Frequently asked questions and answers

Flood Mapping FAQs

1. WHAT THE FLOOD INFORMATION MEANS

1.1 Will the flood information affect my rates?

The flood information will not directly affect your rates. Any works that Council undertakes to address flooding would normally be determined through the Long-Term Plan (LTP)process and funded from either rates or a combination of rates and development contributions.

1.2 What does Floodviewer tell me?

Floodviewer provides access to mapped flood information for parts of the city that Council has modelled. This includes flooding in a 100-year rainfall event, Over Land Flow Paths, and depression areas. Waikato River flooding information sourced from the Waikato Regional Council is also displayed.
This is explained further in the separate practice note available on www.hamilton.govt.nz/flood-mapping

1.3 What use is 100-year flood information?

Flood information shows people whether their property is likely to flood during a 100-year flood. These floods have a 1% probability of occurring in any given year.

1.4 Why is this information important?

The information provides us with the best available flood information for the city and enables everyone to be prepared for a flood event. The flood information can also inform what you do on your property. Owners of properties with a shown flood hazard showing should consider where flood water will rise and flow on the property, particularly if intending to develop. People must avoid making flooding worse on any other properties by blocking or diverting flood water. For example, this could happen by constructing a raised garden, garden shed or playhouse in a flood area. They should also take care when altering the level of their property that they do not inadvertently direct water where it is not wanted, such as towards the door of a building.

1.5 Will my house be flooded?

Flood maps can look like they show flooding on top of the buildings. In reality, the water may go under, through or around the building. Whether flood water gets into a building depends on how high off the ground the floors are compared with the depth of the surrounding flood water. Council is unable to provide floor levels of all existing buildings but can supply detailed maps showing maximum flood depth and velocity and flood water levels for individual properties in a 100-year flood for modelled areas. These detailed maps may be requested by:

- Phoning (during normal business hours) 07 838 6699, or
- Emailing info@hcc.govt.nz

1.6 If no flooding is shown, is the property free of flooding?

Floodviewer shows best available catchment flood information, but this does not mean there is no potential for flooding for the property because:

- Some areas are yet to be modelled, so we don't have data available for them; these are greyed out in Floodviewer.
- Modelling is done at a point in time and relies on data inputs and assumptions, that may need to be changed if done again. Floodviewer should be considered a tool to understand the potential for flood risk and management rather than a guarantee of what would happen.
- Flood hazard mapping is for a 100-year event. A larger flood event could flood a larger area and/or to a greater depth than shown on the flood hazard maps.

1.7 What is the earthworks layer in Floodviewer showing?

The earthworks layer shows areas that have been affected by significant, consented earthworks. Within this area, the flood hazard mapping is no longer reliable because land contours and, as a result, flooding, may have changed. The earthworks layer will be updated at least annually.

1.8 What does the flood information mean for resource consents?

The District Plan has objectives, policies and rules specific to each type of flood information. Please refer to the Operative District Plan, and if you have any questions, including for resource consents please contact the Duty Planner via Customer Services 07 838 6699.

1.9 What does this information mean for building consents?

Council may consider the flood information displayed on Floodviewer when making assessments and decisions on building consents. If you have any questions regarding building consents please contact the Building Call Centre 07 838 6677.

1.10 Does the flood information affect insurance?

Council cannot advise on how flood information affects insurance cover. If you have questions, we recommend discussing this with an insurance provider.

1.11 Will the flood information affect property values?

Council is required to produce the best available flood information and make it available to the public on request, including anybody considering buying a property. Property valuations reflect sales evidence up to the valuation date. Over time, property sales evidence will reveal any effect the flood information has on property values. If you are concerned about the potential impact of flood information on property value, then you could seek advice from a registered valuer.

1.12 Will flood information appear on a LIM?

Yes. A LIM outlines all information a council holds on a property, including permitted land use, consents, stormwater and sewer drains, rating information and potential natural hazards including erosion and flood hazards. A LIM will include a snapshot of relevant mapping information from Floodviewer and direct the LIM recipient to the Council webpage which provides FAQ's and access to the GIS Floodviewer tool. This is explained further in the separate practice note available on hamilton.govt.nz/flood-mapping

1.13 What is a 100-year flood event?

A flood event that is caused by extreme rainfall that, on average, would occur once every 100 years. Such an event has a 1% probability of occurring in any given year.

1.14 Why is Council using a 100-year flood event?

The Waikato Regional Policy Statement requires this. Understanding and managing risks associated with 100-year flood events are recognised as current best practice.

1.15 When did a 100-year flood event last occur in Hamilton?

The last widespread 100-year flood event in Hamilton was considered to have occurred in 1958. The Waikato River was last at a 100-year flood level in 1998. Waikato River flooding is affected by rainfall upstream of Hamilton. Flooding in Hamilton, other than in the Waikato River Corridor, is affected by rainfall directly on the city. A 100-year flood event has a 1% probability of occurring any year.

1.16 What do the different flood hazard areas mean?

There are three categories of flood hazard - high, medium and low. The following figure shows how the modelled maximum flood water depths and speeds resulting from overland flow and ponding determine the hazard category applying at any location, except within the Waikato River corridor.

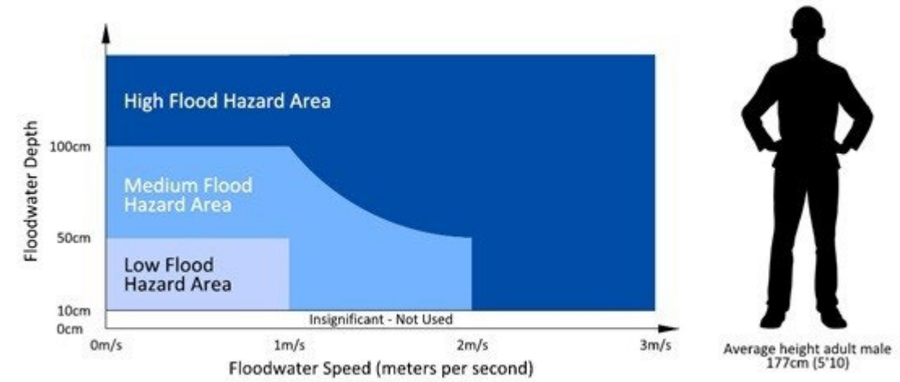

Figure 1.16a: Flood hazard areas, except within the Waikato River Corridor

Flood hazard areas in the Waikato River corridor are defined using the following figure.

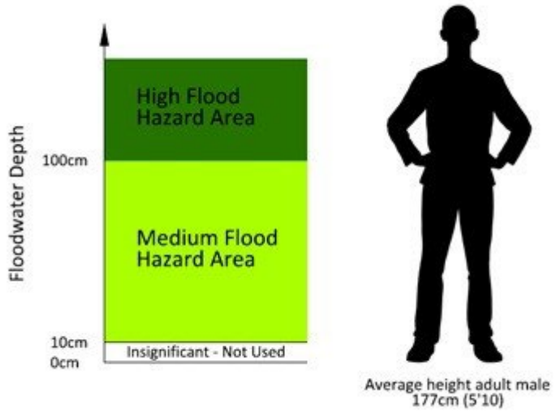

Figure 1.16b: Flood hazard areas in the Waikato River Corridor

What the flood hazard categories mean for people and property

Flood Hazard Category	Floodwater depth	Floodwater speed (metres per second)	Depth x speed	Effect on people and property
(None)	0 to 10cm	Any velocity likely to occur in a flood	-	Surface water is unlikely to be a hazard to people and unlikely to cause damage to property.
Low	10 to 50cm	< 1.0m/s	-	Emergency vehicles will usually be able to drive through the flood water. Damage to property will be minor to moderate. Damage will be more severe if the flood level is above floor level. Scour or erosion of building foundations is unlikely to occur. People can usually stand up in and wade through the flood water, but more vulnerable people (e.g., children, elderly, injured and physically disabled) may not be able to do this.
Medium	50 to 100cm	< 2.0m/s	<1	People may not be able to stand up. Damage to property can be financially significant.
High	>100cm	> 2.0m/s	>1	Flood water can scour building foundations, resulting in buildings becoming unstable. Significant damage to buildings and risk to life are very likely.

Notes: During a flood, buildings with floors that have adequate freeboard above floodwater are unlikely to suffer significant flood damage, whereas buildings with floors below the floodwater level are likely to suffer damage from water and silt.

Being in a Low Flood Hazard Area does not automatically mean **existing** development is at a low level of risk, nor that **existing** development within a High Flood Hazard is at a high level of risk. The level of risk associated with the flooding of an **existing** development or land use depends upon how often the flooding would occur and its consequences. It is recommended you consider seeking expert stormwater engineering / risk assessment advice, if you require an assessment of this risk. Such an assessment should consider the floor levels of buildings in relation to the modelled flood water depth, the effects of water getting into the building, whether the building has been constructed to withstand the force of the flood water expected, and whether it will be safe for people to get into or out of the building during a flood.

The District Plan uses the Low, Medium and High Flood Hazard Areas to determine whether **new** subdivision, **new** use or **new** development should be assessed through a consent process to identify the level of risk and whether this is acceptable or not. If the level of risk is unacceptable, then consent for the **new** subdivision, **new** use or **new** development may be refused.

Plan Change 14 will look to remove out-dated flood hazard maps from the District Plan and introduce improved rules to manage flood hazards based on the most up-to-date information available on Floodviewer

Floodviewer uses the same Low, Medium and High flood hazard categories. Flood hazard information from Floodviewer, which is not in the District Plan, can be considered by Council as part of determining whether to grant, or impose conditions on, a subdivision consent.

Please refer to the Operative District Plan, and if you have any questions, including for resource consents please contact the Duty Planner via Customer Services 07 838 6699.

1.17 Is all flooding in Floodviewer the same accuracy?

The flood data on Floodviewer is best available catchment-based information commissioned by Council. the flood data is based on models that vary in age and levels of accuracy. This means some flood information can be used directly, while other information requires interpretation by a suitably qualified person to ensure its

limitations are understood and the information is correctly applied, for example, whether an old model is accurate enough to set the height of a habitable floor in a new house.

Council's flood modelling information has been assigned an information level which relates to the current assessment of each model's level of accuracy. There are five information level categories generally based on Waikato Regional Council's classifications.

Floodviewer shows model data that has been assessed as level 1, 2 or 3. Information level 5 is not considered accurate enough to be displayed in Floodviewer. Level 4 is general information which may be included. Anyone can request data that informs the flood maps (the maximum depth and velocity and design flood level) and the information level associated with that data by:

- Phoning (during normal business hours) 07 838 6699, or
- Emailing info@hcc.govt.nz

Information Levels shown in Floodviewer

Information level	**Level Description**
1	Property Scale • Information is suitable for determining floor levels and/or Building and Resource Consent applications. • Input data is accurate/best available and consistent with current guidelines. • Modelling process is detailed and robust.
2	Local Scale • A suitably qualified person will need to assess whether the information is suitable for determining floor levels and /or Building and Resource Consent applications. • Input data is accurate but not consistent with current guidelines. • Modelling process is detailed and robust.
3	Regional Scale • Information is generally not suitable for determining floor levels and /or Building and Resource Consent applications. • A suitably qualified person will need to assess for which purposes the information can be used. • Could be used for high-level constraints mapping, emergency management or future mitigation scenarios. • Input data is not consistent with current guidelines and contains minor errors that impact model accuracy, but the information has some value. • Modelling process is robust.

1.18 Is a 100-year flood event the worst flooding I could expect?

Modelling a 100-year flood event has historically been best practice for urban planning and development. However, more extreme events may also occur in any given year, during which properties may experience greater flooding, like deeper floodwaters, and properties outside of the 100-year flood extent may also become flooded. Floodviewer is a useful information portal, but we encourage property owners to remember it is possible that you might experience flooding worse than what Floodviewer shows, and have an emergency plan in place.

1.19 On what climate change assumptions are the flood models based?

Each flood model used to produce the information shown on Floodviewer is based on climate change assumptions. There are different climate change assumptions because the flood models have been developed at different times and the understanding of climate change and its effects on flooding, and the recommended approach to modelling these effects, have changed over time.

1. No allowance for climate change. (This applies to the WRC 100-year Waikato River Flood model only).
2. Increase of 2.1 degrees Celsius average to 2090 relative to 1980 – 1999 (now superseded, new models do not use this).
3. Increase of 3.8 degrees Celsius average to the period 2101 – 2120 (RCP8.5) relative to 1986 – 2005.

This is explained further in the separate practice note available on hamilton.govt.nz/flood-mapping

1.20 How do I know which climate change assumption are used?

When you left click on a blue or green flooding layer in Floodviewer, a pop-up box will appear with information about that layer, including the climate change assumption that applies to it.

2. COMMISSIONING AND PUBLISHING FLOOD INFORMATION

2.1 Why does Council map flooding?

The Resource Management Act 1991 makes Council responsible for controlling any effects of the use, development or protection of land to avoid or mitigate natural hazards. Council also has responsibilities under the Building Act 1991 to administer which needs to respond to flood information. Furthermore, Council's Comprehensive Stormwater Discharge Consent requires Council to seek to avoid or minimise adverse flooding of land and property. Mapping flood hazards helps Council fulfil these requirements. This is explained further in the separate practice note available on hamilton.govt.nz/flood-mapping

2.2 Where does the flood information shown on Floodviewer come from?

Specialised computer flood modelling is used to produce the flood information shown in Floodviewer. The modelling and mapping is prepared and peer-reviewed by experts. This is explained further in the separate practice note available on hamilton.govt.nz/flood-mapping

2.3 When is flood information updated?

Flooding shown in Floodviewer is the best available information. Models will be created or updated from time to time. Updates may include changes to modelling methods, the inclusion of new infrastructure (e.g. new

pipes), new or updated inputs and assumptions (e.g. how much allowance is made for climate change), and changes to landforms (e.g. from earthworks that may change the way water flows).
This means flooding shown on properties may change. It is expected that updates will occur approximately every 5-10 years. If flood modelling work is under way to update mapping for a catchment then **Floodviewer** will indicate what catchment are under way, what is being updated, and the expected publication timeframe.

This is explained further in the separate practice note available on hamilton.govt.nz/flood-mapping

2.4 What can I do if I disagree with the flood maps?

There is a formal process to challenge flood mapping on your property, detailed in the separate practice note available on hamilton.govt.nz/flood-mapping

2.5 Will the flood hazard maps in the District Plan be updated?

Following our flood mapping and Floodviewer work that's well under way, the next step is to consider further changes to planning rules to help create more climate resilient communities and better manage flooding hazards.

The work is known as **Plan Change 14** and will look to remove out-dated flood hazard maps from the District Plan and introduce improved rules to manage flood hazards based on the most up-to-date information available on Floodviewer.

3. WHAT CAN BE DONE ABOUT FLOODING

3.1 Is the stormwater system inadequate?

Whenever stormwater runoff exceeds the drainage capacity of the stormwater network, ponding and/or overland flow is expected. It would be extremely expensive to provide a drainage network that avoids all ponding and overland flow. Council first set design levels of service for the stormwater network in Hamilton in the 1980s but has since amended them.

Since 2018, different design levels of service have applied to existing and new development. For existing development, Council plans to maintain the following levels of service for the stormwater system: 2-year event for residential, 5-year event for commercial, and 10-year event for industrial (page 123 of the 2021-2051 Infrastructure Strategy).

For new development, the Regional Infrastructure Technical Specifications (the RITS) requires new primary stormwater systems for residential, industrial and commercial areas to be designed for a 10-year rainfall event. Assessments of the secondary stormwater systems are required to consider the 100-year rainfall event with the primary system unavailable.

These stormwater systems may include (but are not limited to) wetlands, ponds, lakes, rain gardens, swales, filters, pipelines, inlet/outlet structures and soakage areas (RITS, updated May 2018, page 15).

3.2 What will Council do to fix the flooding or make sure it doesn't get worse?

Council will consider flood information when managing its assets and planning future stormwater network improvements. These improvements could include increasing culvert or stormwater pipeline sizes or constructing stormwater detention facilities. Council may also require developers to install on-lot stormwater devices in new developments. Decisions on the priority and timing of stormwater upgrades are made via Council's Annual Plan and 10-Year Plan processes.

3.3 What can I do to reduce the effects of flooding on my property?

We encourage you to seek professional advice (e.g. from a stormwater engineer) about ways you can reduce the risk of flood damage to your property. Reducing the risk of flooding on your property must not make the flooding of any other property worse.

3.4 What is freeboard?

Freeboard is the vertical distance between the modelled top level of flood water and the underside of a concrete floor slab, or the underside of a floor joist.

3.5 Why is freeboard required?

Minimum freeboard provides a safety factor to reduce the risk a building will be flooded in a 100-year event.

The freeboard allows for:

- the predicted flood level
- some uncertainty in the energy of flowing water (think of how water "breaks" or "climbs" up an obstacle placed in flowing water)
- waves created as water passes around or over obstacles
- the wake of people or vehicles moving through flood water.

The freeboard may also provide a margin of safety should the flood be greater than the 100-year event.

3.6 My property is on a hill or a long way from the river, how can it flood?

A rising river is not the only source of potential flooding, it can also be caused by a pipe network blockage or overloading. Most flood hazard areas result from rain flowing downhill overland, through channels, waterways and gullies, or ponding in localised depressions or low points.

4. TYPES OF FLOOD INFORMATION AND HOW TO ACCESS IT

4.1 What flood information is available for Hamilton?

Type of flood information	Description	How you can see or get the information
Earthworks Area	Significant earthworks have occurred that mean that the mapped flooding within this area is no longer reliable. The flooding may be remodelled in the future to update the flood information.	On Floodviewer
100-year Flood Hazard	This layer shows the flood hazard that is predicted to occur on average once in 100 years. This hazard has a 1% probability of occurring in any year. Any flood water shallower than 10cm is not shown because it is not considered a significant hazard. Flood hazards are shown as low, medium, or high.	• All available 100-year flood information (including that in the District Plan) is shown on Floodviewer. • Flood hazard mapping included in the District Plan can be viewed on the Features Map of the District Plan GIS Map Viewer – **click here**. This will be removed through Plan Change 14, the information is no longer current.
Detailed 100-year flood hazard data for individual properties	For each 2m x 2m area of a property the following information for a 100-year flood is available: 1. Flood hazard categories (low, medium and high) 2. Maximum flood depth 3. Maximum flood velocity 4. Design flood level. On request Council can supply these for areas where flood modelling has been completed.	These maps may be requested by: • Emailing info@hcc.govt.nz
100-year Flood Extent	This layer shows the full extent of flooding likely to occur on average once in 100 years. This flooding has a 1% probability of occurring in any year and includes flooding less than 10cm deep. Currently this information is only available for parts of the city.	On Floodviewer
100-year Waikato River Flood Area	This information is provided by Waikato Regional Council to show the extent of Waikato River flooding likely to occur on average once in 100 years. Only the depth of flood water is used to determine the flood hazard.	• On Floodviewer ; or • On the Waikato Regional Hazards Portal – **click here** – on the "River Flooding" tab – see "Waipa and Waikato 1% AEP flood extent"
Design flood levels for the Waikato River	The locations of surveyed cross-sections and their identification numbers and a form for requesting the design flood level at a cross-section.	On the Waikato Regional Hazards Portal – **click here** – on the "River flooding" tab
Karapiro dam break	The predicted extent and depth of flooding if Karapiro Dam were to break	On the Waikato Regional Hazards Portal– **click here** – on the "Karapiro dam break" tab
Drainage scheme boundaries	Waikato Regional Council's drainage scheme boundaries	On the Waikato Regional Hazards Portal– **click here** – on the "Flood management" tab
Temple View Flood Hazard Area	These areas are susceptible to flooding associated with small-scale farm dams and secondary flow paths that are part of the Waipa Flood Prevention Scheme. The extent of this hazard area is based on a 100-year event.	On the Features Map of the District Plan GIS Map Viewer – **click here**. This will be removed through Plan Change 14, the information is no longer current.
Culvert Block Flood Hazard Area	This applies upstream of significant culverts in the gully system. It represents the maximum effect of a culvert becoming blocked and water backing up the gully until it eventually flows over the accessway or road above the culvert.	On the Features Map of the District Plan GIS Map Viewer – **click here**. This will be removed through Plan Change 14, the information is no longer current.
Flood hazard maps included in the District Plan	Flood hazard mapping included in the District Plan will be removed through Plan Change 14, the information is no longer current. The boundary of the area modelled is shown as a dashed line labelled "Flood Hazard Subcatchment Boundary" on the District Plan planning maps.	• On Floodviewer • On the Features Map on the left-hand side of the District Plan GIS Map Viewer – **click here**. This will be removed through Plan Change 14, the information is no longer current. • Detailed flood hazard maps for individual lots showing the design flood level and maximum flood depth and velocity on each 2m by 2m grid are available on request from the Council: phone 07 838 6699 or email **info@hcc.govt.nz**.
Ground contours from LIDAR data	LiDAR stands for "Light Detection and Ranging". It is an aerial surveying method that measures distance to the ground by illuminating the ground with laser light and measuring the reflected light with a sensor. LiDAR works in a similar way to radar and sonar, but uses light waves from a laser, instead of radio or sound waves. LiDAR data is used to create ground surface maps, such as contour maps, and digital terrain models that are used for flood modelling.	• On Floodviewer • The ground contour data is available from the Council on request. A time-based charge may apply. Email your request to: **info@hcc.govt.nz**.

Access to data is explained further in the separate practice note available on hamilton.govt.nz/flood-mapping

4.2 Why is flood modelling only available for parts of the city?

Most of the city has detailed hazard mapping. Council prioritised the catchments for modelling. Those catchments that initial screening indicated had the highest number of flood-affected properties were modelled first. Catchments proposed for large scale development were the next priority.

4.3 Will Council do flood modelling for the rest of the city?

Yes, Council continues to model flooding for the rest of the city as part of its ongoing Integrated Catchment Management Plan programme. Currently 97% of the city has detailed flood hazard mapping, while Overland flow path and depression areas are available for the whole city.

4.4 What flood hazard area, if any, applies to my property – high, medium or low?

Different coloured shading overlying your property on Floodviewer will indicate any flood hazard area on the property. The legend on Floodviewer explains what each colour means.

5. OVERLAND FLOW PATHS (OLFPS)

5.1 What is an OLFP?

OLFPs are a type of flood mapping tool. They predict the flowpath of water over the ground when the stormwater network is overloaded/ pipes become blocked, capacity is exceeded or where there is no pipe network.
Historically, development has relied on a piped network for stormwater management. Little consideration was given to what might happen if the piped network was exceeded or inlets became blocked.
This is explained further in the separate practice note available on hamilton.govt.nz/flood-mapping

5.2 Why is the OLFP data shown as a line?

The OLFPs are simply the predicted flowpath of water over the ground. They do not represent a specific flood event (i.e. it's not a one in 100 year event). They are the centreline of the predicted OLFP and do not show the potential width of the OLFP, which could be much wider than what is represented.

5.3 Why is there an OLFP line through my building?

The OLFPs have been mapped based on ground levels captured using LiDAR (light detection and ranging data). The ground level data removes the effect of buildings so the OLFPs do not consider the possibility that buildings may divert the overland flow. However, most buildings usually do not completely divert overland flows as they would likely re-join the mapped OLFP further downstream.

5.4 What would I use this data for?

This information indicates where water might flow or pond in a flood event. This information should be considered when developing property.

5.5 What does major, moderate, minor OLFP mean?

OLFPs are categorised by the size of the upstream catchment area contributing (i.e. flowing) to that particular length of OLFP.

There are technical reasons for the sizes of these catchment areas, but Council has also chosen to use the same definitions used in other parts of New Zealand, such as Auckland and Taranaki, so we are consistent with our neighbouring regions.

Categories	Contributing catchment area
Minor	2000 m2 – 4000 m2
Moderate	4000 m2 – 30,000 m2
Major	Larger than 30,000 m2

6. FLOOD DEPRESSION AREAS

6.1 What is a flood depression area?

A flood depression area is an area that has the potential to 'fill up' with stormwater if the stormwater pipes, or culverts are blocked.
They are typically created through manmade features (e.g. roads) that can inadvertently act as a dam and stop stormwater from flowing, but they can also be caused by the natural topographical features of Hamilton (e.g. hills and valleys).
This is explained further in the separate practice note available on hamilton.govt.nz/flood-mapping

6.2 Why do they matter?

The information allows for better readiness and understanding of extreme events, such as those the Auckland and Hawkes Bay regions experienced in 2023. This information can help property owners consider where flood water may pond.
This is particularly important if you're planning changes to your property including big changes, like building a house or basement garage, or small changes such as a raised garden, a shed, or a playhouse. It also helps inform development and consenting, and allows us to appropriately plan and maintain the stormwater network and mitigate or reduce flood risk in these areas.

6.3 Why is Council's stormwater infrastructure important?

We manage stormwater through a network of pits, pipes, culverts, open drains, and streams. This network carries water away from roads and properties but it doesn't have unlimited capacity. Once exceeded, stormwater may flow on roads or within properties, and will pond in some locations.

6.4 What happens when our pipes and culverts block?

Water will flow downhill. Our roads will generally form a path to take floodwaters away via culverts and pipes, and there's also flowpaths across land (including private property). If our pipes become blocked, flooding can get worse and water can pond in 'depression areas' which rely on these pipes to take the water away.

6.5 Why does the risk of blockage increase during heavy rain?

Pipes and culverts can be blocked by debris carried by floodwaters. Smaller debris may also accumulate around partial blockages. Debris can include rubbish, leaves and branches, or anything that can be carried by flowing water. In very heavy rain events this can include things like mattresses, outdoor furniture, caravans and even cars. Some of these may end up in our streams or streets and block our pipes and culverts.

6.6 Why can flood depression area be bigger than flood extents?

Culverts and pipes take water away and are needed to drain Hamilton. The flood extents assume the pipes and culverts are functioning and conveying water away, whereas the depression areas represent the ponding area in a flood event if pipes and culverts are blocked. When blocked, they can't take water away and water can be trapped behind man-made features such as walls, earthworked areas (e.g. bunds) or roads.

6.7 What would I use flood depression information for?

This information shows areas around Hamilton where water might fill up if the stormwater system reaches, or exceeds, capacity. This information should be considered when developing property or applying for a building consent. The information also allows better readiness and understanding of extreme events, such as those the Auckland and Hawkes Bay regions experienced in 2023.

6.8 Why do we think it's important to share this information with our community?

The more information we have, and can share with our community, the better prepared we all are to plan ahead and protect our properties and families.
There is a lot of uncertainty when it comes to blockages. We don't know if and when they may occur, but we know they can happen and they were a significant contributor to the 2023 Auckland Anniversary Weekend flooding events. When they do happen, the flooding can be severe. They can also occur fast, leaving little time to evacuate as water level rises.

6.9 How do 'mRL' and 'Contour' show my flood levels?

Floodviewer shows a lot of data at an individual property level. Modelled flooding is shown by mRL (Reduced Level, in metres). Reduced Level means the height from a specific data point which provides consistency for flood mapping. Contour is the height of the ground from that same data point. Ground levels can change either through natural movement or man-made earthworks and can be quite different across sloping sections or hilly properties. To work out the relative flooding in a particular event, just subtract the height of the flooding from the height of the ground. For example, a property with a mRL of 34.33 and a Contour of 34 will have .33m (33cm) of floodwater in that modelled event. If the neighbouring property has the same flooding but a contour of 33, (that part of the section may slope toward a gully) it will have 1.33m of flooding at that point in the same event. If you want more detail on your individual property, contact **info@hcc.govt.nz**