



STAFF REPORT ACTION REQUIRED

Confirmation of Levels of Service for Winter Maintenance of Bikeways, Windrow Opening, Sidewalks and AODA Compliance

Date:	March 17, 2014
To:	Public Works and Infrastructure Committee
From:	General Manager, Transportation Services
Wards:	All Wards
Reference Number:	P:\2014\Cluster B\TRA\Scarborough District\pw1427.doc

SUMMARY

The purpose of this report is to provide further information on winter maintenance levels of service following the report provided to Public Works and Infrastructure Committee on November 20, 2013 entitled, "Confirmation of Levels of Service for Roadway and Roadside Winter Maintenance Services".

The report proposes the creation of levels of service for winter maintenance on cycling facilities, the addition of specified streets to the mechanical driveway windrow opening and sidewalk clearing programs, and changes to the Snow and Ice Removal By-law that will enhance winter maintenance for people with disabilities in compliance with the Accessibility for Ontarians with Disabilities Act (AODA).

RECOMMENDATIONS

Transportation Services Division recommends that:

1. City Council confirm the proposed levels of service beginning in the 2015/16 winter season for winter maintenance of cycling facilities, including priority routes with appropriate signage, at a cost of approximately \$650,000 per season (based on the current cycling network) as outlined in Appendix 1 and Appendix 2.
2. City Council confirm the expansion of the driveway windrow opening program beginning in the 2015/16 winter season at a cost of approximately \$50,000 per season to those streets listed in Appendix 3.
3. City Council confirm the expansion of the sidewalk clearing program beginning in the 2015/16 winter season at a cost of approximately \$50,000 per season to those streets listed in Appendix 5.
4. City Council direct staff to make the necessary changes to Chapter 719 of the Toronto Municipal Code, Snow and Ice Removal, to require adjacent property owners to clear sidewalks of snow and ice to a minimum width of 1.2 metres wherever the City of Toronto has not undertaken to clear the snow and ice.

Financial Impact

Approval of the recommendations of this report will result in additional Transportation Services' operating costs of approximately \$750,000 for winter maintenance beginning in the 2015/16 winter season, which is the commencement of the next term of winter contracts.

The increase in winter maintenance costs for the 2015/16 winter will arise from proposed winter maintenance in bike lanes that would cost approximately \$650,000 based on the existing network of cycling facilities, the expansion of the driveway windrow clearing program with an anticipated cost of \$50,000 and the expansion of the mechanical sidewalk clearing program that will also cost approximately \$50,000.

Additional operating funding for these requirements will be considered as part of the 2015 Budget process.

The Deputy City Manager and Chief Financial Officer has reviewed this report and concurs with the financial impact information.

DECISION HISTORY

At its meeting of December 16, 17 and 18, 2013, City Council adopted the report on Confirmation of Levels of Service for Roadway and Roadside Winter Maintenance Services which can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW27.15>

Of relevance to this report, City Council requested the General Manager, Transportation Services to report back on the following items:

1. City Council request, in an effort to promote winter cycling, that the General Manager, Transportation Services, report to the Public Works and Infrastructure Committee on the creation of a network of snow routes for Toronto's bikeway that receives priority clearing and that this report recommend what changes, if any, should be made to route signage.
2. City Council request the General Manager, Transportation Services, to review the streets in any Ward currently not receiving windrow clearing and/or sidewalk clearing, and to report to a future meeting of the Public Works and Infrastructure Committee on which streets can be added to the Request for Proposal for 2015 and future contracts.
3. City Council, in an effort to comply with the Accessibility for Ontarians with Disabilities Act (AODA), request the General Manager, Transportation Services, to report to the Public Works and Infrastructure Committee on the areas of the City that do not meet the criteria for mechanical sidewalk snow clearing and to submit recommendations for sidewalk snow clearing using other means to ensure accessibility guidelines are maintained throughout the year.
4. City Council request the General Manager, Transportation Services to examine the feasibility and cost of prioritizing clearing the Toronto Transit Commission Accessible Drop-off spaces for the 2015 contract.

ISSUE BACKGROUND

Transportation Services provides a full suite of winter maintenance services including roadway de-icing, roadway ploughing, driveway windrow opening, cycle track clearing, Martin Goodman Trail clearing, sidewalk clearing, bus stop clearing, senior's sidewalk clearing, and snow removal, including laneway frontages. Where mechanically possible, these services are delivered consistently and equitably to all areas of the city.

COMMENTS

Creation of Winter Bike Routes with Priority Clearance

There are currently no Council-approved levels of service specifically for winter maintenance of bike lanes, although the operational objective is to achieve a width of 1.0 metres within 48-72hrs of a snow event. Generally, bike lanes are salted and plowed using the same application rate for salt and the same threshold for plowing as the adjacent general purpose lane. The proposed winter levels of service for bike lanes are included as Appendix 1 and would cost approximately \$650,000 per season based on the current cycling network.

The majority of bike lanes are located on arterial roads. The level of service for winter maintenance on an arterial road is to achieve a bare pavement condition following salting and plowing. It is difficult to achieve a bare pavement level of service on a bike lane solely through salting and plowing, as bike lanes do not receive the same benefit from the motor vehicle traffic as general purpose lanes would. The achievement of bare pavement on a bike lane of sufficient width can be enhanced through the removal of the windrow created by the snow plow. However, there are logistical challenges associated with the physical removal of snow in bike lanes where the bike lanes exist in between a parking lane and a general purpose lane. In the downtown core, it is difficult to coordinate the removal of parked cars that is required to facilitate snow removal on the arterial roads where the majority of bike lanes are located.

The cost to remove snow on the approximately 220km (and increasing) of existing on-street bike lanes could be up to \$3,000,000 per winter season. Based on ridership data, staff was able to identify key north-south and east-west corridors used by cyclists with 24-hour cycling volumes exceeding 2000 bicycles. These were identified as high-volume routes and would be the potential candidates for winter bike routes because of their demand. As identified in Appendix 2, these winter bike routes would be appropriately signed as such and identified in City-produced cycling literature and on the Transportation Services web site. Determination of the most appropriate signage to be used will be made by Transportation Services staff in consultation with external stakeholders.

Staff is proposing to maintain the priority bike network during the winter period through a combination of more aggressive salting, plowing and snow removal. Given the range of bicycle infrastructure in the downtown core, there is no 'one size fits all' solution. Pilot projects may be undertaken to find the most suitable approach for unique locations. All downtown on-street bike lanes would be salted to a higher frequency than adjacent arterial roads. When necessary, they would also be plowed using a 'slusher' blade. This will agitate the snow to break the bond between it and the pavement making it more vulnerable to salt. In the priority lanes, snow would be removed to achieve bare pavement conditions where possible and in the absence of parking. This would occur under cumulative Storm Type 2 or greater conditions (5 – 15cm), and in the absence of any significant freeze/thaw cycles that would reduce the size of the windrow.

Review of Streets Currently Not Receiving Windrow Opening

The existing criteria for the driveway windrow opening program in the amalgamated City of Toronto was introduced in 1999. At the time, staff determined which streets would receive the service based on Council-approved criteria. The program is provided primarily in the Etobicoke-York, North York, and Scarborough Districts. Generally, driveway windrow opening is not provided in the Toronto and East York District.

Transportation Services staff in each district have reassessed those areas that have traditionally not received the driveway windrow opening program. In order to be eligible to receive the service the street must satisfy the following criteria:

1. No overnight parking on the street.
2. No monolithic sidewalk (sidewalk cannot be adjacent to street) in combination with on-street parking.
3. Street must be greater than 8m in width (to allow for on-street snow storage at narrow lots or where there is monolithic sidewalk).
4. Lot width cannot be less than 12m (to allow space to deposit the snow).
5. No obstructions such as utility poles, planters, retaining walls, immediately adjacent to or within the sidewalk that would create significant potential for damage or an operating safety concern for the equipment operator or the public.
6. Street must be part of a contiguous area where the service can be delivered.
7. Service will not be provided wherever the municipal address fronts onto a laneway.

After reviewing streets not currently receiving windrow opening service, staff is recommending the addition of approximately 17 curb kilometres of streets to the driveway windrow program at a cost of approximately \$50,000. The proposed streets to be added to the driveway windrow program are listed in Appendix 3 and shown in map format in Appendices 4 through 6.

Review of Streets Currently Not Receiving Mechanical Sidewalk Clearing

The existing criteria for mechanical sidewalk clearing in the amalgamated City of Toronto was introduced in 2001. At the time, staff determined which streets would receive the service based on Council-approved criteria. The program is provided primarily in the Etobicoke-York, North York, and Scarborough Districts. Generally, local road mechanical sidewalk clearing is not provided in the Toronto and East York District.

Transportation Services Staff in each District have reassessed those areas that have traditionally not received the mechanical sidewalk clearing program. In order to be eligible to receive the service the street must satisfy the following criteria:

1. No monolithic sidewalk (sidewalk cannot be adjacent to street) in combination with on-street parking
2. Street must be greater than 8m in width (to allow for on-street snow storage)
3. Sidewalk must be greater than 1.5m in width.
4. No obstructions such as utility poles, planters, retaining walls immediately adjacent to or within the sidewalk that would create significant potential for damage or an operating safety concern for the equipment operator or the public.
5. Street must be part of a contiguous area where the service can be delivered.
6. Service will not be provided wherever the municipal address fronts onto a laneway.

Staff is recommending the addition of approximately 11 linear kilometres of sidewalk to the mechanical sidewalk clearing program at a cost of approximately \$50,000. The proposed streets to be added to the mechanical sidewalk clearing program are listed in Appendix 7 and shown in map format in Appendices 8 through 12.

Mechanical Sidewalk Clearing and the Accessibility for Ontarians with Disabilities Act (AODA)

The City of Toronto is in compliance with the Accessibility for Ontarians with Disabilities Act (AODA) as it applies to winter maintenance of sidewalks. The Act requires that municipalities have multi-year accessibility plans that contain procedures and policies about maintenance of public infrastructure and public spaces such as sidewalks. Specifically, the Act requires the prompt clearing of snow along accessible routes intended for winter use, including sidewalks, pathways and trails.

The AODA does not require municipalities to clear all sidewalks of snow, nor does it state a minimum width to which sidewalks should be cleared. As stated above, it does require that municipalities have a plan. The City of Toronto has a plan for winter maintenance on sidewalks. Presently, the level of service is to clear sidewalks at 8cm of snow accumulation in December & March and 5cm of snow accumulation in January & February. Generally, Transportation Services clears all sidewalks of snow wherever it is mechanically possible. Commencing in December, 2015, all high pedestrian volume sidewalks will be cleared at 2cm of snow accumulation throughout the winter season where mechanically possible.

The clearing of snow and ice from City sidewalks where the City does not provide sidewalk snow clearing service is regulated by, and enforced through, Municipal Code Chapter 719, Snow and Ice Removal. This Chapter indicates that it is the responsibility

of every owner or occupant to clear his/her sidewalk abutting his/her property within twelve (12) hours after any snowfall and to maintain them in a clear state thereafter, wherever the City does not do so mechanically. The Chapter further prohibits the clearing of snow from private property and depositing onto the public roadway, sidewalk or lane. If there is no compliance with the provisions of the Municipal Code, the City has the authority to clear the sidewalks and to add the resulting costs of this work to the Realty Tax bill of the property.

In addition, owners/occupants who fail to clear snow or ice from sidewalks abutting their properties may be subject to a fine of \$100.00 plus a \$25.00 victim surcharge. Moving snow or ice from private property to public property may be subject to a fine of \$295.00 plus a \$65.00 victim surcharge.

In addition, for seniors and disabled persons, in those areas of the City where mechanical sidewalk clearing is not feasible, Transportation Services provides sidewalk snow clearing services to residents and/or tenants of one or two family dwellings where:

1. Residents/tenants are 65 years of age or older and where there are no members of the same household under 65 years of age; or
2. Residents/tenants are 65 years of age or older and where a member of the same household under 65 years of age is determined by a physician to be disabled; or
3. Residents/tenants are under 65 years of age and are determined by a physician to be incapable of removing snow from the sidewalks adjacent to their home without endangering their health, without an able-bodied member of the same household under 65 years of age residing on the premises.

For this service, an application form must be completed annually and signed by the requesting person. In the case of applicants with temporary or permanent physical disabilities, a doctor's certificate confirming their inability to clear snow is required. Sidewalks for approximately 5900 seniors and disabled residents are cleared of snow and ice using primarily manual crews. The service is provided at no charge.

Mechanical sidewalk clearing is precluded on streets that are less than 8m wide, with sidewalks less than 1.5m wide, with sidewalks adjacent to the street, with long term parking adjacent to the sidewalk, or with boulevards having obstructions like utility poles, planters, or retaining walls adjacent to the sidewalk. There are approximately 1100km of sidewalk that cannot be cleared mechanically. Staff estimates that it would cost approximately \$10,000,000 annually to manually clear these locations due to the labour-intensive nature of the work. There would also be significant logistical challenges associated with such a program as approximately three hundred and sixty manual crews would be required, composed primarily of day labourers on an immediate need basis.

Where the City does not mechanically clear sidewalks, compliance with the spirit of the AODA requirements could be better achieved through aggressive enforcement of the Snow and Ice Removal by-law and by revising the by-law so as to require a minimum

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for Bikeways, Windrows, Sidewalks & AODA

travel width. For newly built exterior paths, the AODA requires a minimum width of 1.5m, but does not prescribe the width of path to be winter-maintained. When mechanically clearing sidewalks, Transportation Services provides a travel width of 1.2m for sidewalks that are 1.5m wide. Transportation Services requires the sidewalk to be a minimum of 1.5m wide so as to provide adequate clearance for sidewalk plows to manoeuvre around obstacles, provide tolerance for uneven sidewalk and minimize sod damage. Sidewalks less than 1.5m wide are not mechanically cleared.

Staff is proposing that the same standard be applied to sidewalks that are not mechanically cleared, which would therefore require the adjacent property owner to clear a minimum 1.2m wide path on the sidewalk wherever the sidewalk is equal to or greater than 1.5m. Property owners adjacent to sidewalks less than 1.5m wide would not be required to maintain a minimum width.

The level of service for mechanical sidewalk clearing is similar to that provided in both Montreal and Ottawa, two municipalities of similar age and urban density as Toronto. Both of these jurisdictions provide mechanical sidewalk clearing wherever sidewalks widths are equal to or greater than 1.5m. Comparable equipment is used to deliver the service. Montréal does clear streets with monolithic sidewalk and onstreet parking; however, the Montréal also removes snow approximately six times per year at all of these locations and at significant cost.

Toronto Transit Commission Accessible Drop-off spaces

Wheel Trans locations are not routinely cleared as part of winter maintenance operations. There are approximately 32,000 active registered Wheel Trans users throughout the city who use the service. A rider using the service at least once per year is considered to be an active user. TTC staff is unable to provide Transportation Services staff with lists of users' addresses due to MFIPPA regulations.

The Wheel Trans service operates on an on-demand basis. There are no regularly scheduled routes as there are for most TTC transit options. On any given day, Wheel Trans will make 2500 trips carrying approximately 10,000 passengers. The pickup and dropoff locations vary on a day-to-day basis.

TTC staff estimate that approximately 70% of those registered users are seniors. Transportation Services presently provides a manual sidewalk clearing program for seniors wherever the City is not able to provide the service mechanically. This program only clears the public sidewalk and does not include the clearing of any private property such as walkways, steps, etc.

Should a Wheel Trans stop clearing program be implemented, it would not be possible to clear the locations mechanically, and all of the work would have to be performed manually so as not to cause damage to adjacent curbs, retaining walls, etc. If introduced, the work would be performed using contracted forces. Due to the labour-intensive nature of the work, the cost to deliver a Wheel Trans stop clearing program throughout the city would be approximately \$15,360,000 per season at a level of service on par with that of

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mechanical sidewalk clearing (i.e. at 2cm of snow accumulation or 24x/year). There would also be significant logistical challenges associated with such a program given the number of manual crews that would be required, composed primarily of day labourers on an immediate-need basis. For these reasons, it is not possible at this point in time to provide any further enhanced services for accessible drop-off spaces beyond what is already provided.

CONTACT

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SIGNATURE

Stephen Buckley,
General Manager, Transportation Services

ATTACHMENTS

Appendix 1 – Cycling Facility Level of Service Table

Appendix 2 – Planned Priority Winter Bike Lanes

Appendix 3 – List of Streets to be Added to the Driveway Windrow Opening Program

Appendix 4 – Map of Streets to be added to the Driveway Windrow Opening Program in Ward 22

Appendix 5 – Map of Streets to be added to the Driveway Windrow Opening Program in Ward 29

Appendix 6 – Map of Streets to be added to the Driveway Windrow Opening Program in Ward 31

Appendix 7 – List of Streets to be Added to the Mechanical Sidewalk Clearing Program

Appendix 8 – Map of Streets to be added to the Mechanical Sidewalk Clearing Program in Ward 11 and 13

Appendix 9 – Map of Streets to be added to the Mechanical Sidewalk Clearing Program in Ward 12

Appendix 10 – Map of Streets to be added to the Sidewalk Clearing Program in Ward 22

Appendix 11 – Map of Streets to be added to the Sidewalk Clearing Program in Ward 27

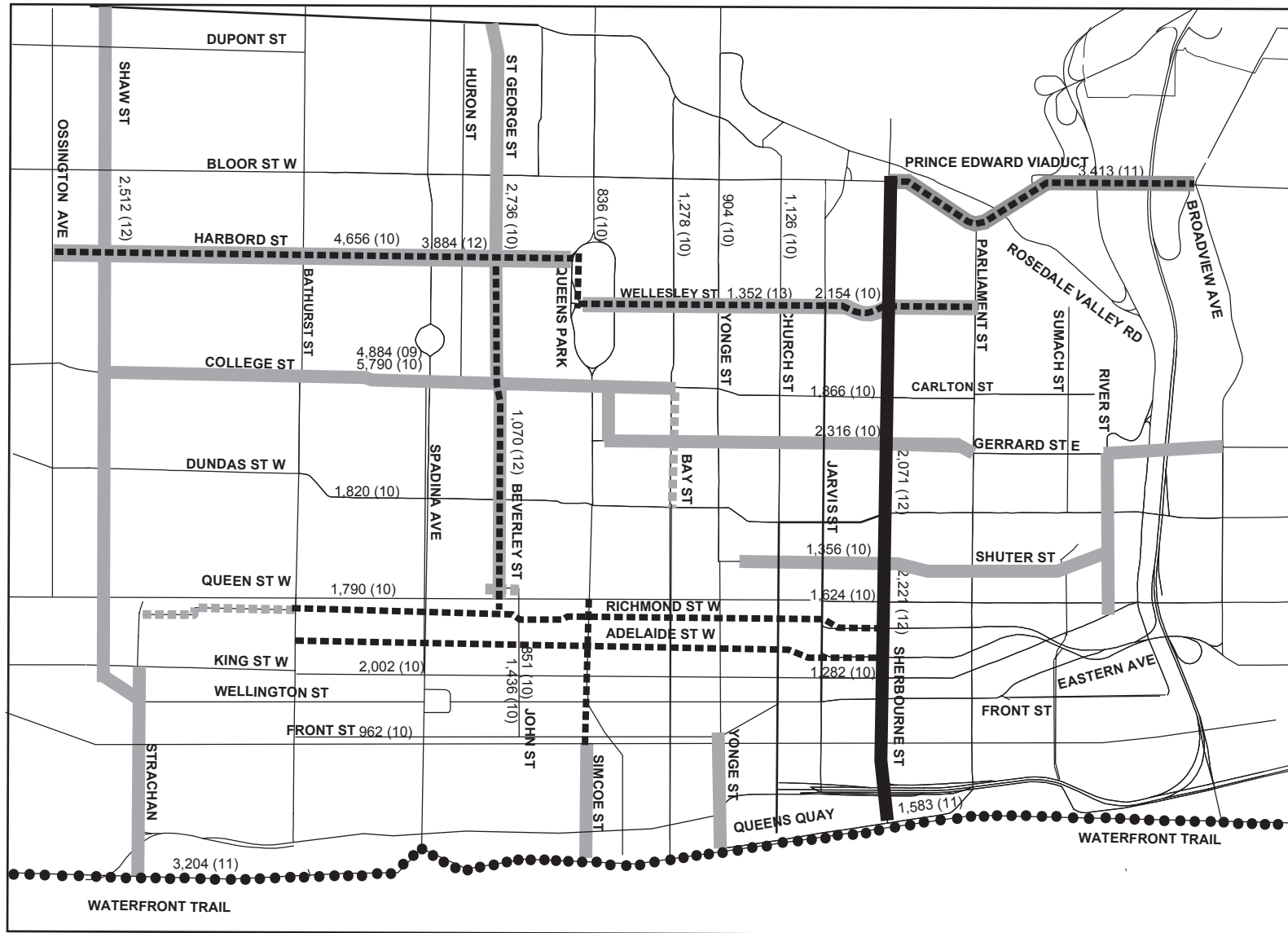
Appendix 12 – Map of Streets to be added to the Sidewalk Clearing Program in Ward 29

APPENDIX 1
CYCLING FACILITY LEVEL OF SERVICE TABLE

BIKE LANE CATEGORY	DESIRED PAVEMENT CONDITION AFTER SALTING / PLOWING (1)	ACCUMULATION (cm) TO INITIATE PLOWING	TIME TO COMPLETION FOR SALTING / PLOWING & SNOW REMOVAL (AFTER THE END OF SNOWFALL) (2)			
			STORM TYPE 1 30-40 per year (up to 5cm)	STORM TYPE 2 3-6 per year (5-15 cm)	STORM TYPE 3 Once/2-3 years (15-25 cm)	STORM TYPE 4 Once 10/years (over 25cm)
Martin Goodman Trail	Bare pavement	5.0 and still snowing	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs
Cycle Tracks (incl bus pads) - Sherbourne St - Roncesvalles Ave	Bare pavement	5.0 and still snowing	Salted to a higher level of service as the road they are on/adjacent to	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs
Priority Bike Lanes - East – west - North - south	Bare Pavement	5.0 and still snowing	Salted to a higher level of service as the road they are on/adjacent to	Plowing & salting as per road classification. Full removal within 48 – 72hrs when required to achieve bare pavement.		
Red – Arterial Roads - Bike lanes - Contra-flow - Sharrows	Bare Pavement	5.0 and still snowing	Salted to a higher level of service as the road they are on/adjacent to	Plowing & salting within 6-8hrs	Plowing & salting within 8-10hrs	Plowing & salting only within 12-14hrs
Blue – Collector Roads - Bike lanes - Contra-flow - Sharrows	Bare Pavement	5.0-8.0	Salted to a higher level of service as the road they are on/adjacent to	Plowing & salting within 8-10hrs	Plowing & salting within 10-12hrs	Plowing & salting only within 14-16hrs

1. Multiple applications of salt may be required to achieve a bare pavement condition. This may take up to 72hrs and will be subject to temperature constraints.
2. Bike lane snow removal to prioritized within hierarchy of Managed Snow Removal operations

Planned Priority Winter Bicycle Lanes

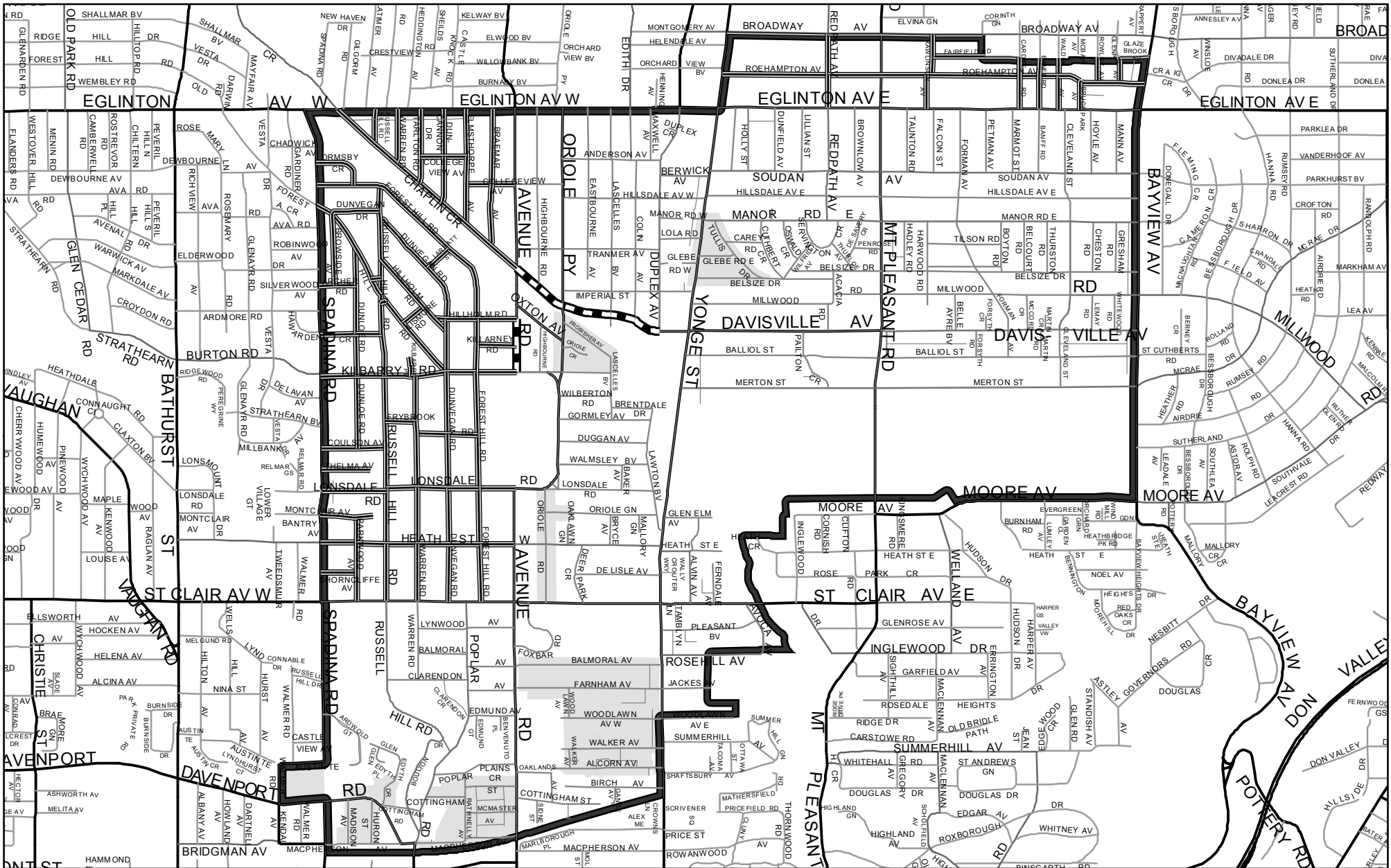


LEGEND

	DESIGNATED CYCLE TRACK		PLANNED CYCLE TRACKS
	PRIORITY BICYCLE LANE ROUTES		PLANNED PRIORITY BICYCLE LANES
	WATERFRONT TRAIL	X,XXX (XX)	24 HOUR CYCLING VOLUME (COUNT YEAR)

Appendix 3
Streets to be Added to the Driveway Windrow Opening Program

Ward #	Street	From	To
22	Avenue Rd	Kilbarry St	Hillholm Ave
22	Chaplin Cres	Avenue Rd	Duplex Ave
22	Lascelles Blvd	Chaplin Cres	Eglinton Ave
29	O'Connor Dr	Broadview Ave	Coxwell Ave
29	O'Connor Dr	Coxwell Ave	Woodbine Ave
31	Alder Rd	Parkview Hill Cres	Dead End S
31	Aspen Ave	Parkview Hill Cres	Parkview Hill Cres
31	Elswick Rd	Parkview Hill Cres	Parkview Hill Cres
31	Faircrest Crcl	Parkview Hill Cres	Dead End S
31	Hackberry St	Presteghn Ave	Parkview Hill Cres
31	Longspur Rd	Hackberry St	Parkview Hill Cres
31	Parkview Hill Cres	St Clair Ave E	Woodbine Heights Blvd
31	St Clair Ave E	Woodbine Heights Blvd	Denvale Rd
31	Stinson Crcl	Parkview Hill Cres	Dead End W
31	Welby Crcl	Parkview Hill Cres	Dead End N
31	White Pine Ave	Parkview Hill Cres	Parkview Hill Cres
31	Woodbine Heights	Parkview Hill Cres	St Clair Ave E
31	Woodbine Heights Blvd	Parkview Hill Cres	Dead End N



Legend

Driveway Windrow Study Results

- Driveway Windrow Service Provided - Grandparented
- Meets Criteria - Boulevard and Contiguous
- Does Not Meet Criteria

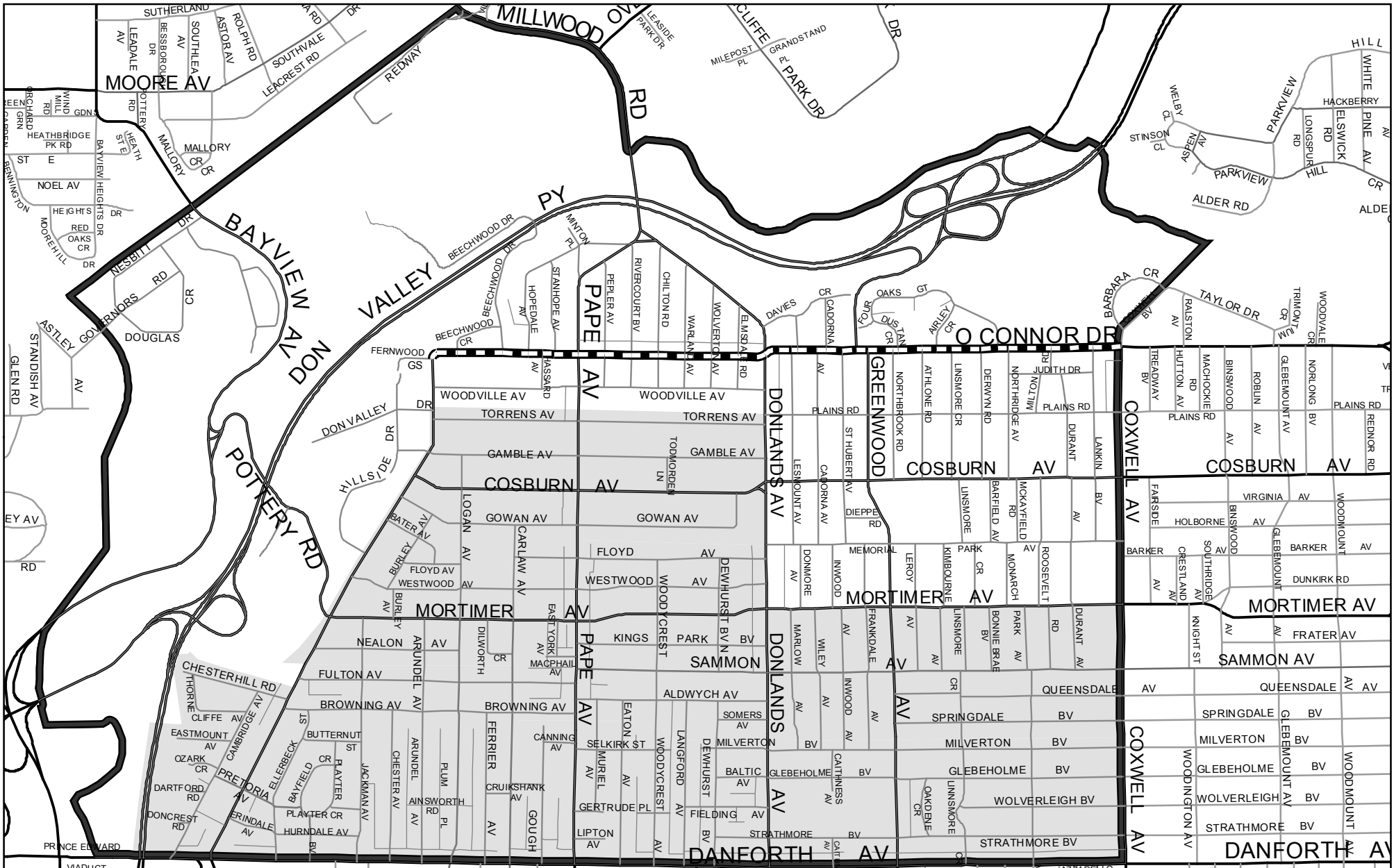


Ward

Permit Parking Area



Appendix 4 Map of Streets to be added to the Driveway Windrow Program in Ward 22



Legend

Driveway Windrow Study Results

-  Driveway Windrow Service Provided - Grandparented
-  Meets Criteria - Boulevard and Contiguous
-  Does Not Meet Criteria

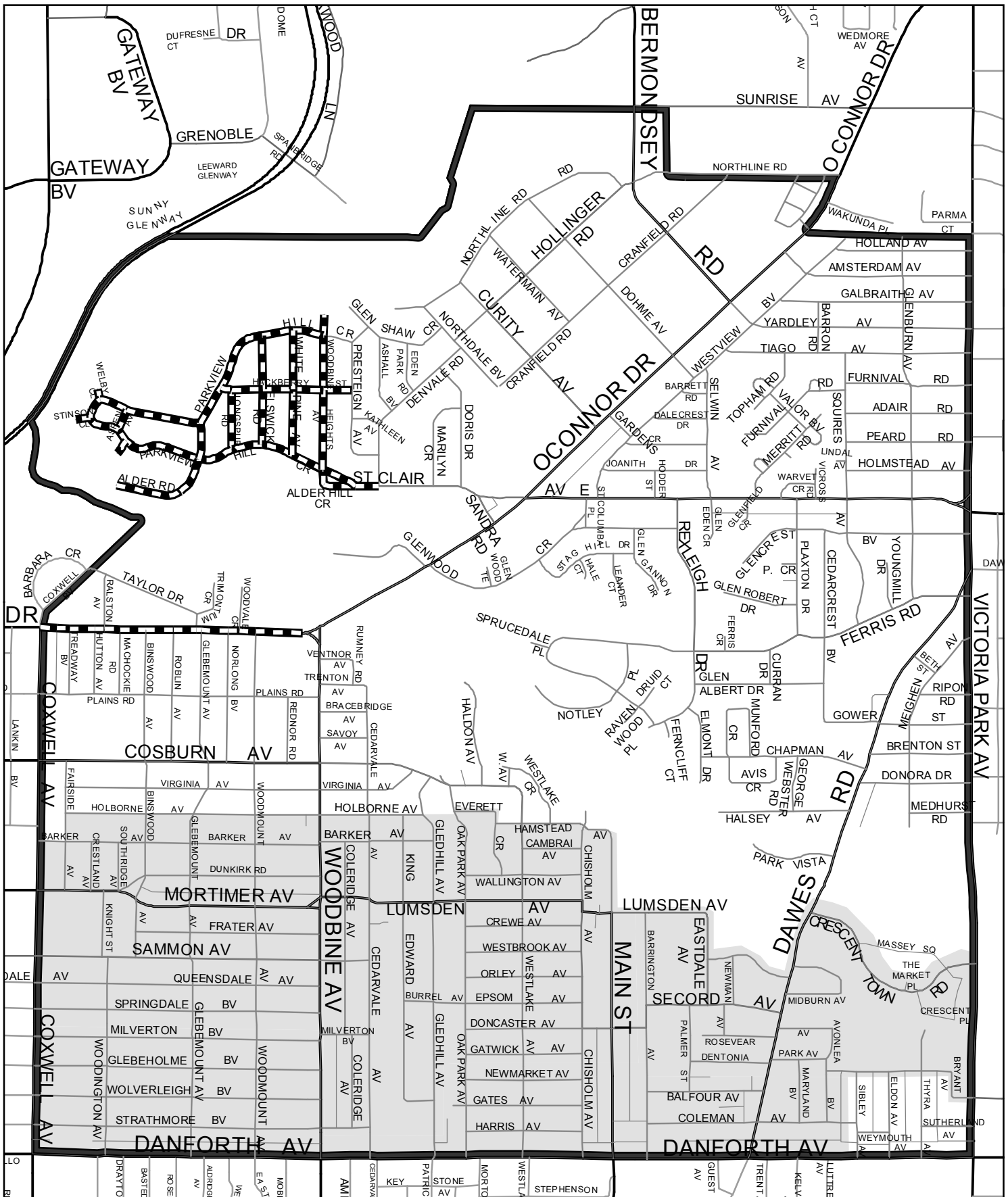


Ward

Permit Parking Area



Appendix 5 Map of Streets to be added to the Driveway Windrow Program in Ward 29



Appendix 7
Streets to be Added to the Mechanical Sidewalk Clearing Program

Ward #	Street	From	To
11	Keele St	Dundas St w	Junction Rd
11	Keele St	Junction Rd	Dundas St w
12	Veerland Dr (south side)	Azrock Rd	Bulb of Veerland
12	Veerland Dr (North side)	46 Veerland Dr	42 Veerland Dr
22	Lascelles Bv	Davisville Ave	Eglinton Ave
27	Douglas Dr	MacLennan Ave	Highland Cres
27	Highland Ave	Roxborough St	Dead end W
27	Highland Cres	Douglas Dr	Whitehall Rd
27	Rose Park Dr	Inglewood Ave	Hudson Dr
27	Sherbourne St N	Elm Ave	South Dr
27	St Clair Ave E	Mt Pleasant Rd	Harper Ave
27	Summerhill Ave	Highland Cres	Gregory Ave
27	Whitehall Rd	Highland Cres	MacLennan Ave
29	Cambridge Ave	Chester Hill Rd	Danforth Ave
29	Chester Hill Rd	Broadview Ave	Dead end W
29	Dartford Rd	Cambridge Ave	Dead end W
29	Don Mills Rd	O'Connord Dr	N of 18 Don Mills Rd
29	Doncrest Rd	Cambridge Ave	Dead end W
29	Eastmount Ave	Cambridge Ave	Dead end W
29	Ozark Cres	Cambridge Ave	Dead end W
29	Pretoria Ave	Broadview Ave	Cambridge Ave
29	Thorncliffe Ave	Chester Hill Rd	Cambridge Ave



Winter Maintenance Levels of Service
Supplemental Report

Legend

Sidewalk Study Results

Sidewalk Service Provided - Grandparented

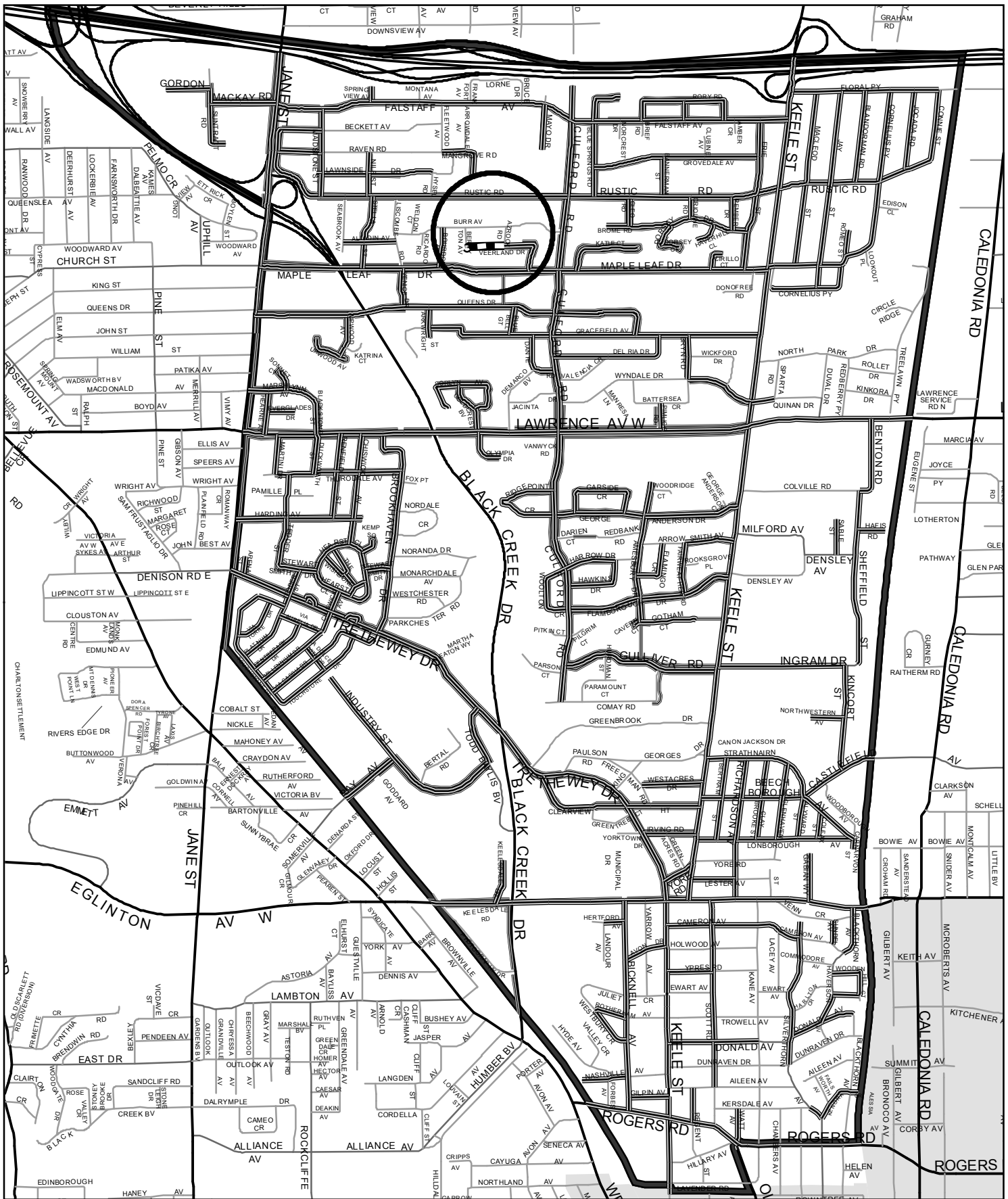
Meets Criteria

Does Not Meet Criteria

Permit Parking Area



Appendix 8 Map of Streets to be added to the Sidewalk Clearing Program in Wards 11 and 13



Winter Maintenance Levels of Service
Supplemental Report

Legend

Sidewalk Study Results

— Sidewalk Service Provided - Grandparented

— Meets Criteria

— Does Not Meet Criteria

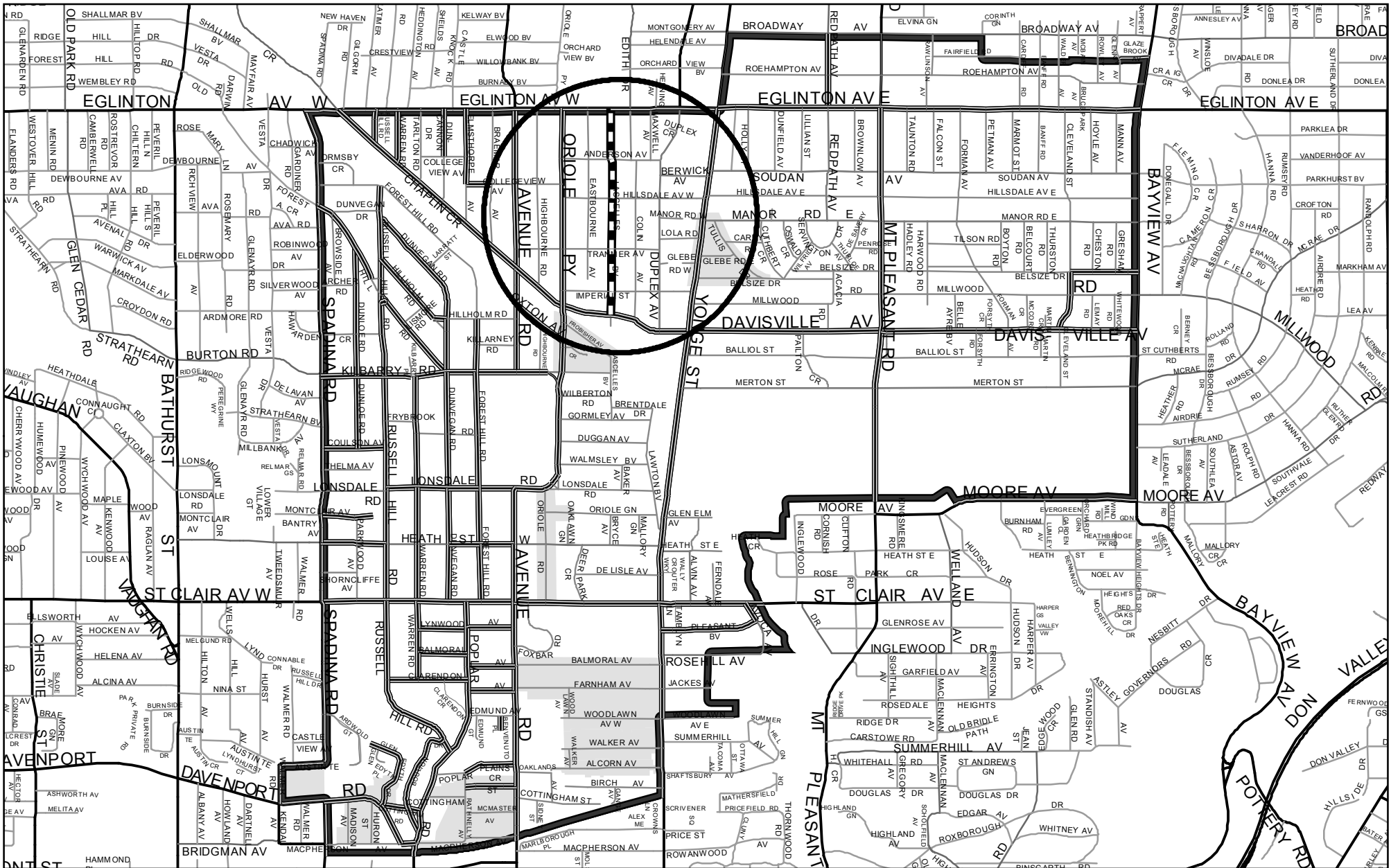
— Permit Parking Area



Ward



Appendix 9 Map of Streets to be added to the Sidewalk Clearing Program in Ward 12



Legend

Sidewalk Study Results

-  Sidewalk Service Provided - Grandparented
-  Meets Criteria
-  Does Not Meet Criteria



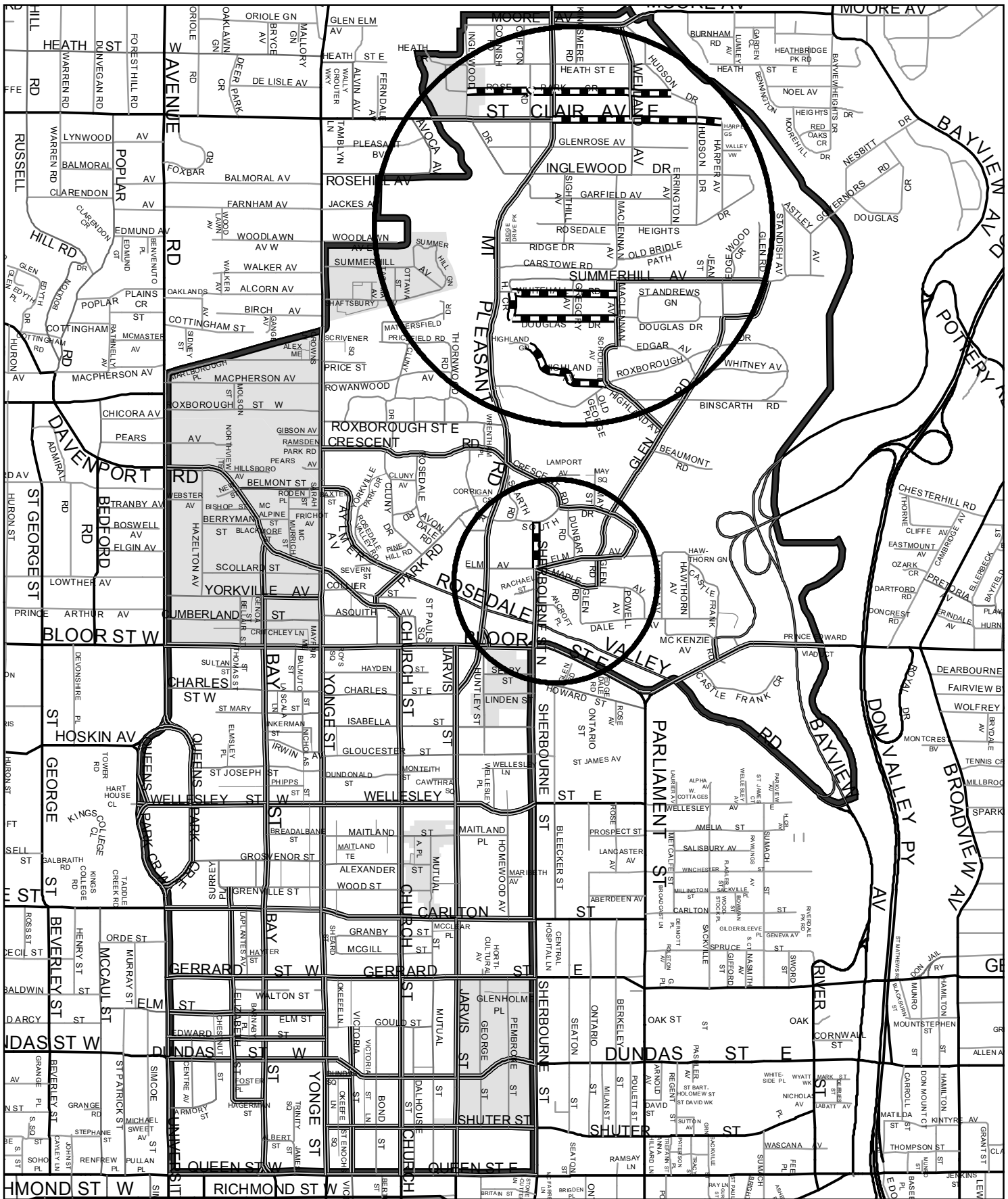
Ward



Permit Parking Area



Appendix 10 Map of Streets to be added to the Sidewalk Clearing Program in Ward 22





Legend
Sidewalk Study Results

- Sidewalk Service Provided - Grandparented
- Meets Criteria
- Does Not Meet Criteria



Ward

Permit Parking Area



Appendix 12
Map of Streets to be added
to the Sidewalk Clearing Program
in Ward 29