

DRUMHELLER FLOOD MITIGATION AND CLIMATE ADAPTATION SYSTEM



Municipal Development Plan & Land Use Bylaw

“What We Heard” Report

Overview

In the month of October, a series of neighbourhood information sessions (NIS) were held in communities throughout the Drumheller Valley, reaching more than 500 residents. These sessions helped tell the story of how we are putting the river at the heart of planning in Drumheller. They were also an opportunity for the public to provide input on the document drafts.

Many other stakeholders, including members of Council and administration, Municipal Planning Commission (MPC), the Chamber of Commerce, and local developers, also provided feedback on the documents.

We were listening, and have worked through everyone's comments. Your feedback has been a valuable guide as we revise and improve the documents.

Thank you to everyone who took the time to join us for an information session, and a special thanks to those of you who have provided feedback so far. Your input helps us change the channel on flood readiness in Drumheller.

This document summarizes changes to the proposed new Land Use Bylaw (LUB) and Municipal Development Plan (MDP) resulting from the collective review of the first draft. The second version of both documents have now been shared with the public for additional review and feedback.

Timeline Highlights

August

- 4** - Introductory presentation to Council
- 13** - Facebook live event

September

- 14** - First reading at Council
- 19** - Public engagement launches at Farmer's Market

October

- 6** - Public display boards installed at BCF
- 26** - Public hearing

November

- 7** - LUB maps live on website
- 10** - MDP & LUB v2 released
- 23** - 2nd reading at Council

Communications Timeline

The following timeline documents the project's community touchpoints from August – November, 2020.

August 2020

Aug 4

Introductory presentation to Council

Aug 6

Social post: CRFMO talks with The Drumheller Mail on how flood mitigation impacts land use

Aug 7-13

Promotion of Facebook live event

Aug 13

Changing the Channel: Municipal Land Use Planning Documents video premieres

Aug 5

Media release and employee communications on introductory presentation to council

Aug 7

Facebook live event regarding MDP and LUB is announced

Aug 11

Monthly e-newsletter, talks about new MDP and LUB and Facebook Live event

Aug 13

Facebook live event with The Drumheller Mail, Mayor Heather Colberg, CRFMO Darwin Durnie, CAO Darryl Drohomerski and Matt Knapik of O2 Planning & Design

September 2020

Sep 14

First reading of proposed new MDP and LUB

Sep 16

Newspaper double page spread - 8 steps to Changing the Channel

Sep 17

Changing the Channel: Remembering the Past and Preparing for the Future video premieres

Sep 19

Public engagement at downtown farmer's market + social post

Sep 24

Social post: Step 1 (8 steps)

Sep 28

Social post: Step 3 (8 steps)

Sep 29

Social post: Step 4 (8 steps)

Sep 15

Media release and employee communications on first reading of proposed new MDP and LUB

Sep 18

Monthly e-newsletter, talks about first reading of MDP and remembering the past and preparing for the future video

Sep 23

Social post: 8 steps of Changing the Channel series begins

Sep 25

Social post: Step 2 (8 steps)

Sep 29

Meeting at Rotary Club on MDP and LUB + social post

October 2020

Oct 4

Social post: Step 5 (8 steps)

Oct 6

Social post: Step 7 (8 steps)

Oct 7

Announcement of Neighbourhood Information Sessions (NIS) on MDP and LUB - social post, newspaper ad, utility insert, and web updates

Oct 9

Monthly e-newsletter, talks about NIS and public hearing

Oct 14

NIS reminder - social post and newspaper ad

Oct 15

Badlands Community Facility (BCF) morning NIS + social story

Oct 17

East Coulee NIS + social story

Oct 20

Rosedale NIS + social story

Oct 22

Nacmine NIS + social story

Oct 27

Social post: recap of NIS events and reminder of final event

Oct 5

Social post: Step 6 (8 steps)

Oct 6

Public display boards installed at BCF

Oct 7

Social post: Step 8 (8 steps)

Oct 7

Community Business Association meeting on MDP and LUB + social post

Oct 14

Wayne NIS + social story

Oct 15

Social post: BCF morning NIS

Oct 15

BCF evening NIS + social story

Oct 19

Midland NIS + social story

Oct 21

NIS and public hearing reminder - newspaper ad

Oct 26

MDP and LUB public engagement hearing + social posts

Oct 27

Newcastle NIS + social story

November 2020

Nov 4

Morris ad addressing public hearing

Nov 7

Proposed LUB maps go live on website

Nov 10

Media release and employee communications for proposed LUB maps

Nov 7

Recap of NIS session presentation video premieres

Nov 10

Morris ad addressing the rumour the MDP and LUB has been passed, showing where to go to see maps



Common Themes - Flood Mitigation

Financial Impacts

Many people had questions relating to financial impacts. Specifically, how will this work impact **taxes**, **insurance**, **mortgages**, and **property value**.

Taxes

Taxation is based on assessment, and assessment is based on market value and the actual use of a property. Changing the Land Use Bylaw does not change taxation.

Insurance & Mortgages

A key goal for the flood mitigation program is to preserve the value of property and ensure risk is reduced to levels which allows financial and insurance products to remain available. If residents are having difficulties securing home or commercial insurance due to flood issues, we want to be made aware of the details, so we can follow up with the insurance provider.

Property Value

The flood mitigation work is about protecting the value of property throughout the Valley. Homes that cannot be insured or financed are very difficult to sell.

Flood Management

We heard many questions related to the dynamics of the river and flood management practices. In particular, we had questions about **river islands**, and the management of the **Dickson Dam**.

River Islands

There are no plans to remove the river islands to increase the channel capacity. Most of these will be submerged during a flood event; when the river is not flooding, they provide habitat and recreation opportunities.

Dickson Dam

Many of you had questions about the role that Dickson Dam plays in controlling the river height in Drumheller. Dickson Dam was built in 1983 to help supplement adequate water supply for Red Deer and Drumheller and enhance low winter flows along the Red Deer River.

Even though its main purpose is managing water supply, Dickson Dam has been able to reduce Red Deer River flows for floods in the past. In 2005 the dam was able to reduce flood peaks and mitigate downstream flooding.

Dam operators used all the available reservoir storage to reduce the peak flood flow by over 30 percent. Without the dam, downstream flooding would have been much worse than what was experienced in 2005.

Berms

There were several common questions about the structural measures planned to help protect properties in the Drumheller Valley. These questions tended to focus on **location**, **sizing**, **material**, and **appearance**.



Location & Sizing

The MDP shows notional locations for structural measures throughout the Valley, but detailed review is still underway with engineering teams. This detailed review will ultimately set out scenarios for both location and sizing of the berms. Our design basis sets the top of the berms at 6m wide, which allows us to use the berms as haul routes to be able to bring in additional fill material to raise the berms if needed for protection during a major flood event.

Material & Appearance

The berms will be mostly earthen, though in some cases flood walls or berm/wall combinations may be used. The available width and distance from the river will help give shape to the way the structural measures appear. More detail on these questions will also emerge from the detailed engineering review.

Trails

Most of the questions about trails related to the relationship between trails and riverside properties. Questions and comments focused on **public access**, **privacy**, and **managing impacts** from increased intensity of use.

Public Access

Utilizing public funds to develop berms will also double as a recreational trail system and open space amenity for all residents to use. This supports economic development and helps build property value throughout the Valley.

Privacy

Privacy is a common concern for people who live alongside trails and roads. Luckily, there are many examples of how privacy can be maintained on riverside trails, including purposeful use of fencing and landscaping.

Managing Impacts

There are several things that can help minimize the impact of trail users on residents. Signage can help remind people of common trail etiquette, and amenities like garbage bins can help manage litter. It's important to remember that most trail users will be residents who care about their community.

Mapping Data

A series of questions emerged from the information sessions about **mapping data** from the Provincial Government.

Mapping Data

Our understanding of flood levels can evolve over time. We have gathered flood information into a single overlay in the Land Use Bylaw. This allows us to update the regulations based on the latest and most relevant information from the Province.

Common Themes - Municipal Development Plan & Land Use Bylaw

While most of the feedback received during these sessions related specifically to the impacts of flood mitigation, we also received several questions about the Land Use Bylaw. These are summarized below.

Home-based Business

The new LUB provides new, more permissive rules for home-based businesses. New definitions of home occupations allow for greater business growth in all districts and building types, as long as the business does not generate nuisances for the neighbourhood. So small businesses (like a hair dresser) are permitted, but a mechanic's shop will need to be located outside of residential areas.

Development in the Conveyance Zone

The Land Use Bylaw contains a Flood Hazard Overlay that adds additional restrictions to development in the Conveyance and Protected Zones. New development is restricted in the Conveyance Zone of the river, and new development in the Protected Zone is subject to additional requirements.

Neighbourhood Centre District

The intent of the Neighbourhood Centre is to provide the opportunity for focused community activity that functions as the social and economic heart of a neighbourhood. It enables street-oriented development with a slightly more intense built form than the Neighbourhood District, which is primarily residential.

Appealing a Land Use Designation

The new districts tend to be more permissive and flexible than what exists in the previous bylaw. That said, once you review the maps, if you feel that your property has been mis-designated, please contact us.

Parking

Parking minimums for both vehicles and bicycles have been removed from the LUB. But this doesn't mean that developments are off the hook from providing a parking strategy. It simply means that the market will drive parking supply to suit the demand.





Summary of Changes — Municipal Development Plan

The following section summarizes changes made to the Municipal Development Plan since the version brought to First Reading:

Definition of “Should”

1.2.2 Should is used when a policy is considered best practice that is only waived if there is a significant rationale for an exception being made.

Universal Access

Universal Access has been added to the glossary.

9.4e Elevate the pedestrian experience in downtown and improve universal access through coordinated public realm and wayfinding improvements and the implementation of design guidelines.

Historic Resource Protection

Historic Resource has been added to the glossary.

Added text in Section 4 - Badlands, reinforcing the significance of historic resources.

Curbside Recycling

Policy 11.3.2b and other references to curbside recycling have been removed from the MDP.

Xeriscaping

Xeriscaping is a natural approach for constructing low maintenance, water efficient, and sustainable landscapes. It has been added to the glossary of the MDP.

8.7h Policy has been added to encourage xeriscaping and other water-preserving landscaping methods in new developments.

Summary of Changes — Land Use Bylaw

The following section summarizes changes made to the Land Use Bylaw since the version brought to First Reading:

Added Dwelling Unit – Temporary

Made a distinction between permanent and temporary dwelling units to provide a greater degree of control over mobile homes, RTM (ready to move), and manufactured homes. Temporary dwelling units are defined as buildings that don't rely on a permanent foundation. Temporary dwellings are now discretionary in some districts, and are prohibited in the Flood Hazard Overlay.

Removed RV Parking Restrictions

The restriction on parking RVs in front yards has been removed from all districts.

Removed Bicycle Parking Requirements

Mirroring the approach to vehicle parking, the new LUB removes the requirement for bicycle parking from all districts. Supply will be driven by demand.

Home Occupation

To add flexibility and make distinctions between urban and rural properties, and to support agricultural business, home occupation has been set out into three types:

Home Occupation — Basic

Basic home occupations have no additional employees in the home, and no visitors.

Home Occupation — Urban

Urban home occupations are licensed business that may have some employees and visitors, but must not store materials outdoors on the property.

Home Occupation — Rural

Rural home occupations are licensed businesses that have a larger number of employees and visitors, and may store materials outdoors on the property.

RV Resort

Added a new use describing land designed, developed, maintained, and capable of providing accommodation on a temporary, seasonal, or permanent basis, for recreation vehicles.

Vehicle Access

Removed the limit of one access point for all districts. Updated the maximum width of access adjacent to the street to 6m.

Additional Definitions

Adult Entertainment

means any premises or part thereof in which is provided, in pursuance of a trade, calling, business or occupation, services appealing to or services designed to appeal to erotic or sexual appetites or inclinations.

Cemetery

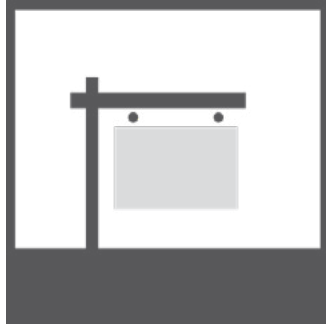
means land or a building for the burial or interment of the deceased.

Confined Feeding Operation

means an activity on land that is fenced or enclosed or within buildings where livestock is confined for the purpose of growing, sustaining, finishing or breeding by means other than grazing and requires registration or approval under the conditions set forth in the Agricultural Operations Practices Act (AOPA) through the Natural Resources Conservation Board (NRCB).

Hard Surface

means asphalt, concrete, paving stone, or similar material satisfactory to the Development Authority that is used in the construction of a driveway or parking area.



Scenarios - The New Land Use Bylaw

As a way to help better describe the intent and process of the new Land Use Bylaw, we have crafted a series of short FAQs and scenarios.

When a Development Permit is Not Required

Development permits are not required for maintenance, repair, or alteration to buildings provided that the work does not include structural alterations, does not increase the number of dwelling units, and does not change the intensity or use of the building.

Development permits are not required for construction of gates, fences, or walls less than 1 metre high in front yards and less than 2 metres high in other yards. Retaining walls less than 1m do not require a development permit.

Development permits are not required for public utilities, flag poles less than 6 metres high, and satellite dishes less than 1 metre in diameter.

Development permits are not required for the construction of a deck or patio.

Grandfathering

Scenario

Some elements of an existing development (setback, use, height, landscaping) do not conform with the rules set out in the new Land Use Bylaw.

Response

The new Land Use Bylaw only governs new development and substantial changes to existing development. Though existing uses and buildings may become 'non-conforming' to the new rules, these buildings do not need to be updated unless the use is discontinued/changed or there is intent to significantly modify the building. At that point, the development will need to conform to the new rules. Applications for development or subdivision submitted before the adoption of the new Land Use Bylaw will be assessed under the previous Bylaw.

Parking Minimums

Scenario

A small apartment development is proposed in the downtown area. The developer would like to know how much parking to provide on the development site.

Response

The new Land Use Bylaw has removed parking minimums, but this does not mean that the new development does not require a parking strategy. It simply means that the market demand for parking will guide the parking strategy more than a municipal minimum. The developer must still demonstrate how the development will function with a proposed amount of parking, and the development officer must use her discretion when reviewing this proposal. The developer will have the strongest sense of the value parking stalls bring to their project and will provide them accordingly.

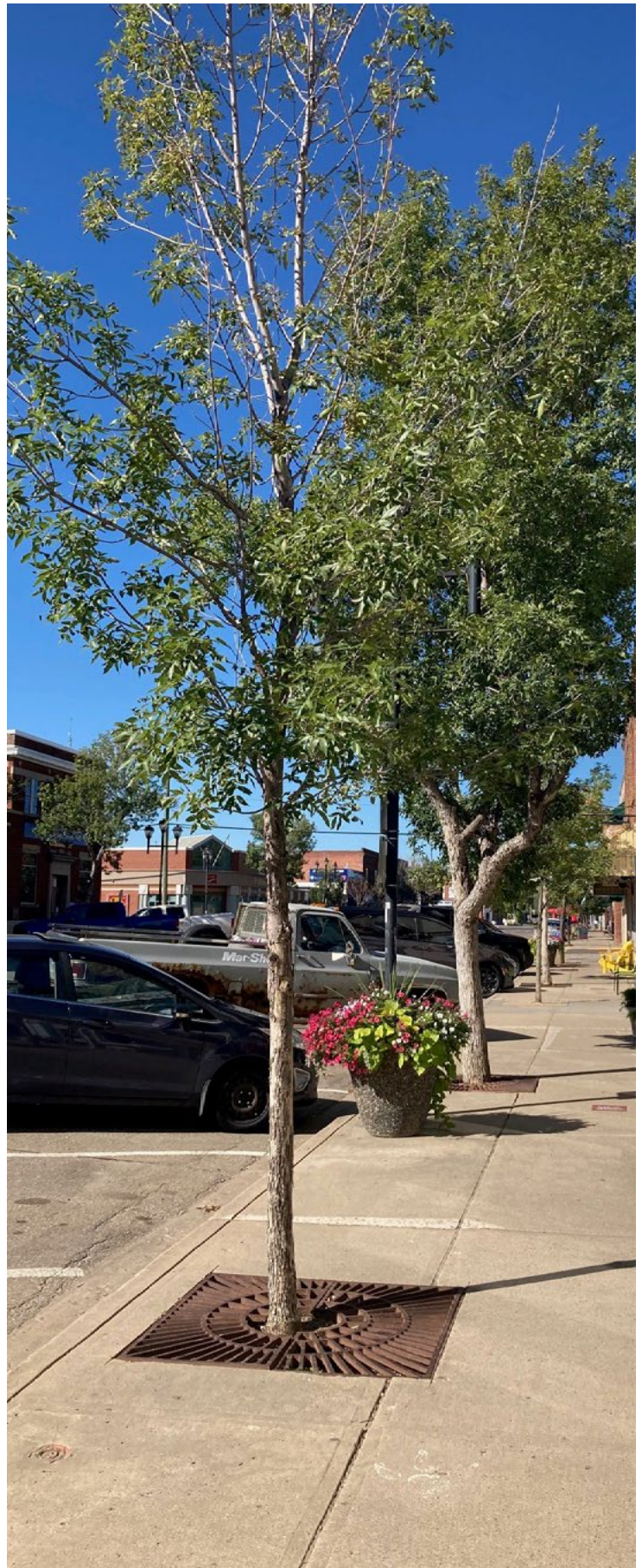
Home Occupation — Urban

Scenario

A homeowner in the Neighbourhood District sees Home Occupation — Urban as a permitted use on their land. He reads in the definition that he can use his garage to host this use and has heard that new commercial ventures can be integrated into residential areas under the new rules. He would like to set up a small mechanic shop to do small jobs with limited client visits.

Response

While it is true that his accessory building may be used for Home Occupation – Urban, the definition of this use explicitly states that mechanic shops are not permitted. Further, specific use standards in this district prohibit uses that create nuisance, including noise, vibration, or other impacts that would interfere with the normal enjoyment of any land or building. This application would be denied.



Home Occupation — Rural

Scenario

A couple living in a Rural Development District runs a small business on their property, selling honey that they produce locally. They already sell their honey online and would also like to sell to visitors. Their business includes some indoor processing as well as outdoor storage of materials that may or may not be in use. Their two children work at the business in the summer, and they employ three additional people to help fulfill orders and operate a small retail presence. They would like to add a sign on their property to let visitors know about the business.

Response

The definition of Home Occupation – Rural permits all elements of this application. It permits outdoor storage of materials related to the business and allows for a single freestanding sign. Since the business employs less than ten people that don't live at the property, it complies with the Home Occupation – Rural definition and is a permitted use in their LUB District.

Home Occupation — Basic

Scenario

A local resident in the Countryside District has launched a successful interior design practice. She would like to put a small sign on the side of her house to help build her brand. A client visits her studio to review project progress only once or twice a week. She applies for a Home Occupation – Basic.

Response

The development officer would congratulate the applicant and speak positively about her decision to grow her business in Drumheller. Then they would suggest that she apply for a Home Occupation – Urban use, because this would allow her to create signage and have visitors. A business license would be required for this use (compared to a basic home occupation) but the benefits of the Urban designation are worth going through the licensing process.

Secondary Suite

Scenario

A resident living in the Neighbourhood District has an aging mother-in-law and would like to create a space for her to live on his property. He would like to build a new garage on his property with a suite above. He cannot find a definition for secondary suite in the Bylaw, and would like to know if this project would be permitted.

Response

In the Neighbourhood District, you can build multiple dwelling units on the same parcel if they meet the standards of the Bylaw for building height, setback, etc. The proposed over-garage suite would be a second dwelling unit in an accessory building. Since the accessory building is built on a permanent foundation, is no higher than 7.5 metres, conforms to setback rules from the primary building and property lines, and is built to residential code, the suite is a permitted use.



Infill Residential

Scenario

A new 1500 sq. ft. home is proposed on an empty lot with a 60 foot frontage between two existing 3000 sq. ft. homes with brick and stucco finish.

Response

The use is permitted. The house must have a setback and height that match neighbouring houses, a concrete or paved driveway, and a deciduous tree in the front yard.

Infill Residential in Protected Zone

Scenario

A new 1500 sq. ft. home is proposed on an empty lot with a 60 foot frontage between two existing 3000 sq. ft. homes with brick and stucco finish. The lot is in a protected zone.

Response

The use is permitted and must meet the same conditions as listed in the previous scenario. In addition, this house must be constructed with a ground floor elevation at or above the flood construction level, and the application for permit must be accompanied by a report demonstrating how the project meets this additional requirement. In addition, utilities and equipment must be located above the flood construction level.

New Home in New Subdivision

Scenario

A developer has subdivided land in a new growth area identified in the MDP. They propose to construct a two-unit side-by-side duplex.

Response

This density is permitted by the Land Use Bylaw and is encouraged by the Municipal Development Plan. The Area Structure Plan and Outline Plan govern house design, with developer-imposed conditions applied to builders via sale agreements. Additional conditions related to the development permit include: adequate drainage and a front-yard tree. Consideration of Crime Prevention Through Environmental Design (CPTED) measures is encouraged for neighbourhood security. Parking configurations are set by the owner/builder, based on market demand.

Downtown Commercial

Scenario

A new office/retail building is proposed with apartments above in the downtown, on a vacant lot flanked by 100-year-old storefronts.

Response

This use is permitted by the LUB. The building must meet a minimum height of 6 metres and a maximum height of 20 metres. It must be constructed right up to the sidewalk to match the neighbouring buildings, and upper windows should be similar in size/configuration to neighbouring buildings. Windows must be provided at the ground level facing the street. The new building may be subject to additional provisions that support the Downtown Area Redevelopment Plan. The developer will propose a parking profile for the site.



New Commercial Building

Scenario

A new chain restaurant would like to build a freestanding franchise in the Employment District.

Response

The project must comply with all setbacks and building height regulations for the Employment District. Architecture and colours would be determined by corporate franchising standards. In addition, the development permit would require that the new restaurant meet engineering standards for access and servicing, minimum landscaping area of 20%, and some screening around the parking lot. Exterior lighting will provide security and safety on the site while avoiding glare. Signage is appropriate to the scale of the development and does not cause sight-line issues.

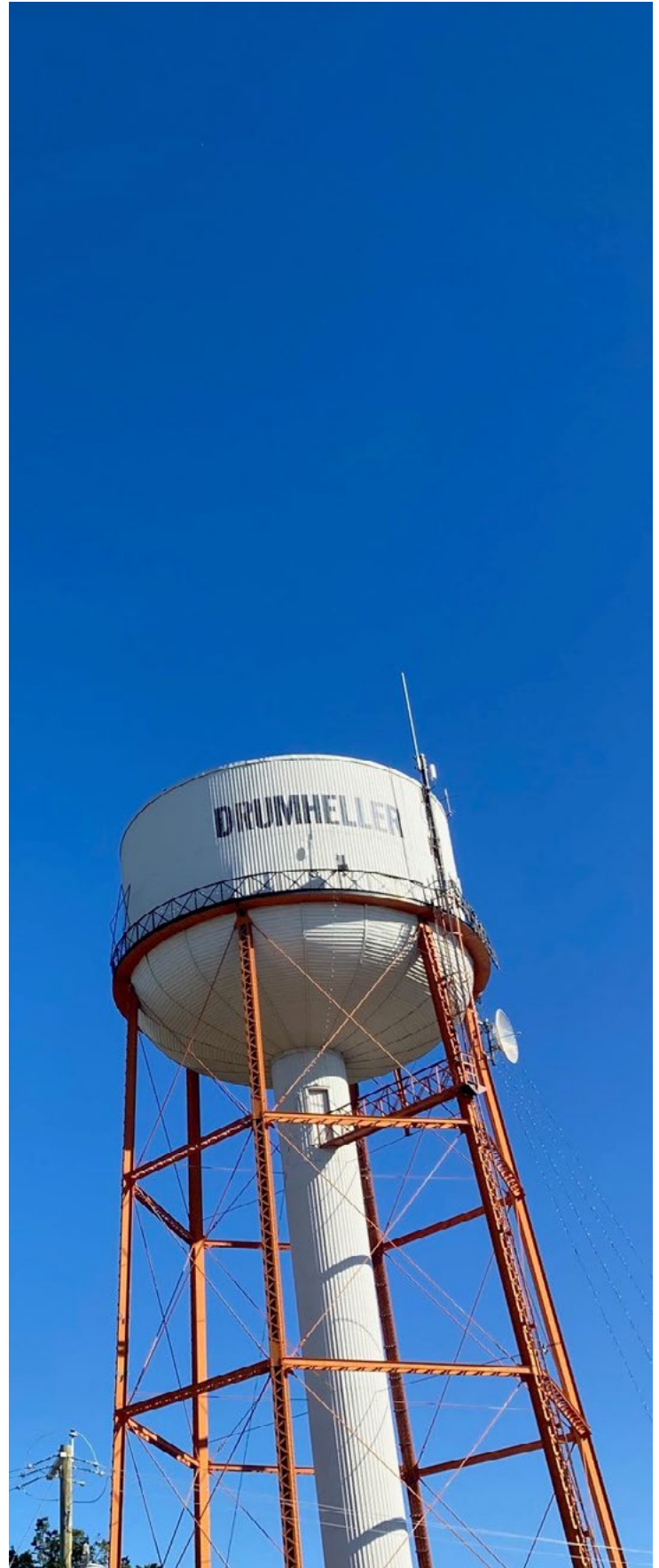
New Industrial Building in Industrial Park

Scenario

A manufacturing company would like to build a new industrial building in an Employment District.

Response

This use would be permitted adjacent to light industrial buildings. The project must comply with all setbacks and building height regulations for the Employment District. Conditions of the permit would include standards for access and servicing, minimum paving of access and parking to the front wall of the building (if the street is paved). Outdoor storage would need to be screened and landscaping provided adjacent to roads; a rain garden should be provided to manage runoff from paved areas. Exterior lighting should be provided for safety and security while avoiding glare toward other properties.



NEIGHBOURHOOD INFORMATION SESSIONS - COMMENTS & QUESTIONS

Wayne

Oct 14, 2020

28 Attendees

ROSEBUD RIVER

We've heard lots about the Red Deer River, but what about the Rosebud River?

WAYNE BRIDGES & TRAILS

Are there any plans for Wayne at the moment - in terms of bridges, the abandoned rail, trails, etc?

IMPACT ON TAXES

How will the new LUB affect land taxes? Will a tax assessor come out as soon as our district type changes?

ISLANDS IN THE RIVER

Why are we not looking at taking out the islands from the Red Deer

River to help the river flow more? They didn't exist before the dam was there, wouldn't removing them add more room for the river to flow?

EMERGENCY ROUTES

Do you have any emergency routes planned with the diking?

RELIEF ROAD

During the last flood, Relief Road wasn't used, why not? What's happening with it and can it be upgraded?

WHO OWNS LAND THAT IS BOUGHT OUT?

Who will own the land that's going to be bought out and how do we ensure it's never developed on again? Should it be rezoned into non-buildable?

NEW BRIDGES

Will we see another bridge across the Red Deer River built anytime

soon? The hospital and firehall are on the other side, isn't this challenging in emergencies?

SAFE CMS

What's considered a "safe" CMS (cubic metres per second) for the Valley? How is CMS measured?

DICKSON DAM

What's the purpose of the Dickson Dam in regards to the flood program going forward?

BCF

Morning Session

Oct 15, 2020

29 Attendees

RAIL BEDS

Is the city purchasing the rail beds? Is it coming out of this budget?

TRAIL SYSTEM

Is the trail system a nice to have or a need to have?

ALIGNMENTS

Where there's an alternate path for the existing rail bed or dike where would the trail run?

BERMS AND WALLS

You're going to raise the berms by 4 feet, is that right? What are you going to do about the cement wall?



DICKSON DAM

There was a lot of controversy and questions about the Dickson Dam and how it was handled in the last two floods. How has this plan incorporated the Dam into future flooding and controlling the flood for future events?

IMPACTS ON INSURANCE

Wondering about how Riverside Drive home insurance may be impacted?



BCF

Evening Session

Oct 15, 2020

29 Attendees

BERMS

Do you have an estimate or idea on how many kms we are looking at in terms of building berms in the valley? Will they all be earthen dikes?

INSURANCE

It was difficult to get insurance in Midland, how and when will that change once the berms are up and it all gets going?



East Coulee

Oct 17, 2020

55 Attendees

LAND USE MAP LEGIBILITY

The maps online are too small, is there going to be some way that these maps can be put online larger?

LOCATIONS OF IMPACTED HOMES

These 40 homes, do you know who they are? What's the environmental plan?

WORKING WITH PROVINCIAL DATA

How can you make the MDP and LUB without a plan from the province? Does the province and federal governments know about these plans?

BERM SIZING

How will the 6m wide berms fit in the town?

IMPACT OF BERMS ON PRIVACY AND QUALITY OF LIFE

Isn't the flood mitigation plan impacting our charter of rights and freedoms?

SEWER PLANT

Will there be improvements to the sewer plant?

MANAGING VEGETATION

Too much vegetation was trimmed on the dikes. Engineers from the province said they went too far. Now the dikes aren't protected properly.

OPERATING THE DIKES

Is the Town going to assume responsibility for the dikes and trails? They can barely manage the ones they have now, how are the going to manage more? How are they going to afford that?

TRAIL ACCESSIBILITY

What is the purpose of the Clark Hill to Hoodoo Trail? You can't walk or push a stroller down the trail, will this be rectified?

ISLANDS IN THE RIVER

Is there a plan to do something about the islands in the river? Are there thoughts on increasing medium flows to avoid more islands forming?

Midland

Oct 19, 2020

27 Attendees

PURCHASE NEGOTIATIONS

Have you already started talking to people in Midland about issues with their property or is that still to come? If you have to purchase properties how much lead time will there be between the town securing the land and vacating the property?

DIKE CONSTRUCTION

Have you decided what materials will be used to build dikes? Will the dike in midland stay concrete?

DICKSON DAM

In the past we heard the Dickson dam has effect on flow rates in the river. Is it being taken into account here or does it matter? Why don't they build the dam bigger so it can attenuate more water?

MARKING FLOOD HEIGHT

A resident commented that he marked on a light post on 16th Ave how high the water was for each flood so you can see how high the water was. It's higher than your head.

BERM EXPANSION

Will the berms that exist be the start of the conveyance/protected zone?

EXISTING BERMS

The Midland dike was at the height that it was supposed to be and then it got torn out and lowered, now it's below the 2013 flood. Did this have to do with quality of the soil?

RIVER DRIVE

It sounds like the whole north Riverside Drive would be gone if you have to build on the inside of the river?

PROVINCIAL DATA

Will the provincial government flow map that's being made be available on the flood website?

WEBSITE INFO

We'd like to get more concrete details on the website so we don't have to call your office - it's all pretty ambiguous right now.

WALKING PATHS

In our area the walking path is on the river side of the berm, will that change when the new berms are built?



Rosedale

Oct 20, 2020

34 Attendees

ROSEBUD TRAIL

Regarding the CN rail that goes from Rosedale to Drumheller, who is taking care of these, what's going on with them? Those are weak links, all those drainage tunnels.

THE 2100 LINE

This 2100 track, are there houses on the other side that have high enough elevation that aren't impacted, how far do the houses need to be from the river to not be impacted? What's the significance of the 2100 and the difference between living between that and the river?

TRANSPARENCY

Transparency is what people are looking for, transparency in what's going to be done and spending in what's being done. We still haven't touched any federal money, is that correct? Can we get some sort of feel as to what has been spent and some sort of numbers on how much everything costs?

PUBLIC TOPS ON BERMS

Reading Morris On the Trail in The Drumheller Mail, it said the berms are for all of us, that we need them and they'll double as a recreation pathway. So is it safe to assume there's going to be pathways behind our homes?

SOIL VS ELEVATION

We've heard the type of soil is very important, at Rosedale beach we've never flooded, and I know



that saying we never flooded isn't good enough, but even in the 1940s, it never has where we are. Can that offer any relief for us?

MORTGAGE IMPACTS

I heard that a person down our street has been unable to sell their home because the bank was unable to provide a mortgage to the buyers. Not sure if that's a rumour or not.

SUSPENSION BRIDGE

What's the plan with the suspension bridge, is it in jeopardy with all of this?

FUNDING EXTENTS

Is the 55 million just for Drumheller, or is it for all of the Red Deer River, Rosebud River, etc? Has everyone been told what lands will be expropriated or acquired? How much money is being spent on that?

PRIVACY

If the berm is in your backyard what's the privacy distance?

PROJECT TIMELINE

I had heard we were finished with phase 1 and into phase 2 so we need not worry about the Town needing to buy our properties.

DIKE SETBACKS

Is there an offset for how close you can build to dikes that are going to be coming in for future development?

PROVINCIAL DATA

Will we know in November if we're flood fringe or are we still waiting for those designations? Is flood fringe safe? Does that mean there's never been a reassessment of what a flood fringe is?

SALVAGE RIGHTS

If we want to move our home do we get salvage rights?

NEGOTIATION

What if a homeowner says "no thank you I don't want your offer", then what?



Nacmine

Oct 22, 2020
25 Attendees

PUBLIC ACCESS

Big concern is public access to berm. Why do we need public access there?

GARBAGE

Big issues with public access to the river and garbage.

DAMAGE

There is concern around damage to backyards and security with the berms acting as a recreational paths.

BERMS AND FLOW RATES

Why would they want to put a

berm in my backyard - no one in my area has flooded?

UNCERTAINTY AND FEAR

This is my home and I'm scared of the unknown impacts that this might cause.

ACCESS TO THE RIVER

I'm worried you are taking the access away from me.

HOME BASED BUSINESS

How do i apply for home based business under new LUB

PRIMARY PURPOSE

There is not an adequate distinction between the berm and the tourist trail. It seems the trail is the primary purpose of the new berms, and this is impacting our quality of life.

MCCULLEN ISLAND

Can the Town take over the McCullen Island parking lot and use this area as a trail?

BUILDING PERMITS

Will I need a building permit to build in floodway?

RELATIONSHIP BUILDING

Is there a need to have a relationship between PRMS and the community association?

Newcastle

Oct 27, 2020

49 Attendees

NEIGHBOURHOOD CENTRE

In the proposed LUB, what's the difference between the land use districts of "Neighbourhood" and "Neighbourhood Centre"?

PROPERTY VALUE

I have no problem with minimizing red tape, but I'm worried that my property value could go down with the change in land use.

APPEALING DESIGNATION

If I didn't like my new designation would there be some sort of appeal?

INTERIM DIRECTION TO MPC

Can you give any indication of what instructions council has given MPC short term?

ASSESSING LAND VALUE

We don't yet know the exact height and width of the berm, but we know it will impact private property. Who is going to establish how much that land is worth?

FENCING FROM TRAIL SYSTEM

Could you look into higher fences so we don't have to look at the trail system?

BERM ALIGNMENT

Would you consider moving the berm system further into the park instead of in our neighbourhood?

DICKSON DAM

Are you working with anyone at the Dickson Dam? During the last flood it seems they messed up by letting the dam get to 96%. Does the dam keep their levels artificially high for the expensive homes and recreational boaters?

BERM CONSTRUCTION

What are they going to make the berms out of?

BERM vs ROAD

We just have a cement barrier and the cement barrier is not very wide, where will you build the berm? Will we lose a road?

FLOOD HISTORY

We back on to the river and have never flooded and are fairly high.

USE & TEMPORARY BUILDINGS

We have a number of vacant lots on our blocks, if those lots are then able to change their land use district, would someone be able to move in a \$30k trailer and rent it as an Air BnB next to more expensive homes?

LEGAL PROCESS

Has anyone looked at the possibility of potential lawsuits for people who are having their land acquired?



1

Changing the Channel on Flood Readiness

www.drumheller.ca

Follow us @drumhellerALERT on facebook, twitter, and instagram



Drumheller Flood Mitigation and Climate Adaptation System

Canada \$22 M

Alberta \$28 M

DRUMHELLER VALLEY \$5 M

2

Remembering the Past

Drumheller is a Flood Community

Over the past 100 years, eight major floods have taken their toll on the financial and social fabric of Drumheller. If we experienced the same flow rate today as we did in 1915 (2000 cms), the town would be devastated.



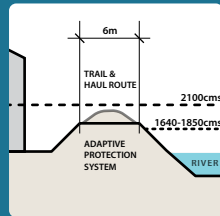
The Red Deer River

Our Greatest Asset and Largest Threat

We all can't rely on government and insurance companies to bail us out when the next big flood hits. The money may simply not be there. We need to face the facts and accept that the time to act is now.

5

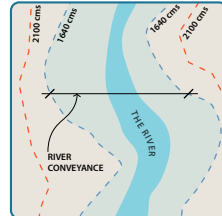
8 Steps to Change the Channel



Step 1

Design Basis

As a first step, we identify the conditions that drive the design of our flood protection system. We identify key flow rates and adaptable berms that allow us to raise the berms when river rises.

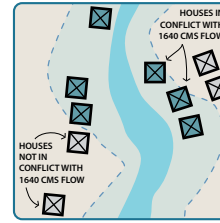


Step 2

Conveyance Capacity

This diagram shows us where the river needs room to flow. Drumheller has two lines of defense: (i) 1640-1850 cms, and (ii) 2100 cms. These lines both play important and separate roles in the multi-barrier protection system.

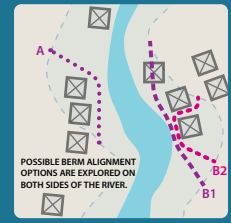
6



Step 3

Know Your Flow

Knowing your flow means understanding what flow rate threatens your safety and property. Past floods have shown how vulnerable we can be. Knowing your flow helps everyone prepare for the next event.

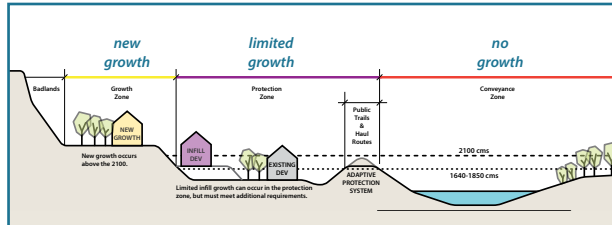


Step 4

Alignment Analysis

Once we have identified where existing development is threatened by the river, potential berm alignments help us understand what measures are possible. We work to maintain the river capacity while protecting as many properties as we can.

9



What Does This Mean?

Living Next to the River

We recognize that people have questions. The bottom line is that some properties along the river will be impacted. The berms being considered are meant to protect an entire neighbourhood from flooding, not just the few homes along the river.

Where an engineering solution can't be reasonably implemented, 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 we are confident that it is the best strategy to protect the community at large.

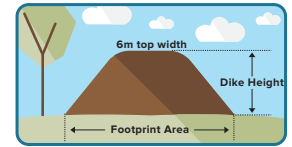
10



Dike (1, September 2020)



Dike (1, September 2020)



Structural Measures

Minimizing the Everyday Impact of Flood Protection

Structural flood protection measures will have a wide top that allows them to adapt to higher flow rates during a flood. They need to be wide enough to become haul routes and allow equipment to drive on top, in event the berm needs to be elevated during a flood event. In non-flooding times, we can leverage the berm-tops as part of a valley-wide trail network. Educational signage and pavilions throughout the valley will teach people about flooding and our unique neighbourhoods and history.

13

Scenario 1

My house is in a Protected Zone.

My house is in a Protected Zone. Do I need to change or raise my house?

Changes are not required to existing homes within the designated Protected Zone. New requirements, including minimum main floor elevations, only apply to major re-development and new development.

Scenario 3

Home-based business.

I would like to run a business out of my home. How will the new rules impact me?

The new LUB makes it easier than ever to run a small business from your home. We want small businesses to thrive, and part of that means reducing regulatory barriers.

Scenario 2

Parking minimums.

Does the removal of parking minimums mean no more new parking will be built?

The removal of parking minimums is only for new development. Parking will still be constructed, but the amount will be determined by the market—not the Town.

Scenario 4

Is my house illegal now?

My property doesn't comply with the new bylaw. Does that mean my house is illegal?

The new Land Use District does not impact how you currently use your land. The new rules only apply to major re-development and new construction.

14

Project Timeline



Changing the Channel

What Happens Next?

The new Municipal Development Plan and Land Use Bylaw went to Council for first reading on September 14th. Please visit our website to download full copies of the draft documents and provide feedback.

www.drumheller.ca

3



What is at risk?

People and Property

No one knows when the next flood will be. If we don't work now to protect our property values, we will be facing the same question again — but from a much worse position. Without a coordinated approach, many properties in Drumheller face the prospect of becoming impossible to finance or insure. **We can't let that happen.**

Fortunately, we have a once in a lifetime opportunity to protect Drumheller from potential devastation. With the funding commitment of \$55M from three orders of government (\$22M Canada, \$28M Alberta, \$5M Drumheller), the Town is poised to implement a multi-hazard solution to protect and reinvent itself.



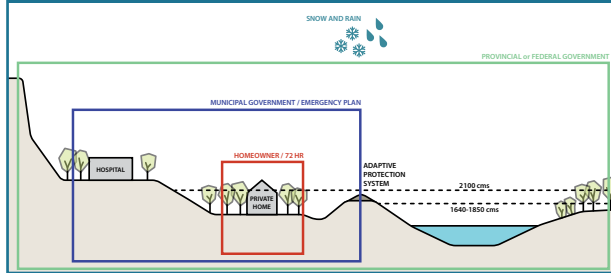
4

The Opportunity

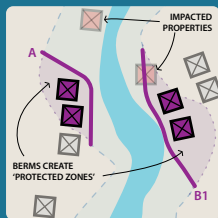
A Multi-barrier Approach

Everyone bears some responsibility for making our community more flood resilient. Residents and homeowners need to be aware of what flow levels threaten their safety and property, and have a 72-hour plan in place. The Municipal Government is responsible for the emergency management plan, and ensuring the protection of critical services

and infrastructure. The provincial and federal government are responsible for the waterways and surrounding infrastructure. Beyond that, we are all at the whim of increasingly volatile weather systems. A multi-barrier approach helps us mount a coordinated response to any level of flood.



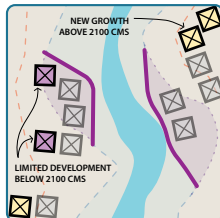
7



Step 5

Protected Zone

Most properties can be protected, but a few are in conflict for reasons of river capacity, berm heights, soil issues, cost, or other complication. In the figure, one house cannot be protected, and another is in the path of the best berm alignment.

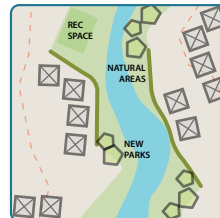


Step 6

Growth Areas

In the coming decades, Drumheller needs to move out of the river's path. This means that new growth will happen outside of the 2100 cms line. Some infill will occur within the protected zones, but it will be subject to additional requirements.

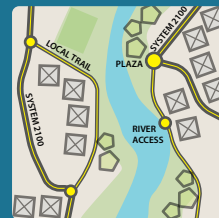
8



Step 7

Conveyance Zone

The area in green is our conveyance zone. In a flood, this zone provides space for the river to expand. The rest of the time, it's home to natural spaces and recreational amenities that reconnect Drumheller to its river.



Step 8

Trails and Open Spaces

As it is completed, flood infrastructure will be leveraged as an amenity. The 2100 system will become a regional trail, with educational pavilions that teach our residents and visitors about the history of our valley, its changing climate, and flood readiness

11



Places the river at the heart of planning in Drumheller



Protects and celebrates our badlands landscapes



Enhances and protects the Valley's unique neighbourhoods



Harnesses opportunities for growth

A New Vision for the Valley

The New Municipal Development Plan

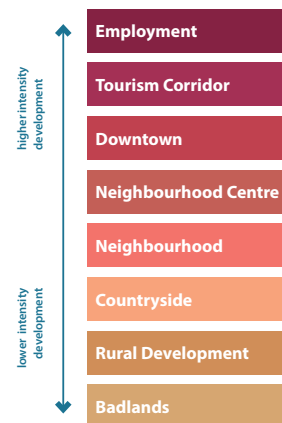
The new MDP sets out a broad vision for the future of Drumheller, focused on the river, the immersive badlands landscapes, the valley's unique neighbourhoods, and future growth. The MDP sets out high-level policies for how we can work toward the valley's undeniable potential as a place to grow and a place to discover.

12

Reducing Red Tape

The New Land Use Bylaw

The new LUB provides a simplified and modernized approach to land use. It presents eight open, flexible districts, clear and simple enough to adapt to changing needs over time. To accompany this, it provides a series of overlays that account for the river, unique neighbourhood character, landscape, and growth.



15

Understanding Your Risk

Know Your River

For all Drumheller residents, the river poses a risk, period. Flooding impacts all of us and an extreme flow event of 2100 cubic metres per second or more would devastate our entire town. There is no denying, however that floods of different flow rates will impact some more than others.

An important part of the flood mitigation project is to educate individual landowners of their specific risk relationship to the river. Do you live in the conveyance, protected or growth zone? What do different flow rates mean for the safety of your home and the people and pets who live there?



16

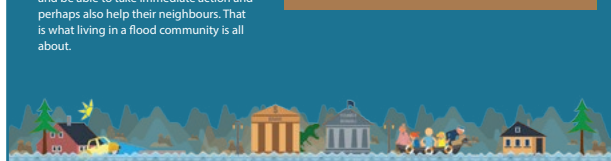
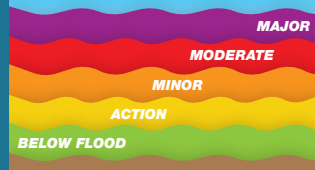
Understanding Your Risk

Know Your Flow

As we recreate our relationship to the river, residents will come to know the impact of certain flow rates to their individual property like the back of their hand, providing them with the information they need to make both long term and immediate safety decisions.

With an easy to understand colour coded system, residents will know what it means when the river is running at a brown, green, yellow, orange, red or purple level and be able to take immediate action and perhaps also help their neighbours. That is what living in a flood community is all about.

KNOW YOUR FLOW



Date	Event	Attendance
Sept 16	Town Hall staff briefing	13
Sept 19	Farmer's Market	~100
Sept 28	Public Works staff briefing	16
Sept 29	Rotary Club meeting	11
Oct 7	Community Business Association meeting	25
Oct 8	Badlands Community Facility (BCF) Staff Briefing	18
Oct 14	Travel Drumheller briefing	14
Oct 14	Wayne Neighbourhood Information Session	28
Oct 15	BCF Morning Neighbourhood Information Session	29
Oct 15	BCF Evening Neighbourhood Information Session	29
Oct 17	East Coulee Neighbourhood Information Session	55
Oct 19	Midland Neighbourhood Information Session	27
Oct 20	Rosedale Neighbourhood Information Session	34
Oct 21	Developer technical briefing	26
Oct 22	Drumheller Chamber of Commerce virtual meeting	12
Oct 22	Nacmine Neighbourhood Information Session	25
Oct 27	Newcastle Neighbourhood Information Session	49
	TOTAL	511



How do I learn more?

Visit drumheller.ca to get updates

Follow us @drumhellerALERT on facebook, twitter, and instagram