6,399	(area=900m^2)*0.0948=mtons
	coldplane pavement before placing overlay on existing roadway	s.m.	$ 2	900	$ 1,800	15m*60m
	drainage (adjust catchbasin locations as needed on both sides)	meter	$ 40	120	$ 4,800	every 90 m, assume cost/m for both sides
	new 5' PC SW on east side to Airport Entrance (PC+gravel+excav)	meter	$ 50	60	$ 3,000	60m distance
	shared use path	meter	$ 400	60	$ 24,000	distance
road segment	light, with no pole (located on existing power poles)	each	$ 2,200	40	$ 88,000	every 30 m, one side
	remove and reset new granite curbing in new location on west side	meter	$ 80	1140	$ 91,200	1200-60
	excavate and remove 1m wide pavement strip on the west side	c.m.	$ 10	684	$ 6,840	3m*(1200-60)*0.2
	excavate and remove 1.5m SW to the west	c.m.	$ 12	270	$ 3,240	1.5m*1200m*0.15m
	overlay - emulsified asphalt	mton	$ 75	1024	$ 76,788	9m*1200m*0.0948
	coldplane pavement before placing overlay on existing roadway	s.m.	$ 2	10800	$ 21,600	9m*1200m
	remove and replace trees	each	$ 850	30	$ 25,500	count
	new 1.5m PC SW on east side to Airport Entrance (PC+gravel+excav)	meter	$ 50	440	$ 22,000	500-60m distance
	shared use path	meter	$ 400	1140	$ 456,000	distance
	signal at Airport Road	each	$ 150,000	1	$ 150,000	count
	signal at Airport Exit	each	$ 150,000	1	$ 150,000	count
	drainage (replce catchbatch basins and drainge on west side)	meter	$ 60	1140	$ 68,400	every 50 m, assume cost/m for 1 side
	topsoil (100 mm), seed and mulch	m.s.m.	$ 15,000	4.2	$ 63,000	1200m*3.5m
	landscaping	l.s.	$ 20,000	1	$ 20,000	approximate
	new pavement markings, stop bars and symbols	meter	$ 15	1200	$ 18,000	length
	new signs	l.s.	$ 5,000	1	$ 5,000	approximate

subtotal	$ 1,379,567
Erosion control (10%)	$ 137,957
Traffic and Safety (15%)	$ 206,935
Mobilization (8%)	$ 110,365
Prel. & Construction engineering (25%)	$ 344,892
Contingency (15%)	$ 206,935
TOTAL (2004 construction)	$ 2,386,651
TOTAL (2004 construction)	$ 2,400,000

NEW ROAD ALIGNMENT, AIRPORT PARKWAY
Segment #2B
Segment Length = 850m

$2310 per meter cost for new rd xsection

therefore
850*2310=$1963500+path

ITEM of WORK	UNIT	UNIT COST	QUANTITY	ITEM COST	
clear and grub	hectare	$ 7,000	4.4	$ 30,800	800m*55m
excavate and dispose of pavement at Kirby Road	c.m.	$ 10	860	$ 8,600	area*0.2m
new road (excavate, gravel base + pavement)	s.m.	$ 55	5900	$ 324,500	area ($382 a linear meter)
cut and grading	l.s.	$ 200,000	1	$ 200,000	estimate
remove and replace trees	each	$ 850	5	$ 4,250	count
new granite curbing and excavation	meter	$ 100	1700	$ 170,000	850*2
new catch basins and drainge on both sides of road	meter	$ 60	1140	$ 68,400	every 90 m, assume cost/m for both sides
drainage treatment area	l.s.	$ 50,000	1	$ 50,000	count
shared use path	meter	$ 400	850	$ 340,000	distance of new segment
single light pole and electric service	each	$ 4,000	30	$ 120,000	every 30m, one side
topsoil (100 mm), seed and mulch	m.s.m.	$ 15,000	2.125	$ 31,875	850m*2.5m
landscaping	l.s.	$ 10,000	1	$ 10,000	approximate
new pavement markings, stop bars and symbols	meter	$ 15	850	$ 12,750	length
new signs	l.s.	$ 3,000	1	$ 3,000	approximate

subtotal	$ 1,374,175
Erosion control (10%)	$ 137,418
Traffic and Safety (15%)	$ 206,126
Mobilization (8%)	$ 109,934
Prel. & Construction engineering (25%)	$ 343,544
Contingency (15%)	$ 206,126
TOTAL (2004 construction)	$ 2,377,323
TOTAL (2004 construction)	$ 2,400,000

NEW PATH ALONG AIRPORT PARKWAY FROM KIRBY TO ETHAN ALLEN
Segment #2 A & B
Segment Length = 2550m

ITEM of WORK	UNIT	UNIT COST	QUANTITY	ITEM COST	
shared use path	meter	$ 400	2550	$ 1,020,000	length
fill volume assumed (meters cubed) (20 cm m/m says MCS)	c.m.	$ 10	4000	$ 40,000	assumed volume
retaining wall (150m by 1.5m tall)	s.m.	$ 100	225	$ 22,500	area
fence (150m long)	meter	$ 20	225	$ 4,500	length
single light pole and electric service	each	$ 4,000	85	$ 340,000	every 30m, one side
topsoil (100 mm), seed and mulch	m.s.m.	$ 15,000	6.375	$ 95,625	2550m*2.5m
landscaping	l.s.	$ 20,000	1	$ 20,000	approximate
new pavement markings, stop bars and symbols	meter	$ 15	2550	$ 38,250	length
new signs	l.s.	$ 3,000	1	$ 3,000	approximate

subtotal	$ 1,583,875
Erosion control (10%)	$ 158,388
Traffic and Safety (15%)	$ 237,581
Mobilization (8%)	$ 126,710
Prel. & Construction engineering (25%)	$ 395,969
Contingency (15%)	$ 237,581
TOTAL (2004 construction)	$ 2,740,104
TOTAL (2004 construction)	$ 2,800,000

KIRBY ROAD: OLD AIRPORT PARKWAY - BUILD
Segment #2B
Segment Length = 170m

	ITEM of WORK	UNIT	UNIT COST	QUANTITY	ITEM COST	
realign Int.	excavate and dispose of pavement at Kirby & Airport Pkwy	c.m.	$ 10	1220	$ 12,200	area*0.2m
	new road (excavate, gravel base + pavement)	s.m.	$ 55	1900	$ 104,500	area
	coldplane pavement before placing overlay	s.m.	$ 2	180	$ 360	9m*170m*0.0949
	signal at White Street	each	$ 150,000	1	$ 150,000	each
	signal at Kirby and Old Airport Parkway (where new rd meets)	each	$ 150,000	1	$ 150,000	count
	new 5' PC sidewalk	meter	$ 50	170	$ 8,500	length
	remove and reset new granite curbing in new location on both sides	meter	$ 80	340	$ 27,200	170*2
	topsoil (100 mm), seed and mulch	m.s.m.	$ 15,000	1.9	$ 28,500	to fill old road area
	landscaping	l.s.	$ 5,000	1	$ 5,000	approximate
	new pavement markings, stop bars and symbols	meter	$ 15	170	$ 2,550	length
	new signs	l.s.	$ 2,000	1	$ 2,000	approximate
	single light pole and electric service	each	$ 4,000	4	$ 16,000	every 30m, one side
	drainage (adjust catchbasin locations as needed on both sides)	meter	$ 60	340	$ 20,400	every 90 m, assume cost/m for both sides

subtotal	$ 527,210
Erosion control (10%)	$ 52,721
Traffic and Safety (15%)	$ 79,082
Mobilization (8%)	$ 42,177
Prel. & Construction engineering (25%)	$ 131,803
Contingency (15%)	$ 79,082
TOTAL (2004 construction)	$ 912,073
TOTAL (2004 construction)	$ 1,000,000

KIRBY ROAD: OLD AIRPORT PARKWAY - NO BUILD
Segment #2A
Segment Length = N/A

ITEM of WORK	UNIT	UNIT COST	QUANTITY	ITEM COST	
signal at White Street	each	$ 150,000	1	$ 150,000	each
signal at Kirby Street	each	$ 150,000	1	$ 150,000	each
single light pole	each	$ 2,200	4	$ 8,800	every 60m, one side
overlay - emulsified asphalt (at the signals only)	mton	$ 75	180	$ 13,500	area*0.0948
coldplane pavement before placing overlay	s.m.	$ 5	180	$ 900	9m*170m*0.0949
new pavement markings, stop bars and symbols	l.s.	$ 1,500	1	$ 1,500	length

subtotal	$ 323,200
Erosion control (10%)	$ 32,320
Traffic and Safety (15%)	$ 48,480
Mobilization (8%)	$ 25,856
Prel. & Construction engineering (25%)	$ 80,800
Contingency (15%)	$ 48,480
TOTAL (2004 construction)	$ 559,136
TOTAL (2004 construction)	$ 600,000

ETHAN ALLEN PARKWAY / SHAMROCK - SIGNAL
Segment Length = 830m

ITEM of WORK	UNIT	UNIT COST	QUANTITY	ITEM COST	
new road (excavate, gravel base + pavement)	s.m.	$ 55	5900	$ 324,500	area
new granite curbing and excavation	meter	$ 100	1660	$ 166,000	length*2
excavate and dispose of pavement at Ethan Allen/Shamrock	c.m	$ 10	920	$ 9,200	area*0.2m
signal at Ethan Allen/Shamrock Road	each	$ 150,000	1	$ 150,000	each
topsoil (100 mm), seed and mulch	m.s.m.	$ 15,000	2.116	$ 31,740	830m*1.2m + 8m*70m
landscaping	l.s.	$ 5,000	1	$ 5,000	approximate
new pavement markings, stop bars and symbols	meter	$ 15	830	$ 12,450	length
new signs	l.s.	$ 2,000	1	$ 2,000	approximate
			subtotal	$ 700,890	
			Erosion control (10%)	$ 70,089	
			Traffic and Safety (15%)	$ 105,134	
			Mobilization (8%)	$ 56,071	
			Prel. & Construction engineering (25%)	$ 175,223	
			Contingiency (15%)	$ 105,134	
			TOTAL (2004 construction)	$ 1,212,540	
			TOTAL (2004 construction)	$ 1,300,000	

ETHAN ALLEN PARKWAY / SHAMROCK - ROUNDABOUT
Segment Length = 830m

ITEM of WORK	UNIT	UNIT COST	QUANTITY	ITEM COST	
Roundabout Intersection	l.s.	$ 500,000	1	$ 500,000	each
new road (excavate, gravel base + pavement) * (0.667 from above)	s.m.	$ 55	3935	$ 216,442	2/3 new rd area included in cost
overlay - emulsified asphalt	mton	$ 75	373	$ 27,980	(area)*0.0948=mtons
coldplane pavement before placing overlay	s.m.	$ 2	373	$ 746	9m*830m*0.0949
new granite curbing and excavation	meter	$ 100	1660	$ 166,000	length*2
excavate and dispose of pavement at Ethan Allen/Shamrock	c.m	$ 12	860	$ 10,320	area*0.2m
single light pole and electric service	each	$ 4,000	4	$ 16,000	every 60m, one side
			subtotal	$ 937,488	
			Erosion control (10%)	$ 93,749	
			Traffic and Safety (15%)	$ 140,623	
			Mobilization (8%)	$ 74,999	
			Prel. & Construction engineering (25%)	$ 234,372	
			Contingiency (15%)	$ 140,623	
			TOTAL (2004 construction)	$ 1,621,854	
			TOTAL (2004 construction)	$ 1,700,000	

ASSUME NOT INCLUDED:
ROW, permits, wetland impacts and mitigation, and overhead utility relocation. It is assumed the cost of house aquisitition, removal and relocation will be done by the Airport.

NOTE:
The Lime Kiln Bridge Project needs to update their SW to a shared use path. This path segment is not included in these cost estimates.