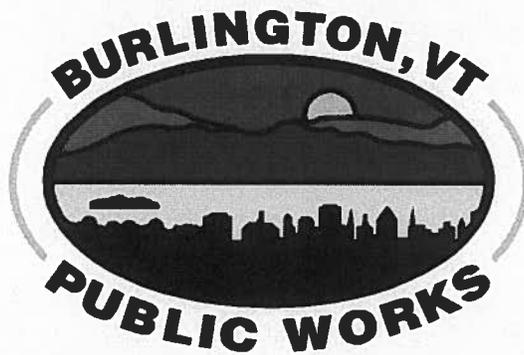


**BURLINGTON DPW  
FY12  
SNOWFIGHTING PROGRAM**



**12/08/11**

## **Planning**

**Winter conditions present a major challenge to Burlington DPW. Schools, health and safety services, commerce and jobs all depend on our ability to maintain our streets and sidewalks in a safe condition despite a continual onslaught of snow and ice throughout the season. To address this, we develop our Snowfighting Program with four things in mind:**

- 1) Snowfighting needs to be based upon well thought out plans**
- 2) The plans need to be flexible because winter storms tend to behave in unpredictable ways.**
- 3) A consistent, high level of service needs to be delivered to every part of the city.**
- 4) Burlington's urban environment is not conducive to snowfighting efforts.**

**Fortunately we have a long history of snowfighting to draw upon as well as an active supporting industry that continually seeks to improve the equipment, materials and techniques that we use. This enables us to improve our plan every year. Sometimes it is with major changes such as when we significantly increased our sidewalk plowing 8 years ago. Other times, like last year, it was with a large number of small items. This year once again we are focusing on fine tuning initiatives from prior years. These include:**

- 1) Reducing vehicle accidents and/or damage to property resulting from our operations.**
- 2) Utilizing "treated" salt that is more effective and is less detrimental to the environment.**
- 3) Insuring that we have spare equipment available so that breakdowns to not interfere with our operations.**
- 4) Modifying the maintenance light system. (snow lights)**
- 5) Using seasonal employees to augment DPW staff.**

## **Preparation**

**Preparations for snowfighting begin in the summer when the purchasing process is initiated for vehicles in need of replacement according to our fleet capital plan. Some require long lead times if we are to have them by winter. In the early fall our Equipment Maintenance Group begins the process of going through the fleet and performing any needed work to get it ready for winter. Many of our vehicles have jobs other than snowfighting so this work has to be coordinated with these other uses. In the summer and fall staff also address issues in the ROW that interfere with plowing efforts i.e. manholes that are too high. The snow light system is also checked and repaired as necessary.**

**In early November the department conducts its' snow training week. This involves training in the proper use of our equipment and a review of our snowfighting plans. Staff does most of the training however manufactures' representatives and safety consultants are also used. All staff involved in snowfighting, including those from all divisions of DPW and from other departments, attend the relevant parts of this training.**

**We drive all of the street and sidewalk plow routes so that the operators are familiar with their routes. If changes or obstacles are encountered they are noted so as to avoid problems during actual events. Signs are placed at this time in areas where sidewalk plows are not supposed to go. These areas are often difficult to see when covered with snow. The training concludes with a rodeo in which driver skills are showcased and prizes awarded to the fastest/safest drivers.**

## Resources

The following table lists the resources we have to devote to our snowfighting efforts. These include staff, vehicles and money.

<b>Number of Employees needed per storm (depending on the storm)</b>	<b>14 to 50+</b>
<b>Plow Trucks w/7 to 8 yards dump body &amp; wings</b>	<b>9 Trucks</b>
<b>Low Profile Plow Trucks w/wings</b>	<b>3 Trucks)</b>
<b>One-Ton Plow Trucks(Front Plows Only)</b>	<b>2 Trucks</b>
<b>Loaders (2 with plows) (1 without )</b>	<b>3 Loaders</b>
<b>Sidewalk Plows (w/blowers, straight plows and v-plows)</b>	<b>13</b>

<b>Snowfighting Budget FY10</b>	<b>\$733,000</b>
<b>Snowfighting Expenses FY10</b>	<b>\$530,000</b>
<b>Snowfighting Budget FY11</b>	<b>\$823,000</b>
<b>Snowfighting Expenses FY 11</b>	<b>\$966,000</b>
<b>Snowfighting Budget FY 12</b>	<b>\$734,000</b>

If needed, as it was during the last winter season, we have made arrangements to rent road graders to remove ice if we have a significant ice storm and tandem axle dump trucks if we have to haul snow.

## **Performance Capabilities**

Burlington has 95 miles of roads and 150 miles of sidewalks. During the average year we receive 80 inches of snow. Of course this is only an average. What really matters is when it falls and how many snow events we have to deal with. Generally speaking, the length of a storm rather than the amount of snow determines how we deal with it. The following table outlines the capabilities of our snowfighting crews. Our plans are built around these capabilities.

<b>Street Plowing Routes</b>	<b>12</b>
<b>Hours to plow all streets once (Done Twice Each Storm)</b>	<b>5 to 7</b>
<b>Hours to salt all streets @ 500 lbs/mile</b>	<b>4</b>
<b>Sidewalk Plow Routes</b>	<b>9</b>
<b>Hours to plow all sidewalks once. (Done Twice Each Storm)</b>	<b>7 to 8</b>
<b>Hours to snow blow all sidewalks</b>	<b>24</b>
<b>Hours to salt all sidewalks</b>	<b>8 to 12</b>

## **Plans**

### **Street Plowing Plans**

**Plan 1** Salting and/or plowing in a light snowstorm involves 6 to 8 trucks. If the storm intensifies, additional trucks can be mobilized. This plan is often used if a storm is underway during rush hour and major roads need to be kept open. Last year we used 3604 tons of salt.

**Plan 2** This is our basic plowing plan. It has seven routes with a plow truck in each one. This plan is implemented after plan #1 and is also used for push back operations at night, especially during parking bans.

**PLANS 3 &4** If a storm intensifies we move to plans with up to 15 plowing vehicles and transition from 8 hour shifts to 12 hour shifts. This is typical in storms that last more than 24 hours. Plan #3 has eight routes plan #4 has twelve routes, each with a vehicle assigned to it.

As noted previously, these plans are flexible. Additional vehicles can be mobilized depending on conditions. Each plan is depicted on a map in the appendix of this report.

If we have to haul snow, as was common last season, DPW has a snow dump located in a former oil tank farm containment berm near the waterfront. This has been an ideal site as the berm contains the contaminants in the snow and prevents them from reaching the lake as the snow melts.

### **Sidewalk Plowing Plans**

- 1) All nine routes are plowed during the day concurrently with street plowing plans #1 through #4. Extra attention is given to the downtown, areas around school and at school crossing guard locations.
- 2) During push back or any night time street plowing operation, sidewalk plowing usually begins around 4 a.m. so that side walks are open when school begins. Depending on the severity of a storm, this starting time can be varied.
- 3) Scraping, sometimes with salting operations, are routinely conducted during the day throughout the winter.

The sidewalk plowing routes are depicted on a map in the appendix of this report. Each route is assigned a plow vehicle during these operations.

## **Parking Bans**

**Burlington does not have a seasonal parking ban unlike most towns in our region. It is the responsibility of the DPW Director to declare bans on a case by case basis. By city ordinance the ban must be declared by 3:00 p.m. in order to be in effect from 10:00P.M. that evening until 7:00 a.m. the following morning.**

**Vehicles must be off of the streets during these hours if a ban has been declared or they can be towed. While parking bans make our job easier it is difficult for many people to find alternative parking. (DPW does make free parking available in our garages as one option). Therefore we try to limit the number of bans that are called.**

**When a storm with over 3 inches of snow is predicted the need for a parking ban is evaluated. Factors such as the existing snow pack, type of snow, and weather after the storm are considered. We use a number of resources to assist us in this decision including a subscription weather forecasting service.**

**Last year there were 6 parking bans and a total of 737 cars were towed. The towing operation is managed by the Burlington Police Department once the DPW director calls a parking ban. Vehicles are towed to a designated street and tow lots in various sections of the city to make their retrieval easier and so as to not interfere with snow removal operations.**

**Parking bans are warned using the maintenance light system as well as media and internet notification systems. DPW maintains a phone line at 658-SNOW with up to date information on winter parking bans if one has been called by the director.**

## **FY 12 PARKING BAN TOW AREAS**

**LAKE ST. BOAT LAUNCH / SKATE PARK – VEHICLES TOWED FROM OLD NORTH END & WEST OF WILLARD ST., FROM PEARL ST. TO MAPLE ST.**

**GROVE ST. SHAMANSKI PARK PARKING LOT - VEHICLES TOWED EAST OF WILLARD ST., FROM MAPLE ST. TO RIVERSIDE AVE.**

**GOSSE CT. NORTH AVE. TO END - VEHICLES TOWED FROM THE NEW NORTH END**

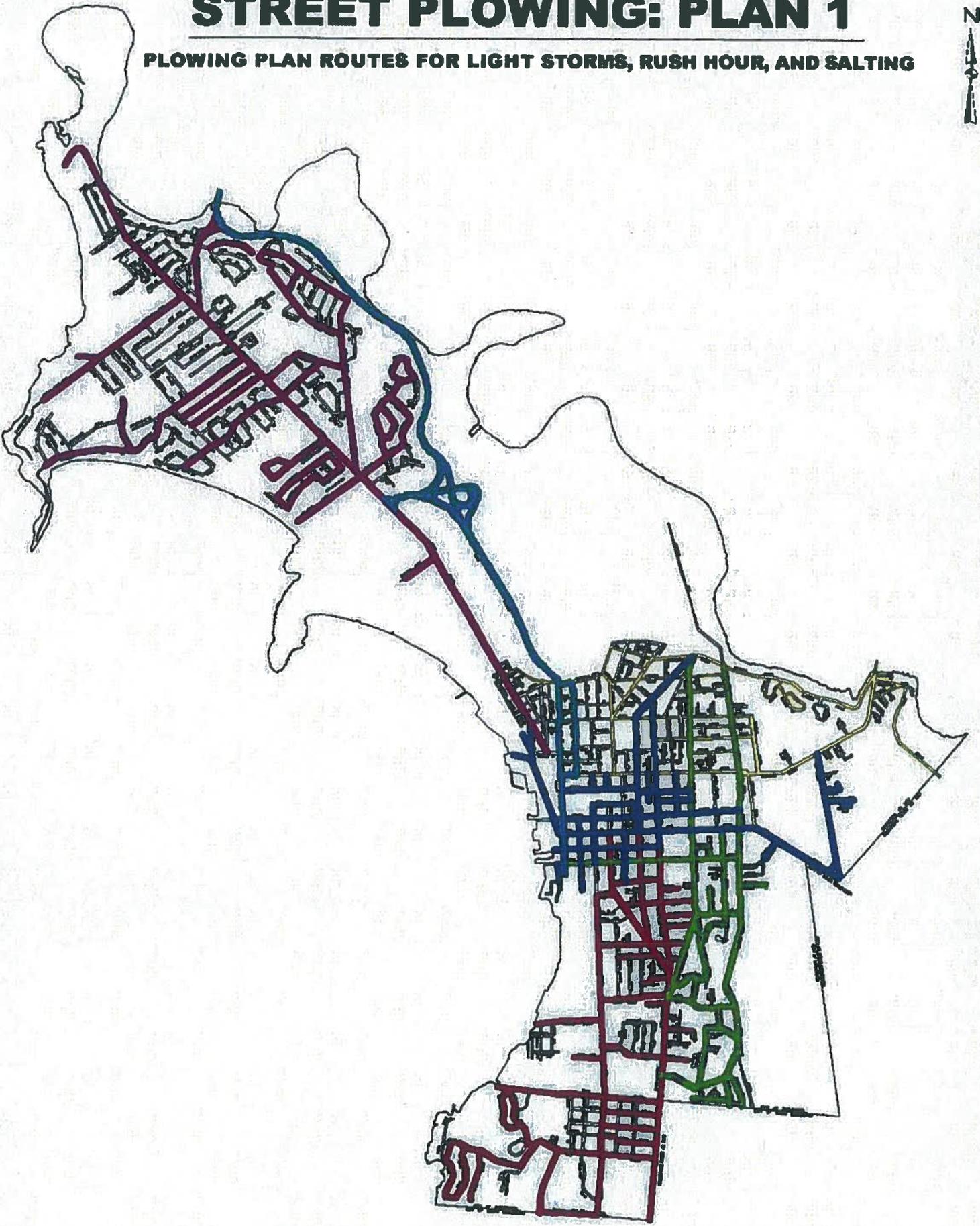
**OAKLEDGE PARK PARKING LOT - VEHICLES TOWED FROM THE SOUTH END & WEST OF WILLARD ST., FROM MAPLE ST. SOUTH**

## **Appendix**

<b>Street Plowing Plan 1</b>	<b>page 10</b>
<b>Street Plowing Plan 2</b>	<b>page 11</b>
<b>Street Plowing Plan 3</b>	<b>page 12</b>
<b>Street Plowing Plan 4</b>	<b>page 13</b>
<b>Sidewalk Plowing Plan</b>	<b>page 14</b>

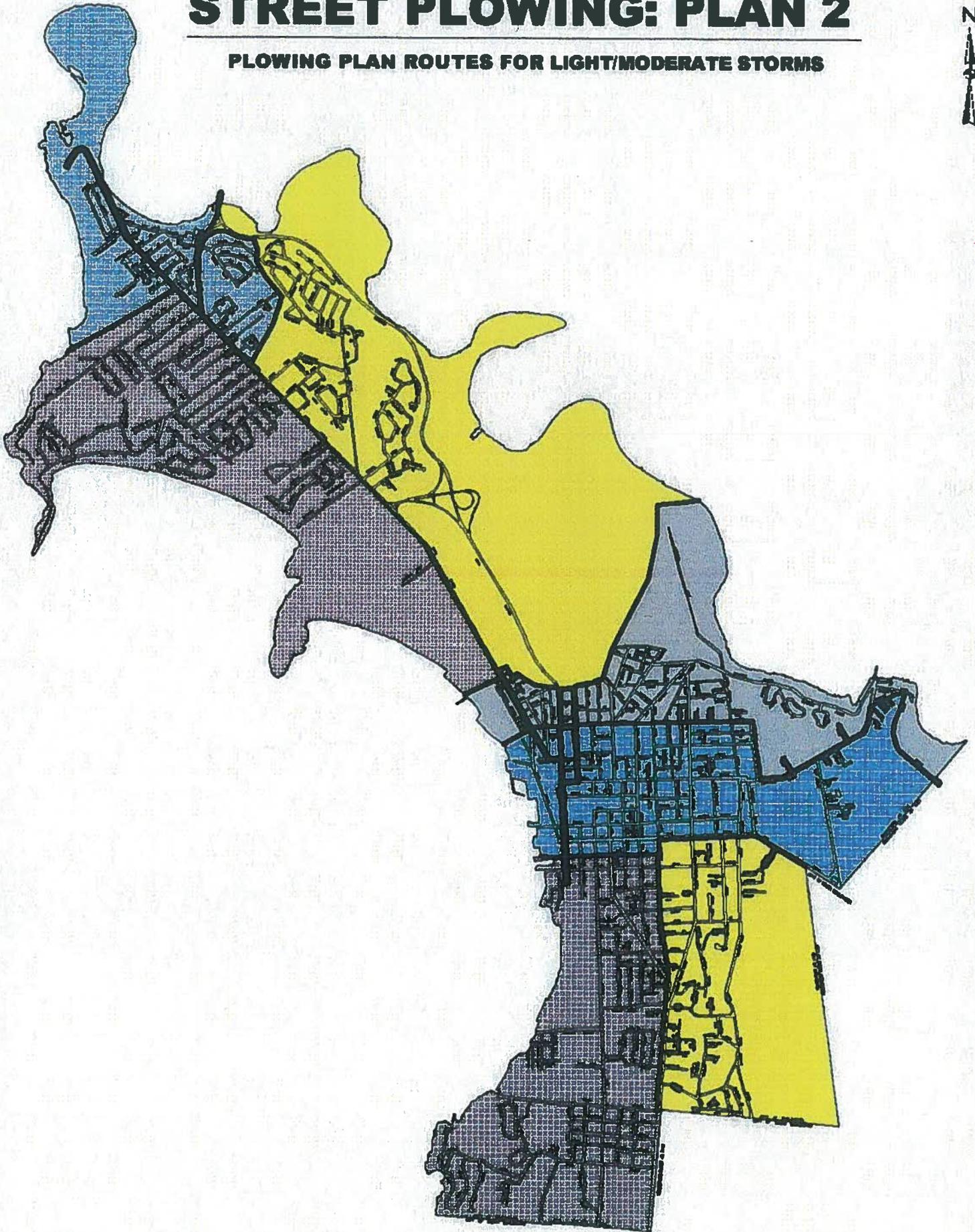
# STREET PLOWING: PLAN 1

PLOWING PLAN ROUTES FOR LIGHT STORMS, RUSH HOUR, AND SALTING



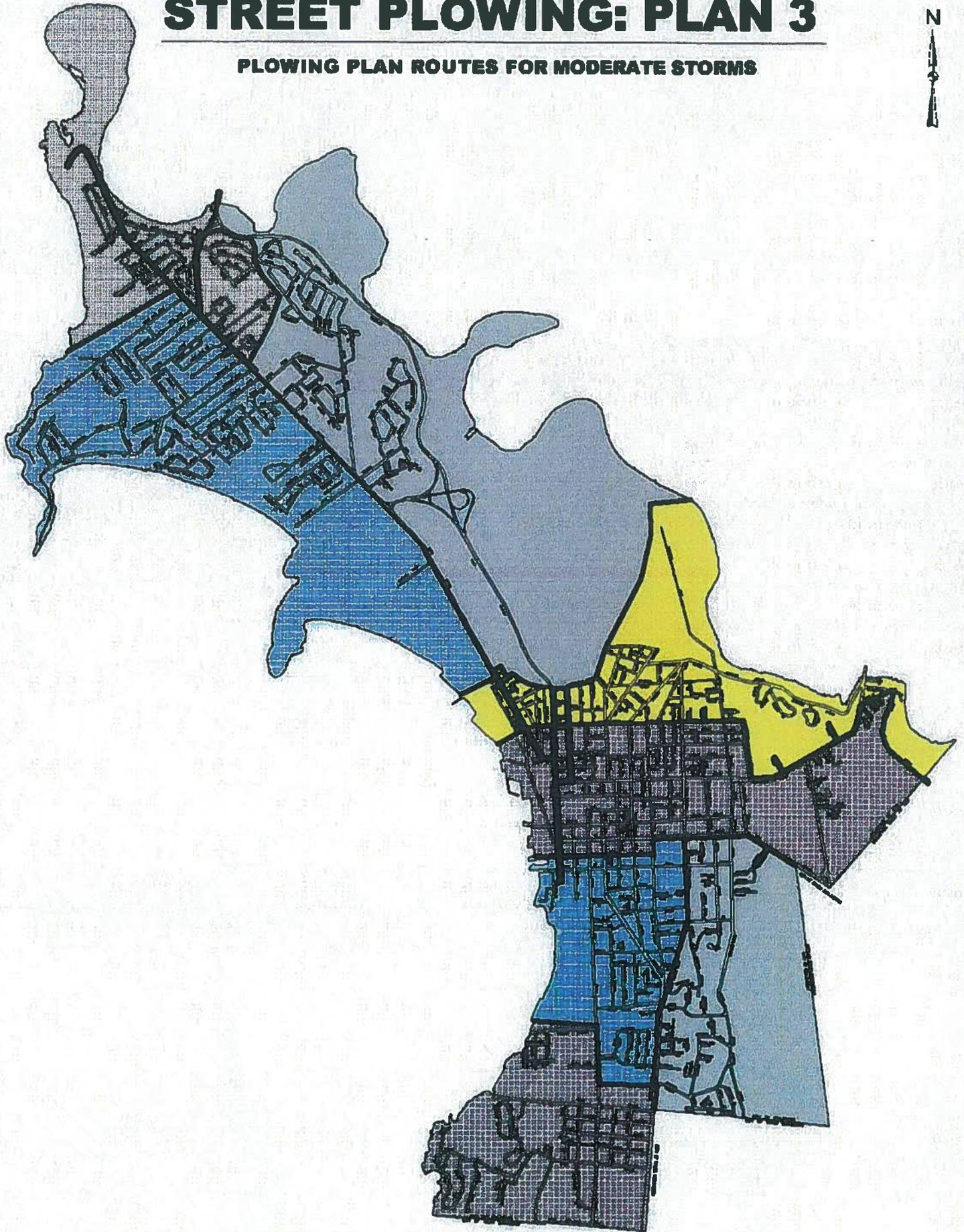
# STREET PLOWING: PLAN 2

PLOWING PLAN ROUTES FOR LIGHT/MODERATE STORMS



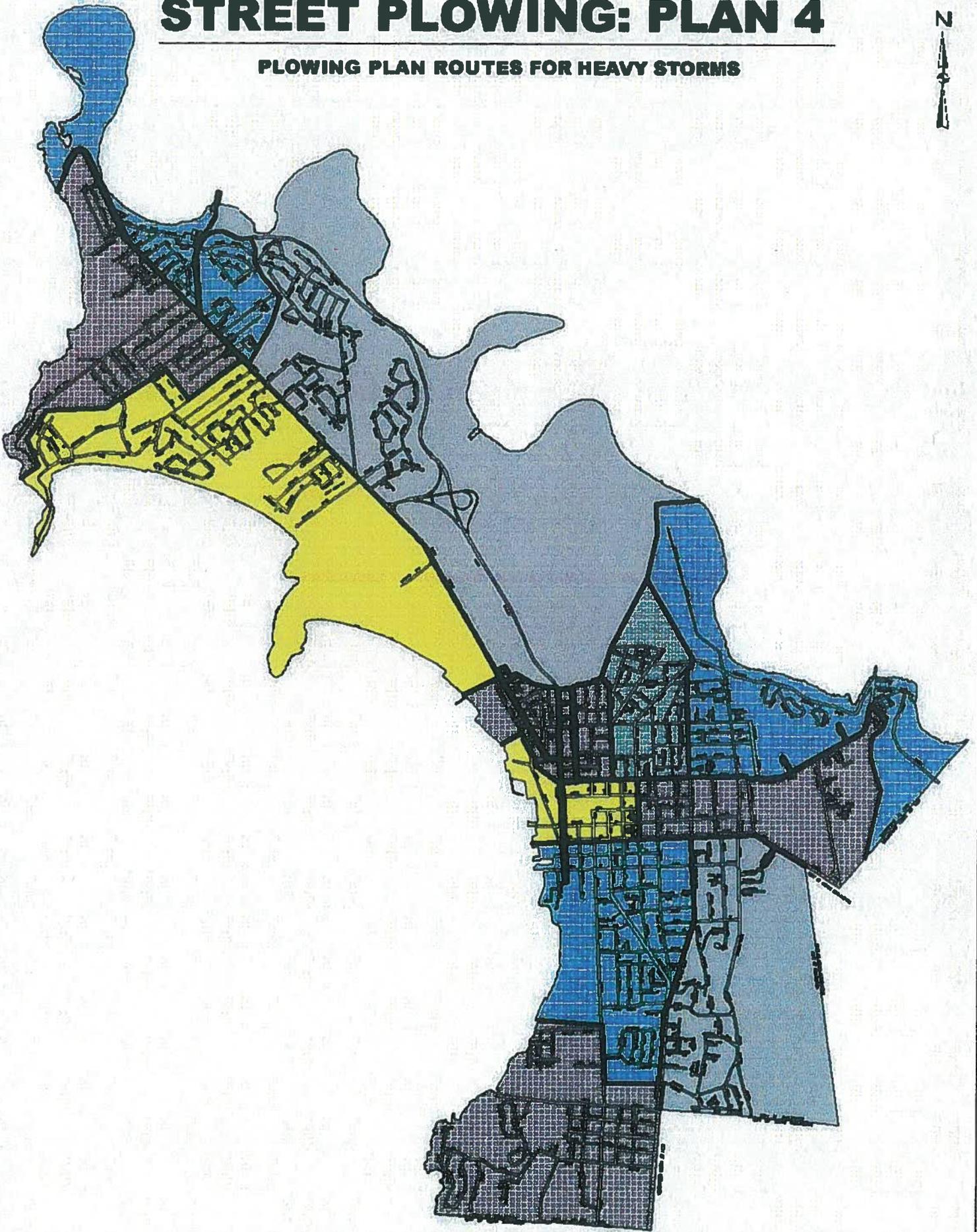
# STREET PLOWING: PLAN 3

PLOWING PLAN ROUTES FOR MODERATE STORMS



# STREET PLOWING: PLAN 4

PLOWING PLAN ROUTES FOR HEAVY STORMS



# SIDEWALK PLOWING ROUTES

