



CITY OF HAMILTON
PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT
Growth Management Division

TO:	Chair and Members Planning Committee
COMMITTEE DATE:	January 12, 2016
SUBJECT/REPORT NO:	Residential Drainage Assistance Pilot Program and Enforcement of Blocked Swales - Final Report (PED14105(a)) (City Wide) (Outstanding Business List Item)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	John Vraets (905) 546-2424 Ext. 2051
SUBMITTED BY:	Jason Thorne General Manager Planning and Economic Development Department
SIGNATURE:	

RECOMMENDATIONS

That the Residential Drainage Assistance Pilot Program and Enforcement of Blocked Swales Pilot Program be approved as permanent City programs subject to the following:

- (a) Two full-time equivalent (FTE) positions (one Residential Drainage Assistance Project Manager and one Drainage Enforcement Officer) and levy funding for those positions be approved as part of the 2016 Operating Budget Enhancements;
- (b) That a review of the existing By-law 80-245 pertaining to Land Drainage and its amendments, namely By-laws 88-09, 88-207, 93-123, and 96-137 be undertaken by City staff, and that a new consolidated Land Drainage By-law be developed that would apply evenly City wide;
- (c) That the modified Terms of Reference for the Residential Drainage Assistance Program, as detailed in Appendix "A" to Report PED14105(a), be approved.

EXECUTIVE SUMMARY

This Report addresses the future of two Pilot Programs that relate to residential grading and storm water drainage.

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The Residential Drainage Assistance Pilot Program (RDAPP) was first implemented in 2011 and Enforcement of the Blocked Swale Program implemented in 2013 which has provided assistance and direction to more than 250 property owners.

Demand for the Program has increased in 2015 and is expected to be consistent in the coming years. Staff recommends that the RDAPP be continued as a permanent Residential Drainage Assistance Program (RDAP) along with the Blocked Swale Program to allow the City to continue to provide assistance to residents with lot level drainage issues that would otherwise be difficult to resolve.

Alternatives for Consideration – See Page 10

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Future Capital funding may be required to support the RDAP. Any Capital submission will be included as part of the annual Budget submission process.

Staffing: That the two FTEs for a permanent RDAP Project Manager and a Drainage Enforcement Officer be submitted as an enhancement to the 2016 Operating Budget process at an approximate cost of \$222,500.

The Land Drainage By-law review process would be overseen by the RDAP Project Manager with input from other City staff as required. The RDAP Project Manager position is currently staffed. Existing staff would be retained and no additional staffing would be required.

Legal: N/A

HISTORICAL BACKGROUND

In September 2009, staff were directed to report back on “improved ways to address grading, drainage, and swale blockage issues, including preparation of a self-help package for homeowners.”

Staff and Council identified that there was a gap in the level of service provided by the City in responding to chronic, private flooding issues in older parts of the City, and where by-law enforcement was not viable. In October 2011, Council approved the creation of the RDAPP to fill this gap (PED10091(d)). The pilot had an initial life of two years.

In April 2013, the Planning Committee approved the creation of a pilot program to provide enforcement of blocked swales. This Program was devised to enforce the Property Standards By-law to restore swales where there is an easily identifiable

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obstruction that prevents draining as per the originally-approved grading plans. This Pilot Program was initiated in September 2013 and ended in September 2015.

In May 2014, the Report PED14105 was approved, extending the RDAPP until September 2015 to match the timeline for the Blocked Swale Enforcement Program. This allowed for staff to follow through with ongoing RDAPP projects, and to initiate new projects related to the continuing public demand for the service. It also allowed staff from each Pilot Program to continue to provide support to each other.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

This request to instate the permanent RDAP and Blocked Swale Enforcement Program aligns with the City of Hamilton's Lot Grading Policy, Criteria, and Standards, January 2012, and with the Property Standards By-law No. 10-221.

The long-standing practice related to the enforcement of blocked swales has been to recommend civil action to address complaints about blocked swales between residential properties prior to the development of this Pilot Program.

RELEVANT CONSULTATION

Staff consulted with Legal Services and Finance in the preparation of this Report.

ANALYSIS AND RATIONALE FOR RECOMMENDATIONS

As part of the Property Standards By-law 10-221, storm water should be drained from a yard so as to eliminate recurrent standing water or surface ponding. When drainage issues occur on private property, complainant(s) are typically instructed to resolve the matter privately by repairing the deficiency, with responsibility for work assigned through civil courts when required.

One of the most common methods of directing storm water away from a building and to the proper outlets is through grass swales. Swales are shallow grassed drainage channels with gently-sloping sides that collect and direct storm water away from a building's foundation walls and towards a suitable storm water outlet, such as a street or catch basin. Swales are generally located along property lines separating abutting lots, as illustrated in Figure 1 and Figure 2 on Page 4.

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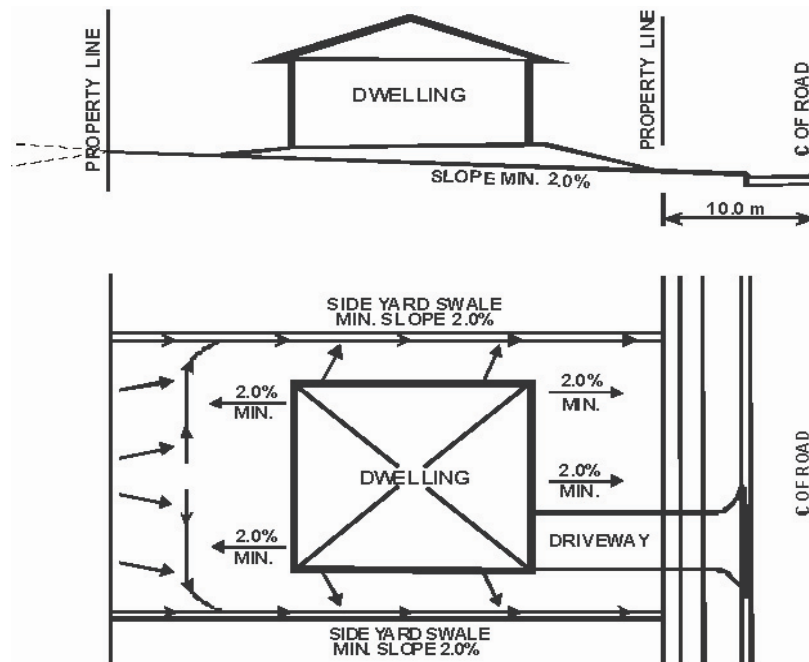


Figure 1: Typical Residential Back-to-Front Drainage Swale Layout

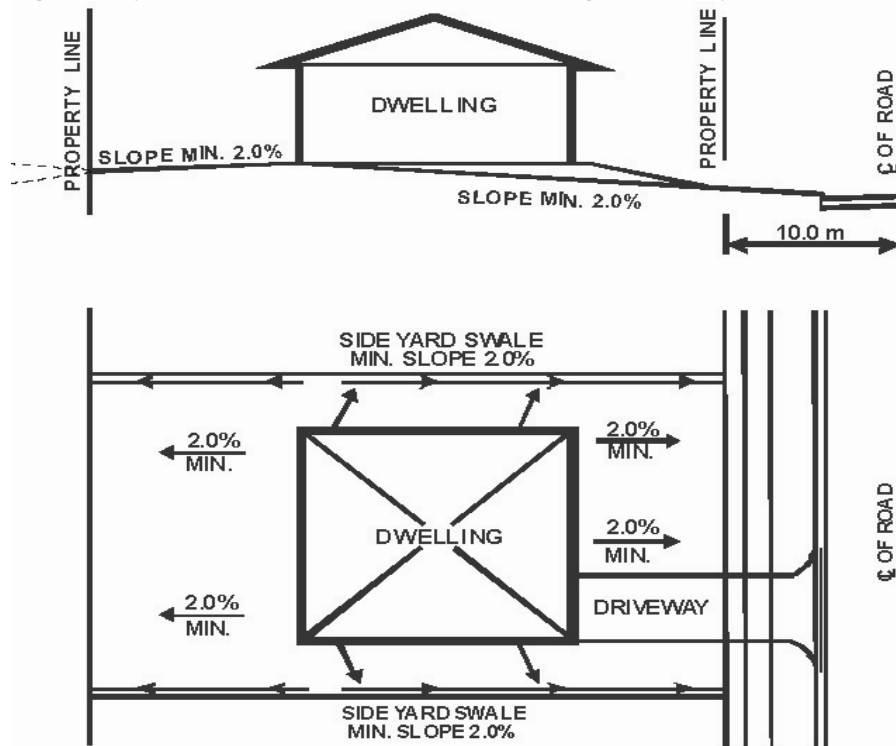


Figure 2: Typical Residential Split Drainage Swale Layout

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In some cases, these swales and related storm water drainage infrastructure become obstructed, modified from the original design, or fail for one reason or another, resulting in flooding and related damages. Photographic examples of some of these issues are provided in Appendix “B” to Report PED14105(a).

As part of an effort to provide improved service to citizens, two Pilot Programs were created:

- Enforcing the Property Standards By-law 10-221 to restore swales where there is an easily identifiable obstruction that prevents draining (Enforcement of Blocked Swales Program); and,
- Residential Drainage Assistance Pilot Program (RDAPP).

The Enforcement of Blocked Swales Program allows staff to assist in resolving storm drainage issues where the current conditions on the property or properties can be compared to existing documentation of the intended drainage, and grading for those properties. In these cases, the Enforcement Officer can easily identify the issue and order the necessary restoration to return the lands to their intended function with respect to drainage.

There are four key performance measures that were identified when the Enforcement of Blocked Swales Program was implemented:

1. Success rates in dealing with complaints about blocked swales and achieving compliance where there are easily-identifiable obstructions;
2. Number of complaints received about blocked swales that were deemed to be of a more complex nature (i.e. no easily-identifiable obstruction);
3. Cost recovery from enforcement fines and through court actions; and,
4. Number of complaints driven by neighbour disputes such that mediation was appropriate.

A summary of Blocked Swale complaints and resolutions is provided in Table 1.

Table 1: Blocked Swale Complaint Summary

Year	Action Requests	Under Investigation	Total Resolved	Resolved							Estimated Impacted Properties
				Consultations	Orders Issued	Non-Compliance	Civil Matters*	Court Action	Fee for Inspection	Not Clearly Identifiable	
2013	52	0	52	29	20	0	3	0	0	0	104
2014	153	0	153	133	15	0	5	0	0	0	306
2015	53	17	36	31	2	0	2	0	0	1	106

*The numbers of Civil Matters in 2013 and 2014 are estimates

Complaints with Easily-Identifiable Obstructions

Over the course of the Pilot Program, the Drainage Enforcement Officer fielded 258 inquiries from residents, City staff and members of Council. Of these 258 complaints, 37 orders have been placed to date to restore proper drainage, 35 have complied and two remain under investigation. Two hundred and twenty-one cases have been resolved without the need to place orders.

In many cases, these drainage obstructions impact multiple properties. Though the exact number of properties potentially affected is not always immediately identifiable and not recorded, it's estimated that an average of two properties are involved in each action request. With that in mind, the number of estimated impacted properties is summarized in Table 1 above.

Cost Recovery from Enforcement Fines and Through Court Actions

To date, residents have been generally cooperative and there has been no need to lay charges for Drainage By-law violations.

Complaints of a More Complex Nature

There are other situations that are commonly reported but would not fall within the scope of the Enforcement of Blocked Swales Program. These include occurrences of flooding in older neighbourhoods where no grading plan exists, and where drainage patterns are disrupted by settlement, tree growth, or where several homeowners have modified their properties over time by installing fences, sheds, pools, gardens, retaining walls, etc. This type of complaint is referred to the RDAPP where the complainant can find advice, guidance, and expertise in resolving these complex drainage issues.

The RDAPP has proven an effective method of resolving drainage issues and disputes in neighbourhoods where planned drainage methods were not developed and the intended routes for storm run-off are unknown. Additionally, the position has been valuable in providing support and expertise for more complex cases under the Enforcement of Blocked Swales Program. The Terms of Reference for the RDAPP have been reviewed, and minor revisions have been made to address the transition from a pilot program to a permanent program. The updated Terms of Reference for the RDAPP are included in Appendix "A" to Report PED14105(a).

Since the RDAPP was initiated in April 2012, there have been 244 cases reviewed through the RDAPP process (as of the writing of this Report). Of those, 105 are new cases since the extension of the Program in October 2014. A summary of cases by year and Ward is provided in Table 2 below.

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Table 2: RDAP Annual Case Summary

Year	Ward															City-Wide
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
2012	1	0	2	0	7	5	11	3	9	4	17	9	2	1	2	73
2013	1	0	2	1	6	0	9	4	4	21	11	10	0	1	3	73
2014	2	0	0	0	0	0	1	0	0	1	1	0	0	0	0	5
2015	1	1	3	3	4	1	9	12	3	7	15	16	9	2	15	101
Total	5	1	7	4	17	6	30	19	16	33	44	35	11	4	20	252

The Project began in Spring of 2012, so the 73 cases in 2012 represent calls from April until December. In May of 2013, the RDAPP Project Manager position became vacant. Though the former RDAP Project Manager continued to field RDAPP inquiries while carrying out another role with the City, time constraints prevented cases from being consistently logged, especially in 2014. As a result, the 73 cases in 2013 and five cases in 2014 are understated, especially in 2014. In October of 2014, the position was again filled.

As stated in the May 2014 Residential Drainage Assistance Pilot Program – Interim Report (PED14105), the rate at which queries are received was expected to increase. The statistics for 2015 reinforce this expectation with a 25-percent increase in inquiries over the previous peak year. This increasing demand demonstrates the need for resources to assist residents in resolving drainage-related issues and disputes.

In 2015, there have already been more recorded cases than in any previous year with 101 and counting. Of these, 57 are in newer developments where grading plans can be used as reference to determine the correct solution in coordination with the Drainage Enforcement Officer. The other 44 are in older neighbourhoods where no grading plan exists.

Since the inception of the Program in 2012, seven engineering studies have been initiated as follows:

- Two projects completed including engineering investigations, permits, and construction to a total City cost of approximately \$75,000;
- Two preliminary engineering investigations have been completed with consultants at a cost of approximately \$10,000 and recommendations included work on private property;
- Two engineering investigations by consultants at a cost of approximately \$15,000 with expected City Capital costs of approximately \$25,000 each; and,
- One engineering investigation of a neighbourhood-scale drainage issue by a consultant at an approximate cost of \$50,000, with recommended municipal works

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of between \$60,000 and \$800,000 (depending on preferred options) that should be incorporated into the Public Works plans.

A majority of the cases are resolved by providing guidance and advice to property owners, and working with them to find solutions to either remedy or reduce the negative impact of existing storm run-off issues. Residents tend to react positively to the RDAPP process. In particular, many comment on being visited in-person by staff, and that the visit occurred in a timely manner - typically within two days or as soon as is convenient for the resident. Often in cases where the City is limited in its ability to aid or resolve matters, residents are more accepting of the outcome because a staff member has taken the time to observe the issue first-hand before explaining the City's position or providing advice and guidance.

The other value that comes from the Program is the potential for cost saving to residents that are in the midst of neighbour disputes regarding grading and drainage matters. Where historically, these disputes would be referred to legal processes, the additional tools provided in the RDAPP and the Blocked Swale Enforcement Program help resolve some of these disputes. The cost of even the most basic legal process to resolve drainage disputes between private land owners can be in the tens of thousands of dollars, which is significant at the least, and in many cases, would be prohibitive to residents resolving these issues.

Ideally, the goal is to minimize the potential for drainage-related issues to occur on residential properties. While the roles of the RDAPP Project Manager and the Drainage Enforcement Officer can work to address drainage issues in existing neighbourhoods both new and old, reasonable efforts can be taken to reduce the likelihood of drainage issues occurring in future developments. Based on the experiences of the RDAPP Project Manager and the Drainage Enforcement Officer, as well as input from related municipal staff, the following observations have been made that, if addressed, could help to prevent drainage conflicts through better design and planning:

- While there are limitations on the portion of front yards that can be covered by impervious surfaces (i.e. paved driveways, concrete features, decks and porches), there are no such limits for rear yards on residential properties;
- House owners often install concrete or other raised impervious walkways around one or both sides of their houses to provide improved access between front and rear yards. These modifications often obstruct the intended drainage swales between properties. Side yard setbacks that allow for a walkway on at least one side of each property could help reduce the number of blocked side yard swales;
- The landscaping associated with the addition of swimming pools can have an impact on overland drainage in residential areas. The permit process for pool

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permits could be improved by either including a grading requirement or review to determine if a Site Alteration Permit is required in addition to the pool permit;

- Accessory structures such as sheds are sometimes placed in such a way that they block drainage swales, even if built under permit. The permit process for accessory structures includes a review of the proposed location as it related to setback requirements. An additional review of the proposed location as it relates to existing drainage routing, would help reduce the number of instances of swale blockages by accessory structures; and,
- RDAPP inquiries are currently tracked using a proprietary spreadsheet and individual electronic files. Incorporating the RDAPP into the AMANDA database system already in use by Planning and Economic Development staff for similar activities would help standardize inquiry tracking and improve response to residents. Preliminary discussions with the AMANDA development team have already taken place with plans for more detailed discussions and planning in early 2016.

Land Drainage in the City of Hamilton is governed by the existing Land Drainage By-law 80-245 with amendment By-laws 81-218 (Fines), 88-09 (Roof Leaders), 88-207 (Roof Leaders), 93-123 (Land Drainage), and 96-137 (Land Drainage). There has not been a review of this By-law, nor have there been any updates or amendments since before amalgamation.

A preliminary review of the current By-law and amendments identified inconsistencies between the existing By-law and current best practices regarding the disconnection of storm water roof leaders. In its current form, the By-law requires that downspouts be connected to the storm sewers where:

- (i) Separate storm and sanitary sewers are available;
- (ii) The sewer system on the street was constructed after 1970; and,
- (iii) The structure is erected after 1987.

With two exceptions:

- (i) In subdivisions where the Plan of Subdivision was registered in the Land Registry Offices for Hamilton-Wentworth prior to January 30, 1988;
- (ii) Where:
 - (1) A site design including a Storm Water Management Study, acceptable to the City Engineer is prepared by a Professional Engineer; and,

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- (2) The site design is approved by the City after June 25, 1996.

However, the Downspout Disconnection initiative by Hamilton Water promotes disconnection of downspouts in many other situations that fall outside of the Drainage By-law. The By-law should be updated to incorporate the recommendations within the Downspout Disconnection initiative. A copy of the Downspout Disconnection and Rain Barrel Use brochure distributed by Public Works is included as Appendix "C" to Report PED14105(a) for reference.

Perhaps more importantly, the existing By-law and all of the associated amendments originated in the old City of Hamilton, and may not be applicable in the other former municipalities. A new, consolidated Land Drainage By-law would apply evenly to the entire City if enacted.

ALTERNATIVES FOR CONSIDERATION

- (i) That the RDAPP be discontinued and that residents with any future residential drainage issues in older neighbourhoods be directed to resolve flooding issues with private consultants and contractors, and to resolve disputes between residents in civil court.

This alternative is not recommended since demand for the service has been increasing and residents tend to react positively to the Program.

- (ii) That the Pilot Program to enforce the Property Standards By-law to restore swale where there is an easily identifiable obstruction be discontinued, and that residents be directed to resolve flooding issues with private consultants and contractors, and to resolve disputes between residents in civil court.

This alternative is not recommended since demand for the service has been increasing and residents tend to react positively to the Program.

ALIGNMENT TO THE 2012 – 2015 STRATEGIC PLAN

Strategic Priority #1

A Prosperous & Healthy Community

WE enhance our image, economy and well-being by demonstrating that Hamilton is a great place to live, work, play and learn.

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Strategic Objective

- 1.2 Continue to prioritize capital infrastructure projects to support managed growth and optimize community benefit.
- 1.5 Support the development and implementation of neighbourhood and City wide strategies that will improve the health and well-being of residents.
- 1.6 Enhance Overall Sustainability (financial, economic, social and environmental).

Strategic Priority #2

Valued & Sustainable Services

WE deliver high quality services that meet citizen needs and expectations, in a cost effective and responsible manner.

Strategic Objective

- 2.1 Implement processes to improve services, leverage technology and validate cost effectiveness and efficiencies across the Corporation.
- 2.2 Improve the City's approach to engaging and informing citizens and stakeholders.
- 2.3 Enhance customer service satisfaction.

Strategic Priority #3

Leadership & Governance

WE work together to ensure we are a government that is respectful towards each other and that the community has confidence and trust in.

Strategic Objective

- 3.2 Build organizational capacity to ensure the City has a skilled workforce that is capable and enabled to deliver its business objectives.

APPENDICES AND SCHEDULES ATTACHED

- Appendix "A" - RDAP Terms of Reference
- Appendix "B" - Photographic Examples of Residential Drainage Issues
- Appendix "C" - Downspout Disconnection and Rain Barrel Use Brochure

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