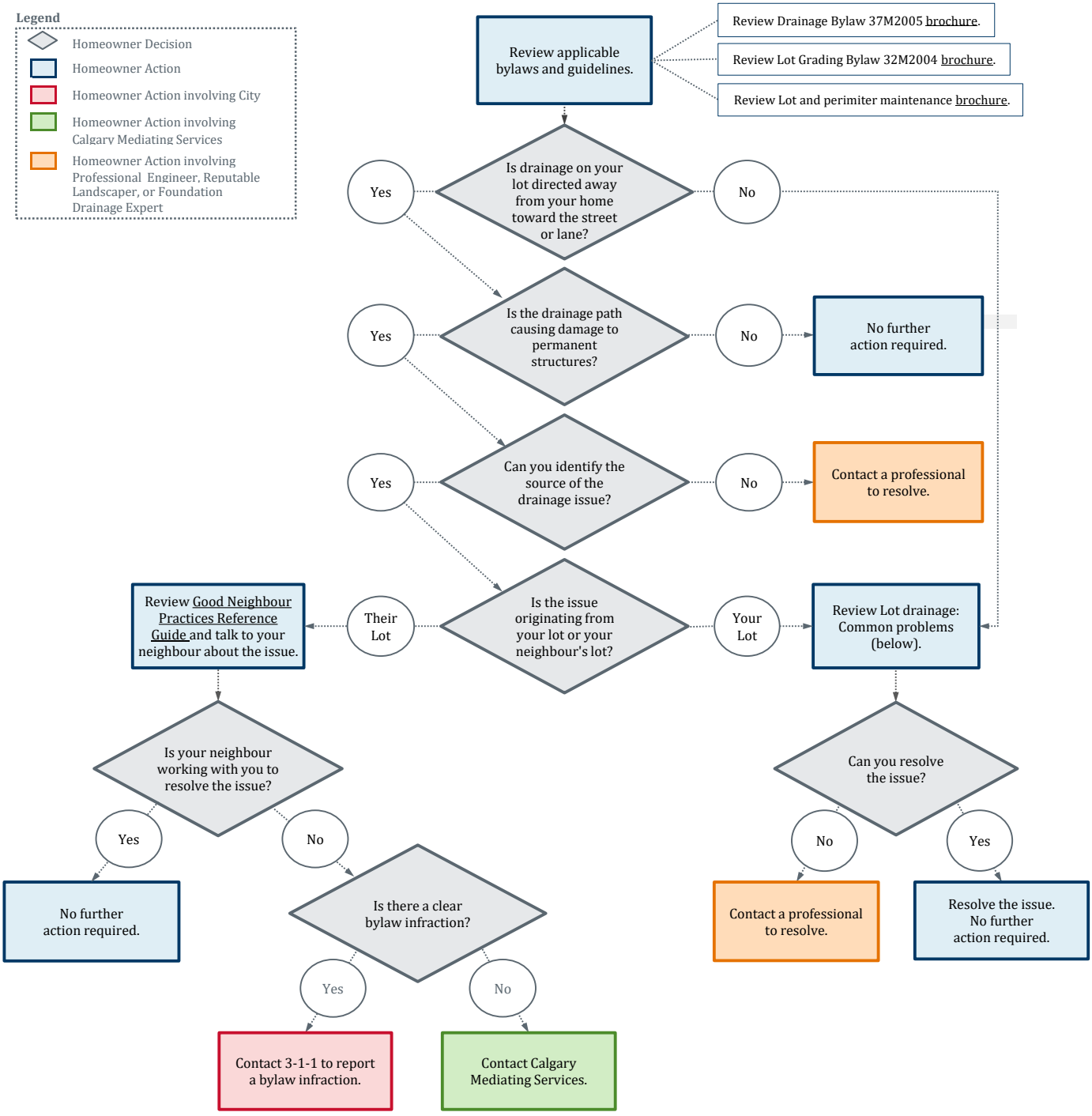
Guidelines for homeowners: Resolving a lot drainage issue

Note: This flowchart is for common drainage issues (not flooding events).



Lot drainage: Common problems

The following common problems could contribute to drainage issues on your lot. If applicable, implement the suggested solution. If advice is needed, contact a professional engineer or reputable landscaper.

1. **Lot grading:** Ensure that the grading on your lot is such that runoff drains away from permanent structures. A minimum slope of 2% is required for good drainage away from buildings, but a 5-10% slope away is preferred, especially within two meters (2m) of the building foundation. Ideally, the positive drainage away from both you and your neighbor's homes will create a path for the drainage to follow between your homes and toward the lane or street.
2. **Direction of downspouts:** Ensure that downspouts are not directed toward permanent structures (including your neighbor's home or garage). Downspouts should be pointed toward the front or back of the property so that runoff can drain to the lane or street.
3. **Blockages to overland drainage right-of-way:** Ensure that there are no blockages to the drainage paths. If a concrete swale, downspout, or drainage path is blocked, the water might not be flowing as originally intended (away from permanent structures and toward the lane or street).

What is a drainage path?

A drainage path has a starting point (where rain hits the ground) and an ultimate ending point (where runoff enters into the stormwater system through a catch basin or manhole).

What is a Lot Grading Certificate?

The builder must submit an As Constructed Grade Certificate to The City within twelve months of the date of Permission to Occupy as issued by The City. The As Constructed condition of development must match the design within acceptable tolerances, as outlined in the Lot Grading Bylaw.
The As Constructed Grade Certificate (also known as the Lot Grading Certificate) is to be authenticated by a registered Alberta Land Surveyor or a Professional Engineer, and is accepted by The City and kept on file.

What is the Lot Drainage Improvement Project (LDIP)?

A Lot Drainage Improvement Project is currently underway at The City of Calgary, Water Services, with completion anticipated by 2017. Main deliverables from this project will include *A Guide to Residential Lot Drainage* , updates to submission and review processes related to Lot Grading Certificates and drainage design documents, and updates to the Lot Grading and Drainage bylaws. Inquiries about this project can be directed to 3-1-1 and your Community Association.

Lot drainage: What is my role?

1. **Homeowner:** Ensure that the drainage path is maintained in perpetuity so that runoff is directed away from homes, garages, or other structures toward pervious surfaces and to the street, lane or swale. Homeowner may be required to re-grade their lot if settlement or other grade changes occur that affect the drainage path.
2. **The City of Calgary:** Ensure that design guidelines are available to help guide development and construction. Ensure that the process is clearly identified for how development can happen. Provide bylaws to regulate and enforce what is permitted and what is not. Bring awareness and education to citizens to help them understand the guidelines, process, and bylaws.
3. **Developer:** Ensure that drainage infrastructure is constructed as per City design guidelines and specifications. This includes swales built for subdivisions that function correctly, so that drainage enters the swale and drains along the drainage path to the stormwater system.
4. **Homebuilder:** Ensure that the lot is constructed as per City design guidelines and specifications. A drainage path on the lot should direct runoff away from permanent structures and to the street, lane or swale. Coordination of lot grading between City infrastructure (such as swales, sidewalks, roads, and parks) and adjacent properties is critically important so that the drainage functions well across property interfaces.