BEFORE THE INDEPENDENT HEARING COMMISSIONERS
FOR GISBORNE DISTRICT COUNCIL

IN THE MATTER: of the Resource Management Act 1991

AND

IN THE MATTER: of applications by Gisborne District Council for resource consents associated with wastewater overflows

---

STATEMENT OF EVIDENCE OF WOLFGANG ADRIAN KANZ – DRAINWISE PROGRAMME AND CONSULTATION WITH TANGATA WHENUA

25 June 2021

CooneyLeesMorgan

247 Cameron Road
P O Box 143
TAURANGA
Telephone: (07) 578 2099
Facsimile: (07) 578 1433
Partner: M H Hill
Senior Associate: R C Zame

INTRODUCTION

Qualifications and experience

1. My full name is Wolfgang (Wolf) Adrian Kanz. I am employed by the Gisborne District Council (**GDC** or **Council**) as 4 Waters Strategy Advisor. I have held this position for two years. Prior to this role, I was employed by GDC as Storm and Waste Water Team Leader.

2. I have a Master of Science from the University of KwaZulu-Natal, South Africa.

3. I have recently decided to leave GDC and take up a position as an independent consultant, practising as a freshwater and water utilities specialist. However, I remain on contract to GDC to continue my role as project manager for the Overflows Consents Project (**Project**). As such, I am authorised to provide this evidence on behalf of GDC.

Background to involvement in Wastewater Consents Project

4. In my role as 4 Waters Strategy Advisor, I am responsible for managing the DrainWise programme, including capital and operational aspects, and working with various GDC Water Utilities staff in the stormwater and wastewater teams.

5. I have been involved in a number of Council's projects relating to 4 Waters[1], including the wastewater treatment plant (**WWTP**) upgrade, stormwater network upgrades and extensions, watercourse assessments, and inflow and infiltration (the DrainWise programme). In addition, I was the project lead in relation to consideration of alternative use and disposal (**AUD**) options for treated wastewater from the WWTP. This is intended to include the construction of wastewater wetlands (as additional wastewater treatment after the WWTP), which is currently being consulted on through the 2021-2031 Long Term Plan (**LTP**) process.

6. I have also been involved in a number of projects undertaking further investigations into issues raised through the Wastewater Management Committee (**WMC**)[2] or the KIWA Group (a tangata whenua technical reference group), including issues of sensitivity to Māori such as the removal of mortuary waste from the wastewater system.

[1] Being wastewater, stormwater, drinking water and land drainage
[2] The role and functions of the WMC are described further in the evidence of Mr Dave Wilson for GDC

7. I have been the project lead on the Project along with Mr Neville West.

Purpose and scope of my evidence

8. Evidence is to be given by two other GDC staff members- Neville West and David Wilson. Mr Wilson's evidence relates to GDC's strategic objectives; issues relating to governance of the Project; and financial implications of the Project (including GDC's funding processes). Mr West will deal with capital and operational matters, including planning for the stormwater and wastewater networks, the operation and maintenance of these networks, and technical issues.

9. The purpose of my evidence is to provide an overview of the DrainWise work programme, which is a key component of the current Application; consultation undertaken by the Applicant in relation to cultural matters; and detail on updates to the WWOs monitoring and notification protocols and other matters arising out of submissions.

10. Specifically, in my evidence I will address:

Part A: DrainWise Implementation

(a) Provide an overview of the DrainWise work programme and how it fits within the context of this Application;

(b) Provide a summary of the implementation of the programme;

(c) Outline Council's response to addressing issues of work required on private property;

(d) Address some of the operational and infrastructure measures that have been taken to resolve or address concerns raised by submitters.

Part B: Consultation with Tangata Whenua, including the KIWA Group

(e) Outline Council's consultation process specifically in respect of tangata whenua, including engagement with the KIWA Group;

Part C: Council Actions as a Result of Engagement and Submissions

(f) Progress on actions arising as a result of engagement processes and submissions received.

PART A: DRAINWISE IMPLEMENTATION

Overview of DrainWise Programme

11. Prior to the wastewater modelling undertaken between 2014 and 2016, Council's work on inflow and infiltration (**I&I**) focussed primarily on ensuring the public stormwater and wastewater networks were up to standard. These improvements unfortunately did not resolve the wastewater overflows to the level required.

12. Property inspections between 2010 and 2016 highlighted the poor state of private stormwater and wastewater infrastructure, with downpipes into gully traps, on-property ponding, and non-compliant gully traps evident as significant contributors to the fast response inflow issue. As explained in the evidence of Mr West, approximately half of the wastewater network is located on private property (being connections from private dwellings to the stormwater and wastewater networks)[3].

13. In the context of this Application I note the evidence of Mr Garside and Mr West that wet weather overflows (**WWO**) are caused primarily by fast response inflow, as shown in wastewater modelling carried out between 2014 and 2016, and that reducing fast response inflow by 85% will enable Council to achieve the target of a wet weather overflow occurrence of no more than 50% probability in any given year. This has been a key determining factor in the actions and interventions included in the DrainWise programme. We have also considered network improvements should fast response inflow only be reduced to 75% or 65%.

14. Property inspection data from 2016 to 2020 re-affirms the poor state of private infrastructure; a summary of this data for inspections to March 2020 was included in the Application at Section 3.4.2, Table 8[4]. In simple terms, approximately half of all properties inspected have gully traps and roof spouting that have faults.

15. In 2016 Council established the DrainWise Plan, which prioritised actions required to reduce overflows. The clearly evident poor state of private infrastructure, in combination with the outputs of the wastewater model, set the direction of the DrainWise Plan. This changed the focus on to private property infrastructure and fast response inflow, but still included a plan for ongoing improvements in terms of reducing infiltration.

[3] The delineation of responsibilities is shown graphically in Figure 5 of the Application (p12)
[4] Application p41

16. It is important to note that the DrainWise programme is not just about controlling stormwater inflow, rather it addresses a number of other components as well, including improvements to the Council's network; maintaining network performance (including the maintenance programme), public education and awareness, and private wastewater laterals.

17. Figure 1 places into context the relative impact of the various sources of inflow and infiltration, which also reflects our priorities in the DrainWise programme and the work-plan shown in Appendix 1 (at paragraphs 52-53 below). The DrainWise programme is based on prioritising activities / actions that will have the greatest benefit in reducing wastewater overflows - our current focus (and work-plan) therefore addresses the high impact causes of rainwater ingress into the wastewater network (fast response inflow), followed by medium and low impact causes.

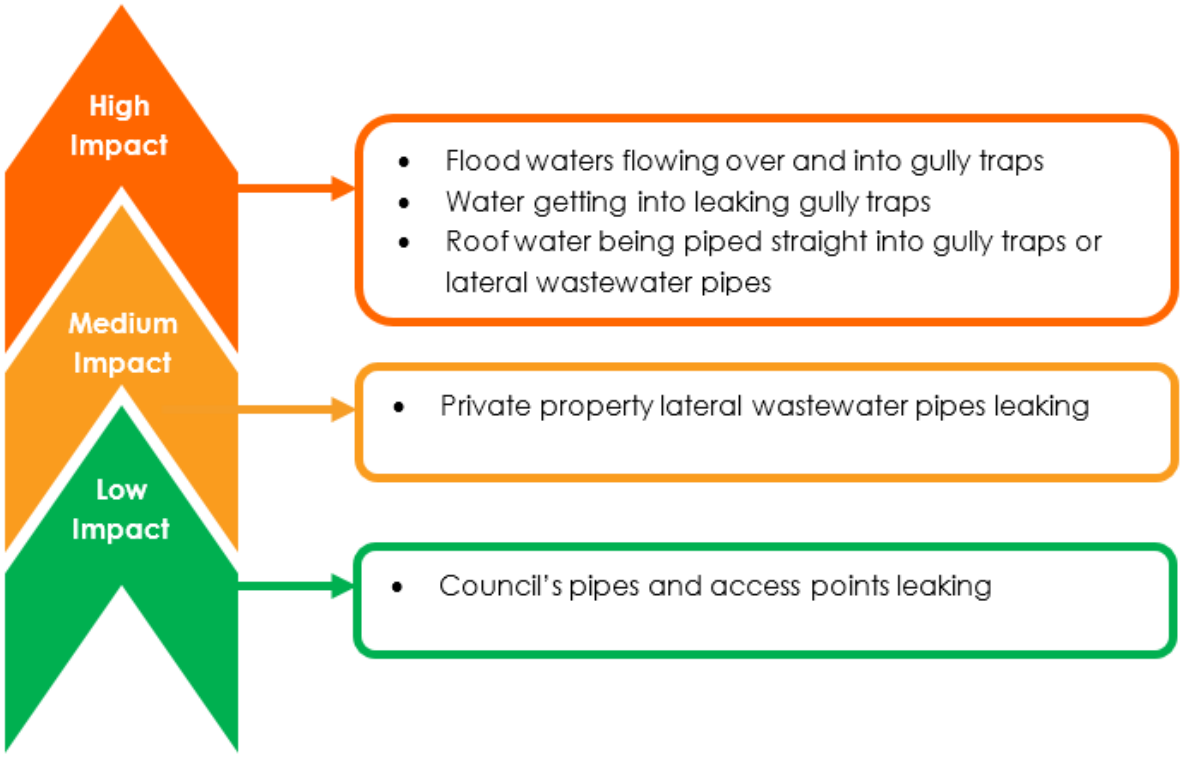

Figure 1 Prioritization of causes of rainwater ingress in the wastewater network required to be resolved through the DrainWise programme

18. The high impact sources all comprise fast response inflow. Low impact relates to infiltration. Private property lateral wastewater pipes leaking is mostly linked to infiltration, but can also contribute to fast response inflow because they are generally shallow pipes – hence being classified as medium impact.

19. Council's network leakage (infiltration) is considered low impact, for the following reasons:

    (a) In the absence of rainwater entering the public wastewater network from private property wastewater pipes, rainwater will generally enter public wastewater pipes only by infiltration; not fast response inflow. Infiltration is unlikely to be a key issue in priority areas of Kaiti and Whataupoko, due to public wastewater pipes being relatively deep and *in situ soils* mostly comprising low permeability soils such as clays.

    (b) Significant inflow into the public wastewater network is unlikely. This is because the public network is only connected to the land surface via sealed manholes which are predominantly in the road crown (centre) where ponding is unlikely to occur, and are spaced generally 40m to 80m apart. Council also inspects its manholes for damage to ensure they are not leaking.

    (c) In support of the DrainWise Programme, Council's asset management regime implements public asset inspection, maintenance and renewal programmes to ensure that the integrity and performance of the public network is maintained.

20. We have also applied a spatial lens in prioritising our DrainWise actions, focussing on Kaiti first, to be followed by Whataupoko, Elgin, and ultimately other parts of the city. This is based on outcomes from the wastewater model (Figure 2) which has indicated the catchments with highest level of I&I. This is confirmed when we have heavy rainfall, the pump stations are our first indication of network performance by showing increased flow due to longer pump run hours and/or two pump runs in excess of normal operations. This is supported with flow meters also reacting very quickly; Request for Service (complaints) from property owners further supports focus areas which indicate on-property flooding/ponding; overtopping of gully traps; which all lead to capacity issues in the wastewater network. As can be seen from Figure 2 below (wastewater model outputs), the suburbs of Kaiti, Whataupoko and Elgin are located in areas that are estimated as having 15% (of rainfall) or higher inflow of stormwater during a 2-year ARI event.

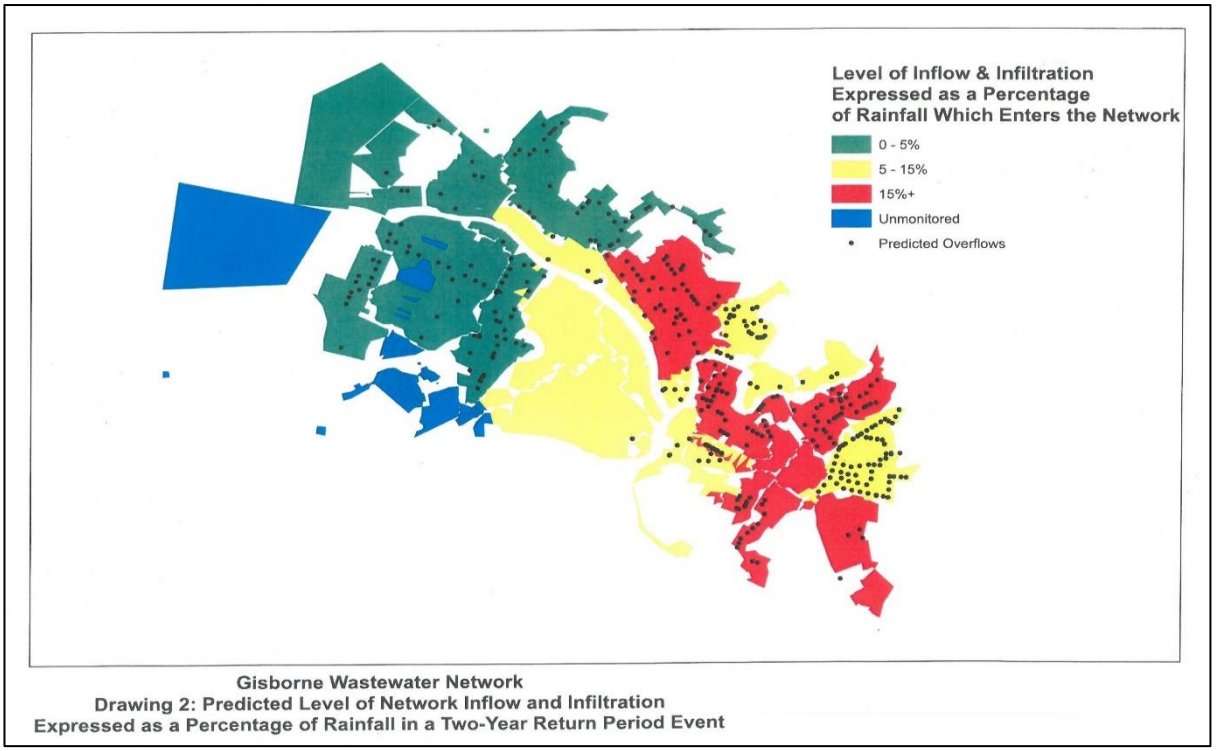

Figure 2 Level of Inflow and Infiltration (% of rainfall in a two-year return period event)

21. While Council has adopted a prioritised approach to achieve the target of a wet weather overflow occurrence of no more than 50% probability in any given year, the Council recognises that ultimately all components of I&I need to be managed over time, and over all parts of the city. The DrainWise programme therefore addresses both rapid response inflow (high impact in Figure 1), medium impact, as well as infiltration (low impact in Figure 1), albeit at different rates. I note that the Technical Review provided as part of the s42A Report[5] agrees that:

    (a) The modelling undertaken by GDC is robust and reliably represents the wet weather performance of the wastewater network;

    (b) That the flow monitoring shows the network is subject to significant direct inflow; and

    (c) Importantly, that DrainWise is an effective and appropriate method to work with the community to address issues of inflow from private property.

[5] Section 42A Report at [9.6]

DrainWise Programme Elements

22. The DrainWise programme is illustrated in Figure 3.

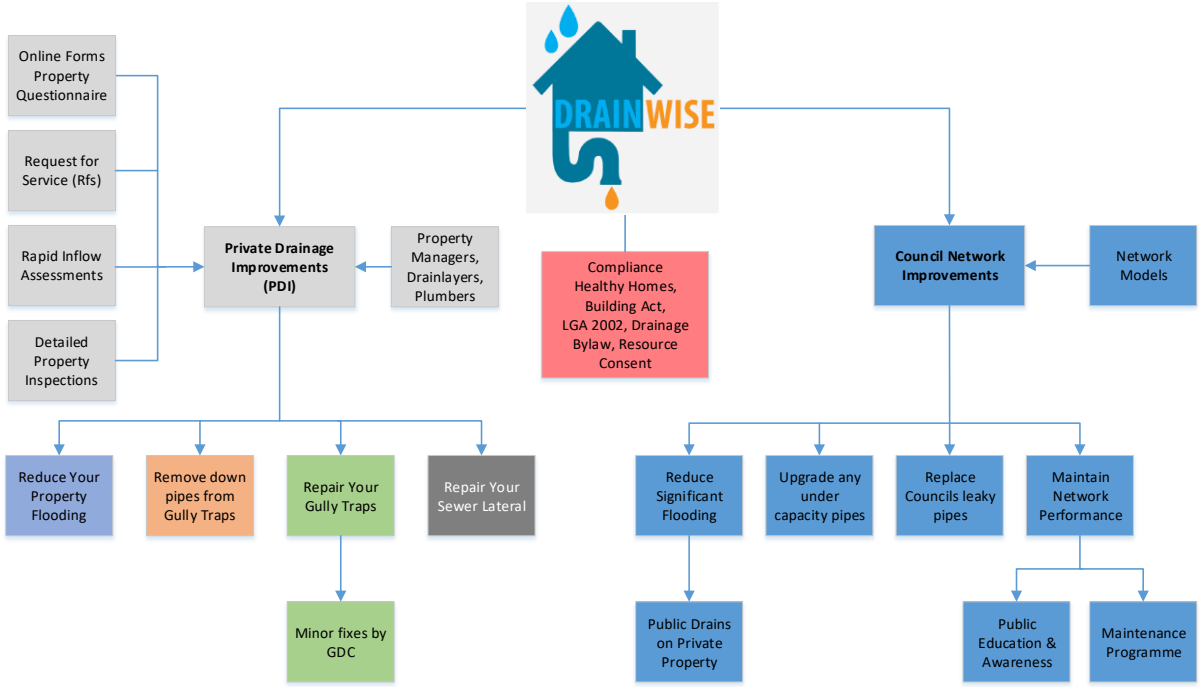

Figure 3 Schematic of DrainWise programme components

23. As shown in Figure 3, the DrainWise programme consists of a number of components. I provide an overview of each of these elements below.

Property Inspections and minor public-funded works

24. Given the necessary focus on private property stormwater inflow, DrainWise includes a site-by-site inspection of private property drainage. The aim of the inspection programme is to identify problem drainage and either address this on the spot (minor problems that are easily resolvable, funded through rates), or to record more significant drainage issues for follow-up (generally to be funded by the private property owner). The inspections also help identify where there is a need for public stormwater network extensions. Given the high stormwater inflows identified in the east and north-eastern areas of Gisborne, the initial focus has been on the Kaiti catchment, to be followed by Whataupoko, Elgin, and the rest of the city.

25. Property inspections include detailed inspections and rapid inflow assessments. The latter has been accorded priority, with the aim of reducing fast response inflow as

quickly as possible. Detailed inspections form part of the public pipes on private property work-stream. However, they are also carried out in response to identified problems that are brought to Council's attention – for example property questionnaires that are filled in through Council's website, or public 'Requests for Service', which are also able to be made on Council's website.

26. The inspection programme overall includes:

(a) Smoke testing;

(b) CCTV to assess private wastewater lateral condition;

(c) Gully trap inspections – water tightness and height;

(d) Terminal vents – water tightness;

(e) Identifying other sources of inflow e.g. cross-connections;

(f) Identifying significant ponding areas (and causes);

(g) Property questionnaires;

(h) Validation of any request for services; and

(i) Promoting education and awareness.

Compliance and enforcement

27. Council has determined that the majority of I&I originates from private property, for the following reasons:

(a) Private properties have multiple potential access points within close proximity of the land surface where rainwater can get into the wastewater system (gully traps, sewer laterals, terminal vents, and inspection points).

(b) These potential access points are all within relatively close proximity to each other, and can be in areas of on-property ponding.

(c) Private wastewater infrastructure is comparatively close to the ground surface.

(d) Inflow from private properties, as the key source of stormwater getting into the wastewater network, has been validated through property inspections where we have found more than half of gully traps are broken and potentially allowing

stormwater in, there has been reported overtopping of gully traps, and inspection points are often also leaky[6].

(e) We have also identified more than 50 private stormwater cross-connections with private wastewater infrastructure.

(f) Property owners do not generally inspect, maintain, renew, or upgrade their private wastewater infrastructure, unless there is a significant failure, generally a blockage.

(g) CCTV inspections of a private property wastewater pipelines have shown these to also be in poor condition.

(h) Smoke testing has revealed illegal stormwater-wastewater cross-connections, and leaking private wastewater laterals.

28. Property owners are responsible for their private stormwater and wastewater infrastructure. As outlined in the evidence of Mr West, over half of Gisborne's wastewater network is on private property and according responsibility lies with the individual property owner. Rainfall infiltration, either through cracked pipes, gully traps or illegal connections can overwhelm council's wastewater system during heavy rain events, leading to WWO. As such, ensuring that privately owned network issues are addressed is critical for Council. This is being carried out as outlined in the Infrastructure Improvements on Private Property Strategy (**IIOPPS**)[7], as described further below. The current focus is on compliance matters that result in rapid response inflow. Council is however also rolling out compliance and enforcement to address infiltration on private property, however at a slower rate (as this is a lower priority).

29. The IIOPPS was produced specifically to direct how Council undertakes compliance and enforcement. The strategy was endorsed by the GDC Asset and Infrastructure Committee on 13 June 2019 and adopted by Council on 27 June 2019. Council produced the IIOPPS specifically to address private infrastructure requirements; this strategy is consistent with the Ministry for the Environment's CME best practice guidelines[8].

[6] As shown in Table 8 provided with the Application, p41
[7] A copy of the IIOPPS was attached to the Application at Appendix B.
[8] Ministry for the Environment. 2018. Best Practice Guidelines for Compliance, Monitoring and Enforcement under the Resource Management Act 1991.

30. Essentially, IIOPPS recognises that only half of Council's network are the public pipes, with the remainder of the network being private drains and pipes owned by property owners. The strategy sets the direction for how Council works in partnership with property owners to make sure that private property drainage infrastructure is working properly and compliant with the relevant legislation. It is a strategy that is sympathetic to property owner affordability, while still ensuring there is a robust process to ensure required infrastructure upgrades are completed.

31. As such IIOPPS covers the process that will result in restoration of broken, illegally-plumbed or missing stormwater and wastewater infrastructure on private property in the Gisborne urban area. This includes the requirements when Council will:

    (a) Require property owners to fix drainage issues on their property;

    (b) Make public (Council-owned) infrastructure improvements on private property;

    (c) Assist homeowners with advice on fixing drainage issues for which they are responsible;

    (d) Escalate a case of non-compliance (i.e. obtain orders for notice to fix); and

    (e) Consider arrangements that will help make private property infrastructure improvements more affordable.

32. Key elements of the strategy include:

    - A 4E model (Engage, Educate, Enable and Enforce) considered the most effective way of achieving the highest levels of compliance with regulation;[9]
    - In line with a compassionate and people-centred approach, and financial hardship is taken into consideration;
    - A focus on the most important areas first; and
    - Assisting property owners through technical advice and information

    Council will assist property owners by making available a Council-managed process for their private infrastructure repairs / replacements, enabling compliance with IIOPPS.

[9] This approach is endorsed in the 2013 Productivity Commission report *Towards Better Local Regulation*

33. While IIOPPS applies to above and below ground private infrastructure issues (and Council's focus is on reducing rapid response inflow primarily related to above-ground ponding / flooding / illegal cross-connections), Council is also undertaking a process to ensure the condition of below ground private wastewater pipes is also addressed over time. Council's inspections of these underground private pipes has shown over half are unlikely to be watertight and therefore non-compliant. Underground infrastructure is expensive to fix, and Council will therefore roll-out this compliance and enforcement process over the full term of the consent (20 years) in line with community affordability. Council is currently working through how private property sewer lateral repairs / replacements will be implemented, how Council can provide support and at what rate action can be undertaken. This process will fall under the IIOPPS.

Public drains on private property

34. This component of the DrainWise programme comprises stormwater public network extensions into privately-owned land. These new public stormwater pipes are constructed in areas particularly prone to flooding as a result of runoff from the local catchment, and where private property drainage infrastructure is unlikely to resolve the issues experienced and the work is of public good. Flood prone areas are identified through stormwater models, GIS, surveys / questionnaires, and in response to Requests for Service.

35. These network extensions are equipped with grated sumps at ground level to intercept significant depressions and overland flow paths. This enables surface water to get into the public stormwater network, thereby preventing significant ponding that can lead to fast response inflow and infiltration over longer timeframes.

36. This approach future-proofs unresolved and unanticipated issues with private stormwater drainage; for example, should a private property not undertake private stormwater improvements, or should these fail, then private stormwater can still drain into the public stormwater network through the grated sumps. These sumps are accordingly located in low points within flood prone areas and service multiple properties or contributors.

Education and Awareness

37. Council's DrainWise education and awareness programme supports IIOPPS. It also focuses on aspects specifically related to DWOs, to reduce the likelihood of DWOs. The details of the education and awareness programme in 2019 were included in the Application. The programme includes the following:

- A website update;[10]
- 5 part mini-series;
- Good news stories;
- DrainWise Art Competition; and
- Community Events.

38. The 5 part mini-series focused on five separate key messages from the DrainWise programme, being:

(a) Only flush the 3 P's (paper; pee, poo);

(b) Stormwater and wastewater don't mix;

(c) Sinks aren't rubbish bins;

(d) Get to know your gully trap; and

(e) Healthy water, healthy community.

39. Each key message was woven together with scripted dialogue from members of the community using sharp, no-nonsense graphics and confronting messages, along with calls to action. Each message was accompanied with short (2-minute video), posters, double-sided flyers, and large billboards. Messaging was distributed via social media, Council's website, newspaper advertisements, mailbox drop, schools, and radio interviews.

[10] Council has a dedicated DrainWise section on its website https://www.gdc.govt.nz/council/major-projects/drainwise. As a major project for Council, the purpose is to provide transparency to Council's functions in this area, and provide an education based platform for members of the public.

40. This programme forms the basis of current education and awareness activities, and will be refreshed in 2021. The following are focus areas for 2021:

- A new video and billboard campaign on private wastewater lateral repairs;
- A greater focus on schools;
- Better partnering with community organisations, iwi, and hapū;
- Reinforcing an awareness of what causes DWOs, particularly wet wipes;
- Continuing social media campaigns focussed on gully traps and wet wipes, related to wet and dry weather overflows, respectively; and
- Website update (following overall Council website update).

Public network upgrades and renewals

41. As noted in paragraph 11 above, prior to 2016 Council focussed on ensuring the public stormwater and wastewater networks were up to standard. Council also has renewal and upgrade budgets in the LTP to ensure that public pipes are fit-for-purpose and in good working order going into the future. LTP matters are addressed in the evidence of Mr Wilson.

42. Council has applied an I&I 'lens' to this work, thereby focussing on areas experiencing the highest levels of stormwater ingress into wastewater pipes, and carrying out upgrades that will benefit the DrainWise programme.

43. Relatively recent upgrade examples include the Rutene Road stormwater, pump station storage and pumps, works in the Owen Road / Turenne Street area, completed wastewater improvements in Russell Street, Ormond Road, and Oak Street, and planned work in Rutene Road and Harris Street.

DRAINWISE IMPLEMENTATION

44. The DrainWise programme is made up of a number of elements, which are illustrated in Figure 3, and described in paragraphs 24 to 43. Progress on the DrainWise Programme is illustrated in Figures 4 to 10 below.

45. Figure 4 shows where Council has completed property inspections over the last five years, differentiating between detailed inspections, rapid inflow assessments, and properties inspected for the purpose of considering public stormwater network extensions.

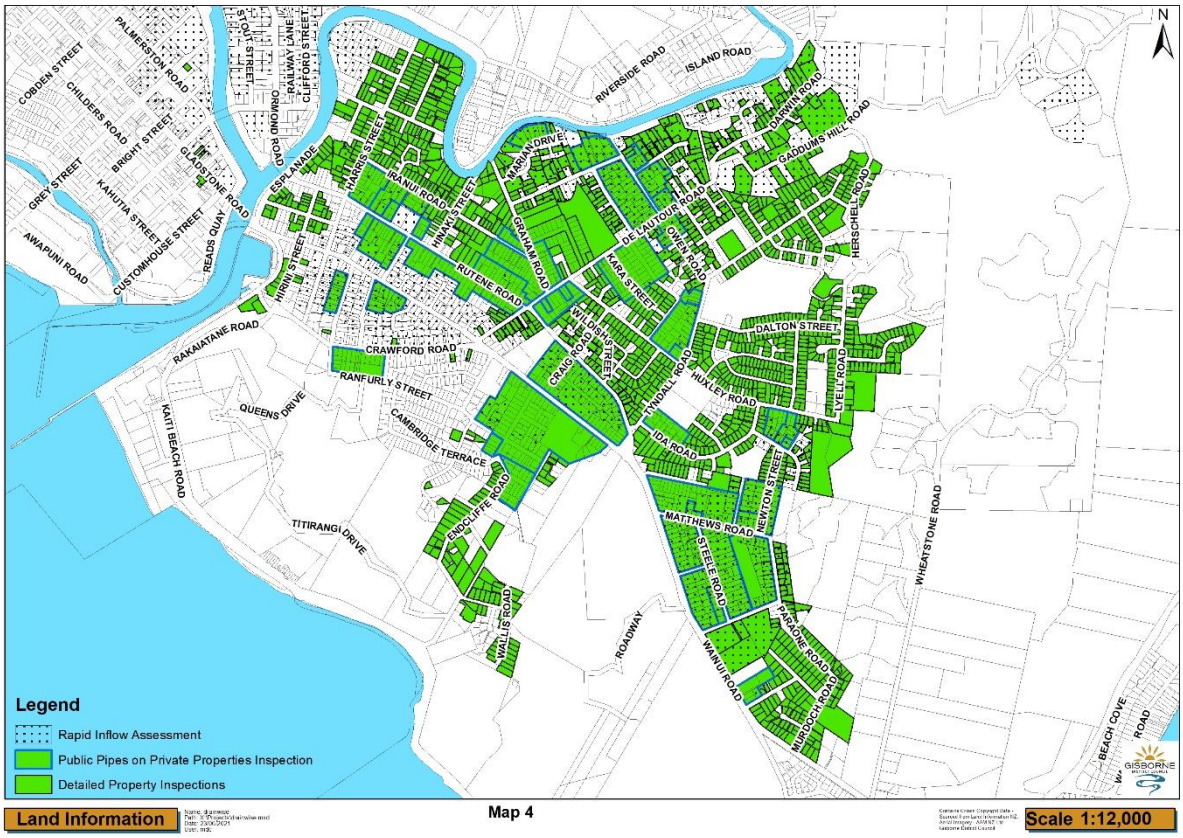

Figure 4 Map of detailed property inspections, Rapid Inflow Assessment inspections, and Public Pipes on Private Property inspections

46. Figure 5 provides further detail on public stormwater network extensions. It shows that the majority of areas identified as requiring assessment have been inspected, and it shows where new public stormwater network extensions have been constructed or are under construction. Areas shown as ‘Inspected’ did not require network extensions - not all assessments resulted in new infrastructure, as in some cases modelled ponding was not reflected in actual conditions. Areas shown as ‘Extensions Completed’ or ‘Extensions in Progress’ were also inspected initially, but these have led to network extensions. Council has constructed 28 public stormwater network extensions since 2017.

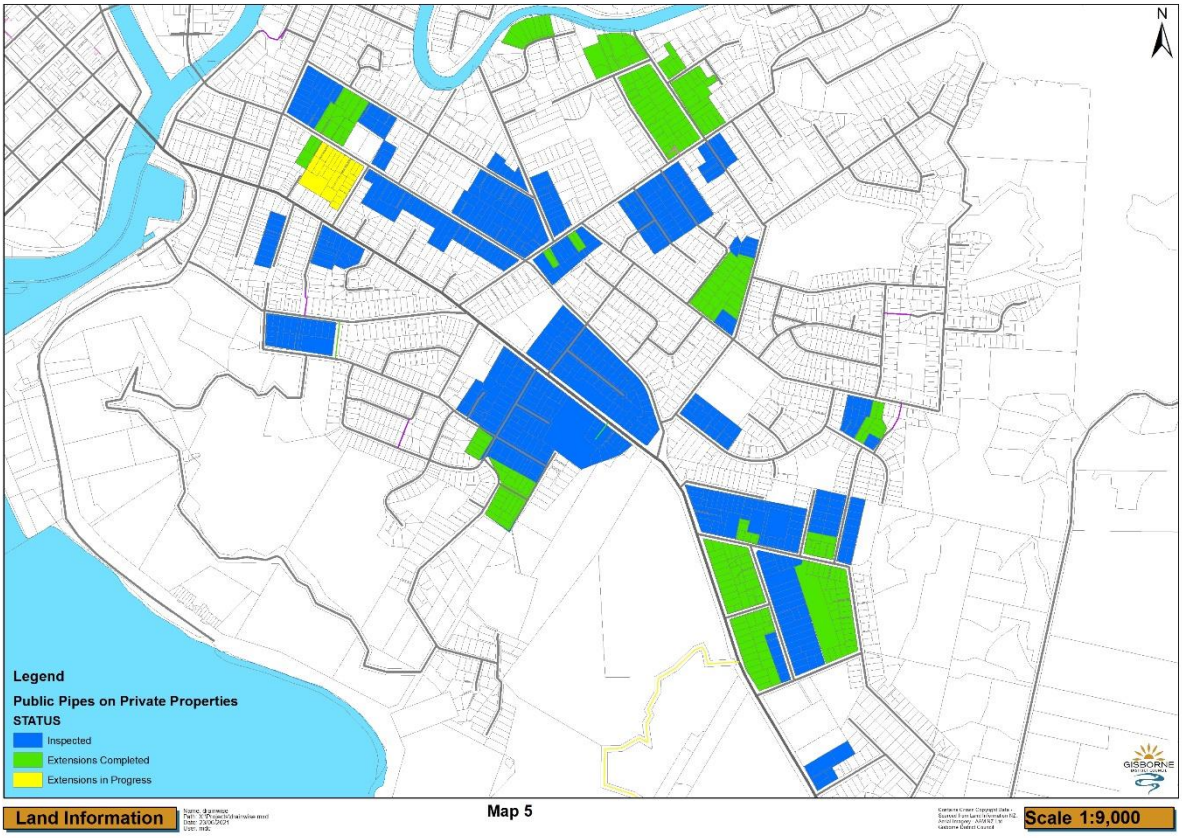

Figure 5 Kaiti map of Public Pipes on Private Property Inspections completed, still to be completed, and stormwater extensions either already implemented or currently under construction

47. While Kaiti remains our priority area, Council has started assessing modelled flood-prone areas in Whataupoko. Figure 6 shows the areas identified as requiring assessment as candidates for Public Pipes on Private Property projects, and areas already assessed. No new public stormwater network extensions have yet been constructed or are under construction. Council therefore has already undertaken the planning for the next priority area (Whataupoko), and will be undertaking the planning required for Elgin (and other parts of Gisborne).

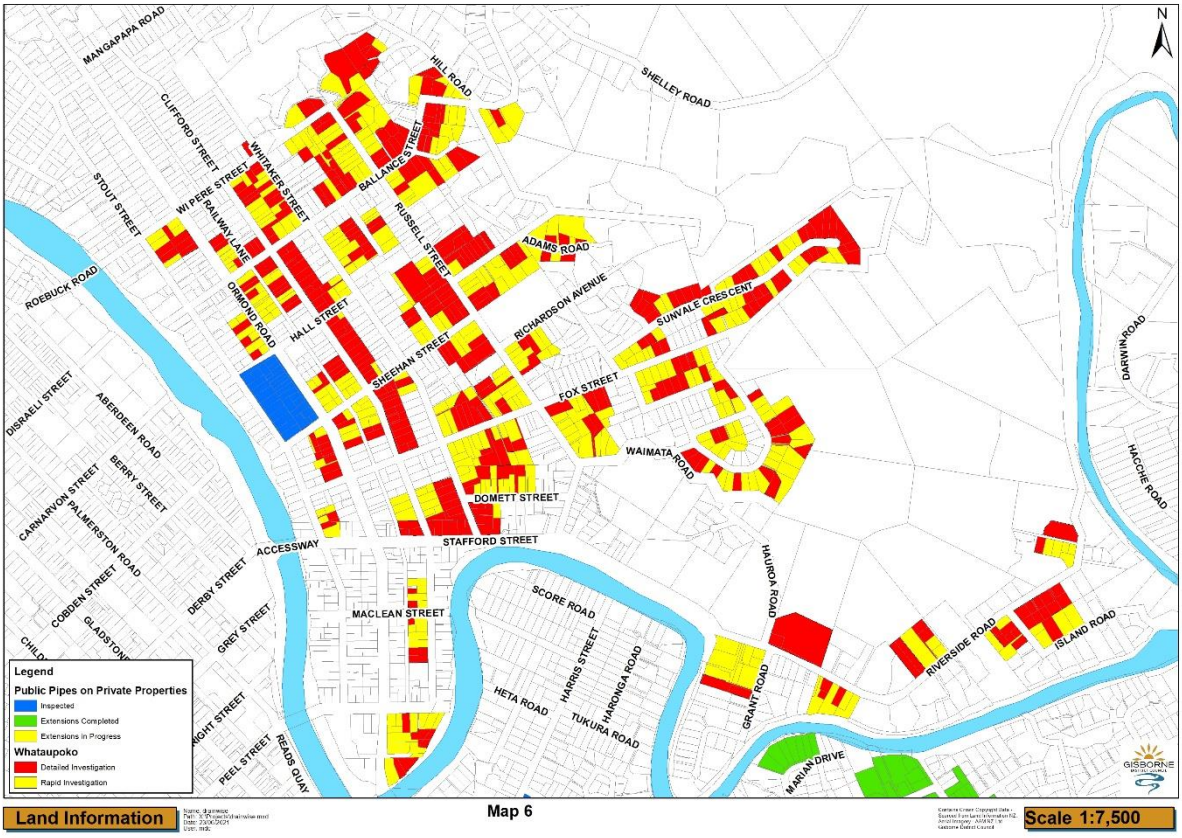

Figure 6 Whataupoko map of Public Pipes on Private Property inspections completed and to be undertaken

48. Figure 7 illustrates the extent of stormwater-wastewater direct cross-connections that the project team has identified. It also illustrates that the majority have been resolved (112 out of 114 / 98 %). Two have not been resolved; these are both complex and require the property owner to complete.

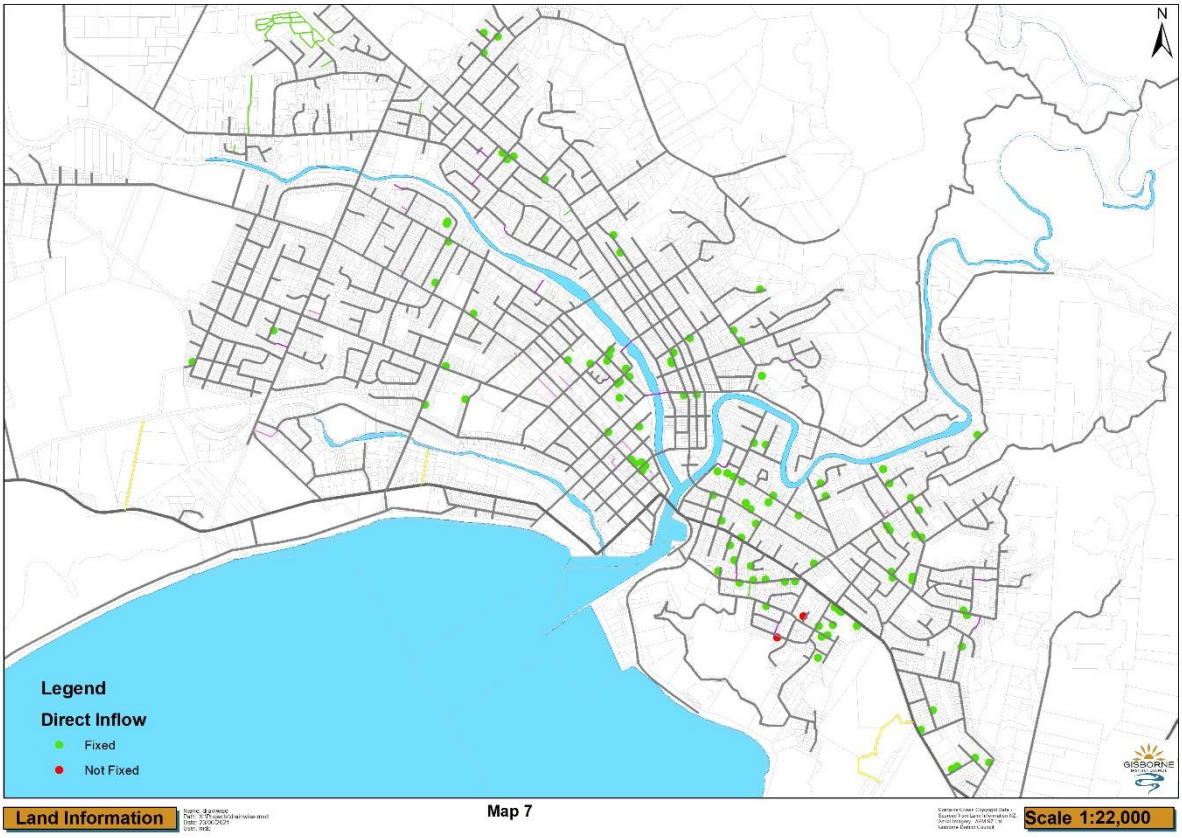

Figure 7 Map of stormwater-wastewater direct cross connections identified and status (fixed; still being fixed)

49. Smoke testing has been carried out on large parts of Kaiti, as illustrated in Figure 8. This has been used extensively to find illegal and unintentional stormwater-wastewater cross-connections, and identify non-compliant private infrastructure (such as leaking pipes, gully traps, joints, and inspection points).

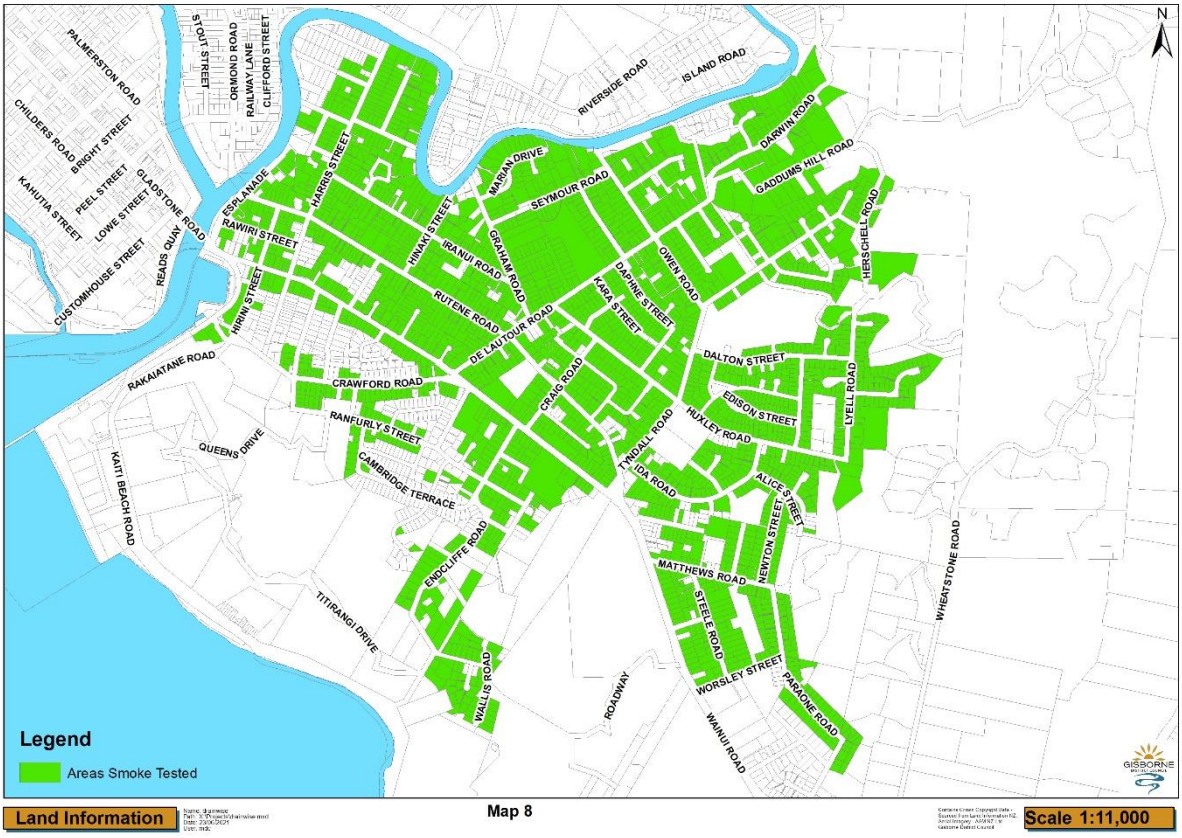

Figure 8 Map of areas in Kaiti that have been smoke tested

50. As evident from Figures 4 to 8, Council has focussed investigations and works on the Kaiti area, which is Council's top priority catchment.

51. Council has undertaken planning to identify priority areas for targeting private wastewater lateral investigations. These will lead on to private infrastructure renewals, which will address I&I issues in the areas most likely to be contributing to rainwater ingress into the wastewater system. Priority areas have been identified by looking at the likely age of private wastewater laterals (Figure 9) and ponding likelihood (Figure 10). The latter is a GIS layer developed using Rain-on-Grid, predicted flooding from the stormwater model, and depressions. These maps will be used together to prioritise these wastewater lateral investigations.

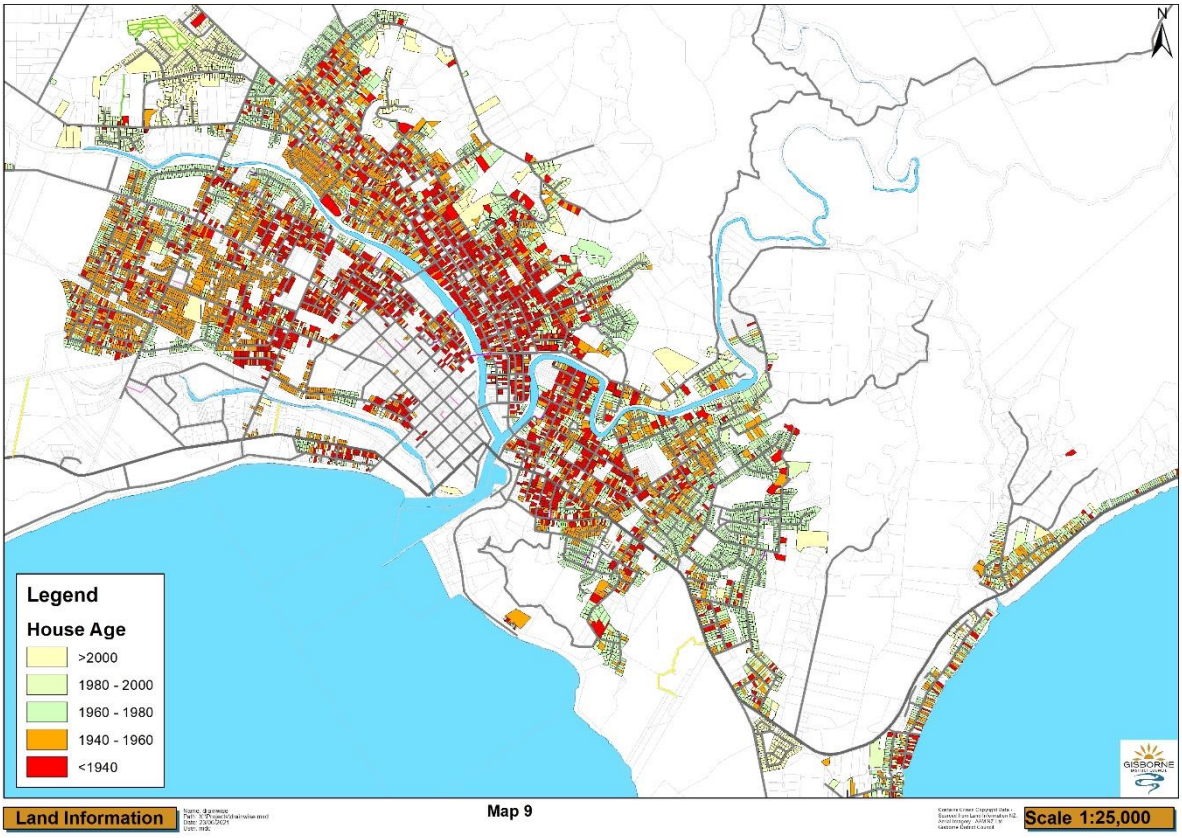

Figure 9 House age bands

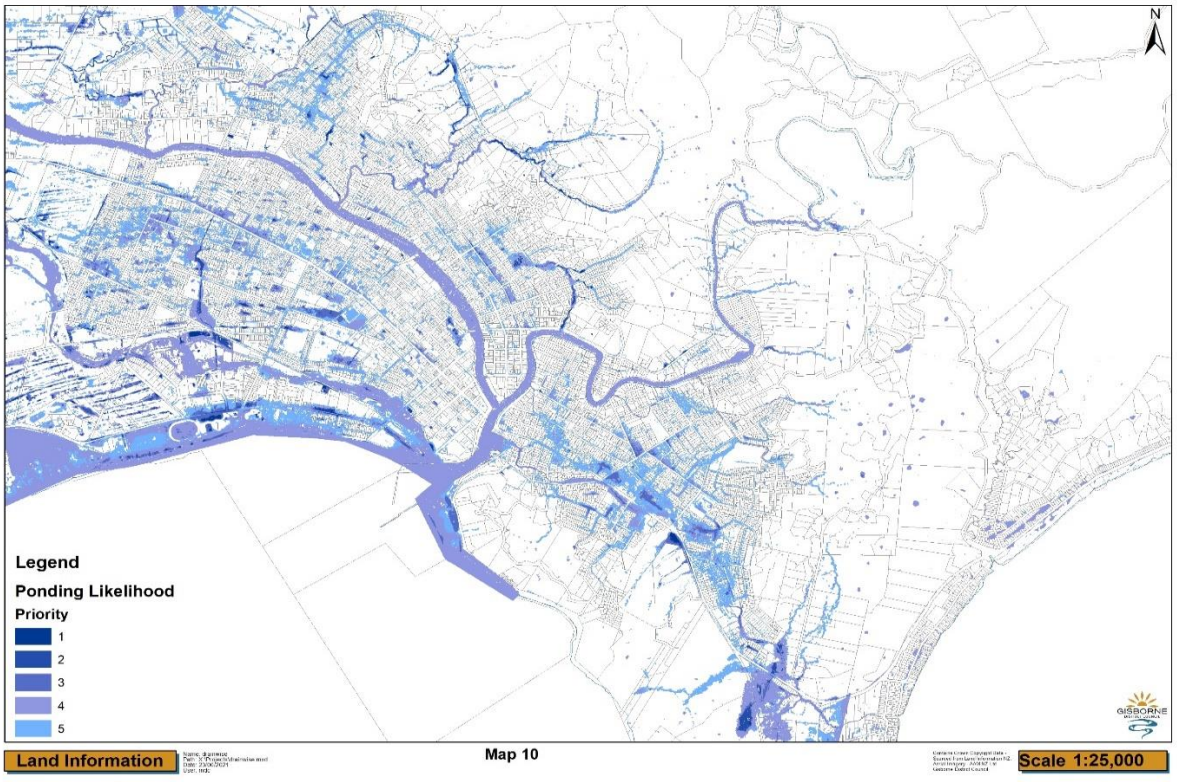

Figure 10 Ponding Likelihood

52. Appendix 1 illustrates Council's implementation timeline. This illustrates the focus on fast response inflow over the first ten years of the consent (if granted). It also shows how Council will stage work on private wastewater laterals (inflow), sequencing this in a prioritised manner based on risk and community affordability.

53. GDC's work-plan (illustrated in Appendix 1) is based on the DrainWise Plan, as a first step addressing the high impact causes of rainwater ingress into the wastewater network (fast response inflow), followed by medium and low impact causes (in line with the graphic in Figure 1). This is reflected in the scheduling of activities in Appendix 1 with work tasks that address fast response inflow completed in the first ten years of the DrainWise programme.

54. The target of the Application is for a wet weather overflow occurrence of no more than 50% probability in any given year, within the first ten years of the resource consent. As informed through modelling, the objective is to achieve an 85% reduction of direct inflow (fast response) in combination with minor public network upgrades.

55. Additional modelling scenarios were undertaken for lesser (75% and 65%) reductions in inflow were achieved. These matters are set out further in the evidence of Mr Garside. These scenarios identified additional public network upgrades that would enable Council to achieve the target of no wet weather overflows in events up to and including a 50% AEP event, however at an increasing network upgrade cost. There are therefore 'fall back' positions and practical solutions should the aim of 85% reduction in inflow not be achieved in practice. This is further explained in the evidence of Mr Garside.

56. This provides a pathway for Council to consider implementation of additional public wastewater network upgrades should an 85% reduction not be achieved, with these upgrades to be included in the LTP. These additional likely upgrade requirements have already been identified, as shown in Figure 11 below.

57. Importantly, the 85%, 75% and 65% reduction in water ingress into the wastewater network is based solely on reducing fast response inflow. While this may be adequate to address fast response inflow (which is required to meet the overflow reduction target), Council is also addressing the medium and low impact causes of rainwater ingress into the wastewater network, which adds a level of confidence to anticipated outcome (no wet weather overflows in events up to and including a 50% AEP event).

The medium and low impact causes are also being addressed in a prioritised manner, considering risk and location.

Gisborne Wastewater Network
Figure C2: Upgrades Required to Remove Flooding During 2-Yr ARI Event with 75% of Fast Response and Property Ponding Removed

Gisborne Wastewater Network
Figure C3: Upgrades Required to Remove Flooding During 2-Yr ARI Event with 65% of Fast Response and Property Ponding Removed

Figure 11 Wastewater network upgrades required in the event of a 75% or 65% reduction in fast response inflow

PART B: TANGATA WHENUA ENGAGEMENT, INCLUDING ENGAGEMENT WITH THE KIWA GROUP

58. Council has been particularly mindful of the need to meaningfully engage with tangata whenua in relation to this Application. This has included tangata whenua engagement prior to lodging the consent. This was undertaken through the KIWA Group (**KIWA Group**), a technical advisory group which reports to Council's Wastewater Management Committee (**WMC**). The KIWA Group was established in 2015 as a consequence of the resource consents for the WWTP, to work on aspects of the Tūranganui a Kiwa Water Quality Enhancement Project, specifically to improve the mauri of the Bay. I have been involved with the KIWA Group since March 2020.

59. Through this engagement process the group included representatives from Te Runanga o Turanganui a Kiwa (**TROTAK**), Te Aitanga-a-Mahaki, Ngai Tamanuhiri, Te Whanau-a-Kai, Nga Ariki Kaiputahi, Rongowhakaata, Ngati Oneone (hapū of Ngati Porou), and GDC. While the group ordinarily only comprises five representatives, for this engagement the group was expanded to include Te Whanau-a-Kai and Nga Ariki

Kaiputahi, with two representatives per iwi / hapū (as opposed to the usual single representative per iwi / hapū).

60. An intensive engagement process was followed, with the intention of working together with relevant iwi and hapū to enable accurate and comprehensive assessment and reporting on the effects of wastewater overflows on tangata whenua. Multiple hui and wānanga were held, with western science and mātauranga Māori input shared within the group. There was a high level of engagement by tangata whenua in the KIWA Group, with the issue of wastewater overflows of significant concern to tangata whenua.

61. This engagement was a technical engagement as experts in mātauranga Māori, mauri, and tikanga, with the work reflecting those aspects. It was emphasised that contributions by iwi and hapū representatives in the group work would not impact on any group's ability to be involved in the formal consent process once that started (i.e. they would be free to submit in support, opposition or neutral basis once the Application was publicly notified). Consent notification in accordance with statutory requirements provided further opportunities for Tangata Whenua input. Furthermore, KIWA Group members considered that the report reflected engagement to date and that wastewater engagement must be an ongoing process.

62. The wastewater overflows effects were summarised by the KIWA Group as follows:

    (a) The practice of allowing wastewater overflows is unacceptable to tangata whenua as it affects them deeply spiritually, socially, and culturally.

    (b) The wastewater overflows have a significant negative effect on tangata whenua, in terms of cultural identity, mauri, tikanga, wairua, kaitaikitanga, the practice of customary rights and protocols, and substantially diminishing or making it impossible to practice some fundamental elements of Māori society and culture.

    (c) Human wastewater, particularly containing mortuary wastewater, mixing with natural water is extreme tapu for tangata whenua.

    (d) Tangata whenua consider that they have not been able to exercise their role as kaitaiki in terms of the wastewater overflows into the city's rivers.

    (e) While the reduction in wastewater overflows proposed by Council will improve the above and this is considered a positive step, tangata whenua will continue

to object to wastewater overflows and seek to work together with Council with the objective of eliminating overflows.

63. The KIWA Group provided the following key recommendations:

(a) Tangata Whenua need to be engaged on an ongoing basis moving forward, in a meaningful, authentic, and practical manner; this engagement reports reflects the Tangata Whenua the position at a point in time, and systems need to be put in place to ensure changes over time are addressed.

(b) All possible avenues must be explored to bring forward the DrainWise Implementation Programme, including seeking alternate sources of funding and approaching the Trust Tairāwhiti (formerly the Eastland Community Trust), and involving Tangata Whenua in those discussions.

(c) Tangata Whenua should be provided with opportunities to work alongside Council to resolve these issues.

(d) Monitoring related to wastewater overflows should be reviewed to include cultural elements, and make the monitoring relevant to kaihoe waka, shellfish gathering, and other Māori resource-use practices.

(e) Current public health monitoring procedures and locations should be reviewed to make sure they adequately capture health risks.

(f) Management protocols related to dry and wet weather overflows should be reviewed by the KIWA Group, integrating tikanga aspects such as the placement of rahui and other processes.

(g) Tangata Whenua need to be kept informed on the DrainWise Implementation Programme, and be given opportunities to input.

(h) Projects to improve mauri should be identified.

64. The KIWA Group provided their conclusions and recommendations to the WMC at their September 2020 meeting. These were supported by the WMC with direction to create a plan to ensure the recommendations are actioned. The KIWA Group subsequently produced a prioritised task list of work to be undertaken by the group, which is reported on as a standing item at WMC meetings. The KIWA Group has consequently worked on some of the recommendations, namely:

(a) Review of wet weather notification protocols (recommended changes adopted); and

(b) Review of rahui processes in response to wet weather overflows (ongoing).

65. Projects to improve the mauri of Gisborne's waterways were discussed by the KIWA Group, resulting in a watercourse assessment conducted on the Kopuawhakapata Stream and a Freshwater Improvement Fund application to the Ministry for the Environment which is underway.

66. The above work has been followed by work on mortuary wastewater, which has been the core KIWA Group work in recent months, and is almost complete. Recommendations from the overflow engagement report to be actioned next are:

(a) Review of dry weather overflow protocols;

(b) Review of monitoring (cultural and health) related to wastewater overflows; and

(c) Review of the DrainWise programme.

67. Key recommendations from the KIWA Group were that tangata whenua need to be engaged on an ongoing basis moving forward, in a meaningful, authentic, and practical manner; and that they should be provided with opportunities to work alongside Council to resolve these issues. This is reflected in the proposed conditions of consent attached to the evidence of Mr Mayhew, which includes:

(a) The establishment of a Tangata Whenua Reference group to recognise the kaitiakitanga of Māori who have a kaitiaki relationship with the wai and provide a forum for discussing the cultural aspects and effects of the operation of the consent and input and advice on a range of matters;

(b) The collaborative development and implementation of a Tangata Whenua Cultural Monitoring Plan to report on the performance and effects of the wastewater network from a cultural perspective; and

(c) The provision of a report as part of Council's annual reporting, to enable Tangata Whenua to provide their own perspective on the implementation of the resource consent.

68. The Reporting Officer's s42A Report recognises and commends the Applicant and iwi and hapū for the constructive engagement that has occurred to enable an open dialogue and understanding of the challenges arising from the overflow discharges[11].

PART C: PROGRESS ON ACTIONS ARISING AS A RESULT OF ENGAGEMENT PROCESSES AND SUBMISSIONS RECEIVED

69. As a result of the engagement process and submissions received on the Application, Council has identified a number of additional actions, which are being implemented.

Amendments to WWO Notification Protocols

70. Firstly, the WWO notification protocol has been reviewed and updated, and will be applied in heavy rainfall events. This protocol includes a proactive approach when Council staff receive heavy rain warnings, with key potentially affected parties (such as iwi and hapū, waka ama clubs and surf lifesaving clubs) provided with advanced warnings that there is a heavy rainfall warning in place and that there is a possibility of an overflow event. The revised protocol also includes more parties to be notified directly, including private properties within close proximity of overflow locations, and schools.

Monitoring Protocols

71. Initial high-level discussions have been held regarding wet weather monitoring protocols, with key elements comprising a stronger focus on viruses and sediment testing, as well as reviewing where and when monitoring should take place. This work is on the KIWA Group task list.

Signage and Messaging

72. In recognition of potential shellfish consumption risks in city rivers, as a consequence of various sources of pollution including those unrelated to this Application e.g. agricultural and urban runoff, historical landfills etc., Council has started a process to provide permanent signage at specific locations, working together with Hauora Tairawhiti and the KIWA Group.

[11] Section 42A Report at [9.32]

73. The DrainWise education and awareness programme is being reviewed to include more messaging on issues such as fatbergs and wet wipes (materials flushed down toilets or poured down kitchen sinks e.g. fat, oil). Council staff are also exploring options to better work with schools, local organisations, sports clubs, and iwi and hapū. A role for the KIWA Group in the education and awareness space is also being considered. Council manages stormwater within a primary (piped) and secondary (overland flow path) network. Both components are managed with climate change in mind.

74. Regarding the primary network, climate change is integrated into the DrainWise programme. All new stormwater infrastructure, including upgrades and network extensions, are sized taking into account climate change. Future network capacity requirements and sea level rise are also considered in asset renewals. Council will therefore address climate change network capacity issues through its asset management plan. Regarding the secondary network, GDC has invested significantly in identifying overland flow paths across the city, and this work has also integrated climate change. Stormwater flood models informing the DrainWise programme also integrate climate change.

Seymour Road / Turenne Primary Overflow Point and Owen Stream

75. Concern was raised in submissions over potential wastewater discharges from a manhole on Seymour Road, which historically would travel along the berm of Seymour Road before it entered the Owen Stream, potentially posing a risk to pedestrians. This risk has been mitigated through improved telemetry of wastewater levels in the piped network, and addition of an overflow valve that directs overflows into the adjacent underground stormwater pipeline, preventing wastewater overflows out of the manhole.

76. A number of submitters expressed concern regarding the primary WWO discharge point into the Owen Stream, flowing through private properties and two schools. This area has been the subject of investigation and work for some time, and Council has over time been working through options to make this overflow point largely redundant (but being retained as a potential tertiary overflow point for extreme rainfall events) and its replacement with reinstatement of an existing overflow point to the Waimata River. Discharges into the much larger Waimata River would pose a significantly lower risk due to dilution and increased distance from potentially affected parties. The overflow would then also not be on to school or private property.

77. Council considers that it has significantly reduced the likelihood of wastewater overflows into the Owen Stream and that programmed upgrades and alterations to the network will achieve the above. This was communicated to submitters through the consent pre-hearing meeting, and through individual meetings where possible, with relative improvements welcomed. As discussed in the evidence of Mr Mayhew, the Applicant has proposed a condition on an *Augier* basis to provide for this work to be undertaken.

78. In addition, Council has initiated a process to better assess the ecological values of the Owen Stream. Freshwater specialists will be undertaking a watercourse assessment, which will provide information on freshwater values, will identify maintenance requirements in the stream, as well as potential improvement projects.

Kopuawhakapata Stream

79. Two sources of E.coli entering the Kopuawhakapata Stream were investigated (these having been identified through a watercourse assessment). One was a large diameter public stormwater pipe, and the other another structure in the banks of the stream.

80. In terms of the public stormwater pipe, GDC has carried out testing of E.coli within the public stormwater network, to identify at what point there is a wastewater cross-connection. We have identified a private wastewater lateral that is damaged and leaking wastewater into the public stormwater pipeline. Council has requested the homeowner to repair their private wastewater lateral. Once repaired, GDC will undertake further E.coli testing to ascertain if that repair has resolved that issue.

81. In terms of the other structure in the stream bank, closer inspection revealed that this was not a discharge structure, but rather debris lodged in the stream bank. Further tests revealed elevated E.coli both upstream and downstream, and the first high readings of E.coli at that point would likely have comprised background E.coli levels.

82. Council will continue with investigations on the Kopuawhakapata Stream, to identify sources of wastewater entering the stream. This may include groundwater testing as well as further faecal source tracking in the stormwater network.

Summary

83. The DrainWise programme is multi-faceted and comprehensive and is central to improved overflow performance. To be successful requires private property owner engagement and commitment to addressing their infrastructure repairs and

replacements. It provides for strategic and systematic inspection of all private property connections and identification and resolution of issues, based on priority areas and priority issues as identified above. It allows GDC to work with landowners and residents to programme works in a way that is affordable for this community. It also provides clear and consistent messaging and public education campaigns to enable people to understand the role and function of the wastewater and stormwater network, and the part they have to play in ensuring it operates as intended and that overflows are minimised as far as practicable.

84. The programme of improvements continues on from the substantial work Council has already undertaken to better understand, manage and reduce overflows.

85. Council is acutely aware of sensitive nature of the discharges to tangata whenua. It has carefully considered the KIWA Group recommendations and the issues raised in submissions and has tried to address those matters as far as it is able through the consent conditions.

86. Council has also responded to a number of the issues raised in submissions, as outlined above, including in relation to the primary overflow point at Turenne/Seymour, and has additional workstreams underway to address those issues.

Wolfgang Adrian Kanz

25 June 2021

Appendix 1 Overview of the DrainWise programme

Priority Area	Timeframe: Previous work (2015 - 2021)	Years 1 - 5 (2022 - 2027)	Years 6 - 10 (2027 - 2031)	Years 11 - 15 (2031 - 2036)	Years 16 - 20 (2036 - 2041)	Comments
Activity/Action:						
SW-WW Cross-connections	2018 - Ongoing					As identified through all of the above activities / actions All areas of Gisborne
Education and Awareness	2016 - Ongoing					Education and Awareness tasks will continue to be rolled out and reviewed in line with the overall programme
Sewer Main Renewals/Upgrades	Ongoing					Sewer mainupgrades will continue as planned through renewal upgrades programmes.
Priority Area 1 - Kaiti						
Activity/Actions:						
Detailed Inspections	2015 - 2020					Detailed inspections have been replaced with other activities to enable focus on fast response inflow, quicker progress, and ensuring data is current for IIOPPS processes
Smoke Testing	2015 - 2022					Entire catchment will be tested - will continue to smoke test areas not included in CCTV work-stream
Rapid Inflow Assessments		2020 - 2022		2030 - 2032		Entire catchment will be inspected
Public Pipes on Private Property Assessments		2018 - 2022				% is relative to properties that have been identified as requiring assessment – based on risk
Public Pipes on Private Property Implementation		2018 - 2023				As identified from the assessments.
Gully traps too low or leaking		2016 - 2022				All properties in catchment will be inspected through the above four actions
CCTV work-stream (incl. smoke testing at same time) **High/Medium Priority Properties**		2022 - 2025				Will investigate private wastewater laterals on all high and medium priority properties to identify sources of infiltration
Private wastewater lateral repairs **High Priority Properties**		2023 - 2025				Percentage fixed is relevant to number that require to be fixed (based on CCTV etc. evidence). Where ad hoc fixes are carried out and this is not within the timeframe indicated, these are also recorded.
Private wastewater lateral repairs **Medium Priority Properties**		2024 - 2026				
CCTV work-stream (using smoke test data collected from 2015 - 2022) **Low Priority Properties**				2031 - 2036		Will investigate private wastewater laterals on remainder of properties once high and medium have been addressed

Priority Area 2 – Whataupoko						
Activity/Action:						
Smoke Testing		2023 - 2026				Areas not included in CCTV work-stream
Rapid Inflow Assessments		2022 - 2023		2032 - 2033		Entire catchment will be inspected
Public Pipes on Private Property Assessments		2022 - 2025				% is relative to properties that have been identified as requiring assesment - based on risk
Public Pipes on Private Property Implementation		2022 - 2025				As identified from the assessments.
Gully traps too low or leaking		2022 - 2023				All properties in catchment will be inspected through the above four actions
CCTV work-stream (incl. smoke testing at same time) **High/Medium Priority Properties**		2024 - 2027				Will investigate private wastewater laterals on all high and medium priority properties to identify sources of infiltration
Private wastewater lateral repairs **High Priority Properties**		2025 - 2027				Percentage fixed is relevant to number that require to be fixed (based on CCTV etc. evidence). Where ad hoc fixes are carried out and this is not within the timeframe indicated, these are also recorded.
Private wastewater lateral repairs **Medium Priority Properties**		2026 - 2028				
CCTV work-stream (using smoke test data collected in 2023 - 2026) **Low Priority Properties**				2033 - 2038		Will investigate private wastewater laterals on remainder of properties once high and medium have been addressed
Priority Area 3 – City/Elgin						
Activity/Action:						
Smoke Testing		2026 - 2028				Areas not included in CCTV work-stream
Rapid Inflow Assessments		2024 - 2025		2034 - 2035		Entire catchment will be inspected
Public Pipes on Private Property Assessments		2025 - 2028				% is relative to properties that have been identified as requiring assesment - based on risk
Public Pipes on Private Property Implementation		2025 - 2028				As identified from the assessments.
Gully traps too low or leaking		2024 - 2025				All properties in catchment will be inspected through the above four actions
CCTV work-stream (incl. smoke testing at same time) **High/Medium Priority Properties**		2027 - 2029				Will investigate private wastewater laterals on all high and medium priority properties to identify sources of infiltration
Private wastewater lateral repairs **High Priority Properties**		2028 - 2029				Percentage fixed is relevant to number that require to be fixed (based on CCTV etc. evidence). Where ad hoc fixes are carried out and this is not within the timeframe indicated, these are also recorded.
Private wastewater lateral repairs **Medium Priority Properties**		2029 - 2030				
CCTV work-stream (using smoke test data collected in 2026 - 2028) **Low Priority Properties**				2035 - 2040		Will investigate private wastewater laterals on remainder of properties once high and medium have been addressed

Priority Area 4 – Mangapapa							
Activity/Action:							
Smoke Testing			2028 - 2030				Areas not included in CCTV work-stream
Rapid Inflow Assessments		2025 - 2026			2035 - 2036		Entire catchment will be inspected
Public Pipes on Private Property Assessments		2025 - 2028					% is relative to properties that have been identified as requiring assesment - based on risk
Public Pipes on Private Property Implementation		2025 - 2028					As identified from the assessments.
Gully traps too low or leaking		2025 - 2026					All properties in catchment will be inspected through the above four actions
CCTV work-stream (incl. smoke testing at same time) **High/Medium Priority Properties**			2029 - 2031				Will investigate private wastewater laterals on all high and medium priority properties to identify sources of infiltration
Private wastewater lateral repairs **High Priority Properties**			2030 - 2031				Percentage fixed is relative to number that require to be fixed (based on CCTV etc. evidence). Where ad hoc fixes are carried out and this is not within the timeframe indicated, these are also recorded.
Private wastewater lateral repairs **Medium Priority Properties**			2031 - 2032				
CCTV work-stream (using smoke test data collected in 2028 - 2030) **Low Priority Properties**						2037 - Ongoing	Will investigate private wastewater laterals on remainder of properties once high and medium have been addressed
Priority Area 5 – Remainder of City							
Activity/Action:							
Smoke Testing			2030 - 2032				Areas not included in CCTV work-stream
Rapid Inflow Assessments			2027 - 2028			2037 - 2038	Entire catchment will be inspected
Public Pipes on Private Property Assessments		2025 - 2028					% is relative to properties that have been identified as requiring assesment - based on risk
Public Pipes on Private Property Implementation		2025 - 2028					As identified from the assessments.
Gully traps too low or leaking			2027 - 2028				All properties in catchment will be inspected through the above four actions
CCTV work-stream (incl. smoke testing at same time) **High/Medium Priority Properties**				2030 - 2034			Will investigate private wastewater laterals on all high and medium priority properties to identify sources of infiltration
Private wastewater lateral repairs **High Priority Properties**				2032 - 2035			Percentage fixed is relative to number that require to be fixed (based on CCTV etc. evidence). Where ad hoc fixes are carried out and this is not within the timeframe indicated, these are also recorded.
Private wastewater lateral repairs **Medium Priority Properties**				2031 - 2036			
CCTV work-stream (using smoke test data collected in 2030 - 2032) **Low Priority Properties**						2039 - Ongoing	Will investigate private wastewater laterals on remainder of properties once high and medium have been addressed