



CITY OF BURLINGTON  
PHASE II STORMWATER  
2003 ANNUAL REPORT

General Permit #3-9014  
NPDES Permit #VTR040000

Submitted by:  
Burlington Public Works

February 1, 2004

## A. INTRODUCTION

This report is being submitted as part of the City of Burlington's Phase II Stormwater Plan per the NPDES (National Pollution Discharge Elimination System) requirements. This report includes the following information as discussed in Section H of the city's plan:

- Status of compliance with permit conditions.
- Results of information collected.
- A summary of stormwater activities planned for the next annual cycle.
- Any proposed changes as outlined in Section F of the stormwater plan.
- If applicable, provide notice as to whether or not another entity is responsible for any of the permit obligations.

## B. STATUS OF COMPLIANCE WITH PERMIT CONDITIONS AND INFORMATION RESULTS

This section will outline the tasks originally proposed for the first year of this permit, the status of compliance with the plan, and applicable results. Each of these tasks are arranged in accordance with the six minimum control measures.

### **1. Public Education/Outreach Program**

The City of Burlington is a participant in the Chittenden County Regional Stormwater Education Program (RSEP) in accordance with section E1 of the stormwater plan.

Marketing Partners Inc., a local marketing consultant, was selected to develop this 5 year program based upon their experience and commitment to socially responsible projects. The first year 2003-2004 Annual Communication Plan was submitted in October 2003 that summarized primary research efforts and used results from a Chittenden County telephone survey to determine target audiences. With this information, Marketing Partners will begin media spots in the spring of 2004 to increase awareness of stormwater pollution and show ways to minimize our impact to the environment. The 2003-2004 Annual Communication Plan is available upon request.

### **2. Public Involvement/Participation**

The city's plan for 2003 involved sponsoring a stream clean-up day and starting a stormdrain stenciling program.

As with previous years, Burlington sponsored the Englesby Brook clean-up day to coincide with Vermont's Green Up Day on May 3, 2003. Trash sites were mapped ahead of time and volunteers were solicited through the Ward 5 Neighborhood Planning Assembly (NPA 5). A meeting station was set up at the Champlain School that included snacks and refreshments courtesy of NPA 5.

Approximately 15 people showed up at different times of the morning and were sent to various sites along with trash bags and instructions on where to leave the debris. The Public Works Department later collected all the trash, which included paper and plastic trash, metals, tires and shopping carts that had been dumped into the brook. The total volume of debris collected amounted to 2-3 small dump truck loads.

News Channel 5 was covering Green Up Day around Chittenden County and had the Champlain School site featured throughout the morning. Live interviews with Rob Backus from NPA 5 and Steve Roy from Public Works were featured.

The City partnered with ECHO at the Leahy Center and the State of Vermont's Project WET (Water Education for Teachers) to sponsor a stormdrain stenciling day on September 26, 2003 for approximately 150 5<sup>th</sup> and 6<sup>th</sup> graders from Burlington's Edmunds School, their teachers and parents. The tasks were divided amongst the partners as follows:

- ECHO provided a number of volunteers and an outdoor area for stencil training and snacks.
- Project WET provided trainers as well as stencils, paint and snacks.
- Burlington Public Works used its extensive Graphical Information System (GIS) to plot groups of catch basin locations that were located on quiet residential streets within a 30 minute walking distance from ECHO's College Street location, safety vests, traffic cones, personnel and equipment.

Groups of approximately ten children and adults included traffic cone coordinators, stencil holders, painters, and paint overspray controllers. Although there was some concern by Public Works on the number and age of the students, proper planning by all the parties involved made this a memorable day for everyone. Over eighty catch basins were stenciled within a few hours! News coverage included the Burlington Free Press and News Channel 5. Appendix A at the end of this report shows a copy of the Burlington Free Press coverage.

The experience gathered by Public Works both in the planning and implementation of this project assisted in the development of a draft catch basin stenciling plan, also attached in Appendix A. Since many catch basins have already been stenciled over the years, a map of available basins will need to be compiled to determine where next to proceed.

### **3. Illicit Discharge and Elimination**

Although originally proposed in 2004, the City had an opportunity to partner with interns from the Chittenden County Regional Planning Commission (CCRPC) and map stormwater outfalls around Burlington. A list of data fields was generated by Public Works that was downloaded into a handheld Global Positioning System (GPS) unit owned by CCRPC. Including a day of field training, the interns spent a total of five days collecting this data. Appendix B includes a map of Burlington showing the located stormwater outfalls and the project plan detailing scope of services and data fields. The raw GIS files are available upon request.

### **4. Construction Site Stormwater Runoff Control**

The original timeline showed the start of developing a comprehensive an erosion control ordinance. This was an error since the first tasks should have been research of existing

literature and training of key personnel who will be involved in this erosion ordinance followed by ordinance development. Appendix C shows the plan's original timeline as well as the current update that shows correction of this error.

### **5. Post-Construction Stormwater Management in New Development and Redevelopment**

Our project plan included recommendations that all development and redevelopment at least attempt to meet standards set forth in the 2002 VTDEC Stormwater Management Manuals, and have the city create a requirement that all projects disturbing one acre or more of land conform to these standards. These requirements were informally started in 2003. The city is still looking for the best method of coordinating with various departments to achieve full compliance with the above initiatives.

### **6. Pollution Prevention and Good Housekeeping for Municipal Operations**

As discussed in the stormwater plan, the only requirement in year 1 was preparation for issuance of VTDEC's Multi-Sector General Permit (MSGP). Although the issuance of these permits are on hold, the city had their Public Works and wastewater facilities inspected by an Environmental Assistance Specialist from the State's Environmental Assistance Division. In summary, these facilities were deemed in excellent condition and only a few minor procedural changes were necessary to be in full compliance with provisions of the MSGP and other safety or environmental regulations. These changes are scheduled for implementation in 2004. Copies of the inspection report are available upon request.

## **C. ACTIVITIES PLANNED FOR THE CURRENT ANNUAL CYCLE**

This section outlines all activities planned for 2004 in accordance with the approved stormwater management plan.

### **1. Public Education/Outreach Program**

As noted above, the RSEP consultant will begin media spots to increase awareness of stormwater pollution and show ways to minimize our impact to the environment. Burlington will continue to fund its share of this effort.

### **2. Public Involvement/Participation**

Clean-Up Day 2004 will be once again sponsored in part by Public Works, both in Englesby Brook and throughout the city in the form of debris pickup and disposal. Any additional stormdrain stenciling efforts will be noted.

### **3. Illicit Discharge and Elimination**

The storm outfall mapping effort will be completed and monitoring will begin as planned.

### **4. Construction Site Stormwater Runoff Control**

In 2004 we plan additional literature review and development of a draft ordinance. It is important to note that while the development of such an ordinance can be initiated by the engineering staff of Public Works and other departments, the actual publishing of an

ordinance is subject to approval by multiple parties outside the control of this group. Therefore, implementation of an erosion control ordinance may take longer than planned.

The error in the original timeline on this control measure, as mentioned above in Section B.4, requires us to extend the inspector and municipal training classes to later in 2004.

**5. Post-Construction Stormwater Management in New Development and Redevelopment**

As mentioned above, plan requirements were informally started in 2003, and the city is still looking for the best method of coordinating with various departments to achieve full compliance with the these initiatives.

**6. Pollution Prevention and Good Housekeeping for Municipal Operations**

The city will pursue application for a MSGP when that becomes available. In addition, various other municipal programs are planned for development and implementation this year.

D. PROPOSED CHANGES TO THE STORMWATER PLAN OR TIMELINE

As discussed above and as seen in the updated Phase II timeline shown in Appendix C, the only changes at this time are the timing of some of the program tasks. In particular, some of the construction site runoff control and post-construction management programs were not fully developed and implemented in 2003. The effort associated with development of these programs, now slated for 2004, will require extension of the start date for some of the pollution prevention programs.

E. CHANGE IN RESPONSIBILITY FOR PERMIT OBLIGATIONS

At this time, there are no changes in responsibility for any of the tasks outline in the approved plan.

F. CERTIFICATION

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

\_\_\_\_\_  
Steven Goodkind, P.E. Director of Public Works

\_\_\_\_\_  
Date Signed

**APPENDIX A – NEWSPAPER COVERAGE OF STORMDRAIN STENCILING PROJECT**

# VERMONT

••• Saturday, September 27, 2003 • Metro Editor Ed Shamy 660-1862 or (800) 427-3124 • Page 1B

## Water awareness



**PETER HUOPPI, Free Press**

Jason Robair (left) and George Buteau, both sixth-graders with Team Discovery at Edmunds Middle School in Burlington, stencil "dump no waste, drains to lake" next to a storm drain on College Street in Burlington on Friday morning. Jason and George were part of a group of 140 students from Edmunds and Renaissance School in Shelburne taking part in the fourth annual "Make a Splash" festival, a day of watershed education hosted by Vermont Project WET, or Water Education for Teachers, and ECHO at the Leahy Center for Lake Champlain.

# APPENDIX A – DRAFT CATCH BASIN STENCILING PROGRAM

BURLINGTON PUBLIC WORKS  
ENGINEERING DIVISION

Last Revised: 1/27/04

## INTRODUCTION

The purpose of this document is to present Burlington’s policy on catch basin stenciling. Basin stenciling has been initiated by many cities over the years as a means of increasing public awareness and public participation on stormwater issues. By attaching pictures and words like “Don’t Dump – Drains to Lake” near catch basins, we help people make the connection between our actions and our water bodies.

Burlington has been sponsoring informal catch basin stenciling efforts by various environmental organizations and volunteers over the past few years throughout the city. The knowledge gained by these past efforts helps to make this program safer and more efficient.

## MATERIALS AND METHODS

There are two (2) major means of stenciling catch basins, the first being the use of stencils with paint and the second being the use of permanent markers. The pros and cons of each are outlined below.

<u>Considerations</u>	<u>Paint Markers</u>	<u>Permanent Markers</u>
Safety	requires traffic control	requires traffic control
Longevity	2-5 yrs, depending on traffic	guaranteed for 10 yrs
Weather Conditions	requires dry, windless day	requires dry day only
Material Storage	paint needs to be stored in safety cabinet	no special storage requirements
Mess	overspray can be very messy	adhesive is messy
Cost	low to medium cost, depending on purchase of safety cabinet	higher cost

Both systems require the same safety equipment for traffic control. This includes safety vests for workers, traffic cones for placing before and along the basin to be stenciled, and large advance warning signs for alerting motorists to people working in the street ahead. Traffic control involves placement of the advance warning signs 300 feet before the basins to be stenciled, use of cones to taper and keep traffic away from the basins, and use of safety vests for all people in the street.

The paint method requires traffic marking paint, stencils, brushes for cleaning the surface to be painted, plastic bags for carrying wet stencil and pieces of cardboard to control overspray.

Permanent marking requires the markers, adhesive, brushes for cleaning the surface where the marker is applied and disposable gloves since the adhesive is messy. One

marker manufacturer that we've used (<http://www.curbmarker.com/storm/>) sells the markers and adhesive together in a kit.

#### POLICY

Given the desire to involve the public in this program tempered with the need to keep the public off busy streets for safety considerations, the following policy is proposed for adoption.

- Catch basins on busy streets shall be marked with permanent markers by Public Works personnel trained in proper traffic safety techniques. These markers shall be placed whenever possible on the curb adjacent to the catch basin to prevent removal by street sweepers or plow trucks.
- Catch basins on side streets and residential developments shall be marked with paint and stencils using volunteer help. One idea for soliciting volunteers is to develop leaflets or door knob hangers that can be placed at homes in an area that let people know in advance of an upcoming stenciling day in their neighborhood. Volunteers could meet for a few hours on a Saturday morning with designated coordinators, be given instruction and spread out to mark catch basins in their neighborhood.

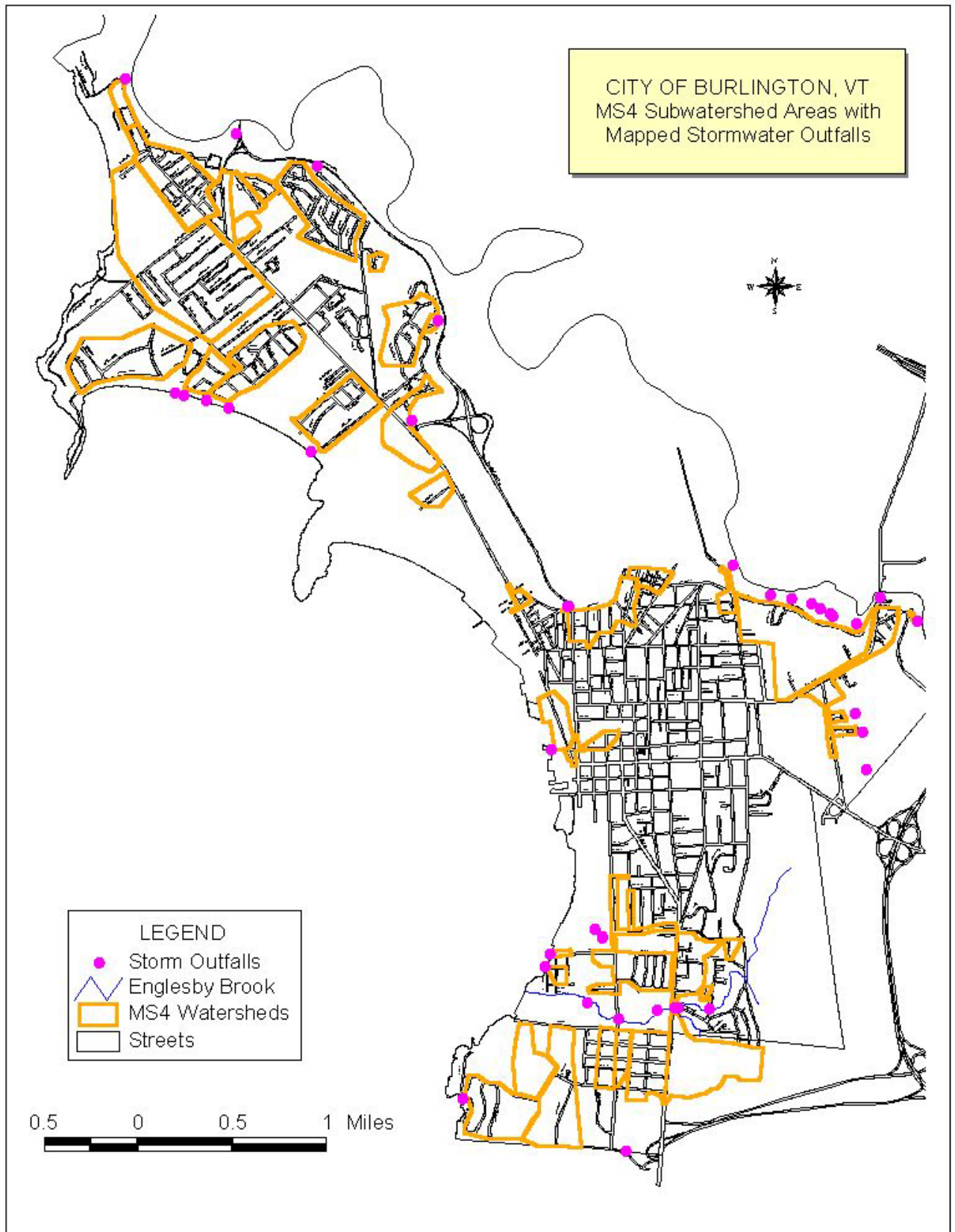
Perhaps a GIS-based map could be generated showing areas of the city that are already stenciled, areas that need stenciling, and even areas where the existing stencils are wearing out and may require work.

- END OF DOCUMENT -

sr:basin\_stenciling\_plan.doc



## APPENDIX B – GIS STORMDRAIN MAP AND RAW DATA FILE

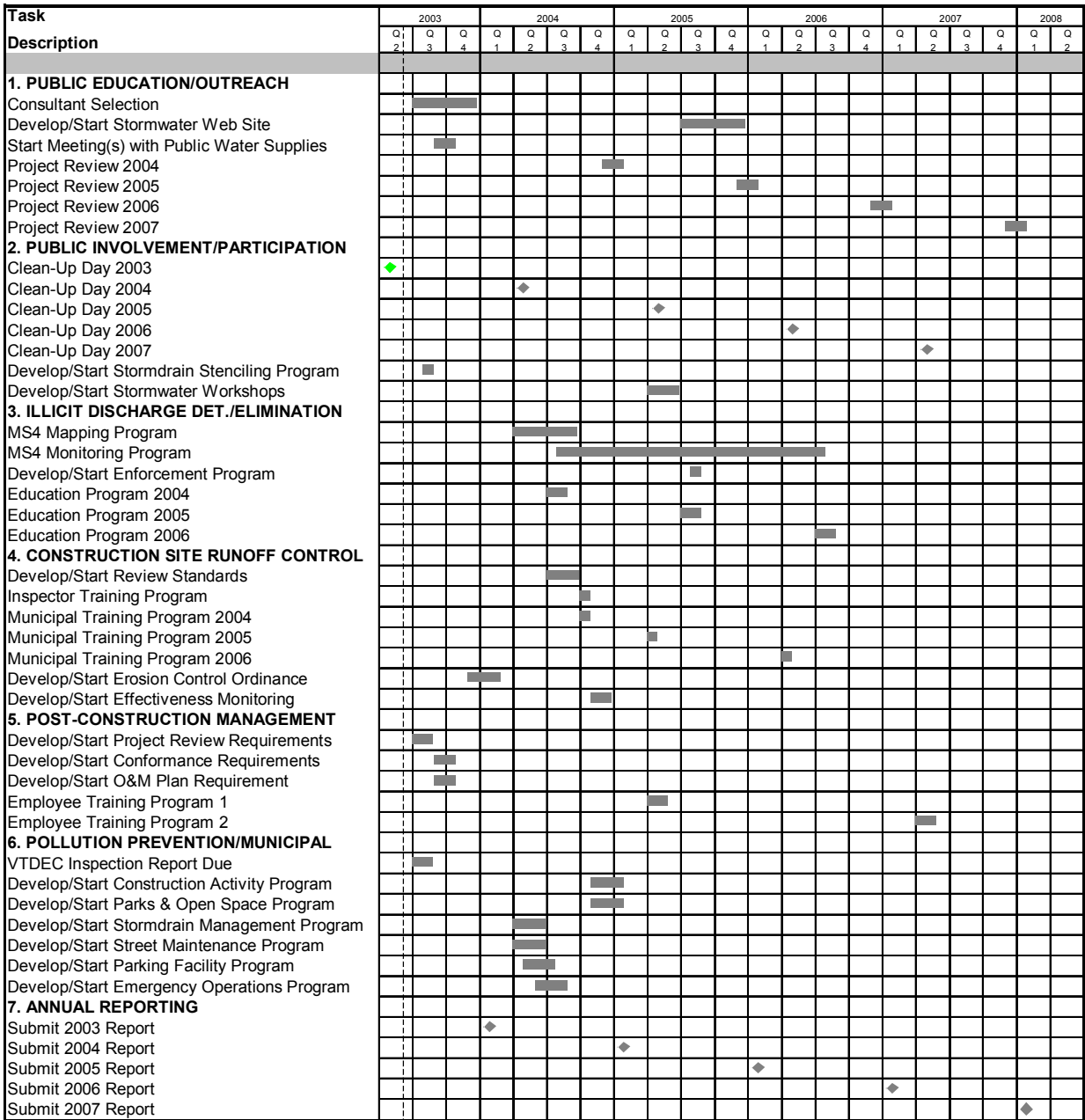
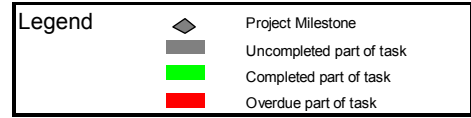


BURLINGTON PUBLIC WORKS  
 RAW OUTFALL DATA FILE

STREET LOCATION	WATERCOURSE	PIPE DIAM	PIPE MAT'L	HEAD- WALL	OUTFALL CONDITION	CHANNEL TYPE	CHANNEL CONDITION	POSSIBLE CONTAMINATION	GIS CORRECTION	GPS DATE
PLATTSBURG		18	CMP	No	Good	Earth	Fair	No	Differential	8/13/03
NORTH AVE		28	CMP	No	Good	Stone	Good	No	Differential	8/13/03
LORI LN		35	RCP	No	Good	Earth	Good	No	Differential	8/13/03
SURF	CHAMPLAIN	15	CMP	No	Poor	Earth	Fair	No	Differential	8/12/03
CRESCENT	ENGLESBY	12	CMP	No	Poor	Earth	Good	No	Differential	8/12/03
PROSPECT PKWY	ENGLESBY	10	CMP	No	Fail	Earth	Good	No	Differential	8/12/03
PROSPECT PKWY	ENGLESBY	32	CMP	No	Poor	None	N/A	No	Differential	8/12/03
PROSPECT PKWY	ENGLESBY	46	CMP	No	Poor	None	N/A	No	Differential	8/12/03
SHELBURNE RD	ENGLESBY	18	CMP	No	Poor	None	N/A	No	Differential	8/12/03
SHELBURNE RD	ENGLESBY	54	CMP	No	Fair	Earth	Good	No	Differential	8/12/03
PINE ST	ENGLESBY	36	CMP	No	Poor	None	N/A	No	Differential	8/12/03
FLYNN AVE	ENGLESBY	15	CMP	No	Good	Earth	Good	No	Differential	8/12/03
CATAMOUNT DR		5		No	Fair	Earth	Good	No	Differential	8/12/03
BILODEAU CT		12	RCP	Yes	Fair	Earth	Good	No	Differential	8/12/03
KILLARNY	CHAMPLAIN	24	CMP	Yes	Good	Other	Good	Possible	Differential	8/12/03
SHORE	CHAMPLAIN	12	CMP	Yes	Fair	Other	Unknown	No	Differential	8/12/03
CRESCENT BEACH DR	CHAMPLAIN	21	HDPE	No	Good	Other	Good	No	Differential	8/12/03
CRESCENT BEACH	CHAMPLAIN	12	HDPE	No	Good	Other	Good	No	Differential	8/12/03
NORTH AVE	WINOOSKI	70	RCP	Yes	Good	Stone	Good	No	Differential	8/12/03
INTERVALE	WINOOSKI RIVER	15	HDPE	No	Good	Stone	Good	No	Differential	8/11/03
LAKESIDE	CHAMPLAIN	26	RCP	Yes	Good	Earth	Good	No	Differential	8/11/03
LAKESIDE	CHAMPLAIN	10	CMP	No	Poor	Earth	Good	No	Differential	8/11/03
WRIGHT	CHAMPLAIN	10	CMP	No	Fair	Earth	Good	No	Differential	8/11/03
PINE		36	CMP	No	Good	Stone	Good	No	Differential	8/11/03
PINE		45	CMP	No	Good	Rip-Rap	Good	No	Differential	8/11/03
PINE		15	CMP	No	Good	Rip-Rap	Good	No	Differential	8/11/03
SOUTH COVE	CHAMPLAIN	26	HDPE	No	Good	Earth	Good	No	Differential	8/11/03
CHASE ST	WINOOSKI RIVER	12	CMP	No	Good	Earth	Fair	No	Differential	8/8/03
MILL ST	WINOOSKI RIVER	30	CMP	No	Good	Rip-Rap	Fair	No	Differential	8/8/03
TRAIL	WINOOSKI RIVER	12	CMP	No	Fail	Earth	Good	No	Differential	8/8/03
RIVERSIDE	WINOOSKI RIVER	12	HDPE	No	Fair	Earth	Poor	No	Differential	8/8/03
RIVERSIDE	WINOOSKI RIVER	21	CMP	No	Fair	Earth	Poor	No	Differential	8/8/03
RIVERSIDE	WINOOSKI RIVER	8	PVC	No	Good	Earth	Good	No	Differential	8/8/03
RIVERSIDE	WINOOSKI RIVER	24	RCP	No	Fail	Earth	Good	No	Differential	8/8/03
RIVERSIDE	WINOOSKI RIVER	48	CMP	No	Good	Earth	Fair	No	Differential	8/8/03
RIVERSIDE	WINOOSKI RIVER	15	CMP	No	Fair	Earth	Good	No	Differential	8/8/03
COLLEGE ST	CHAMPLAIN	0		No	Unknown	Other	N/A	No	Differential	8/14/03
QUEEN CITY PKWY		18	CMP	No	Good	None	Good	No	Differential	8/14/03
CASE PKWY		15	CMP	No	Fair	Earth	Fair	No	Differential	8/14/03
WASHINGTON ST		15	CMP	No	Good	Earth	Good	Yes	Differential	8/14/03
WASHINGTON ST		18	CMP	No	Good	Earth	Good	Yes	Differential	8/14/03
ROCKLAND		0		No	Fail		Fail		Differential	8/14/03

# APPENDIX C – ORIGINAL AND UPDATED PHASE II TIMELINES

## BURLINGTON PHASE II TIMELINE



BURLINGTON PHASE II TIMELINE  
February 2004 Update

