

COMMITTEE OF THE WHOLE- FEBRUARY 16, 2004

2003 ROAD RESURFACING PROGRAM REVISED ENGINEERING CRITERIA FOR CURB AND SIDEWALK REMOVAL AND REPLACEMENT

Recommendation

The Commissioner of Engineering and Public Works recommends:

- 1) That this report be received for information; and
- 2) That recommended revisions to the Engineering and Public Works Department's criteria related to curblines and sidewalk replacements as they apply to Roads Resurfacing projects and General Maintenance related activities be endorsed and that such revisions become the policy of City in this regard.

Purpose

To inform Council of the status of the West Woodbridge section of the 2003 Road Resurfacing Program (T03-150) and to provide for Council's consideration and approval Engineering Criteria to be applied to such future projects in order to clarify the scope of works proposed and fully advise area residents of the total nature of the undertaking.

Background - Analysis and Options

2003 Road Resurfacing Program – West Woodbridge Area

This project (1449.2) was approved as part of the 2003 Capital Budget and included approximately 10 km of road resurfacing at various locations throughout the Municipality. The West Woodbridge area (see attached Location Map 1) involves a total of 28 streets to be rehabilitated.

'Resurfacing' is a standard road improvement process that has been applied successfully across the City for several years. It basically involves rehabilitating the major roadway elements including manhole and catchbasin rebuilding, frame and grate replacement, curblines restoration and the asphalt resurfacing (e.g. pulverizing, milling and overlay.) Depending on circumstances, other works such as subdrains and concrete sidewalks (scheduled for replacement by Public Works) may typically also be included in the road tender for expediency and economic reasons.

During the pre-engineering phase of the project, staff prepare tender quantity estimates of those items to be addressed based on as-built drawings, geotechnical investigations, past work orders and general field observations. Once out to construction, the decision to repair or replace any particular item is made by the City Inspector based on a pre-determined set of established criteria/factor in combination with applied judgement (i.e. experience).

As it relates to concrete works, in particular curb and gutter, these established deficiencies include, but are not necessarily limited to, major cracks, gouges, spalling, misalignments, differential settlements, (e.g. upheavals or sinkages), ponding issues, missing sections and the like. Items typically not addressed include surficial defects, previous concrete repairs or replacements, snowplow scrapes or chips, tension (hairline) cracks, tire marks or other blemishes, etc. The emphasis is placed on maintaining or restoring structural integrity of the curblines as opposed to enhancing aesthetics. This approach to determining the extent of works was applied to the West Woodbridge area and the appropriate replacements were undertaken.

In response to numerous resident concerns voiced to the Engineering Department and through area Councillors, several meetings were held on site to review the process and explain the criteria to homeowners. The net effect to the contract was a 58% increase in curb replacements and associated sidewalk and driveway apron works, amounting to approximately \$70,000, considered extra to the original contract.

Despite the financial impact and related time delays staff are of the opinion that the Council approved budget, including the contingency allowance, is sufficient to cover the balance of the proposed works plus the additional replacements undertaken.

At the writing of this report all of the curbworks, based on the revised criteria, have been completed, subdrains were installed throughout, and asphalt overlay placed on all of the local streets. The onset of winter weather conditions has forced the deferral of Clarence Street resurfacing to Spring of 2004 as a carryover to the contract. (See attached Location Map 2).

Revised Criteria for Curb and Sidewalk Removal and Replacement

Given the recent experience, the Engineering Department recognizes that new public expectations are emerging in terms of enhanced levels of service and advanced standards. It is fast becoming the norm that minimum requirements to meet specifications are not always acceptable, notwithstanding the associated financial impacts. With this in mind, the decision was made to review our current practices with respect to curb works and sidewalks in Road Resurfacing Projects and General Maintenance related activities.

The following practices have been revised to reflect changed criteria involving curb/curb and gutter, and sidewalk replacements.

- A) All driveway curblines, showing any extent of **structural deficiencies**, will be replaced for the entire width of the **existing** driveway curb depression.

Principle structural deficiencies considered in determining replacement of curb/curb and gutter include, but are not necessarily limited to, the following:

- **major** stress cracks - greater than (3) per driveway entrance or longer than 500mm each
- **any** ponding area – standing water along the curbline/gutter
- misalignments – curblines offset
- differential settlements - greater than 25mm high/low
- type of curb – not to City Standard
- **any** missing curbline sections
- other major defects affecting structural integrity or public safety

- B) Driveway aprons disturbed as a result of curb/curb and gutter replacements will be restored in kind to a maximum distance of 500mm behind the curb in order to allow for any grade adjustments or “matching” to the existing driveway. Apron replacement requested beyond these limits will be the responsibility of the property owner.

- C) Any property owner requesting to widen a driveway entrance will be subject to review and undertaken according to the following criteria:

- 1) driveway will be widened only in accordance with the governing by-law(s) and other current City policies and/or standards, having regard to existing site conditions,
- 2) All costs associated with any widening are to be paid by the property owner under application through the City's Curb Cut Program.

D) For those other surficial (i.e. aesthetic) type defects previously mentioned, staff would **recommend no** prescribed removals/replacements. Rather, the final decision should be left to the field staff, given their judgement and experience, acting reasonably and having regard for the specific condition(s) under consideration.

With regard to concrete sidewalks, established principles focus on three main areas: structural integrity, aesthetics, and grading issues. These criteria in turn are reflected primarily in cracking, appearance, and drainage defects more commonly referred to as “spalling” or “ravelled surface” and “trip-ledges” as such. Again, as with the curbs, the emphasis for sidewalks is primarily on structural integrity and public safety. This approach applies equally to miscellaneous individual sidewalk “bays or panels” or replacement sections/blocks exhibiting multiple or compound defects throughout.

The principle deficiencies considered in determining repair/replacement to concrete sidewalks include, but are not necessarily limited to the following:

- full depth stress or other **major** cracks – greater than 6mm nominal width
- **any** ponding issue – not related to boulevard grading
- misalignments – offset panels
- differential settlements – tilted or raised/lowered panels; trip ledges - greater than 25mm
- spalling – greater than 50% panel area
- any concrete sidewalk – not to City Standard
- any other **major** defects affecting structural integrity or public safety

Minor surficial deformities such as strain (hairline) cracking, small chips or pitting, blemished/poor finish bays, or the like are **not recommended** for repair or replacement unless the structural soundness of the concrete or nature of the sidewalk are affected. Again, informed judgement on the part of the inspector is the key to determining the extent of sidewalk replacements required.

Relationship to Vaughan Vision 2007

The development of this subdivision and the assumption of the municipal services is consistent with Vaughan Vision 2007, which encourages managed growth through the implementation of OPA 600 (4.7.1). OPA policies require that development take place in accordance with the requirements and standards of the City and relevant agencies. This revised practise would also stress adherence to and support of safety related policies.

This report is consistent with the priorities previously set by Council and the necessary resources have been allocated and approved.

Conclusion

This report has been brought forward to inform Council of the situation affecting area residents and the contract related to the 2003 Road Resurfacing Program in the West Woodbridge community.

Staff, having recognized public concern for a greater level of service in the area of Road Resurfacing projects is responding with a revised criteria with respect to repairing or replacing concrete curbline and sidewalk works in such road related projects. It is noted that while this new duty of care goes beyond the minimum required to address those structural, drainage, and grade-related issues, etc. as identified, it nevertheless represents a departure from past practices and will undoubtedly set a new standard in the Municipality with the associated financial implications to future budgets.

Attachments

1. Location Map 1 – West Woodbridge Section
2. Location Map 2 – Clarence Street Section

Report prepared by:

Robb Brown, Municipal Services Inspection Supervisor, ext. 3140
Gary P. Carroll, P. Eng., Director of Engineering Services, ext. 3101

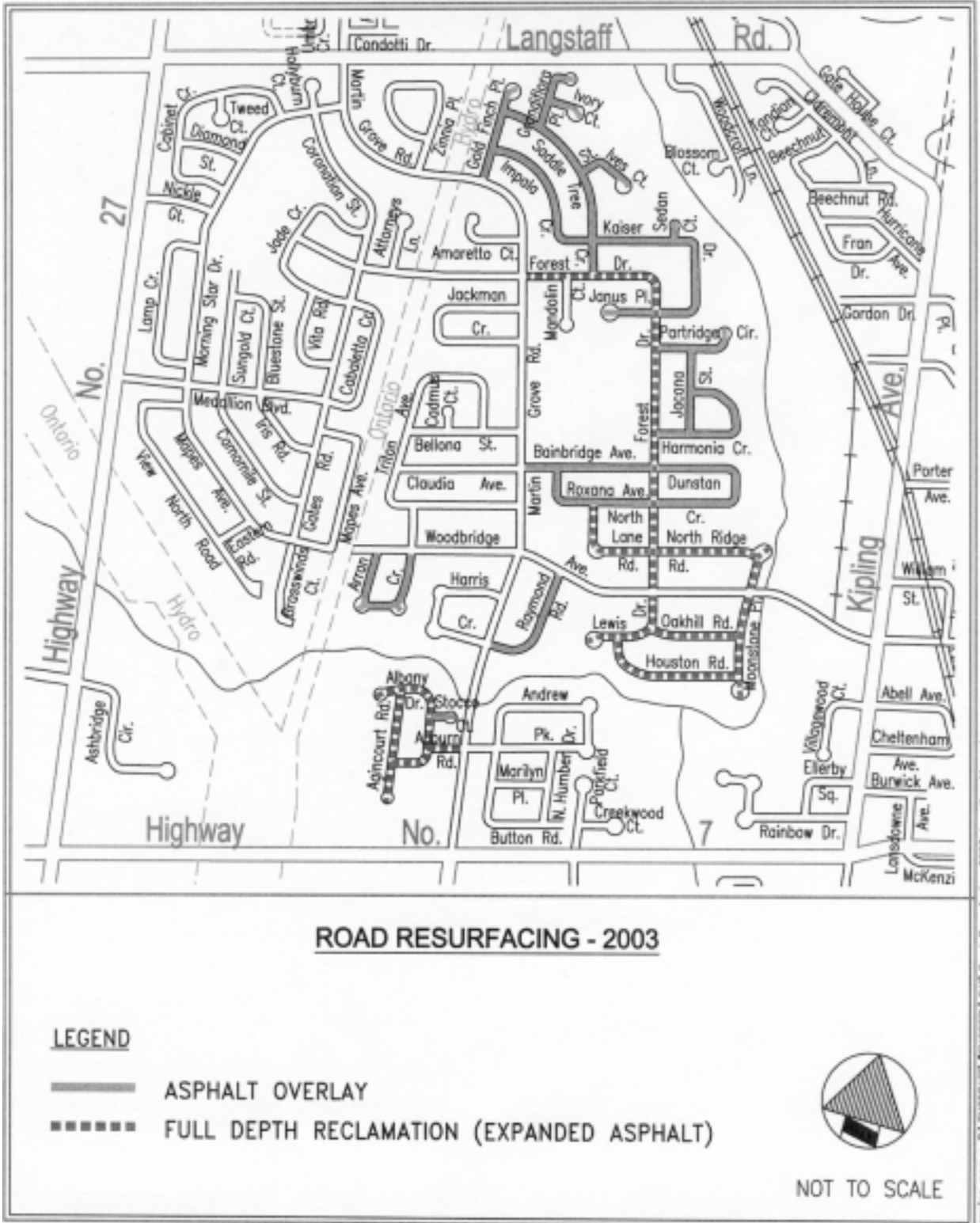
Respectfully submitted,

Bill Robinson, P. Eng.
Commissioner of Engineering and Public Works

Gary P. Carroll, P. Eng.
Director of Engineering Services

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ATTACHMENT No.1 - LOCATION MAP 1



ATTACHMENT No.2 - LOCATION MAP 2

