



LAND ASSEMBLY INFORMATION

The Drumheller Resiliency and Flood Mitigation Office (DRFMO) continues to assist Town council to change the channel on flood mitigation. Our mission is to **protect residents and property** from loss or injury related to the perils of flood and changes in climate, and to **preserve the value of property** and ensure risk is reduced to levels which allows financial and insurance products to remain available.

We recognize that people who live along the river have questions. Our team has identified approximately 1,045 dwellings at risk of direct flooding in the valley. We currently estimate around 40 homes will need to be acquired by the Drumheller Land Corporation to make room for the river. For many homeowners, they have been awaiting this day. They understand the perils of the river and the opportunity to relocate. Others are saddened at the prospect of losing their homes, views and maybe their privacy. The bottom line is that some properties along the river will be impacted. The berms being considered are meant to protect a neighbourhood from flooding, not just the few homes along the river. Where an engineering solution can't be found, properties or portions of properties within the conveyance zone will need to be purchased at a fair price. This is not a step the Town takes lightly but with confidence and compassion believes it is the best strategy to protect the community at large. The ultimate design will not be determined until the Resiliency and Flood Mitigation Office conducts an analysis on the homes closest to the river, a step that is currently underway.

PHASE 1

Starting Summer 2020

Properties in the floodway where no engineering solution can be reasonably implemented to protect the properties.

PHASE 2

Starting Fall 2020

Properties that are needed for the improvement or installation of berms or other structural measures.



LAND ACQUISITION PROCESS

Resiliency and Flood Mitigation Planning and Design

Planning begins with identifying target flow rates and mitigation strategies that leverage opportunity beyond the river. Using these targets, we map the river, understanding where it needs room to flow.

With the conveyance map in hand, we can 'know our flow' and identify three key zones: the zone where the river has room, zones where the river is in conflict with existing development, and opportunities for new development.

In those areas where the river is in conflict with existing development, we undertake an **alignment analysis** that helps us understand the types and locations of structural measures that comprise an adaptive system. This analysis has two key goals: (i) to make room for the river by keeping the channel as wide as possible, and (ii) protecting existing property and assets.

Many properties will be well protected by structural measures, but some will not be well suited for reasons of river capacity, berm height, geotechnical considerations, structural measure cost, or operational complexity. These properties will be purchased.

Properties are identified for possible acquisition

First we conduct an initial review of the river. As we determine alignment we identify the homes along the river that may be at risk and may require purchase.

Properties are evaluated

Once we determine an alignment, we then look at how the alignment and conveyance capacity will affect property along the river. The homes that will require purchase may have three conditions: they're located in the floodway, are required for flood infrastructure and are at risk of flooding.

With some properties we may need to only acquire a small parcel of the property to make room for the berms, while other properties may require acquisition of the entire parcel.

Finalize properties to be acquired

Once the properties have been evaluated, hydraulic and geotechnical analysis reports have been conducted and details of structural enhancements have been completed the properties required for flood mitigation will be finalized.

Land Agent make initial contact with Landowners

At this point we move into conversations directly with affected landowners. A Land Agent will explain the process one-on-one, undertake and record a visual inspection of the property and arrange an assigned DRFM appraiser to complete an appraisal.

Appraisal report

The DRFMO will arrange and pay for one appraisal report. Should a second appraisal report be requested by the landowner this will be at their own expense.

Determination of purchase price & terms of purchase agreement

After receiving the appraisal(s) the Drumheller Land Corporation will make an offer on the property and terms of the purchase agreement will be presented to the landowner.

Completion of purchase agreement

Once an agreement has been reached and both parties are satisfied, the sales agreement will be completed.

If an agreement cannot be achieved the file may be held for future consideration. This could include withdrawal or referral to the Land Compensation Board.

Conveyance and closing of sale

If a portion of a parcel of land is being acquired subdivision will need to be completed prior to final conveyance.

Once the agreement is signed off the Town Solicitor or your lawyer can then proceed with conveying the title from the landowner to the Drumheller Land Corporation and the sale will be complete.

Title to Drumheller Land Corporation

As the at-risk properties are assembled under the Drumheller Land Corporation, flood mitigation construction will follow to protect all residents, homes, businesses, schools and health care institutions from the financial and social losses caused by flooding.



FREQUENTLY ASKED QUESTIONS

IS THERE A PLAN TO SPEAK ONE-ON-ONE WITH HOMEOWNERS IN IMPACTED AREAS?

Yes! Acquisition of required parcels or portions will occur in a phased approach. Phase 1 will focus on properties that are in the floodway where no engineering solution can be reasonably implemented to protect them. These properties would have experienced flooding at 1400 cubic metre per second (cms) of flow or lower. Site appraisals for some of these properties has commenced.

Properties or portions of properties that are needed for the improvement or installation of berms will be identified in Phase 2. Detailed designs of structural enhancements are not yet completed. Property owners impacted by Phase 2 will be contacted by Scott Land & Lease Ltd. for entry permission to conduct hydraulic and geotechnical analysis.

Engineers will conduct soil testing to confirm if and where a berm can be constructed and what obstacles may exist such as slope erosion, irrigation systems and vegetation constraints.

WHAT IS THE LAND ACQUISITION BUDGET AND HOW ARE PROPERTY PRICES DETERMINED?

The land acquisition budget is \$20M. The price for acquisitions of required parcels or portions of parcels are determined by a current appraisal.

WHAT IS THE TIMELINE FOR THIS PROCESS ON LAND PURCHASES?

Land acquisition has started and it will continue over the next few years.

CAN I MOVE MY HOUSE?

Yes. Options can be considered to move the house. Up to 75% of the total value will be paid if this option is chosen.

CAN I SELL MY HOUSE BUT STILL LIVE IN IT?

No. Drumheller Land Corporation is requesting to have vacant possession within 60 days of purchase.

ARE MY LEGAL FEES COVERED?

No. The Town will not pay for homeowner legal fees.

HOW MANY HOMES ARE GOING TO BE ACQUIRED BY THE TOWN?

We currently estimate approximately 40 homes may be impacted with property acquisition requests. This will be done in a phased approach.

MY HOME IS IDENTIFIED IN THE PROVINCIAL FLOOD HAZARD MAP AS BEING IN THE FLOODWAY. DOES THAT MEAN YOU NEED TO PURCHASE MY PROPERTY?

No. The Province of Alberta has changed the floodplain in the valley several times – no less than four. The current maps, based on 2007 data and published in 2016, don't just reflect historic flooding in the valley, they also provide a predictive risk analysis to the community, based on modelling of various flow rates. If your home is located in the floodway, flood fringe or overland flow area, this does not mean your property is required for purchase as part of the land acquisition process. However, it does mean that a berm needs to be constructed along the river so your neighbourhood can be qualified as "protected."

Scott Land & Lease Ltd. is contacting owners for entry permission to conduct hydraulic and geotechnical analysis. If your neighbourhood is currently protected by a diking system, it is unlikely we will acquire your property. If your property is adjacent to an existing dike, we may need to acquire some portion of the property to enhance the dike.

For further details on provincial flood hazard maps visit: <https://floods.alberta.ca>

IS THERE A MAP INDICATING WHERE BERMS WILL BE LOCATED?

Not yet. Council approved the engineering contract for berm design on August 31, 2020. Engineers will now conduct detailed design work which includes soil testing on public and private land, to confirm where berms can be constructed and what obstacles may exist such as slope, erosion, irrigation systems and vegetation constraints.

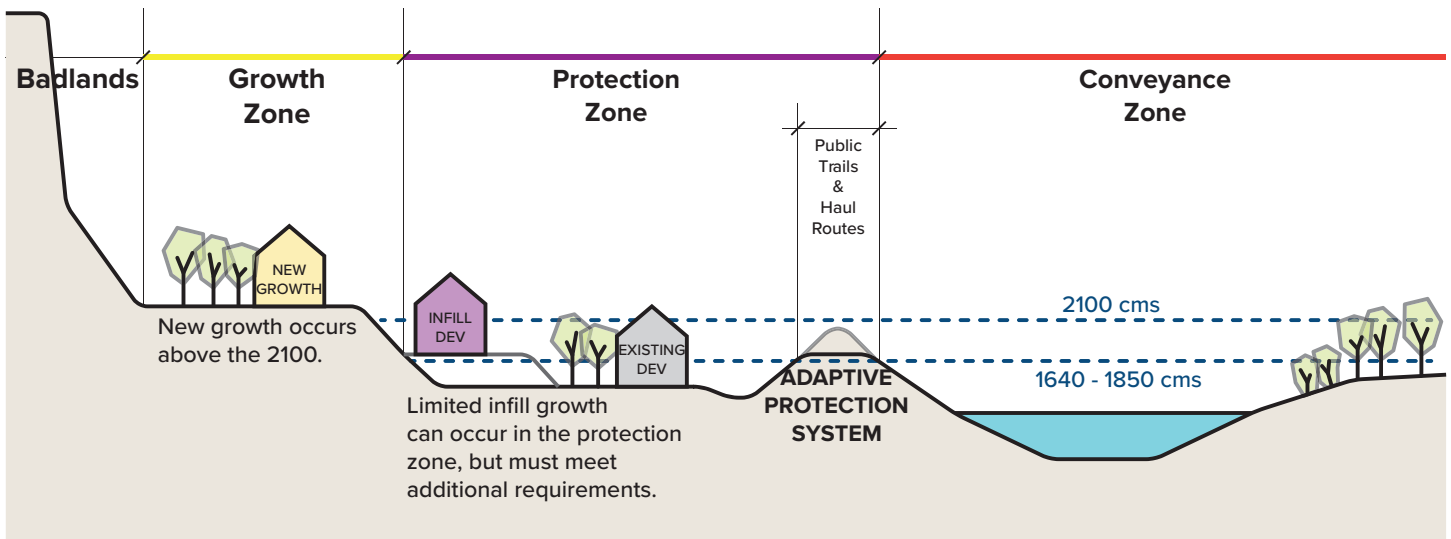
Once designs are completed, a map will be published and impacted homeowners will be contacted individually by Scott Land & Lease.

ALIGNMENT ANALYSIS

In determining alignments, the first priority is conveyance capacity: making room for the river. Wherever possible, we want to ensure the river has space to flow. A wide conveyance zone brings benefit beyond flooding performance — it also offers advantages related to ecology, infrastructure, and human-wellbeing.

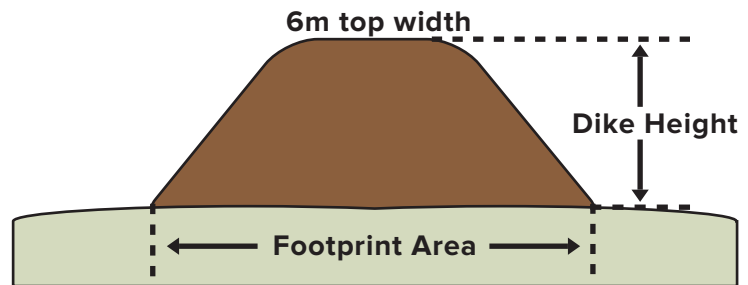
In places where there is conflict between flow and existing development, we take space from the conveyance zone of the river with adaptive structural measures (like berms). These measures have the effect of increasing protection for existing development, effectively removing them from rivers flow.

The protection zone is only suitable for limited infill growth and requires additional construction and elevation considerations. Structural measures add a level of protection, but a level of risk remains even for the protected areas. For this reason, we look for new growth areas beyond the “System 2100.” Here, new neighbourhoods will emerge over time, safely out of the river’s flow.



ADAPTIVE BERM DESIGN

The berms will be 6m wide and on average are 1.5m (5 ft.) high. The top elevation will differ throughout the valley because of the slope of the river. They need to be wide enough to become haul routes and allow equipment to drive on top in event the berm needs to be adapted beyond its height during a flood event. The berms will be built to withstand a minimum flow of 1640 - 1850 cubic metres per second (cms) plus 0.75m freeboard. Two referenced floods in the valley were the 1915 flood with a flow of 2000 cms and the 2005 flood with a flow of 1400 cms.



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