Tuesday, 18 April 2023

Te Hui o Te Kaunihera ā-Rohe o Heretaunga
Hastings District Council: Council Meeting

Ngā Miniti

Open Minutes Attachments

Te Rā Hui:
Meeting date: **Tuesday, 18 April 2023**

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TE KAUNIHERA Ā-ROHE O HERETAUNGA

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Statement of Proposal : Long Term Plan Amendment – Dealing with growth

Some decisions and changes that are made by Council require an amendment to the Council's Long Term Plan. It is not uncommon for Council to review matters within its Long Term Plan to respond to changes in context or to account for new information.

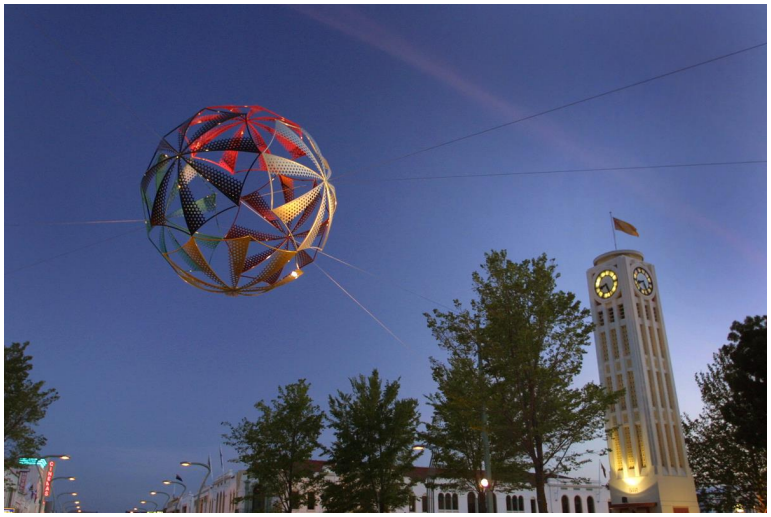
In 2023/24 the Council proposes to refine its approach to dealing with the considerable growth pressure being experienced in the district and more particularly the growth infrastructure needed for the future of the district.

Nature and scope of the amendment

Managing growth is highlighted as a key issue within the Council's 2021-31 Long Term Plan, and that growth forecast and the pressures that come with it are now being experienced in our planning and service delivery. In particular, there is a need to plan for and deliver additional network infrastructure capacity earlier than envisaged in order to provide development capacity for the period 2024 – 2029 and beyond.

The establishment of a dedicated growth unit has been the first step to addressing these pressures. What the Council is now proposing is a response to the cumulative impact of both recent and forecast growth, particularly on Council's wastewater network. Recent and currently occurring housing, industrial and commercial development has used up almost all of the available capacity within the Hastings and Flaxmere wastewater network. This growth has been more rapid and intensive than originally envisaged resulting in additional pressure for services from networks that are not designed for this level of development.

The time has come where the historical approach of localised upgrades and extensions to the existing network will not efficiently or effectively accommodate future growth.



Asset planning work is indicating that less substantive works will also be required on the water supply network to improve distribution efficiency and reduce water loss in order to create the capacity for growth. Work by the Hawkes Bay Regional Council has signalled over-allocation of the region's groundwater resource and imposed a very high bar on additional water allocations. This makes the efficient use of the resource we do have access to vitally important.

It is not unusual that through the development cycle of a city there comes a time when significant infrastructural investments are required to ensure the city is "fit for the future"; be that a new arterial road route, a wastewater treatment plant, a landfill facility or in this case major new wastewater mains and associated connecting works to the existing network.

Investigation work on these proposed investments to ensure development capacity were not sufficiently advanced for them to be included in the 2021-31 Long-Term Plan or Development Contributions Policy.

This proposal outlines the updated approach to providing additional network infrastructure capacity, the reasons for the proposed approach, the Council's legal responsibilities in respect of future residential and industrial/Commercial capacity, the funding solution being proposed and the fiscal impacts of this approach. **It provides both an overview of the full proposal and the specific impacts for the 2023/24 year compared with the Long Term Plan forecast for that same year.**



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Why provide development capacity for growth?

We are growing

- Hastings District is currently experiencing significant and rapid growth. Statistics New Zealand's latest population estimate (2021) for Hastings District is 90,100; an increase of 5,400 since the 2018 estimate (84,700).
- Building consent volumes have grown significantly: excluding consents for solid fuel heaters, residential building consents granted have risen from 685 in calendar year 2015 to 1021 in 2021 – an increase of 49%; with new dwelling consents increasing from 180 to 517 or 187%.
- Commercial building consents are similar in volume to 2015, however the estimated value of the works consented has increased by in excess of 150% (from $95M to more than $250M).
- Resource consent volumes have increased year on year from 428 in 2015 to 673 in 2021. Uptake of development land in both the residential and industrial sectors has been at a rate above both projected rates and historic trends and infill housing follows a similar trend.
- We need more houses – as at June 2022 there were 762 households registered on the Ministry of Social Development's social housing register, with an estimated shortage of between 1,000 and 1,600 houses overall.

We have responded – but growth runs strong

The Council has been taking action to respond to this growth pressure. Beginning in 2015, the Council initiated a number of structure planning and planning processes to make available a number of areas of land for residential and industrial development. Infrastructure investments were programmed and subsequently made alongside these planning changes, with appropriate revisions made to the Council's Development Contributions Policy. Through this work, the Lyndhurst Stage 2, Howard St, Brookvale and Iona residential development areas were initiated, as was the rezoning and infrastructure servicing of the Irongate and Ōmāhu Industrial areas.

These initiatives and investments by Council have helped enable the significant residential and industrial development and investment Hastings has seen since 2015. However, even that unprecedented rate of rezoning and infrastructure development has not been enough to keep up with growth demand. The rate of growth being experienced is rapidly using up available development land (both residential and business land) and network infrastructure capacity (particularly with respect to the Hastings urban wastewater network and consented water supply volumes). And the population driven housing shortage has continued to worsen, with 762 households on the MSD social housing register as at 30 June 2022 (there were 69 households on the register as at 30 September 2016). Based on the 2021 Housing Capacity Assessment, there is a current shortage of approximately 1,300 in Hastings currently. In 2021, demand was expected to grow by another 1,600 – 1,800 households by the end of 2023, although open borders and changed migration settings may reduce those predicted numbers. Nonetheless, significant new housing stock is expected to be required both in the immediate future and over the coming decades.

Council is acting to make new development areas available in the short to medium-term, including in Flaxmere and with structure planning work on the Lyndhurst Extension area, Kaiapo Road and the Heretaunga Tamatea Settlement Trust owned land at Irongate/Stock/York Road. However, Council has also understood that action is required now to ensure the availability of development land and infrastructure capacity over the medium to longer-term.

The Chief Executive has responded to this context by establishing a Future Growth Unit to lead and coordinate future growth planning, infrastructure and funding activity across the Council. This brings focused resource to bear on medium to longer-term growth management work (including responding to new legislative responsibilities outlined below). The Chief Executive has also moved to augment, where possible in the external employment and consultant markets, resourcing being applied to immediate-term building and resource consenting activity and short to medium-term structure planning work.

New legislative responsibilities

Alongside this high-growth context, statutory requirements on Council to provide development capacity have also increased. The National Policy Statement on Urban Development 2020 (NPS-UD) requires councils to "*provide at least sufficient development capacity in its region or district to meet expected demand for housing".* It also requires councils to provide sufficient development capacity for business land. Development capacity refers to land being available that is able to be developed under the planning objectives, policies and rules that apply **and** for which there is adequate infrastructure capacity to enable development.

Councils in tier 1 or 2 urban environments (Hastings and Napier are a tier 2 urban environment) are required to adopt housing bottom lines in their District Plans or Regional Policy Statements clearly stating the development capacity that is sufficient to meet expected housing demand plus an appropriate competitiveness margin. The NPS-UD also requires councils in tier 1 and 2 urban environments to work together to prepare and adopt a Future Development Strategy (FDS) for that urban environment.

These increased requirements come amidst wider proposed changes to the legal framework for planning and growth management. The Government has signalled that the Resource Management Act 1991 (RMA) will be replaced by three pieces of legislation. The proposed Natural and Built Environment Act (NBEA) will replace the RMA and provide the legal framework for statutory planning instruments and consents. The proposed Strategic Planning Act will introduce a requirement for regional spatial strategies to guide high-level strategic planning on a regional basis. In addition, a proposed Climate Change Adaptation Act is likely to address issues relating to managed retreat and funding and financing adaptation.

Collectively, these current and prospective legal requirements signal a more collaborative and regionalised approach to planning and growth management. Councils will need to work together regionally, and with mana whenua and central government agencies, in the development of both spatial plans and statutory plans under NBEA.

The wider regional context will therefore affect the work to be carried out and impact on the Hastings District. The constraints on Napier City in terms of additional development capacity generally, and industrial capacity in particular, are likely to create further demand pressures on Hastings. Both Napier and Central Hawke's Bay are also experiencing relative significant growth in the residential sector which will also influence the regional

development capacity picture. Efforts to address housing shortage, such as Kāinga Ora's investment programme, will also continue to affect how available development capacity is utilised in Hastings and beyond, creating flow on effects in the development market. These are just some of the broader contextual issues that have been considered in developing this proposal.

Future uncertainty

The Government has initiated a major reform process of the Three Waters sector. One of the impacts of this is likely to be that councils will lose some measure of control over the commissioning and delivery of growth-related infrastructure. While the new water entities are intended to be 'plan-takers', enabling councils to specify growth related investment requirements, entities will be faced with investment demands from a number of councils. It seems unlikely that all of these demands will be able to be met concurrently. While the envisaged water industry system may turn out to be responsive to growth demands, it seems clear that councils will no longer have direct control over what infrastructure will get built when.

Coupled with this loss of direct control in the future, the transition process signalled in the Water Services Entities Bill also creates some uncertainty. The Bill proposes that Council Three Waters investment expenditure decisions not included within Long-Term Plans will be subject to further consideration and decision-making by the Chief Executive of the Department of Internal Affairs.

These factors have led Council to the conclusion that amending its Long-Term Plan to provide for identified growth related infrastructure requirements will provide greater certainty for the development community, for the proposed water entity and in terms of Council's obligations to provide infrastructure ready development capacity under the National Policy Statement on Urban Development.



What does the infrastructure solution look like?

Current state assessment

In assessing Hastings' overall infrastructure situation as it relates to growth, the picture that emerges is that the older, core three waters networks have almost reached their full or 'natural' capacity as 'growth-responsive' additions have been made to them over time. Investment in additional arterial infrastructure is required to enable new development capacity.

In terms of wastewater, while there is capacity in the main interceptor sewer pipes connecting the urban areas to the treatment plant at East Clive and a planned additional biological trickling filter at the plant is required, the internal networks and pump stations within Hastings (which help service Hastings and Flaxmere) are either at or reaching capacity. The construction of new 'arterial capacity' is required to enable wider uptake of medium density development and urban intensification, and to provide for future new growth areas. Adding to this picture, Hastings is located on a 'hump' that runs along Omahu Road and Heretaunga Street. This means potential growth areas around the south and west of Hastings drain away from the main trunk infrastructure connecting Hastings to the East Clive treatment plant. Growth on this side of Hastings puts pressure on our ability to pump wastewater to the north into our trunk sewers.

In terms of water supply, abstraction limits in the Council's municipal water supply resource consent provide a constraint to development capacity. Improved network distribution infrastructure is required to improve network efficiency and reduce network pressure and water loss, thereby improving efficiency of use and providing capacity for growth while still delivering flows required for firefighting.

The approach to stormwater will also need to adapt to growth pressures, increasing environmental standards and the future impacts of climate change. New and upgraded infrastructure will be required to provide stormwater capacity and treatment in respect of development in particular catchments and sub catchments, as well as work with the Hawke's Bay Regional Council to address overall capacity issues in their Heretaunga Plains network. These stormwater works may involve land purchases or designations as part of structure planning or subdivision processes and are likely to be addressed catchment by catchment. As development occurs over time, there are also likely to be transport, parks and reserves and community infrastructure requirements. However, these investment requirements are not as well defined as wastewater and drinking water requirements as yet, and, aside from stormwater, are not affected by the Three Waters reform process. Accordingly, this Long-Term Plan amendment focuses on identified requirements for wastewater and water supply. Other growth investment requirements will be identified as growth infrastructure planning work continues through the FDS and Essential Service Development Plans, and included in subsequent Long-Term Plan processes.

Proposed approach – A total $230m investment

The main capital investment component in this amendment is in building new wastewater main trunk infrastructure. This comprises major new wastewater pipes which add macro-level wastewater capacity to the Hastings and Flaxmere network, improving capacity and improving connectivity to the main trunk interceptor pipes that convey wastewater to the East Clive Wastewater Treatment Plant. This new infrastructure redirects wastewater from existing urban areas , which will in-turn free up capacity in the Hastings City network to enable the district's housing objectives (in relation to higher density developments) to be achieved, whilst continuing to support planned greenfield developments. Allowing more intensive urban development and restricting development away from the fertile Heretaunga soils has been a key objective for some time and is embedded in Council's growth policy and planning framework.

The township of Havelock North by comparison has had substantive wastewater and drinking water investment since the early 2000s in response to growth pressure. Although the township is not constrained to the same extent as Hastings and Flaxmere, continued expansion to the south and in the Havelock North hills will necessitate continued future investment in new infrastructure.

Key components of the wastewater investment are as follows:

- **Stage 1 Pāharakeke Wastewater Pump Station and Rising Main (HTST Irongate Development) –** This wastewater project will link the Heretaunga Tamatea

Settlement Trust greenfield housing development Irongate/York/Stock Road via the main Hastings wastewater network and the Stage 2 works outlined below. This will enable around 400 additional houses.

- **Stage 2 Pāharakeke Wastewater Gravity Main (Ōmahū Rd to No.3 Trunk Sewer) –** This major pipeline will run from the junction of State Highway 2 and Ōmāhu Road along SH2 to the Hawke's Bay Regional Sports Park, along the bottom boundary of the Sports Park, through the Lyndhurst extension area and via easements to Evenden Road, along Evenden Road crossing over Pākowhai Road, and continuing along the alignment for the proposed North-Eastern Connector to Coventry Road to discharge at the No. 3 trunk sewer. This new sewer main will collect wastewater flows from Flaxmere and the western parts of Hastings, creating capacity in the existing Hastings network for medium-density housing and new growth areas.

- **Karamū/Waipatu/Ōtene Rd Pump Station and Trunk Sewer Main –** This project will provide a major wastewater outlet pipe for the eastern side of Hastings from Karamu Road North along State Highway 51 and down Bennett Road to discharge at the No. 3 trunk sewer in Ōtene Road. The pipe will redirect wastewater flows from the eastern and southern parts of Hastings, creating capacity in the existing Hastings network for medium-density housing and new growth areas. As well as providing additional wastewater capacity to Hastings, the pipe will also serve papakāinga development around Waipatu.

Together the three components are vital to enabling over 4,000 additional homes to be serviced over the next 15 years, with further additional housing beyond that. They also provide domestic sewer capacity for commercial and industrial growth. The total estimated cost of the three projects is $31.5M.

In addition to these major capacity enhancing pipes, further wastewater investment is required to fully utilise the capacity that these new projects are intended to provide. Future works will connect new development areas and areas of the existing urban wastewater network to the new capacity. This investment is made up of the following broad components:

- Southern wastewater link $36.4M
- Medium density wastewater capacity upgrades $78.0M
- Inner City Living capacity upgrades $14.2M
- Hood Street Wastewater upgrade $ 9.6M
- Havelock North capacity investigations $ 1.0M
- East Clive WWTP capacity upgrades $29.0M

These components compliment the major main trunk wastewater investments outlined above, linking new capacity with localities within the city and creating capacity for growth within the wider wastewater network. This will ensure wastewater services for planned and likely new development areas as well as capacity for medium-density and apartment developments in the inner city and parts of the existing urban area.

The other wastewater investment provided for delivers a community based solution to the Kohupātiki community. A sewer pump station will be constructed within the Kohupātiki area, and a pipeline under the Clive River linking with the main domestic wastewater interceptor travelling to the East Clive Wastewater Treatment Plant near the intersection of SH 51 and Richmond Road. The cost of this programme component is $1.18M.

This project will enable the development of papakāinga housing within the Kohupātiki community.

Other Infrastructure

Water Supply

- **Waipatu –** a water supply main will be laid along Karamu Road, SH 51 and Bennett Road. This project will be laid alongside the main sewer works and will enable the development of papakāinga housing in the Waipatu area. Project value - $3.6M
- **Growth and resilience improvements to the water supply network –** improvements across the municipal water supply network are programmed to help accommodate growth, improve network efficiency and ensure network resilience. This programme is estimated to cost $25.4M.

Transport

- **Irongate/York Rd** - public roadway connections between the existing roading network and the Irongate/York development
- **Capacity Improvements** – minor roading improvements to support housing development at Kohupātiki, Tangoio, Te Hauke and Mōteo.

What's the proposed programme sequencing?

Sequencing of the proposed investment is important as we don't know with absolute certainty key drivers such as the rate of population and housing growth, and we do not control macro factors such as economic conditions and activity.

The overall programme ($230m over 10 years) has been split into 2 distinct stages as follows:

Stage 1: Growth Ready - Years 1-3

This stage would put in place the main arterial infrastructure (big pipes) and some of the necessary linking infrastructure to set the district up to accommodate future growth. It would also unlock wastewater capacity to enable those areas initially prioritised for intensification to be developed. This stage is costed at circa $85m (with $18m funded from the Government Infrastructure Acceleration Fund).

Stage 2: Growth Reactive – Years 4-10

This stage will see the balance of the local infrastructure and upgrades at the East Clive Wastewater Treatment Plant ($116m + $29m) rolled out between years 4-10 to progressively unlock further areas for intensified development and to provide additional treatment capacity for the increased flows. Importantly, the rollout of these investments can be timed with market conditions and demand. Therefore should the market "cool down" investment can be delayed and alternatively should it be warranted investment can be stepped up. This is how Council can optimise the capex spend and minimise its investment risk.

The proposal on a map

Growth Ready

The map below depicts those areas unlocked for development via the Stage 1 Growth Ready phase (the areas shown as green). Whilst some areas are opened up for development, others remain constrained dependant on further infrastructure investment.



Growth Reactive

The map below depicts those areas further unlocked for development beyond the Stage 1 Growth Ready phase – via the Stage Two Growth Reactive phase. This additional investment makes most of Hastings serviceable for intensified development, other than the Akina area.

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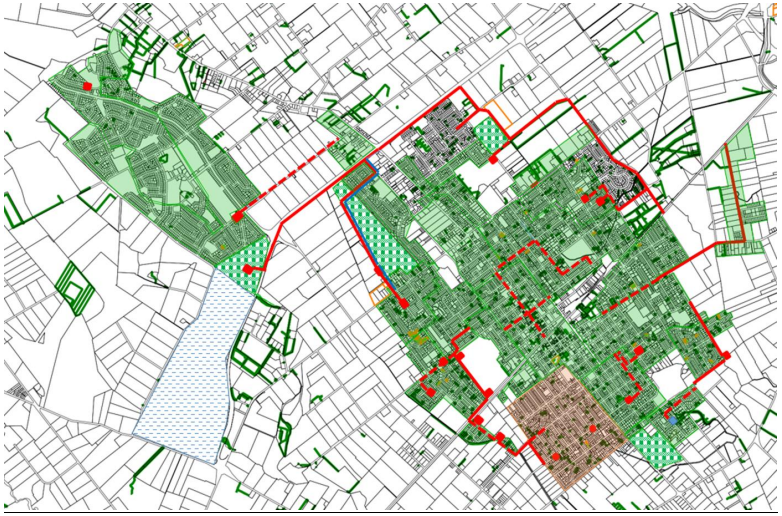
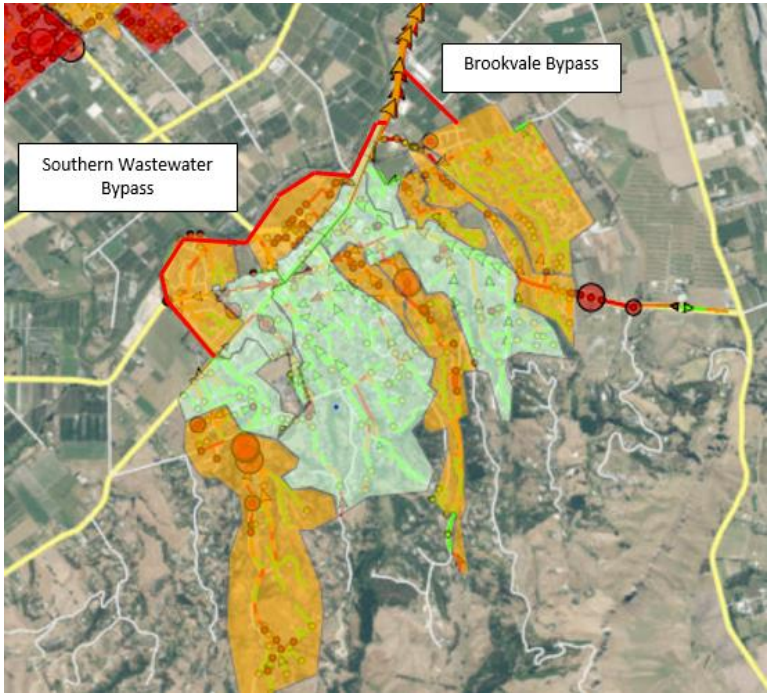


Havelock North

The Havelock North wastewater system was substantially upgraded in the early/mid 2000s to provide capacity for expansion into the Havelock North hills, Arataki and to the south in Middle Rd and Iona Rd, and in 2015, a second trunk sewer pipe was constructed in Napier Rd in response to significant growth pressures and wastewater constraints. The eastern catchments (Anderson Park and Karanema) rely on pump stations and there are known capacity issues that will be exacerbated as growth extends further to the south and along Te Aute Rd and Middle Rd. It is anticipated that new bulk infrastructure will be required in the next 10 to 20 years as that growth materialises.

The following map shows areas of Havelock North that have capacity issues that will require upgrades (pipes and pump stations) including options to construct bypass trunk sewers to relieve capacity and cater for future growth.



In Short

Network wide improvements include the upsizing of pump stations and the larger mains that feed into and out of these stations along with network strengthening to optimise capacity at a street level where development is occurring. Investment in new and existing water and wastewater infrastructure to align with growth as it occurs will ensure that we remain responsive to intensification across the urban footprint.

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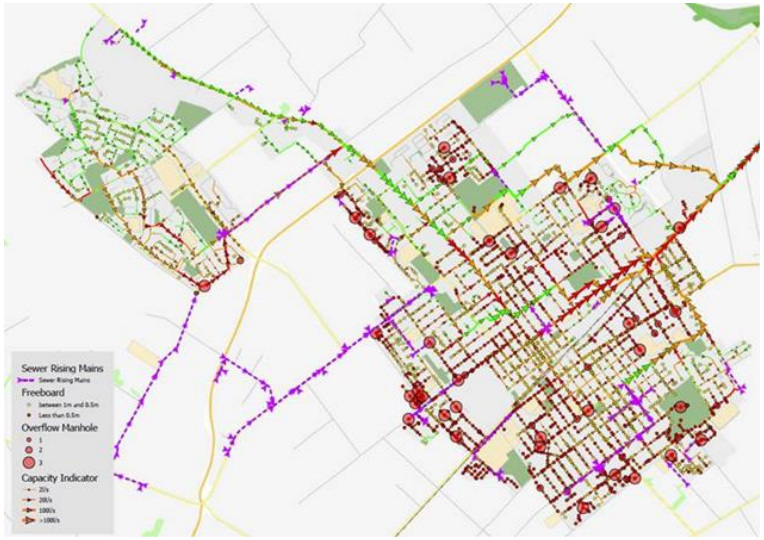
Alternative options consideration

A business case assessment was undertaken on the proposed major trunk main wastewater investment. This looked at whether there were alternative options to the investment proposed. Doing nothing was discounted based on network modelling and the imperative under the HPS-UD to provide at least sufficient network capacity. The modelling demonstrated that the network was already at capacity at various locations under low scale wet-weather events. It also demonstrated that the current network would not provide the capacity required under the NPS-UD in the context of growth demand for housing being experienced and projected (even at low to moderate growth projections).

The alternative approach to investing in new main trunk infrastructure around the edges of Hastings requires replicating that capacity within the existing network that runs through Hastings. This would involve significant upsizing of pipes and pump stations within Hastings and/or the construction of duplicate mains across the network. The added complexity of trying to implement large scale upgrades on an operational network in built up areas, plus the level of disruption to consumers and the public, would add significant cost and time delays in delivering these projects which are needed now.

A high level cost analysis to deliver the Growth Ready phase was undertaken to evaluate the difference between these options and shows that the brownfield (through the existing urban area of Hastings) upgrade option could be upwards of $60M or more over the $85M proposed via the greenfield proposal (infrastructure around the edge of the city). **The advantages of building new infrastructure offline and in areas that are more remote cannot be underestimated and based on these factors, the investment package proposed in this Long Term Plan ammendment is preferred.**

Outlined below is a spatial representation of what the "do nothing" option would look like and the infrastructure servicing constraints it would bring. Many parts of the network are impacted and in particular, the constraints through the central areas of the network are exacerbated by increased flows in the upstream catchments that collectively discharge to the north and east. Effectively the Council would be saying **NO** to future development, and be unable to meet the various national policy directives in respect of providing for future growth. (More detail can be found in the Infrastructure Constraints Report).



Further Works

The proposed works set out above (under the "Growth Ready" and "Growth Reactive" approach) are the growth-related infrastructure requirements known at the time preparing this amendment. However, there are number of growth-related investment needs that have not yet been fully identified. These include investments in stormwater (including land purchases), and broader investments in the transport network, parks and reserves and community facilities. These investment needs will be identified through work to be undertaken on the FDS, Essential Service Development Plans and Local Area Plans over the next year to 18 months, and will be incorporated in the 2024-34 Long-Term Plan and subsequent planning processes.

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How would this infrastructure solution be paid for?

At a high level the funding would be split as follows:

Government $18m

Growth – Development Contributions $129m

Community - Debt $83m

Government Funding

The Council have been working with government agencies on positioning Hastings appropriately to accommodate future growth. This work has culminated in a significant funding assistance grant ($18.5m) from the Government's Infrastructure Acceleration Fund (IAF) to accelerate the necessary infrastructure for the district to enable housing development. The IAF funding provides a significant contribution to the main trunk wastewater projects outlined above, as well as contributions to the Waipatu water supply extension, the wastewater connection to Kohupātiki, and transport improvements at the York Road/Irongate development and at Tangoio, Mōteo and Te Hauke.

However, this grant only covers a portion of the total infrastructure required to accommodate growth over the life of this Long-Term Plan and beyond. The criteria and rules for the IAF required that the developer community continues to pay their "fair share" of the costs of development so that government investment does not simply result in subsidised windfall profits for developers. In addition, as outlined above, there is significant additional growth enabling infrastructure investment required to be funded over and above that receiving IAF support.

Given this proposed infrastructure investment is primarily required to enable growth, the majority of the required expenditure is proposed to be funded through Development Contributions.

Development Contributions

The Development Contributions charging regime is the established way of recovering from those persons undertaking a development a fair, equitable and proportionate portion of the total cost of capital expenditure necessary to service growth over the long term. This economic principle is expressed in law through the Local Government Act 2002.

Those costs then flow from those undertaking the development to owners and users of the homes and commercial/industrial buildings that are developed.

Given the scale of infrastructure investment required to enable new development capacity, a substantive review of the Development Contributions Policy has been undertaken alongside the planning work outlined in the sections above. To view the full detail the Development Contributions Policy can be obtained or viewed online at http://www.hastingsdc.govt.nz.

Council will attempt to spread the cost of the infrastructure over the life of the asset to the extent permitted under law. Under the Local Government Act, the maximum period that the costs of growth investment can be spread over for the purposes of Development Contributions is 25 years. This approach is being adopted, where appropriate, in Council's proposed Development Contribution policy.

Ratepayer loan funding

A proportion of the cost of the proposed investment has been identified as providing benefit to the non-growth community (existing residents and ratepayers) or has allocated as a "public good" providing benefit to the wider community. Based on this allocation of benefits from the proposed expenditure, it is proposed that $83M will be funded via loan funding, with that debt financed through annual rates.



Assurance - How do we know?

In preparing this proposal the Council has drawn on various data sources and has had various elements of the work peer reviewed and tested by appropriately qualified external entities. Work in this area includes:

Growth assumptions

Housing and Business Capacity Assessment – Council has drawn on Housing and Business Capacity Assessments undertaken by Market Economics Limited to inform growth projections and available capacity. These assessments are a requirement under the NPS-UD and evaluate the sufficiency of development capacity to meet expected demand over the short, medium and long term. Specifically they are required to assess the development capacity enabled by the current district plan and future planned rezonings, commercially feasible, serviced or planned to be serviced by infrastructure and reasonably expected to be realised by the market.

The Housing Capacity Assessment housing demand projections were based on Statistics New Zealand's Sub-National Population Projections produced in 2020, based on the 2018 Census of Popluation and Dwelllings. A scenario mid-way between the medium and high projections was used to at least in part insulate against capacity shortages caused by higher than expected growth occurring, as happened between 2015 and 2020, and is consistent with the approach taken in the Heretaunga Plains Urban Development Strategy Review (2017). Updated population projections are expected to be released in December 2022 ahead of the 2023 census with new projections based on that census in 2025/2026, which will assist in ongoing tuning of the program sequencing of the stage 2 and further works over time.

Infrastructural solution review

Significant work has been undertaken in order to determine that the infrastructure solution proposed by Council is appropriate to the growth and infrastructure context Hastings is facing. In addition to extensive modelling, analysis and concept development conducted by staff and consultants to develop the proposed solution, Council has also engaged an external peer reviewer to examine and advise on its proposals. Waugh Infrastructure Limited, a leading New Zealand infrastructure advisory and asset management firm, has examined the growth and infrastructure context for the Council's decision making, the infrastructure solutions proposed, the alternatives considered, and the work undertaken and assumptions made in developing the proposal.

The review work undertaken has found that the infrastructure proposal is appropriate to the circumstances and context facing the Council. It finds that the proposal will provide the infrastructure capacity required to enable development capacity in the short, medium and long-term, and that the proposal is cost-effective in comparison to alternatives.

The Infrastructure Constraints Report can be viewed at www.myvoicemychoice.co.nz

Economic analysis

As well as allocating costs to growth based on an assessment of the extent to which particular infrastructure projects cater to growth demand, the allocation of infrastructure costs to growth is also underpinned by economic principles. The Local Government Act 2002 mandates relevant principles, including: Section 101 (3) states that in determining funding sources, councils must consider "the extent to which the actions or inaction of particular individuals or a group contribute to the need to undertake the activity"; Section 197AA states that the purpose of the Act's provisions relating to development contributions is "to recover from those persons undertaking development a fair, equitable, and proportionate portion of the total cost of capital expenditure necessary to service growth over the long term." These principles underpinned the infrastructure decisions on the allocation of cost to growth and non-growth.

To ensure the Council's approach to development contributions is consistent with the economic principles set out in the Local Government Act 2002, the Council engaged GHD Advisory to provide a peer review of the economic analysis underpinning the Development Contributions Policy. This has involved examining and providing critique of the policy options as they were developed, and undertaking a peer review of the draft Development Contributions Policy document.

The first part of the review work undertaken provided an economic assessment of the policy options which enabled Council to determine its preferred option taking account of an analysis of relevant economic principles. The second part recommended minor adjustments to the policy, and confirmed that the draft policy was aligned with sound economic principles and in alignment with the economic principles specified in the Local Government Act 2002.

Development Contributions Policy

Review of allocation of works/cost to growth

The costs that make up development contributions are identified by assessing proposed infrastructure investments and determining what components or proportion of those investments are necessitated by or attributable to growth and which are not. Some investments are readily identifiable as being necessitable by growth where others are a mix of growth and non-growth. As an example, replacing an older sewer pipe and pump station would generally be a non-growth cost. However, upsizing the replacement infrastructure to provide additional capacity for growth would increase the costs of replacement. This cost increment can be attributed to growth.

Growth costs can also be allocated across different spatial catchments depending on whether the areas benefit from particular investments. In the Hastings context, development contributions for wastewater and drinking water are only charged to properties that can connect to those infrastructure networks. Other than that, Hastings tends to use a whole of network approach for allocating growth costs across new development.

As part of their infrastructure review work, Waugh Infrastructure Limited has also been engaged to review the project costs of the growth infrastructure programme. This has involved examining all of the projects within the proposed programme of infrastructure investment where there is a growth component. Waugh Infrastructure found that the project costs were reasonable.

To assist the reader The Development Contributions Review and Process Document can be viewed at www.myvoicemychoice.co.nz



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Legal

The Council has consulted with legal advisors at various stages through the development of this Amendment and the Development Contributions Policy to help ensure alignment with statutory requirements and administrative law principles.

Other Key Assumptions

Forecasting assumption and effect of uncertainty	Risk / Level of Uncertainty	Risk Mitigation
FUNDING The proposal is underpinned by $18.5m of government funding. The risk would be full or partial loss of that funding.	Low	Binding contracts are in place and in progress
INFLATION The outer years of an LTP are required to be inflated in line with best practice. The approach taken with this amendment is to represent the 2023/24 new capex in today's dollars, based on project workings based on actual plans and current rates. The risk would be higher construction rates than those forecast.	Low/Medium	Appropriate project contingencies are built into the estimates to allow for any minor variations in costs
INTEREST / DEBT REPAYMENT Interest and debt repayment incurred has been assumed at 7% per annum (with financing costs assumed to be incurred in the latter part of the year, given the first call on funding will be dedicated to IAF funded expenditure. This approach aligns to the programme rollout.	Low/Medium	The assumption is based on advice from Council's treasury advisors which is regularly reviewed. Any fluctuations can be managed within Council's overall cost of funds on borrowing



In Summary - Key impacts of the growth infrastructure proposal

Below is a snapshot of the key impacts of the proposal for the 2023/24 financial year:

Key Matters	Impact 2023/24
Cost	
Total Cost	$43.4m
Funding	
Impact on external grant revenue	$18.5m
Impact on total debt	$24.9m
Impact on finance costs	Increase of $291,000
Impact on Development Contribution Revenue	Additional $9.3m
Impact on rates	Little impact on rates (0.2%)
Impact on Council Financial Strategy Limits	
Net debt as a % of income – less than 175%	148.46%
Net interest as a % of income – less than 15%	4.66%
Net interest as a % of annual rates income – less than 20%	8.78%
Liquidity Range (110% - 170%)	115%x
Balanced Budget Benchmark >100%	105% (Yes Benchmark met)

Note: The fiscal ratios opposite are not materially different to those forecast in the 2021-31 Long Term Plan for the 2023/24 financial year.

Impact on Development Contributions

Residential

Type	Current	Proposed	% Change
Infill	$ 16,016	$31,490	97%
Medium Density	$ 17,870	$33,652	88%
Greenfield	$ 27,302	$42,725	56%
Rural	$ 6,894	$ 5,992	-13%

Other

Type	Current	Proposed	% Change
Commercial / Retail	$7,588	$11,869	56%
Industrial / Warehousing	$5,109	$11,470	124%
Office	$4,875	$ 9,510	95%
Hospitality / Restaurant	$12,474	$27,536	121%

What about 3water reform?

This amendment has been put together on the basis of its impact on the Council's current Long Term Plan. The impacts shown are given to illustrate how the Council would fund the proposal via development contributions, debt funded from rates and some external funding.

The New Zealand Government is currently in the process of reforming how the 3waters are managed. The proposal is to transfer the assets and debt associated with those assets to a new entity (currently referred to as Entity C). The current proposition is for the transfer to have taken place by 30 June 2024.

This will mean the new water entity would take over responsibility for the rollout of the infrastructure programme identified within this amendment and also be responsible for charging customers the future costs of delivering 3waters services. The assets associated with 3waters would also transfer to the new entity.

For these reasons the impacts of this amendment are focused on the 2023/24 year (effectively the final year for Council responsibility for delivery of these activities.

What about Cyclone Gabrielle?

Whilst Cyclone Gabrielle has had a significant impact on the Hastings District community it does not impact the work that is outlined in this proposal and the infrastructural investment required. This view is based on the fact that the underground construction pathway remains a viable route (although the construction completion may experience some delay).

It is also based on the view that if anything, the impacts of the cyclone are likely to have amplified the need to intensify development in those areas of Hastings unaffected by the cyclone, and the increased demand arising for housing as a result of the number of homes now inhabitable due to the cyclone.

Cautionary Note

An overall damage assessment and analysis of the fiscal implications on the Council along with the inter agency funding and reimbursement discussions is not complete at the time of preparing this Long Term Plan Amendment. This project is funded for the 2023/24 year and well advanced in the concept design phase. As outlined in the section titled "What about 3water reform" the responsibility for delivery of the remaining componants of the project (beyond 2023/24) and its associated infrastructural investment will not sit with the Hastings District Council.

Audit Report

A requirement of Section 94 of the Local Government Act 2002 is that any significant change (which triggers an amendment to the Council's Long Term Plan) is required to include a report from the Auditor-General confirming or amending the report made when the Long Term Plan was originally adopted. The audit report is outlined below.

Opportunity to have your say

The Development Contributions Policy has been amended concurrently to reflect this proposal and should be read in conjunction with this Statement of Proposal. They can both be found at:

- http://www.hastingsdc.govt.nz
- District public libraries
- Council Central Offices, Lyndon Road
- Call us on 871 500 and we can send you the information

Finding out more

The Development Community

An information evening xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Submissions

Submissions on this proposal and the draft Development Contributions Policy may be made in writing to the Council. Submissions close on 28 May 2023. Submissions can be made:

- Electronically at http://www.myvoicemychoice.co.nz
- By using the submission form
- Or in any other written form to the attention of Lex Verhoeven, Strategy Manager Hastings District Council, Private Bag 9002, Hastings 4156 or by email to lexfv@hdc.govt.nz

Any person who makes a submission will have the opportunity to be heard by the Council if this is requested. Hearings will be held at a Council meeting commencing 8 June 2023.



Schedule of proposed investment

Overall detailed investment plan

Project Name - Growth Ready Projects	Type	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Kaiapo Development Wastewater	Wastewater	100,000	5,000,000	9,000,000	0	0	1,200,000	0	0	0	0	0
Akina Capacity Upgrade (Storage and Pump)	Wastewater	100,000	2,500,000	2,500,000	0	0	0	0	0	0	0	0
Hastings Medium Density Upgrades	Wastewater	100,000	5,000,000	3,000,000	0	0	0	0	100,000	5,000,000	1,000,000	0
Park North PS Capacity Improvement and Renewal	Wastewater	3,000,000	0	0	0	0	0	0	0	0	0	0
Flaxmere PS Capacity Improvement and Renewal	Wastewater	6,300,000	0	0	0	0	0	0	0	0	0	0
Flaxmere - Rising Main Renewal	Wastewater	100,000	3,200,000	0	0	0	0	0	0	0	0	0
Kaiapo/Maraekakaho Loop main	Drinking Water	100,000	4,250,000	4,229,474	0	0	0	0	0	0	0	0
Waipatu Water supply Trunkmain	Drinking Water	3,584,151	0	0	0	0	0	0	0	0	0	0
Paharakeke Wastewater Main (Omahu rd)	Wastewater	10,071,410	4,116,957	0	0	0	0	0	0	0	0	0
Karamu/Waipatu/Otene Pump Station and Trunk Sewer	Wastewater	12,041,218	0	0	0	0	0	0	0	0	0	0
HTST Irongate/York Pump Station & Rising Main	Wastewater	4,509,645	0	0	0	0	0	0	0	0	0	0
Kohupatiki Pump Station & Rising Main	Wastewater	1,140,843	0	0	0	0	0	0	0	0	0	0
Kohupatiki Roading	Roading	1,663,724	0	0	0	0	0	0	0	0	0	0
Sub Total		**42,810,991**	**24,066,957**	**18,729,474**	**0**	**0**	**1,200,000**	**0**	**100,000**	**5,000,000**	**1,000,000**	**0**
Project Name - Growth Reactive Projects	**Type**	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**2031/32**	**2032/33**	**2033/34**
Copeland/Murdoch upgrade & diversion	Wastewater	0	0	0	0	0	0	0	0	0	2,800,000	1,500,000
Louie/Ada/Hood Wastewater upgrades	Wastewater	0	0	100,000	4,000,000	4,000,000	1,500,000	0	0	0	0	0
Raureka to Pepper St	Wastewater	0	0	0	0	300,000	5,000,000	5,000,000	0	0	4,500,000	2,000,000
Pumpstation Accelerated Capacity and Renewal	Wastewater	100,000			3,000,000	4,000,000	4,000,000	5,100,000	-	-	0	0
Pumpstation Renewals	Wastewater	0	0	0	0	5,100,000	2,300,000	1,200,000	400,000	1,200,000	2,130,168	3,214,534
Rising Mains Renewals	Wastewater	0	0	0	5,100,000	4,100,000	4,100,000	3,700,000	5,300,000	2,400,000	1,400,000	2,500,000
Secondary screening and grit removal (Domestic)	Wastewater	50,000	0	0	5,000,000	3,000,000	0	0	0	0	0	0
Construct 3rd BTF and refurb. 1&2	Wastewater	250,000	0	0	2,750,000	8,000,000	8,000,000	2,000,000	0	0	0	0
Havelock North capacity investigations	Wastewater	0	0	0	0	0	0	0	0	0	1,000,000	0
Network wide presure reduction	Drinking Water	100,000	0	0	0	0	0	0	3,500,000	3,586,699	0	0
Omahu/Chatham Upgrades	Drinking Water	120,000	0	0	0	0	0	0	3,000,000	0	0	0
Maraekakaho Rd to Mangaroa & Stock road	Drinking Water	0	0	0	0	0	0	2,880,000	0	0	0	0
Irongate/Prison BPS & Storage	Drinking Water	0	0	0	0	0	0	0	0	3,650,000	0	0
HTST Roading	Roading		0	0	0	0	0	0	0	0	0	0
Sub Total		**620,000**	**0**	**100,000**	**19,850,000**	**28,500,000**	**24,900,000**	**19,880,000**	**12,200,000**	**10,836,699**	**11,830,168**	**9,214,534**
Grand Total		**43,430,991**	**24,066,957**	**18,829,474**	**19,850,000**	**28,500,000**	**26,100,000**	**19,880,000**	**12,300,000**	**15,836,699**	**12,830,168**	**9,214,534**
		Growth Ready $85m (Years 1-3)			Growth Reactive $145m (Years 4-11)							

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Impact on Long Term Plan Group of Activities Funding Impact Statements for 2023/24

The following Group of activity Funding Impact Statements show the movements from what was contained in the 2021-31 Long Term Plan compared with the impact of this proposal.

Note: Whilst not relevant to this LTP Amendment, other movements unrelated to the impact of this proposal are also identified where relevant and relate to other movements in the captal plan from rephrased budgets and new capital acquisitions. These are displayed for clarity when reconciling the full variance column.



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HASTINGS DISTRICT COUNCIL: FUNDING IMPACT STATEMENT FOR 2023-24 FOR WATER SUPPLY

Annual Plan 22/23 $'000		Notes	LTP 23/24 $'000	Amended LTP 23/24 $'000	Total Variance $'000	LTP Amendment Variance $'000	Remaining Variance $'000
	SOURCES OF OPERATING FUNDING						
161	General Rates, uniform annual general charge, rates penalties		165	170	5		5
13,837	Targeted Rates		14,078	15,163	1,085		1,085
-	Subsidies and grants for operating purposes		-	649	649		649
324	Fees and charges		336	264	(72)		(72)
5,071	Internal charges and overheads recovered		5,326	5,344	18		18
-	Local authorities fuel tax, fines , infringement fees and other receipts		-	-	-		-
19,393	**TOTAL OPERATING FUNDING (A)**		**19,905**	**21,592**	**1,687**	**-**	**1,687**
	APPLICATIONS OF OPERATING FUNDING						
9,275	Payments to staff and suppliers		9,470	10,180	(710)		(710)
2,653	Finance costs	4	2,665	2,696	(31)	26	(5)
4,120	Internal charges and overheads applied		4,191	4,367	(176)		(176)
3	Other operating funding applications		3	3	()		()
16,051	**TOTAL APPLICATIONS OF OPERATING FUNDING (B)**		**16,329**	**17,246**	**(917)**	**26**	**(891)**
3,342	**Surplus (deficit) of operating funding (A-B)**		**3,576**	**4,346**	**770**	**(26)**	**744**
	SOURCES OF CAPITAL FUNDING						
-	Subsidies and grants for capital expenditure	1	-	1,671	1,671	1,671	-
1,021	Development and financial contributions	2	1,032	2,349	1,317	1,317	()
(1,022)	Increase (decrease) in debt		780	1,606	826	942	(115)
66	Gross proceeds from sale of assets		177	148	(29)		(29)
-	Lump sum contributions		-	-	-		-
-	Other dedicated capital funding		-		-		-
64	**TOTAL SOURCES OF CAPITAL FUNDING (C)**		**1,989**	**5,775**	**3,786**	**3,930**	**682**
	APPLICATIONS OF CAPITAL FUNDING						
	Capital expenditure						
300	To meet additional demand	3	281	5,352	(5,071)	3,904	(1,167)
516	To improve the level of service		1,321	986	335		335
2,590	To replace existing assets		3,963	3,783	181		181
-	Increase (decrease) in reserves		-		-		-
-	Increase (decrease) of investments		-	-	-		-
3,406	**TOTAL APPLICATIONS OF CAPITAL FUNDING (D)**		**5,565**	**10,120**	**(4,555)**	**3,904**	**(651)**
(3,342)	**Surplus (deficit) of Capital funding (C-D)**		**(3,576)**	**(4,346)**	**(770)**	**26**	**(744)**
-	**FUNDING BALANCE ((A-B)+(C-D))**		**-**	**-**			

Notes

1. Grant from Infrastructure Acceleration Fund primarily to fund Waipatu Drinking Water Trunkmain .
2. Increase in Development Contributions related to Waipatu Water supply Trunkmain.
3. Increase in Additional Demand Capital budget related to Waipatu Drinking Water Trunkmain (See LTP amendment page 6) and other projects (namely Havelock Hills) re-budgeted from 2022-23 to 2023-24.
4. Increase in Financing costs as per IAF summary sheet.(see attached)

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HASTINGS DISTRICT COUNCIL: FUNDING IMPACT STATEMENT FOR 2023-24 FOR SEWERAGE AND THE TREATMENT AND DISPOSAL OF SEWAGE

Annual Plan 22/23 $'000		Notes	LTP 23/24 $'000	Amended LTP 23/24 $'000	Total Variance $'000	LTP Amendment Variance $'000	Remaining Variance $'000
	SOURCES OF OPERATING FUNDING						
383	General Rates, uniform annual general charge, rates penalties		396	506	110		110
8,213	Targeted Rates		8,456	8,487	31		31
-	Subsidies and grants for operating purposes		-	-	-		-
2,363	Fees and charges		2,504	2,501	(3)		(3)
2,631	Internal charges and overheads recovered		2,793	2,631	(163)		(163)
-	Local authorities fuel tax, fines , infringement fees and other receipts		-	-	-		-
13,590	**TOTAL OPERATING FUNDING (A)**		**14,149**	**14,125**	**(24)**	**-**	**(24)**
	APPLICATIONS OF OPERATING FUNDING						
3,834	Payments to staff and suppliers	1	3,548	5,223	(1,675)		(1,675)
1,588	Finance costs	2	1,678	1,931	(253)	257	4
4,969	Internal charges and overheads applied		5,263	5,002	261		261
7	Other operating funding applications		8	7	1		1
10,398	**TOTAL APPLICATIONS OF OPERATING FUNDING (B)**		**10,497**	**12,164**	**(1,667)**	**257**	**(1,410)**
3,192	**Surplus (deficit) of operating funding (A-B)**		**3,652**	**1,961**	**(1,691)**	**(257)**	**(1,948)**
	SOURCES OF CAPITAL FUNDING						
-	Subsidies and grants for capital expenditure	3	-	15,847	15,847	15,847	-
1,343	Development and financial contributions	4	1,353	8,202	6,849	6,849	()
(4,570)	Increase (decrease) in debt	5	5,576	29,381	23,805	15,424	8,381
-	Gross proceeds from sale of assets		-	-	-		-
244	Lump sum contributions		259	244	(15)		(15)
-	Other dedicated capital funding		-	-	-		-
(2,983)	**TOTAL SOURCES OF CAPITAL FUNDING (C)**		**7,188**	**53,673**	**46,485**	**38,120**	**8,365**
	APPLICATIONS OF CAPITAL FUNDING						
	Capital expenditure						
25	To meet additional demand	6	2,681	32,063	(29,382)	28,063	(1,319)
171	To improve the level of service		770	1,513	(743)		(743)
13	To replace existing assets	7	7,389	22,058	(14,669)	9,800	(4,869)
-	Increase (decrease) in reserves		-		-		-
-	Increase (decrease) of investments		-	-	-		-
209	**TOTAL APPLICATIONS OF CAPITAL FUNDING (D)**		**10,840**	**55,634**	**(44,794)**	**37,863**	**(6,931)**
(3,192)	**Surplus (deficit) of Capital funding (C-D)**		**(3,652)**	**(1,961)**	**1,691**	**257**	**1,948**
-	**FUNDING BALANCE ((A-B)+(C-D))**		**-**	**-**	**-**	**-**	**()**

Notes

1. Increased Operations costs due to increased levels of maintenance work mainly at Wastewater Treatment Plant.
2. Increase in Financing costs as per IAF summary sheet.(see attached).
3. Grant from Infrastructure Acceleration Fund primarily to fund key Wastewater components .
4. Increase in Development Contributions related to IAF Bulk infrastructure.
5. Increase in debt due to IAF Bulk infrastructure portion not funded by Grant.
6. Increase in Capex additional demand budget due to IAF Bulk infrastructure (as per page 5 - 6 of LTP amendment).
7. Increase in Capital Renewal budget due to projects enabling the IAF funded Bulk infrastructure ($9.8m)plus the Eastern Inteceptor project($4.2m) which was re-budgeted from 2022-23 to 2023-24.

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HASTINGS DISTRICT COUNCIL: FUNDING IMPACT STATEMENT FOR 2022-23 FOR ROADS AND FOOTPATHS

Annual Plan 22/23 $'000		Notes	LTP 23/24 $'000	Amended LTP 23/24 $'000	Total Variance $'000	LTP Amendment Variance $'000	Remaining Variance $'000
	SOURCES OF OPERATING FUNDING						
19,700	General Rates, uniform annual general charge, rates penalties		21,830	20,914	(916)		(916)
572	Targeted Rates		597	592	(5)		(5)
7,337	Subsidies and grants for operating purposes		7,730	7,559	(171)		(171)
1,558	Fees and charges		2,482	1,620	(862)		(862)
3,246	Internal charges and overheads recovered		3,352	3,478	126		126
242	Local authorities fuel tax, fines , infringement fees and other receipts		319	320	1		1
32,655	**TOTAL OPERATING FUNDING (A)**		**36,310**	**34,484**	**(1,826)**	**-**	**(1,826)**
	APPLICATIONS OF OPERATING FUNDING						
16,705	Payments to staff and suppliers		17,641	17,321	320		320
1,022	Finance costs		1,176	1,146	30	8	38
5,651	Internal charges and overheads applied		5,770	6,015	(245)		(245)
13	Other operating funding applications		14	13	1		1
23,391	**TOTAL APPLICATIONS OF OPERATING FUNDING (B)**		**24,601**	**24,494**	**107**	**8**	**115**
9,264	**Surplus (deficit) of operating funding (A-B)**		**11,709**	**9,990**	**(1,719)**	**(8)**	**(1,727)**
	SOURCES OF CAPITAL FUNDING						
12,726	Subsidies and grants for capital expenditure		13,721	13,884	163	982	(819)
1,821	Development and financial contributions	1	1,851	2,677	826	826	
4,428	Increase (decrease) in debt	2	54	11,192	11,138	(136)	11,274
-	Gross proceeds from sale of assets		33	75	42		42
27	Lump sum contributions		28	-	(28)		(28)
-	Other dedicated capital funding		-		-		-
19,002	**TOTAL SOURCES OF CAPITAL FUNDING (C)**		**15,687**	**27,828**	**12,141**	**1,672**	**10,333**
	APPLICATIONS OF CAPITAL FUNDING						
	Capital expenditure						
2,596	To meet additional demand	3	803	10,777	(9,974)	1,664	(8,310)
8,166	To improve the level of service		7,393	8,406	(1,013)		(1,013)
17,504	To replace existing assets		19,200	18,635	565	-	565
-	Increase (decrease) in reserves		-		-		-
-	Increase (decrease) of investments		-	-	-		-
28,266	**TOTAL APPLICATIONS OF CAPITAL FUNDING (D)**		**27,396**	**37,818**	**(10,422)**	**1,664**	**(8,758)**
(9,264)	**Surplus (deficit) of Capital funding (C-D)**		**(11,709)**	**(9,990)**	**1,719**	**8**	**1,727**
-	**FUNDING BALANCE ((A-B)+(C-D))**		**-**	**-**		**()**	

Notes

1. Increased Development Contributions due to IAF funded projects plus un-related major developments.
2. Increase in debt due to IAF ancillary works (not funded by Grant), plus Projects (Iona Road and Lyndhurst) re-budgeted from 2022-23 to 2023-24.
3. Increase in additional demand capex due to $1.6m of IAF ancillary works, plus Projects (Iona Road and Lyndhurst) re-budgeted from 2022-23 to 2023-24.

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Impact on Long Term Plan Financial Statements for 2023/24

The following Financial Stements show the movements from what was contained in the 2021-31 Long Term Plan compared with the impact of this proposal.

Note: Whilst not relevant to this LTP Amendment, other movements unrelated to the impact of this proposal are also identified where relevant and relate to other movements in the captal plan from rephrased budgets and new capital acquisitions. These are displayed for clarity when reconciling the full variance column.



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PROSPECTIVE STATEMENT OF COMPREHENSIVE REVENUE AND EXPENSE FOR THE YEAR TO 30 JUNE 2024

Annual Plan 22/23 $'000		Notes	LTP (Yr3) 23/24 $'000	Amended LTP 23/24 $'000	Total Variance $'000	LTP Amendment Variance $'000	Remaining Variance $'000
	Revenue will be derived from:						
102,494	Rates		108,864	112,081	3,217		3,217
33,672	Fees and charges		39,558	37,612	(1,946)		(1,946)
5,785	Development and financial Contributions	1	5,858	15,136	9,278	9,321	(43)
25,433	Subsidies and Grants	2	21,837	41,625	19,788	18,500	1,288
3	Donations		3	3,378	3,375		3,375
537	Other revenue		566	583	17		17
1,000	Vested Infrastructural Assets		1,062	1,000	(62)		(62)
168,924	**TOTAL INCOME**		**177,748**	**211,415**	**33,667**	**27,821**	**5,846**
	Expenditure will be incurred on:						
112,932	Operational Costs		113,841	122,813	(8,972)		(8,972)
40,079	Depreciation and amortisation		37,765	52,671	(14,906)		(14,906)
8,624	Finance Costs	3	8,885	9,845	(960)	291	(670)
161,635	**TOTAL OPERATING EXPENDITURE**		**160,491**	**185,330**	**(24,839)**	**291**	**(24,548)**
	Unrealised Loss (Gain) on Swaps						
7,289	**NET SURPLUS (DEFICIT)**		**17,257**	**26,085**	**8,828**	**27,530**	**(18,702)**
	Other comprehensive income:						
84,770	Gains (Losses) on Infrastructural revaluations		75,235	75,235	-		-
84,770	**Other comprehensive revenue:**		**75,235**	**75,235**	**-**	**-**	**-**
92,059	**TOTAL COMPREHENSIVE REVENUE**		**92,492**	**101,320**	**8,828**	**27,530**	**(18,702)**
	Net Surplus (Deficit) attributable to:						
7,289	Hastings District Council		17,257	26,085	8,828		(8,828)
	Minority Interest						
7,289			**17,257**	**26,085**	**8,828**	**-**	**(8,828)**
	Total Comprehensive revenue attributable to:						
92,059	Hastings District Council		92,492	101,320	8,828		(18,702)
	Minority Interest						
92,059			**92,492**	**101,320**	**8,828**	**-**	**(18,702)**

Notes

1. Development Contribution Increase related to LTP amendment ($9.278m)

2. Increase in Subsidies and Grants explained by IAF funding ($18.5m), the balance of $1.288m is assorted other grants.

3. Increase in interest partially explained by IAF funded Bulk infrastructure ($291k) and interest on Strategic property purchases and completion of the Waiaroha project ($670k).

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PROSPECTIVE STATEMENT OF FINANCIAL POSITION FOR THE YEAR TO 30 JUNE 2024

Annual Plan 22/23 $'000		Notes	LTP (Yr3) 23/24 $'000	Amended LTP 23/24 $'000	Total Variance $'000	LTP Amendment Variance $'000	Remaining Variance $'000
	ASSETS						
	Current Assets						
33,859	Cash & cash equivalents		1,265	33,919	32,654		(32,654)
13,514	Debtors and other receivables		15,997	16,913	916	-	(916)
76	Inventories		108	76	(32)		32
	Non-current assets held for sale						
47,449			17,370	50,908	33,538	-	(33,538)
	Non Current Assets						
5,790	Investments in associates and other entities		1,063	5,790	4,727		(4,727)
15	Investments in Council Controlled Organisations		15	15	-		-
30	Other Investments		4,038	30	(4,008)		4,008
5,835			5,116	5,835	719	-	(719)
398,001	Plant, property and equipment		334,393	407,302	72,909		(72,909)
2,156,398	Infrastructural Assets		2,381,879	2,904,541	522,662	43,431	(479,231)
509	Intangible Assets		1,916	509	(1,407)		1,407
2,608,192	**Total Assets Employed**		**2,740,674**	**3,369,096**	**628,422**	**43,431**	**(584,991)**
	LIABILITIES & EQUITY						
	Current Liabilities						
21,457	Creditors and other payables		27,322	23,335	(3,987)		3,987
3,761	Employee Benefit Liabilities		3,398	3,761	363		(363)
501	Derivative Financial Liabilities			501	501		(501)
24,581	Borrowings and other financial liabilities	1	27,671	31,386	3,715		(3,715)
50,300			58,391	58,982	591	-	(591)
	Non Current Liabilities						
1,559	Provisions		1,640	1,559	(81)		81
684	Employee Benefit Liabilities		344	684	340		(340)
10,251	Derivative Financial Liabilities		3,500	10,251	6,751		(6,751)
221,231	Borrowings and other financial liabilities	1	249,041	282,471	33,430	15,901	(17,529)
233,725			254,525	294,965	40,440	15,901	(24,539)
	Public Equity						
1,240,979	Accumulated funds		1,269,927	1,340,601	70,674	27,530	(43,144)
3,437	Restricted Reserves		2,846	3,738	892		(892)
1,079,751	Revaluation Reserves		1,154,985	1,670,809	515,824		(515,824)
2,324,167			2,427,758	3,015,148	587,390	27,530	(559,860)
2,608,192	**Total Funds Employed**		**2,740,674**	**3,369,096**	**628,422**	**43,431**	**(584,991)**

Notes

1. $24m of the $37m movement in debt relates to the LTP Amendment and the balance being debt incurred in 2022/23 for strategic property accusitions and completion of the Waiaroha project.

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PROSPECTIVE STATEMENT OF CASHFLOWS FOR THE YEAR TO 30 JUNE 2024

Annual Plan 22/23 $'000		Notes	LTP (Yr3) 23/24 $'000	Amended LTP 23/24 $'000	Total Variance $'000	LTP Amendment Variance $'000	Remaining Variance $'000
	Cash Flows from Operating Activities						
	Cash will be provided from						
102,494	Rates Received		108,864	112,081	3,217	-	3,217
39,994	Receipts from Customers		45,982	53,331	7,349	9,321	(1,972)
25,436	Subsidies Grants & Donations Received		21,840	45,003	23,163	18,500	4,663
	Goods and services tax (net)						
167,924			176,686	210,415	33,729	27,821	5,908
	Cash was applied to						
112,932	Payments to Suppliers and Employees		113,841	122,813	8,972	-	8,972
8,624	Interest Paid		8,885	9,845	960	291	670
	GST (net)						
121,556			122,726	132,659	9,933	291	9,642
46,368	**Net Cash Flows from Operating Activities**		53,960	77,756	23,796	27,530	(3,734)
	Cash Flows from Investing Activities						
	Cash was provided from						
306	Sale of Plant, property & equipment		786	714	(72)		(72)
	Maturing/sale of investments						
	Investments Withdrawn			-			
306			786	714	(72)	-	(72)
	Cash was applied to						
55,124	Purchase of Property, Plant & Equipment and Infrastructural Assets	1	68,965	146,051	77,086	43,431	33,655
228	Purchase of Investments		404	404	()	-	-
55,352			69,369	146,455	77,086	43,431	33,655
(55,046)	**Net Cash Flows from Investing Activities**		(68,583)	(145,741)	(77,158)	(43,431)	(33,727)
	Cash Flows from Financing Activities						
	Cash was provided from						
18,625	Loans Raised		23,313	74,825	51,512	15,901	35,611
	Cash was applied to						-
9,812	Loans repaid		8,690	6,780	(1,910)		(1,910)
8,813	**Net Cash Flows from Financing Activities**		14,623	68,045	53,422	15,901	37,521
	Reconciliation of Cash Flows						
134	Net Increase (Decrease) in Cash Held		-	60	60		
33,725	Add Cash at Start of Year		1,265	33,859	32,594		
33,859	Cash at End of Year		1,265	33,919	32,654		

Notes

1. Increase in spend on Infrastructure assets relates to IAF funded bulk infrastructure,Enabling works related to IAF projects plus the re-budgeting of Capital from 2022-23 to 2023-24.

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Impact on Long Term Plan Infrastructure Strategy

Updates have been made to the Council's Infrastructure Strategy (where appropriate) to make reference to this proposal.

The updated strategy can be found at www.myvoicemychoice.co.nz, HDC-Long Term Plan Final Amendment 2023.



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Infrastructure Constraints Report

Report expert	Brett Chapman
Owner Department	Strategy & Development
Approval date	_____ 2023
Version	1.0
Review date	_____

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1. Introduction

The Hastings District is experiencing unprecedented levels of growth and there is a need to invest significantly in infrastructure to provide the required development capacity. Infrastructure includes 3 Waters (drinking water, wastewater and stormwater), transportation, parks and open spaces, and community facilities. The role of infrastructure is to improve our social, economic, environmental and cultural well-being and support more sustainable and resilient outcomes. The rapid growth being experienced in Hawke's Bay over the last six years has made planning for future growth a high priority reinforcing the need for future development capacity to be identified and serviced.

In September 2021, the key findings from a housing capacity assessment undertaken by Barker & Associates, predict that the Hastings population is expected to grow to between 104,600 and 119,800 (from around 87,000) over the next 30 years with household numbers (estimated at 31,300 in 2020), increasing to 42,300 in the long-term by 2050[1].

The National Policy Statement on Urban Development 2020 (NPS-UD) requires local authorities to provide "*at least sufficient development capacity*" for housing and business land over a 30 year horizon. This development capacity must be both plan-enabled (by a statutory planning instrument) and able to be serviced by infrastructure on a timely basis.

Hastings District is a Tier 2 local authority under the NPS-UD and is therefore also required to provide sufficient development capacity for the expected demand plus 15-20% additional capacity as a "competitiveness margin". This makes the ability to plan and deliver growth-related infrastructure essential for councils in meeting Government requirements under the NPS-UD.

In accordance with the NPS-UD, the councils (HBRC, HDC and NCC) as Tier 2 local authorities are required to prepare a Future Development Strategy (FDS). The councils, together with Central Hawke's Bay and Wairoa District Councils, have also agreed to prepare a Regional Spatial Strategy (RSS) which is a regional strategic plan signalled in the proposed Spatial Planning Act. Notwithstanding the lack of a statutory basis for a RSS at this time, it is intended that the Future Development Strategy, together with the Kotahi Plan being developed by HBRC, will form fundamental building blocks of the RSS.

The NPS-UD provides that "*the purpose of an FDS is:*

a) To promote long-term strategic planning by setting out how a local authority intends to:
   i. Achieve well-functioning urban environments in its existing and future urban areas; and
   ii. Provide at least sufficient development capacity, … ,over the next 30 years to meet expected demand; and
b) Assist the integration of planning decisions under the Act with infrastructure planning and funding decisions."

In the context of a well-functioning Napier-Hastings Urban Environment, the councils wish to prepare a FDS that provides for sufficient development capacity in a manner appropriate to the sub-region, its strengths and constraints. The definition of "well-functioning" under the NPS-UD (Policy 1) is…..

"urban environments that, as a minimum:

(a) have or enable a variety of homes that:

[1] STR-4-2-21-987

(i) meet the needs, in terms of type, price, and location, of different households; and

(ii) enable Māori to express their cultural traditions and norms; and

(b) have or enable a variety of sites that are suitable for different business sectors in terms of location and site size; and

(c) have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; and

(d) support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; and

(e) support reductions in greenhouse gas emissions; and

(f) are resilient to the likely current and future effects of climate change."

Core strategic matters and guiding principles to be addressed within the FDS include:

- Preserving and protecting the high-value, versatile soils of the Heretaunga plains
- Managing land and water in accordance with *te Mana o te Wai and Te Oranga o te Taiao.*
- Providing for hapū and iwi values and aspirations for urban development
- Recognising the likely impacts of climate change and associated resilience requirements in future planning, land and resource use
- Providing for development capacity in a manner consistent with sustainable resource management
- Providing for a high-amenity, well-functioning Napier-Hastings urban environment.

1.1. Purpose

This report presents analysis of the current physical capacity of infrastructure (the assets and services) that support the Hastings urban area including Havelock North and Flaxmere. This report is intended to apprise the current situation in respect of the various infrastructure services under the control of the Hastings District Council, alongside the levels of service and standards that determine each service.

It is not a report about solutions to constraints.

The analysis relies on the current evidence available (reports, modelling and operational knowledge) to identify where current limitations in our networks exist and to assess the impact of predicted greenfield and brownfield growth on capacity.

This report also includes information on the extent of resource consent limits (wastewater and stormwater discharges) and the consumption of resources (drinking water) where it may impact our ability to maintain services to existing and future communities.

In assessing each service, the intent is to identify where capacity is available and to focus on key constraints that must be addressed for significant growth to be supported in the short to medium period (2 to 10 years) and longer term (30+ years). Importantly, the servicing of growth through infrastructure must be implemented in a structured and planned way without compromising the existing communities Council serves.

This report is not intended to determine the extent of the infrastructure response to overcome the growth demands predicted to occur however it is an important first step in providing the foundation for further work to support the development of an Essential Services Development Plan (ESDP) which will then inform the Future Development Strategy.

The ESDP will provide detail on the solutions required to address deficiencies in infrastructure and services identified through the Constraints Report. It will also set priorities and objectives to align with Council's growth forecasts so that upgrades and investments are prioritised to the greatest need.

1.2. Report Structure

The infrastructure constraints presented in this report are evaluated separately under the following sub-headings:

Section 2: Drinking Water

Section 3: Wastewater (including trade waste)

Section 4: Urban Stormwater (including flood risk)

Section 5: Transportation

Section 6: Parks and Open Spaces

Section 7: Community Facilities

These sections will, where applicable, identify interdependencies where they exist so that the context of constraints and causation are presented. An example would be where wastewater capacity is impacted by the influence of stormwater inflow and infiltration or where access to drinking water sources may be influenced by legislation.

1.3. Plan Change 5[2]

Plan Change 5 (notified in October 2022) introduces changes to the Hastings District Plan to enable more housing including three storey houses and apartments to be built within existing residential areas. The proposal aims to protect our fertile soils from being built on as well as meeting our current and future housing needs.

As the development landscape changes, this density of development will have implications for infrastructure and services across Hastings, Flaxmere and Havelock North. Urban development, in particular infill, has increased the demand for services and current infrastructure constraints may be an impediment to proposed medium density growth in many areas.

A more structured and coordinated approach is required between developers and Council to ensure that the move to a more intensive urban form is not hindered by inadequate services and growth does not lead to diminished levels of service or unacceptable financial cost to the wider community. The management and coordination of development alongside planned infrastructure upgrades is therefore necessary for Plan Change 5 and the Medium Density Strategy to be successfully implemented.

1.4. Statement on Climate Change

Climate change is already affecting New Zealand. Temperatures have increased, glaciers are melting and sea levels have risen over the past century. Such changes are expected to continue, with far-reaching consequences across all the value domains that underpin wellbeing in New Zealand – namely, the natural environment, human capital, the economy, the built environment and governance. [3]

[2] https://www.hastingsdc.govt.nz/hastings/projects/plan-change-5-right-homes-right-place/

[3] Ministry for the Environment. 2020. *National Climate Change Risk Assessment for Aotearoa New Zealand: Main report – Arotakenga Tūraru mō te Huringa Āhuarangi o Āotearoa: Pūrongo whakatōpū.* Wellington: Ministry for the Environment.

Aotearoa New Zealand experiences a wide range of natural hazards – from earthquakes and volcanoes to erosion, landslides and extreme weather events. Climate change will increase the severity and frequency of some of those hazards, including flooding, heatwaves, drought and wildfire. We will also face new risks as a result of slow-onset, gradual changes such as sea-level rise, ocean warming, more hot days, and more rainfall in some parts and less in others. If the number and value of assets increases, that can also contribute to increasing risk exposure over time. These effects will impact New Zealanders in different ways – and there is a risk that some groups may be disproportionately impacted. [4]

The Hastings District Council has not as yet adopted a policy on climate change. However, the National Climate Change Risk Assessment for Aotearoa New Zealand (2020) provides an overview of how New Zealand may be affected by climate change-related hazards, and identifies the most significant risks and opportunities. It also highlights gaps in the information and data needed to properly assess and manage the risks and opportunities. The Government has also released a National Adaption Plan (NAP) in August 2022. The NAP sets out Aotearoa New Zealand's response to the most significant risks identified in the Risk Assessment. It is also noted that Regional Vulnerability Assessments are underway and will be incorporated into our planning processes in due course.

Hastings District Council staff consider the following risks as being of priority in regards to the draft NAP: water security (quantity and quality), natural disaster resilience (particularly land use planning), the ability to adequately fund our response and remain financially sustainable, drought, erosion and sea level rise (HDC has significant assets in low-lying areas), extreme rainfall events, fuel prices and other externalities, and the resources (human and financial) required to adapt to Government policies. The NAP does not place any specific responsibilities on Local Government at this stage, but the sector is likely to play a key role in many of the outcomes sought in the NAP.

The urgent risks below in Table 1.4 represent a broad range of issues and shows the two most urgent, hence most significant, risks in each domain. Some risks, like those to the human, built and natural environment domains, are driven by vulnerabilities. In some cases, particularly in the natural environment, more research is urgently needed to understand the risks better before they can be properly managed. Other risks, for instance in governance and the economy, require urgent action to enable effective adaptation across all domains.

The following table is from the National Climate Change Risk Assessment for Aotearoa New Zealand and shows the two most urgent, hence most significant, risks in each domain.

1.5. Most significant risks in each domain based on urgency ratings

Risk	Ratings Urgency	Ratings Consequence
Natural environment (N)		
N1 Risks to coastal ecosystems, including the intertidal zone, estuaries, dunes, coastal lakes and wetlands, due to ongoing sea-level rise and extreme weather events.	78	Major
N2 Risks to indigenous ecosystems and species from the enhanced spread, survival and establishment of invasive species due to climate change.	73	Major
Human (H)		
H1 Risks to social cohesion and community wellbeing from displacement of individuals, families and communities due to climate change impacts.	88	Extreme

[4] From NAP Exec Summary page 10

H2 Risks of exacerbating existing inequities and creating new and additional inequities due to differential distribution of climate change impacts.	85	Extreme
Economy (E)		
E1 Risks to governments from economic costs associated with lost productivity, disaster relief expenditure and unfunded contingent liabilities due to extreme events and ongoing, gradual changes.	90	Extreme
E2 Risks to the financial system from instability due to extreme weather events and ongoing, gradual changes.	83	Major
Built environment (B)		
B1 Risk to potable water supplies (availability and quality) due to changes in rainfall, temperature, drought, extreme weather events and ongoing sea-level rise.	93	Extreme
B2 Risks to buildings due to extreme weather events, drought, increased fire weather and ongoing sea-level rise.	90	Extreme
Governance (G)		
G1 Risk of maladaptation across all domains due to the application of practices, processes and tools that do not account for uncertainty and change over long timeframes.	83	Extreme
G2 Risk that climate change impacts across all domains will be exacerbated because current institutional arrangements are not fit for climate change adaptation. Institutional arrangements include legislative and decision-making frameworks, coordination within and across levels of government and funding mechanisms.	80	Extreme

(Table 10 page 43 - National Climate Change Risk Assessment for Aotearoa New Zealand)

1.6. Infrastructure and Climate Resilient Development

Many of our existing communities are located in areas that are likely to be impacted by climate change to varying degrees. Our ability to adapt to these impacts require plans and actions to reduce risk, keep people safe and ensure that the natural environment, human capital, our economy and the built environment are resilient.

Infrastructure provides services that extend across all areas of our lives and is fundamental to supporting community wellbeing. Infrastructure assets are long-life and are not easily moved or upgraded as the effects of climate change intensify.

The ability to adapt will require careful consideration of future predictions, hazard mapping, vulnerability, the critical nature and consequence of service failures and supply chain disruptions plus our ability to maintain existing levels of service and meeting future growth needs.

A key objective of our growth strategies (residential, commercial and industrial) will be to ensure that as much as possible, the location and design of new developments (greenfield) and redevelopment proposals (including medium density and intensification areas) are guided and regulated to account for climate change impacts in their design and implementation. Critical actions from the NAP include:

- Develop guidance to support asset owners to evaluate, understand and manage the impacts and risks of climate change on their physical assets and the services they provide.
- Scope a resilience standard or code for infrastructure to encourage risk reduction and resilience planning in existing and new assets.
- Integrate adaptation into Treasury decisions on infrastructure to ensure decision-making for new assets and across major renewal or upgrade programmes considers climate risks.

- Develop and implement the Waka Kotahi Climate Adaptation Plan to enable climate-resilient transport networks and journeys, connecting people, products and services for a thriving Aotearoa.

The government has set out three key objectives to build resilient infrastructure:

Code	Objective	Explanation
INF1	Reduce the vulnerability of assets exposed to climate change	• Understand where infrastructure assets and their services are exposed and vulnerable to climate impacts. • Prioritise the risk management of assets so that services can continue if disruption occurs.
INF2	Ensure all new infrastructure is fit for a changing climate	• Consider long-term climate impacts when we design and invest in infrastructure, so the right infrastructure is in the right places. • Understand future adaptation options and finance them as part of the investment in new infrastructure to build capacity to adapt.
INF3	Use renewal programmes to improve adaptive capacity	• Consider long-term climate impacts when making decisions to maintain, upgrade, repair or replace existing infrastructure.

Source: Table 8 - Ministry for the Environment. 2022. Aotearoa New Zealand's first national adaptation plan. Wellington. Ministry for the Environment.

While this document is not intended to set out a response to how we manage future challenges (including climate change), some of the constraints and issues that are identified are already being affected or influenced by climate change to some degree.

An example of this is evident across the older parts of our urban and rural stormwater network that were originally designed for rain events that are not representative in today's climate. Increased rainfall intensities and peak flows, coupled with more impervious surface area, mean our pipes are overwhelmed on a more frequent basis resulting in overland flows, surface ponding and flash flooding. This challenges conventional approaches and requires a step change in how we plan and implement solutions that minimise these impacts while balancing the need to utilise existing infrastructure in an efficient way. Future adaptation will also challenge the community's perspective on what a resilient future may look like and what we are prepared to accept in terms of risk.

It is also acknowledged that the longer term impacts of climate change have the potential to change settlement patterns in New Zealand and lead to changes in global migration trends (climate change related population displacement or migration). The potential change scenarios associated with these longer term climate change impacts will be developed and modelled progressively as part of the wider long-term demand analysis components of this project.

1.7. Schedule of Key Findings

The following table provides a summary of the key findings detailed within each section of the report.

Constraint	Consequence	Council Response
Hastings Urban Water Supply The amount of water we take from the underground aquifer is limited by a Consent. Since 2016, urban water supply consumption has been increasing. The TANK plan change seeks to limit any further increase in consented volumes for urban supplies.	If consumption trends continue, we may exceed consent limits by or before 2030.	Council has and continues to implement demand management and water conservation strategies including restrictions for urban and irrigation customers. Council has been successful in combining several separate consents into the Hastings allocation. This provides further headroom to cater for growth. Further strategies are underway to improve our efficient use of water including network wide pressure reduction and investigation of water meters on all connections.
Hastings Wastewater Network The urban wastewater network is reaching full capacity. Predicted growth and intensification requires additional capacity beyond the capabilities of the existing system.	Additional wastewater demand can cause surcharging of pipes and increases the risk of overflows in wet weather events.	Council is planning to build new infrastructure to provide growth capacity and improve existing network issues. Council is progressing with Investigations, strategies and upgrades to minimise stormwater impacts to the wastewater system.
Hastings Stormwater Network The Hastings urban stormwater system is vulnerable to increasing rainfall intensities and volumes due to climate change. A reduction in pervious surfaces caused by development, infill and extensions increases run-off.	Our ability to control stormwater in pipes and overland flow systems (detention ponds) is lessened. Pipes fill up faster with more stormwater present in roads and properties. More overland flow increases the risk of flooding and inundation. There is growing anxiety in our communities about the risk of flooding and expectations of Council to minimise flooding are increasing.	Council has rules in place to ensure that new development alleviates stormwater within the property. Mapping of overland flow and flooding will improve Council's ability to contain stormwater to designated areas. Council is developing adaptation strategies to ensure that there are plans in place to minimise the impacts of climate change. Council and the community will need to agree a range of approaches for addressing limitations and areas that are becoming increasingly vulnerable.
Transportation Suburban roads are being used as de facto bypasses to avoid more congested areas. Road safety statistics highlight half of the district's crashes occur on urban roads. There is a high reliance on private and commercial vehicle use.	The generation of undesirable levels of traffic on access roads with increased noise, vibration and impact on amenity. More people are driving on our roads increasing the potential for frustration and risk taking behaviours to emerge.	Sustainable transport initiatives are targeted at promoting alternatives means of transport (walking and cycling) and increased use of public transport to get around. Road safety plans include improving intersection connectivity, pavement re-designs (better paths and cycleways).
Parks and Open Spaces The availability of parks and open spaces within our urban areas is below the current level of service.	Some of our local reserves and playgrounds are not always accessible or within walking distance for residents. As places to gather, participate in events and socialise, the "connectedness" of our communities is undermined.	Council has prepared a District Wide Reserve Management Plan with objectives and policies to provide consistency, transparency and community awareness of Council's intentions for managing our reserves and open spaces.

2. Drinking Water

2.1. Executive Summary

The Water Services Act 2021[5] imposes duties on drinking water suppliers to ensure that drinking water is safe and complies with the drinking water standards (Section 21). These duties also include a requirement to ensure that a sufficient quantity of drinking water is provided to each point of supply to which the supplier supplies drinking water (Section 25).

The Hastings water supply services the main urban areas of Hastings, Flaxmere and Havelock North and the adjacent townships of Bridge Pa and Paki Paki. The network provides water to 24,858 [6] domestic and commercial/industrial properties along with firefighting services across the urban area.

The Hastings supply sources water entirely from groundwater bores within the Heretaunga Plains aquifer. The major borefields are located at Frimley Park and on Eastbourne Street with smaller abstraction from Wilson Road in Flaxmere and Brookvale Rd in Havelock North.

Drinking water quality remains a high priority for HDC. The Havelock North contamination event in August 2016 was a catalyst for reviewing the level of treatment for all supplies and significant upgrades have been implemented across all of the district's drinking water supplies to comply with the New Drinking Water Standards, Quality Assurance Rules and Aesthetic Values regulated by Taumata Arowai.

The Drinking Water Strategy 2018 (WAT-20-20-18-525) sets out the approach to drinking water that has water quality and safety as the prime objectives. The strategy includes a combination of new and redefined initiatives based on investigations, modelling and science to guide the establishment of new treatment and reservoir storage at Frimley Park and Eastbourne St, new and upgraded pipes, and a booster pump station in Havelock North.

The strategy also highlights the need to ensure that Hastings has access to sufficient quantities of water to meet current and future needs, whilst ensuring water is used efficiently. New information relating to sustainable groundwater abstraction rates and stream depletion effects from groundwater abstraction across the Heretaunga Plains means that Council must use water efficiently while also ensuring that its abstractions are within sustainable allocation limits and are not having an adverse environmental effect.

Current growth projections for Hastings (expected to grow to between 104,600 and 119,800 from around 87,000 over the next 30 years) [7] mean that there will be increasing demand for water that will need to be met by the Hastings urban water supply consent. Demand will increase as development within the supply area intensifies, along with expansion of the supply area to meet new growth demands and to supply areas which are currently not serviced.

Average annual consumption has been increasing since the early 2000s but has accelerated in more recent years. The main constraint for the Hastings drinking water supply is the ability to access

[5] https://www.legislation.govt.nz/act/public/2021/0036/latest/LMS374564.html?search=ts_act_water_resel_25_a&p=1

[6] HDC 2022 Rating Information

[7] STR-4-2-21-987 Napier and Hastings Housing Assessment Summary Report Housing Capacity Assessment NPSUD 2021 Barker and Associates

sufficient quantities of water to meet our reasonable domestic, commercial and small industrial needs within the next 10 years as growth continues to increase our base consumption rates.

The impact of residential growth is apparent in our consumption data which shows a continuing upward trend and it is expected that this trend will continue in the foreseeable future. While this will be offset to some degree by the resource consent application to combine several separate consents into the Hastings allocation, on current predictions we will reach our maximum consented volume before 2030 based on current projections.

Figure 2.1.1 Increased Consent Volume (August 2022)

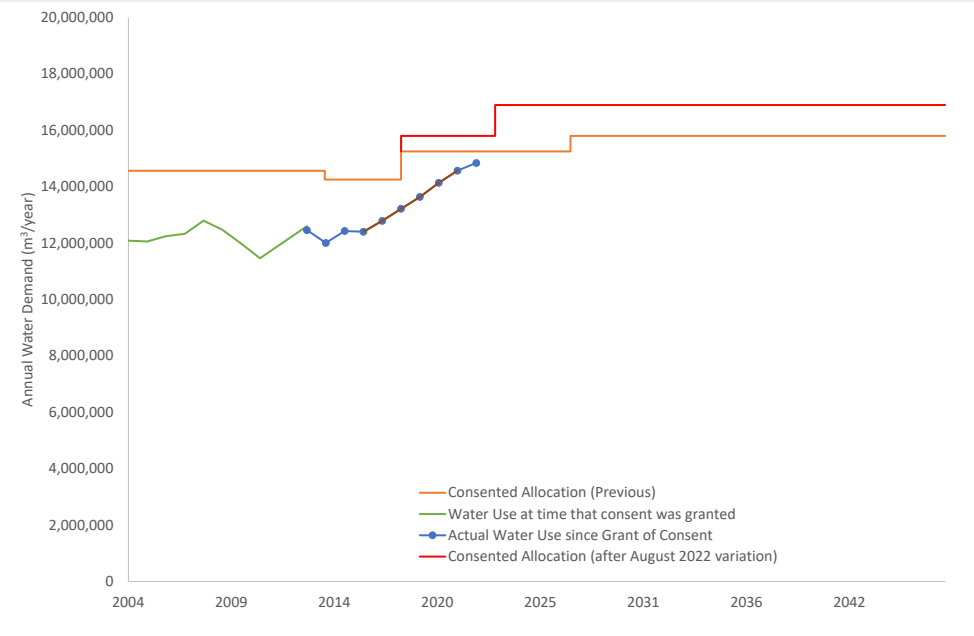
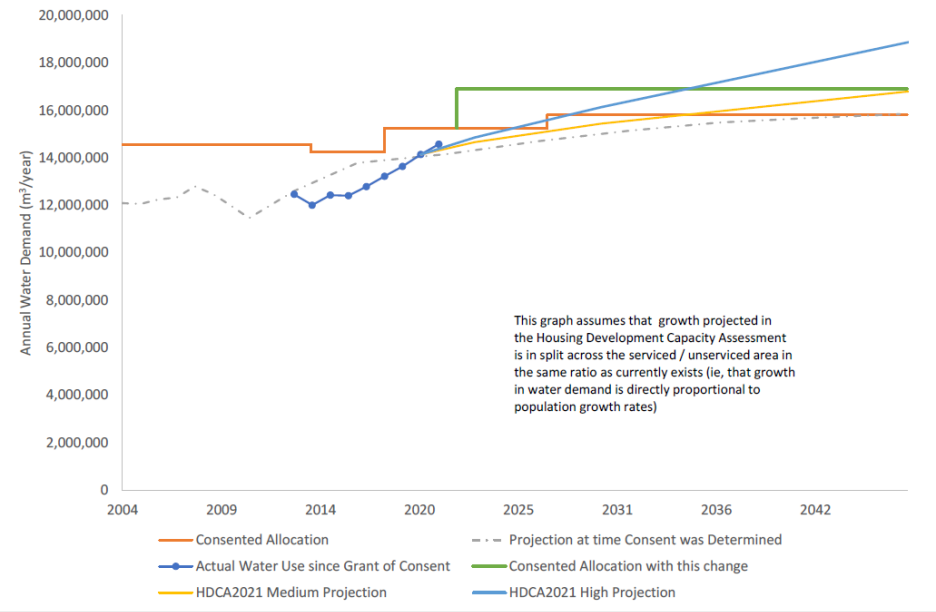


Figure 2.1.2 Projected Water Demand with Updated Population Projections [8]



The predictions shown above in Figure 2.1.2 are based on our historic and current consumption rates and estimates of future water demand using a medium and high growth scenario. These projections do not account for potential reductions from demand management programmes that are underway to reduce network wide leakage (leak detection and accelerated asset replacements), pressure reduction and the potential for domestic water metering to be progressed over a similar timeframe. It is anticipated that these measures will realise some gains in capacity (potentially 5% to 10%) to buffer our future needs, improve our resilience and increase our efficient use of water however these gains will only be gradually achieved as part of this suite of long-term initiatives.

Our distribution network capacity to meet fire-fighting and domestic service levels is variable and is influenced by seasonal demand and the way the network is currently configured. Despite some localised issues, there are no significant constraints that would prohibit servicing residential growth occurring within the current serviced area. However, demand for water to supply larger industrial needs or to service developments or extensions beyond the existing network cannot be guaranteed and will require specific analysis to determine what capacity if any, is available.

While large industrial users are self-serviced and have their own water sources, new rules on surface and groundwater takes (TANK Plan Change 9)[9] will limit access to additional water such that industrial expansion or new industrial activities will be constrained and they may then rely more heavily on the Hastings supply to meet their essential water needs. The impact of the TANK Plan Change on the HDC water supply will be better understood once the rules are in place but at the time of this report, the plan change process has not concluded and is still subject to appeal.

[8] WAT-20-10-23-1519 AUTH-120019-04 Application Resource Consent Hastings Urban water supply - allocation transfer PakiPaki & Napier Road AUTH-120019-05

[9] Hawke's Bay Regional Council Regional Resource Management Plan to manage water quality and quantity for the Tūtaekurī, Ahuriri, Ngaruroro and Karamū (TANK) catchments.

The primary constraint that is impacting the Hastings drinking water supply, and in particular the ability to manage future demand, is the ability to access sufficient quantities of water to meet our reasonable domestic, commercial and small industrial needs within the next 10 years. Council's approach to meeting our future growth needs will therefore necessitate a dual approach of ongoing efficiency improvements alongside retaining existing allocations already provided to Council for municipal water supply.

2.2. Level of Service Statement

The aim of Council's Drinking water activity is to provide a continuous safe, potable water supply that helps ensure public health.[10]

Council's key strategic objectives are based on legislative requirements and community outcomes. In particular *Section 10 of the Local Government Act* defines the purpose of Local Government and Council has identified the drinking water activity as an essential service that contributes towards the Council objective *to provide healthy drinking water and sanitary services*.

The Water Services Act 2021[11] imposes duties on drinking water suppliers to ensure that drinking water is safe and complies with the drinking water standards (Section 21). These duties also include a requirement to ensure that a sufficient quantity of drinking water is provided to each point of supply to which the supplier supplies drinking water (Section 25).

The Hastings District Council operates 11 water supplies within its district. The main Hastings urban supply is located over the Heretaunga Plains aquifer, and comprises the city of Hastings and the townships of Havelock North, Flaxmere, Bridge Pa and Paki Paki. The population served by the supply is estimated to be 64,764 people making this a large drinking-water supply.

A number of smaller supplies are located across the district supplying drinking water to the communities of Te Pohue, Waipatu, Waipatiki, Whirinaki and Esk, Omahu, Whakatu, Clive, Haumoana/Te Awanga, and Waimarama.

These townships are excluded from the capacity assessment.

2.3. Overview

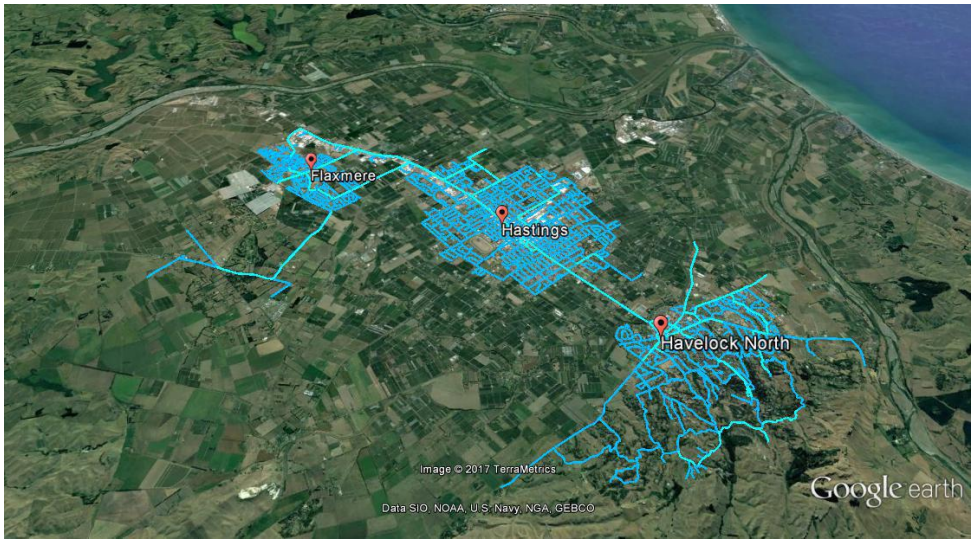
The Hastings supply sources water entirely from groundwater bores within the Heretaunga Plains aquifer. The major borefields are located at Frimley Park and on Eastbourne Street with smaller abstraction from Wilson Road in Flaxmere and Brookvale Road in Havelock North. The small satellite townships of Bridge Pa and Paki Paki are connected to the Hastings supply (refer Figure 2.3.1).

The distribution system is divided into six water supply zones, comprising seven booster pump stations and 20 treated water storage reservoirs across eight sites. The zones are interconnected and the supply is dynamic in operation with sources influencing multiple zones.

Historically, large scale users (food processing) have been able to access their own water supplies through private bores and there is significant 'wet industry' within the Hastings network that has utilised the Heretaunga Plains aquifer for their primary industry needs. These businesses are also supported via the HDC municipal supply to provide their potable water needs and general fire-fighting capability however they do not rely on the Hastings supply for process related activities.

[10] HDC Asset Management Plan (2021)
[11] https://www.legislation.govt.nz/act/public/2021/0036/latest/LMS374564.html?search=ts_act_water_resel_25_a&p=1

Figure 2.3.1 – Layout of the Hastings Urban Water Supply (excludes Paki Paki)



In March 2018, Council adopted the HDC Drinking Water Strategy (WAT-20-20-18-525). The purpose of this document was to review Council's strategy for providing drinking water services in light of the Havelock North contamination event in August 2016. The strategy presents a vision for the delivery of water services that has water quality and safety as its prime objective.

The strategy also highlights the need to ensure that Hastings has access to sufficient quantities of water to meet current and future needs, whilst ensuring water is used efficiently. New information relating to sustainable groundwater abstraction rates and stream depletion effects from groundwater abstraction across the Heretaunga Plains means that Council must use water efficiently while also ensuring that its abstractions are within sustainable allocation limits and are not having an adverse environmental effect.

In August 2017, Hawkes Bay Regional Council announced that *"new scientific advice… indicates the effects of current groundwater takes from the Heretaunga Aquifer are at the limit of what is environmentally acceptable.*[12] The Regional Council also stated that the science advice indicates that all groundwater takes from the Heretaunga Plains Aquifer are ultimately connected to surface water flow, albeit that the effect of the takes vary with location. It noted that "at the current usage levels, the groundwater is not being used unsustainably as there is still considerably more water entering the aquifer every year providing spring flows and flowing out to sea than is taken for use.

However, the current groundwater volumes abstracted over a year have a significant effect on the Ngaruroro River and spring-fed streams and a detrimental effect on in-stream ecology."[13]

Water supply, in particular potable water for health and hygiene purposes, is a critical service for which there are significant public health and community disruption effects if the supply is interrupted. The resilience of the overall system is therefore an important consideration in the development of the water supply strategy. Council is still in the process of defining and developing criteria for assessing

[12] Hawkes Bay Regional Council, Press Release, 18 August 2017.
[13] HDC Drinking Water Strategy 2018 (page 11)

and building in resilience to the supply system. This notwithstanding, the following principles have been considered in developing this strategy. [14]

Resilience includes being able to access sufficient water from multiple sources, treatment processes are able to continue via independent power (back-up generation) and sufficient reservoir storage to maintain emergency supplies and to minimise disruptions. Resilience also means having a distribution network that provides security in the delivery of essential water and fire-fighting even under adverse conditions or civil defence emergencies.

2.4. Water Allocation (TANK Plan Change)

The HB Regional Council TANK Plan Change (Proposed Plan Change 9) proposes to add new rules to the Regional Resource Management Plan to manage water quality and quantity across the Tūtaekurī, Ahuriri, Ngaruroro and Karamū catchments including the Heretaunga Plains groundwater aquifer. These new provisions seek to address a range of issues in respect of allocation limits, stream depletion effects and setting minimum flows as well as protecting the quality of source water for drinking water supplies. The TANK Plan gives priority to water for human health, community and town supply.

https://www.hbrc.govt.nz/assets/Document-Library/TANK/TANK-Plan-booklet-2020.pdf

The Ngaruroro catchment is at full allocation and the Karamū catchment is currently considered to be over allocated. No allocation limits for groundwater resources are currently set in the RRMP. Instead, environmental guidelines indicated that the safe yield identified for an aquifer should not be exceeded and groundwater takes should not cause a reduction in the flow of rivers, levels of springs or lakes or ecologically significant wetlands. [15]

The vast majority of recharge to the Heretaunga aquifer system is via recharge from the Ngaruroro River. The Heretaunga Plains aquifer is considered to be fully allocated and new rules will place higher performance standards on abstraction to ensure water is used efficiently and, as municipal supplies are significant users of this resource, this will impact existing consents and allocations in the future. In accordance with S 86(3)(a) of the RMA, the proposed TANK Rules have immediate legal effect from the date of notification and therefore are currently in effect despite appeals not yet being resolved.

The NPS-UD requires Councils to ensure that there are sufficient quantities of water to cater for growth including urban residential needs as well as support for commercial and industrial expansion in the future. Clause 3.22 of the NPSUD requires the Council to maintain a "competitiveness margin" of development capacity over and above the expected demand "in order to support choice and competitiveness in housing and business land markets." The competitiveness margin required to be provided is 20% in the short to medium term, and 15% in the long term. The NPSUD defines the short term as less than 3 years, the medium term as 3-10 years and long term as 10-30 years. Given that there is at least 20 years remaining in the consent term for the Hastings water supply, this falls into the long term category. Council may therefore be required to provide water supply which provides for 15% above the demand projected in Figure 2.5.1.

2.5. Hastings Consent

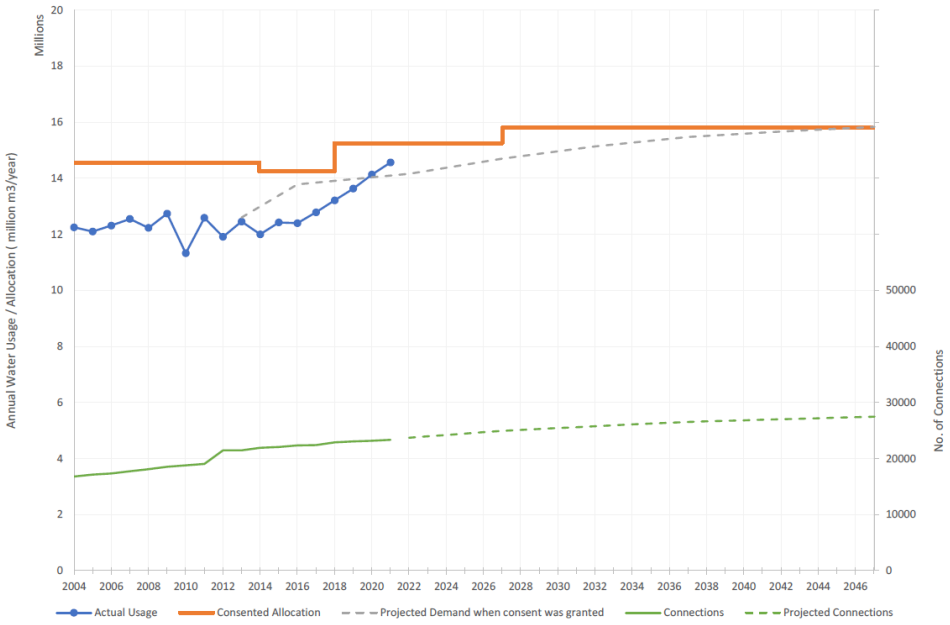
The Hastings urban water supply consent was granted in June 2014 and expires on 31 May 2047. At the time that the Hastings urban supply consent was granted, the annual water volume required was determined by projecting forward the average annual demand from 2003-2010 based on the projected population growth as per HPUDS 2010. The population projection was that, over the term

[14] HDC Drinking Water Strategy (WAT-20-20-18-525) page 12.

[15] Final TANK Section 32 Report March 2020

of the consent, the system would need to service an additional 14,530 persons representing a 27% increase over the term of the consent. As a result, the consent provided for a stepped increase in annual allocation from 12.5 million m3/year at the commencement of the consent, through to 15.8 million m3/year towards the end of the consent term.[16]

Figure 2.5.1 Comparison of Actual Water Demand v Consent Allocation (2014)



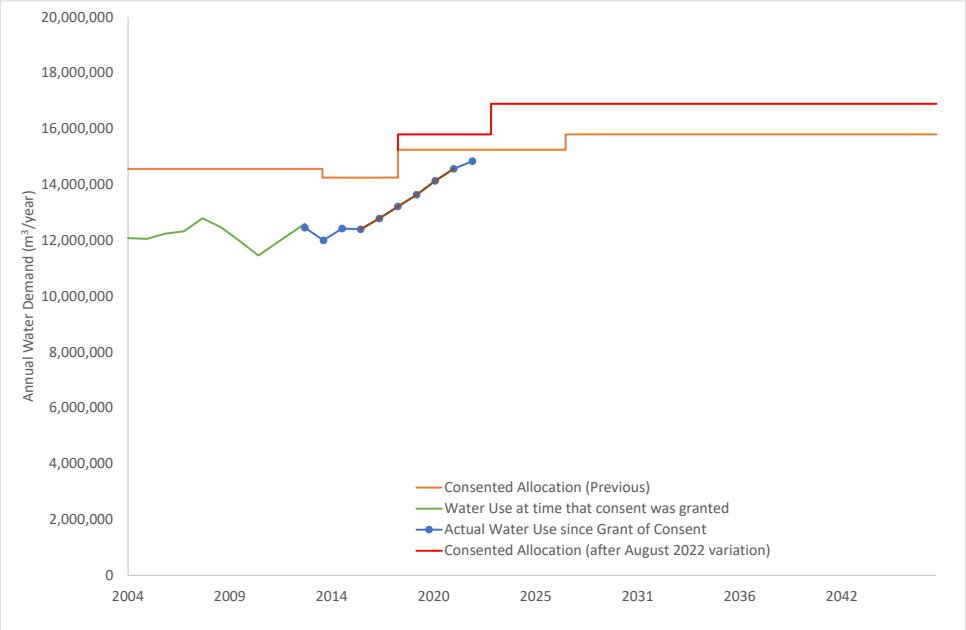
In recent years, the community has been growing at a greater rate than projected at the time the consent was granted, and this accelerated growth is projected to continue. Despite ongoing implementation of network efficiency measures, water allocation under the Hastings urban water supply consent is insufficient to meet projected community growth.

Figure 2.5.1 above shows that growth (as depicted by new connections) has been increasing steadily since 2004. In the period from 2004 to 2016, annual consumption has been largely unchanged which can be attributed to the effectiveness of water conservation measures and irrigation restrictions constraining total annual volumes. However, from 2016 onwards there is a distinct and consistent increase in annual consumption that can no longer be buffered by current demand management measures alone.

The annual consumption for 2021 was 14.565 million cubic metres representing a headroom of only 685,000 cubic metres per annum. On current projections, consumption could exceed the consent limit in the next few years. A consent variation was approved in August 2022 which increased the annual allocation volume under the Hastings urban consent to 16,892,000 m3/year. This was achieved by transferred unused allocations from the Council's Napier Road and Paki Paki consents to the Hastings urban supply and did not constitute any new allocation from the aquifer.

[16] Application to Transfer Allocation from AUTH-114789.01 (Napier Road) and AUTH-113287.01 (Paki Paki) to Hastings Urban Water Supply Consent (AUTH-120019.04)

Figure 2.5.2 - Increase in total consented volume. (2022)



Council has an ongoing commitment to implementing its programmes of work that ensure continual improvements in water conservation and network efficiency but it is recognised that there is a practical limit to the amount of growth that can be achieved through efficiency and conservation measures alone.

The HDC Water Conservation & Demand Management Strategy (2021)[17] refers to the American Water Works Association (AWWA) general guidelines for Infrastructure Leakage Index (ILI) target setting and based on these guidelines, it is considered that an ILI in the range of 4 - 8 is appropriate for Hastings. HDC's current aim is to maintain non-revenue water loss (NRW) of no more than 20% or an ILI of 4 – 8 until network wide pressure reduction measures are able to be undertaken. The latest water loss survey results estimate up to 29% of unaccounted for water with an ILI of 5.74.[18]

2.6. Heretaunga Plains Urban Development Strategy (HPUDS)

Growth has been occurring at a greater rate than anticipated in HPUDS 2010, which is what the original resource consent projections were based on. HPUDS was reviewed in 2016/2017 and the updated HPUDS 2017 document (STR-4-2-17-813) states:

• *"Key findings from a review of demographic and economic growth information since 2009, indicates that population and household numbers since 2009 have exceeded the Statistics New Zealand 'medium' growth projections on which 2010 HPUDS was based, and that a medium – high projection should be adopted."*

[17] WAT-20-25-21-109
[18] HDC Water Loss Assessment 2021/22 (Stantec Report)

• *"Population growth within the study area from 2009 – 2015, was 5,500 people, or an increase of 4.4% to a population of 131,400. This was higher than that projected in 2009 (by 1,080) and was driven by both natural population increase (4,594) and net migration gain (1,106)."*

• *"The total number of 'households' in the study area increased by 3,063 to 51,455 between 2009 and 2015. This is an increase of 6.3% and exceeded the projections made six years ago by 545 households."*

• *"The average number of people per household reduced from 2.6 in 2009 to 2.55 in 2016."*

2.7. Current Growth Projections

In September 2021, the key findings from a housing capacity assessment undertaken by Barker & Associates, predict that the Hastings population is expected to grow to between 104,600 and 119,800 (from around 87,000) over the next 30 years with household numbers (estimated at 31,300 in 2020), increasing to 42,300 in the long-term by 2050[19]. The current growth projections are that there will be increasing demand for water that will need to be met by the Hastings urban water supply consent. This will occur as development within the supply area intensifies, along with expansion of the supply area to meet growth demands and to supply areas which are currently not serviced.

Transferring water which is already allocated for public water supply purposes (under the Napier Road and Pakipaki bore consents) increases the overall allocation to provide some additional headroom for the next 5 years depending on the actual rate of growth. In summary, Council's approach to meeting growth needs will necessitate a dual approach of ongoing efficiency improvements alongside retaining existing allocations already provided to Council for municipal water supply. Figure 2.7.1 provides an indication of predicted water demand.

Figure 2.7.1 Projected Water Demand with Updated Population Projections [20]



2.8. Distribution Network

The Hastings water supply distribution network delivers treated drinking water to the greater Hastings urban area including Havelock North, Flaxmere and the satellite townships of Bridge Pa and Paki Paki.

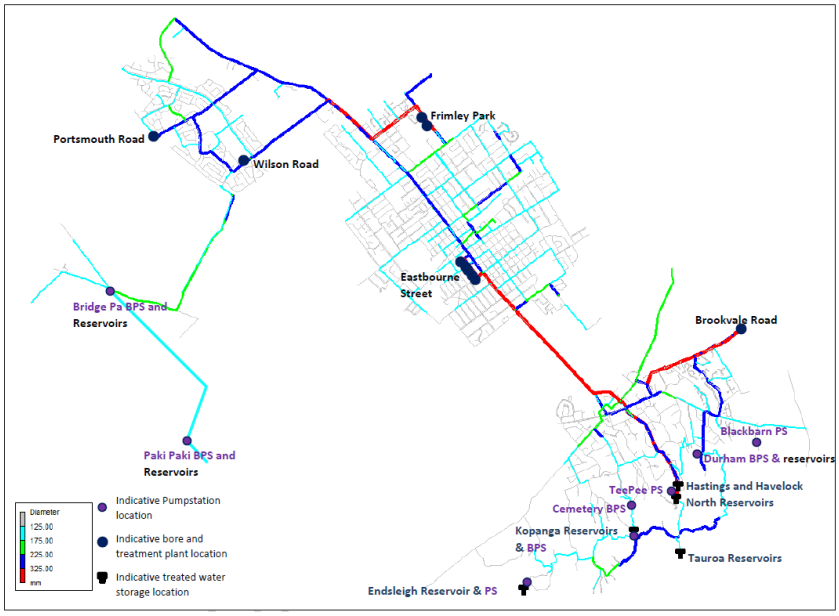
[19] STR-4-2-21-987 Napier and Hastings Housing Assessment Summary Report Housing Capacity Assessment NPSUD 2021 Barker and Associates

[20] WAT-20-10-23-1519 AUTH-120019-04 Application Resource Consent Hastings Urban water supply - allocation transfer PakiPaki & Napier Road AUTH-120019-05

In total the system delivers drinking water to 21,850 connections (residential, commercial and industrial).

The network extent is shown in the Figure 2.8.1 below.

Figure 2.8.1 Hastings Water Supply Distribution Network



The distribution system is dynamic in operation in that it functions as an integrated and open supply across all areas comprising seven booster pump stations and 20 treated water storage reservoirs across eight sites. Treated water from the water treatment plants (WTP) is currently distributed directly to customers with no treated water storage provided at the WTP or prior to customers receiving supply. The network is therefore heavily dependent on pumping directly from the source water bores to maintain operating pressures and keep reservoirs full.

Capital works currently underway, and due for completion mid-2023, include additional post-treatment storage which will change the system from on-demand pumping from the aquifer to on-demand pumping from the treated storage reservoirs. Aquifer abstraction rates will then be decoupled from the reticulation demand and more closely matched to average demand allowing for steady, less variable abstraction rates.

2.9. Reservoir Storage

The Hastings, Havelock North, Flaxmere and Bridge Pa zones are currently serviced by two large 10,000m3 reservoirs (Hastings 1 and 2) and two smaller Havelock North reservoirs 1940m³ and 1230m³. During high summer demand reservoir storage in these reservoirs can be reduced to as little as four hours, and during winter months typical storage is approximately 12 hours. These main reservoirs are used to supply elevated areas, support firefighting capacity, maintain supply in the event of treatment plant outages and to supplement high demand where it exceeds pumping capacity. The smaller reservoirs are all located in the Havelock North hills and act as staging reservoirs for further pumping to elevated residential areas.

The Havelock North zone is operated by HDC as two separate zones: Havelock North and the Havelock North High-Level Zone (HLZ). The Havelock North High Level Zone is primarily serviced by the Tauroa reservoir (460 m3) and several smaller concrete or plastic reservoirs including Kopanga (225 m3) and Endsleigh (2 x 25 m3). Most of the smaller reservoirs provide at least 12 hours storage during the winter months. There are five small booster pump stations which transfer water from the lower pressure zone into the Havelock Nth HLZ including a number of smaller reservoirs. The five discrete zones that currently make up the Havelock Nth HLZ are Endsleigh, Aintree, Kopanga, Tauroa and Durham Drive. A number of these boosted areas in the Havelock North HLZ do not have reservoir storage and therefore, without intervention will lose water during a power outage.

2.10. Bridge Pa and Paki Paki

The Bridge Pa and Paki Paki Booster Pumping Stations source water from the Flaxmere zone. Under normal operation, at each site water feeds four 25m3 reservoirs from which the pumps source water and deliver to the Bridge Pa and Paki Paki zones. In a power fail or pump outage a controlled bypass valve can be opened to provide continuity of supply to the community via direct connection to the Flaxmere supply.

All booster stations have either a facility for an HDC portable generator to be plugged in or a generator to be hard-wired in the event of a prolonged power outage.

2.11. Source Water Distribution (Winter/Summer Comparison)

Figure 2.11.1, Figure 2.11.2 below show the modelled influence of each source under normal operation in minimum (winter) and peak (summer) demand. The table also provides a brief description of how the primary water sources operate under seasonal conditions.

Figure 2.11.1 Summer 6:30am

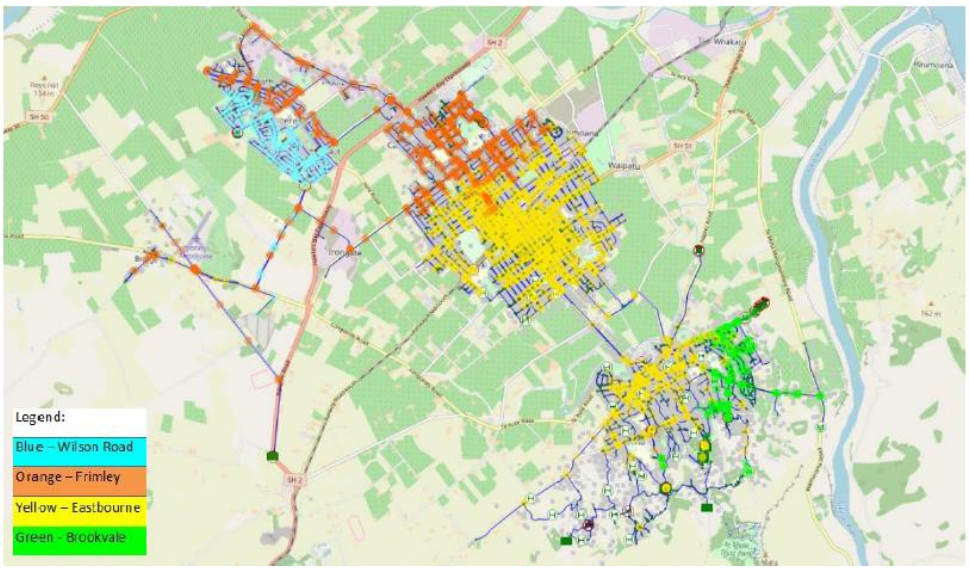
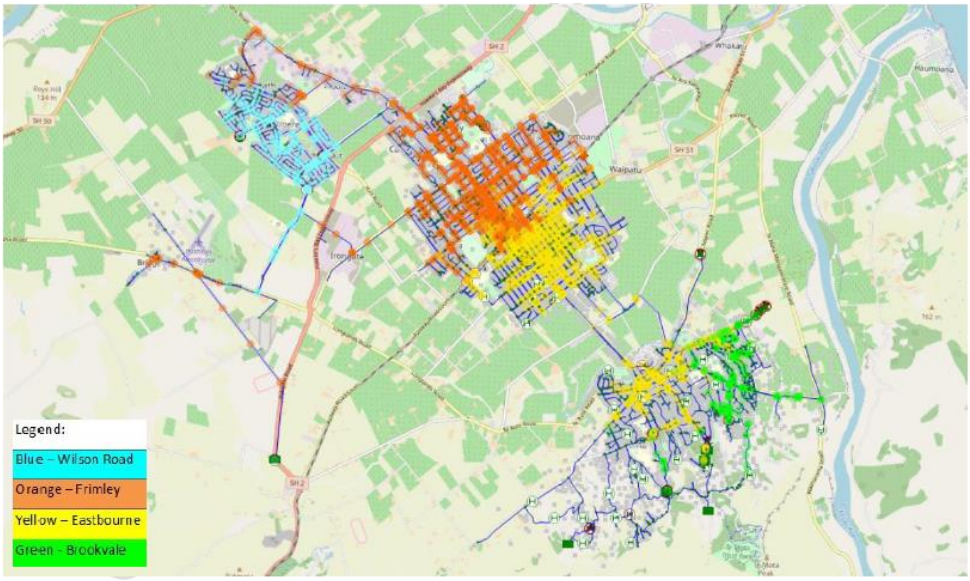


Figure 2.11.2 Winter 6:30am



Ref: [WAT-20-54-21-10] V1.2 / [June 2021] Page 79 of 105

Supply area	Peak Demand	Minimum Demand
Havelock North	Brookvale mainly confined to Arataki with Eastbourne providing primary supply.	Relatively even supply of water from Eastbourne and Brookvale supplies.
Hastings	Primary supply from Eastbourne supported by Frimley. Eastbourne water supplies as far west as Pakowhai Road.	Relatively even supply from Eastbourne and Frimley. Frimley water supplies as far east as the railway with some influence across the railway.
Flaxmere	Primary supply from Wilson Road with significant support from Frimley. Frimley supplies Omahu Industrial area and as far south as Flaxmere Ave.	Primary supply from Wilson Road supported by Frimley. Wilson Road supplies all of Residential Flaxmere and a portion of Omahu Road industrial.
Bridge Pa /Paki Paki	Mixture of supply from Wilson, Frimley and Eastbourne.	Relatively even supply from Wilson and Frimley.

Ref: [WAT-20-54-21-10] V1.2 / [June 2021] Page 80 of 105

2.12. Current Initiatives – Frimley WTP, Eastbourne WTP, Havelock North Booster Pump Station

The Havelock North contamination event in August 2016 was a catalyst for reviewing the level of treatment for all supplies managed by HDC. The Drinking Water Strategy 2018 (WAT-20-20-18-525) outlined a new approach to drinking water that has water quality and safety as the prime objectives. The strategy includes a combination of new and redefined initiatives based on investigations, modelling and science to inform how Council intends to progress in meeting the targets and timeframes proposed to establish new treatment and reservoir storage at Frimley Park and Eastbourne St, and a booster pump station in Havelock North.

In addition to this new infrastructure, the strategy has required network changes (new and upgraded pipes) to ensure that the new treatment plants and water storage can be efficiently distributed across the network and will fully comply with the New Drinking Water Standards, Quality Assurance Rules and Aesthetic Values as regulated by Taumata Arowai. Optimisation assessments considered existing and new layouts to ensure that the distribution network will function under the proposed future operating regime. The pipework options which were considered in the optimisation model are summarised in diagram 2.12.1 below.

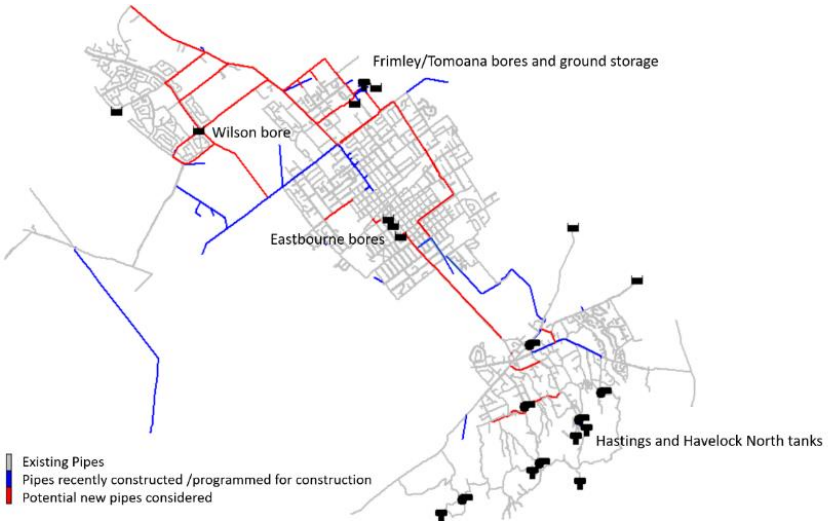


Figure 2.12.1 – Pipework Options Considered in Optimisation Model

2.13. Planned Network Changes (from 2023 onwards)

There will be a significant change in the way that the distribution network will be managed once the new treatment plants, reservoirs and pump stations are operational mid-2023. At Frimley and Eastbourne, bore water will be extracted at a constant rate and treated before being delivered to the onsite reservoirs rather than being pumped directly into the network. From the onsite reservoirs, variable-speed high lift pumps will deliver water to the network at a fixed pressure reflecting a hydraulic grade of 80m, and at a flow rate equal to the demand on the network at the time. The reservoirs will provide a buffer to ensure peak demand on the network can be met without impacting the rate of abstraction at the bores.

The installation of treated water reservoirs at the Eastbourne and Frimley WTPs will increase the total storage capacity in the supply to greater than 24 hours in winter and approximately 12 hours in summer.

These changes will also result in the establishment of four defined operational zones which will separate the network based on the location of source and treatment, pipe layout, valve locations and geographical area. These zone areas are designated as Flaxmere, Hastings West, Hastings East and Havelock North as shown in the figures below.

Figure 2.13.1

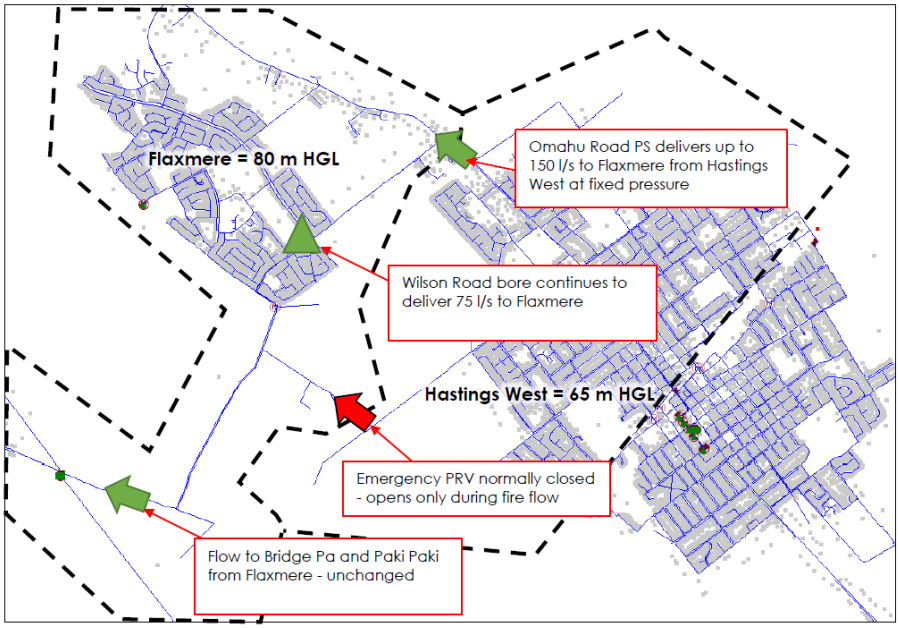


Figure 2.13.2

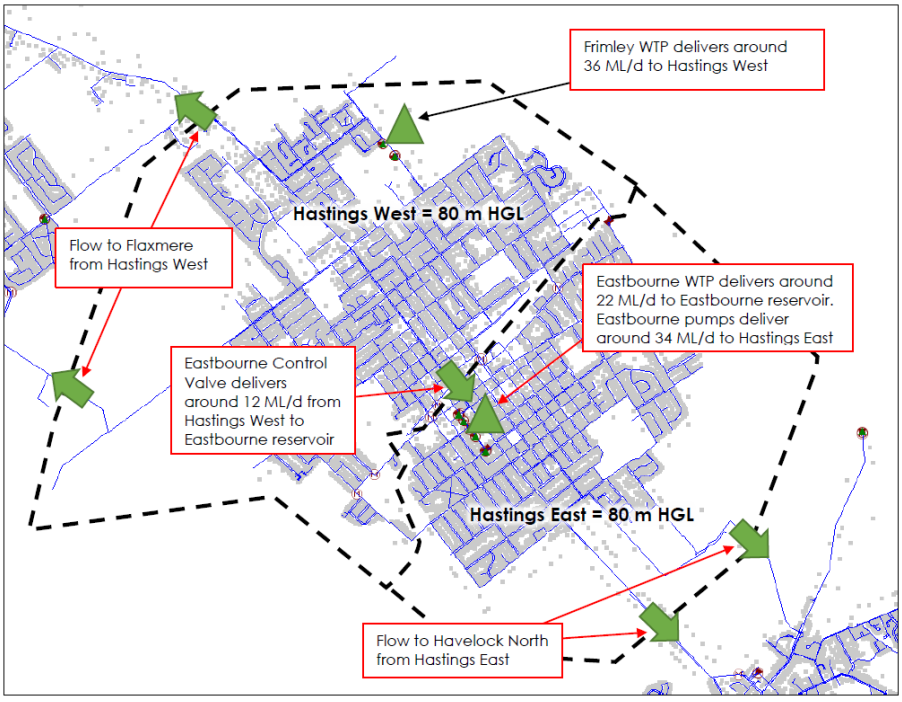
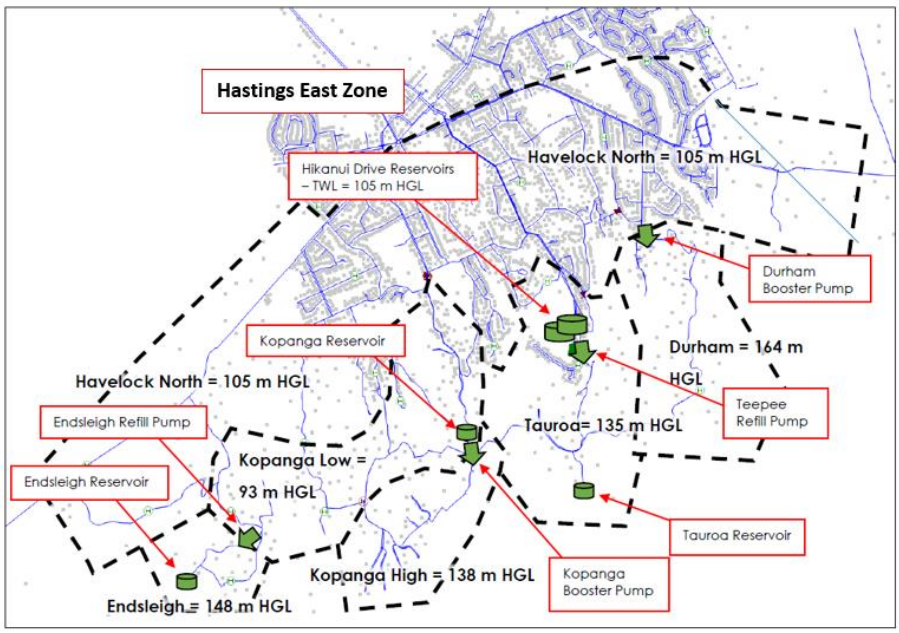


Figure 2.13.3



Rather than the system trying to dynamically balance demand and pressure across all parts of the network, the zones will enable each area to operate more efficiently to meet local demand using reservoir storage to buffer variations in flowrates from the cyclic nature as demand peaks and troughs during a typical day.

2.14. Network Wide Pressure Reduction

A significant benefit over the existing operation is the ability to reduce system pressures in each zone which currently operate between 900kPa and 1100kPa or more to maintain water at considerable elevation in the Havelock North reservoirs and at the same time meet demand across the entire system. These pressures are considered to be very high and result in higher use (high availability), increased leakage and reduced asset lives so there are obvious benefits in implementing network wide pressure reduction strategies in tandem with other demand management initiatives.

2.15. Pressure Management Areas

Since 2008, the Hastings District Council has been developing pressure management areas (PMAs) within Hastings and Havelock North. Areas have been selected where they are not directly involved in replenishment of the reservoir or in areas where bulk reticulation is located. Benefits have been realised within these zones in terms of reduction of both water consumption and leakage rates. Further implementation of pressure management will be considered following completion of major WTP and network infrastructure upgrades to understand how PMAs will fit alongside network wide pressure reduction.

Figure 2.15.1 – Pressure Management Areas

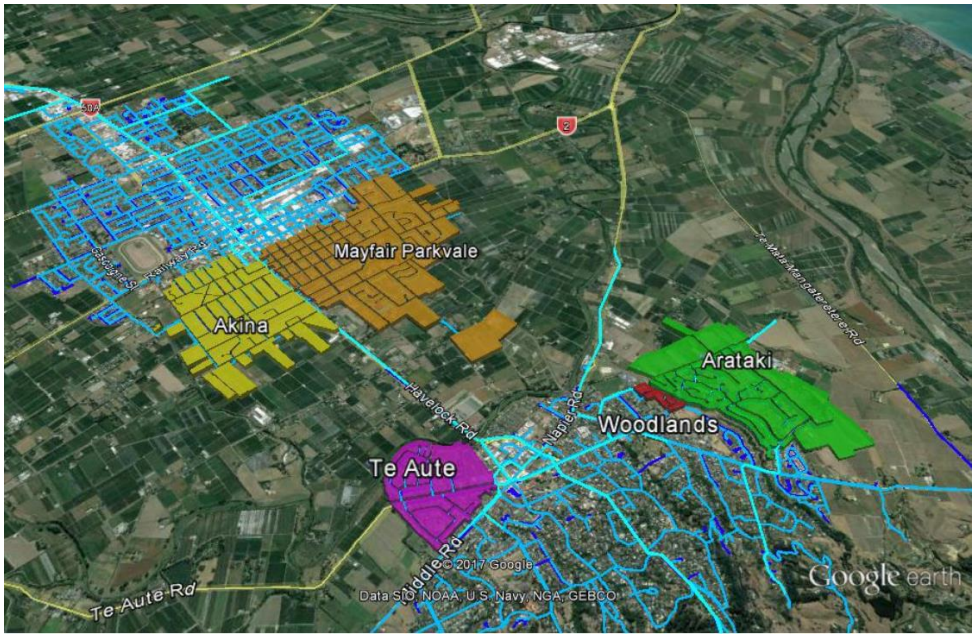
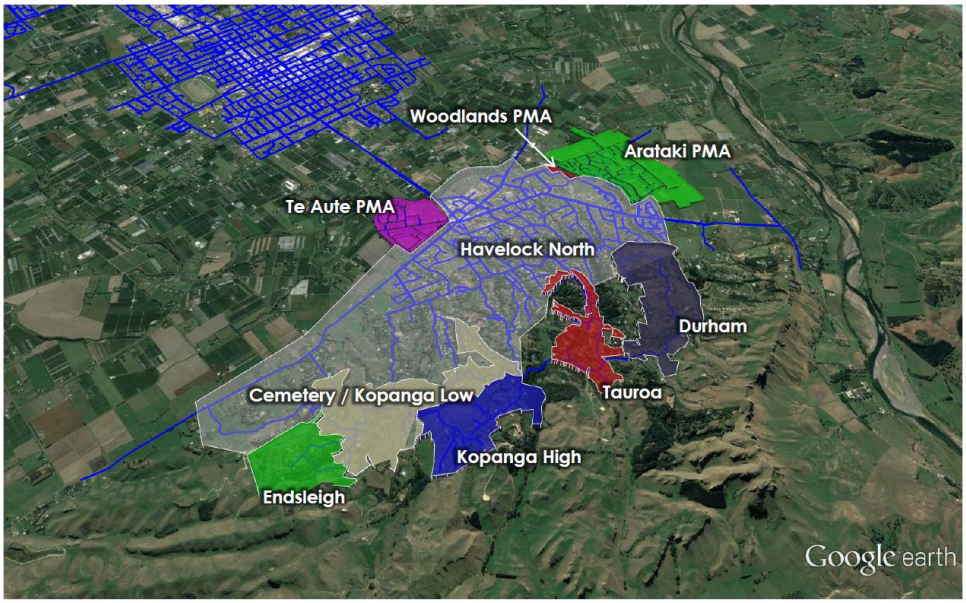


Figure 2.15.2 – Havelock North High Level Zone



Source: WAT-20-15-20-491

When pressure is reduced, water loss is reduced by a comparable fraction, e.g. if pressure is reduced by 30% then water loss can also be reduced by 30%. This is often the main driver for pressure management. Water mains burst frequency will also be reduced, and although the relationship is not as clear as for water loss there are predictive equations to estimate likely savings. Reduced customer use and increased infrastructure life are also accepted benefits, but these are harder to measure.

Customer consumption includes volumetric use (filling a sink or a washing machine to a set level), and activities where use is based on time rather than volume (e.g. lawn and garden irrigation). Australian studies on pressure reduction was shown to result in a 10% reduction in overall residential customer consumption under summer conditions noting that unlike water loss, no reduction in water use can be expected in winter, and in autumn / spring the effects will be reduced.

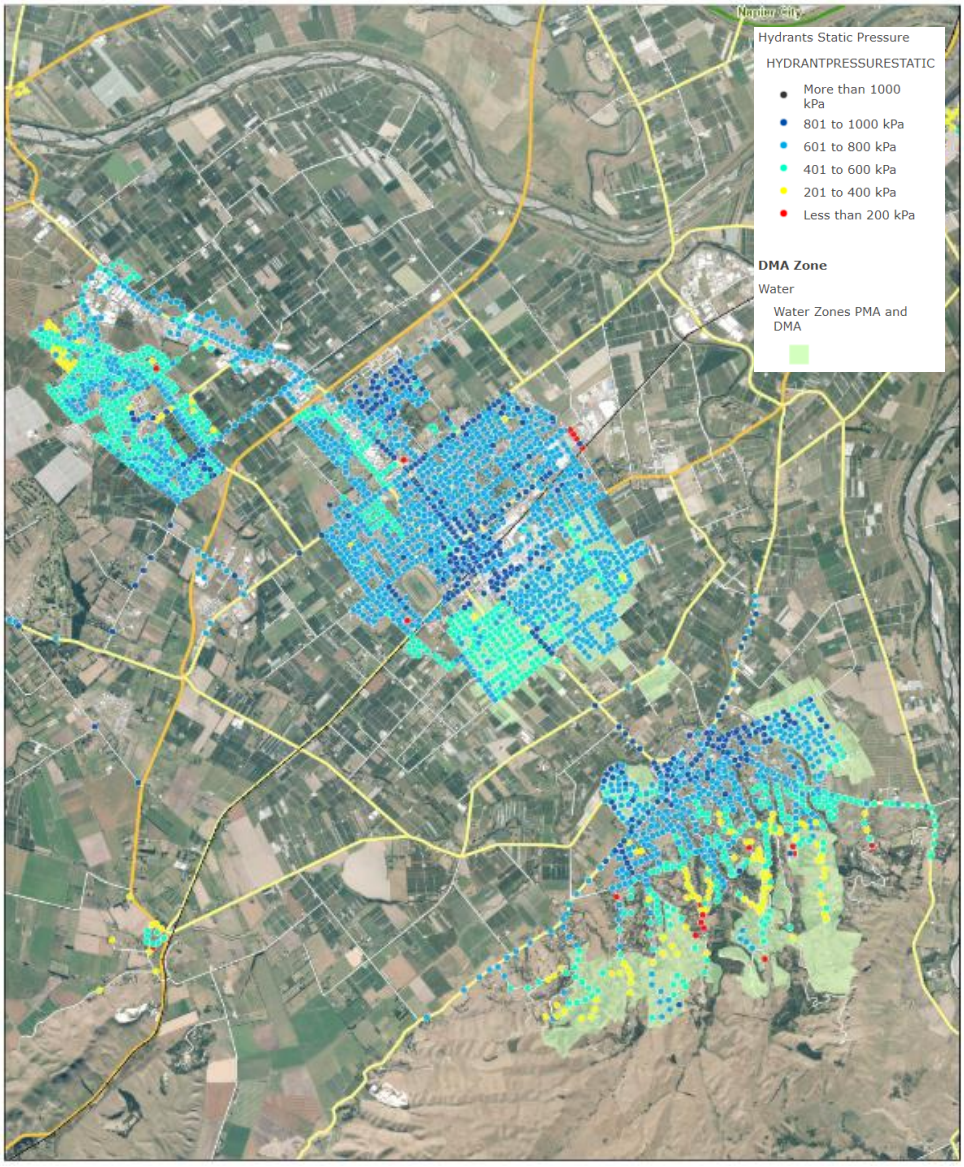
2.16. Pressure and Flow

To understand the variable nature of pressure and flow across the network, the following two diagrams show the static network pressures and the flowrate achieved from hydrant testing over several years.

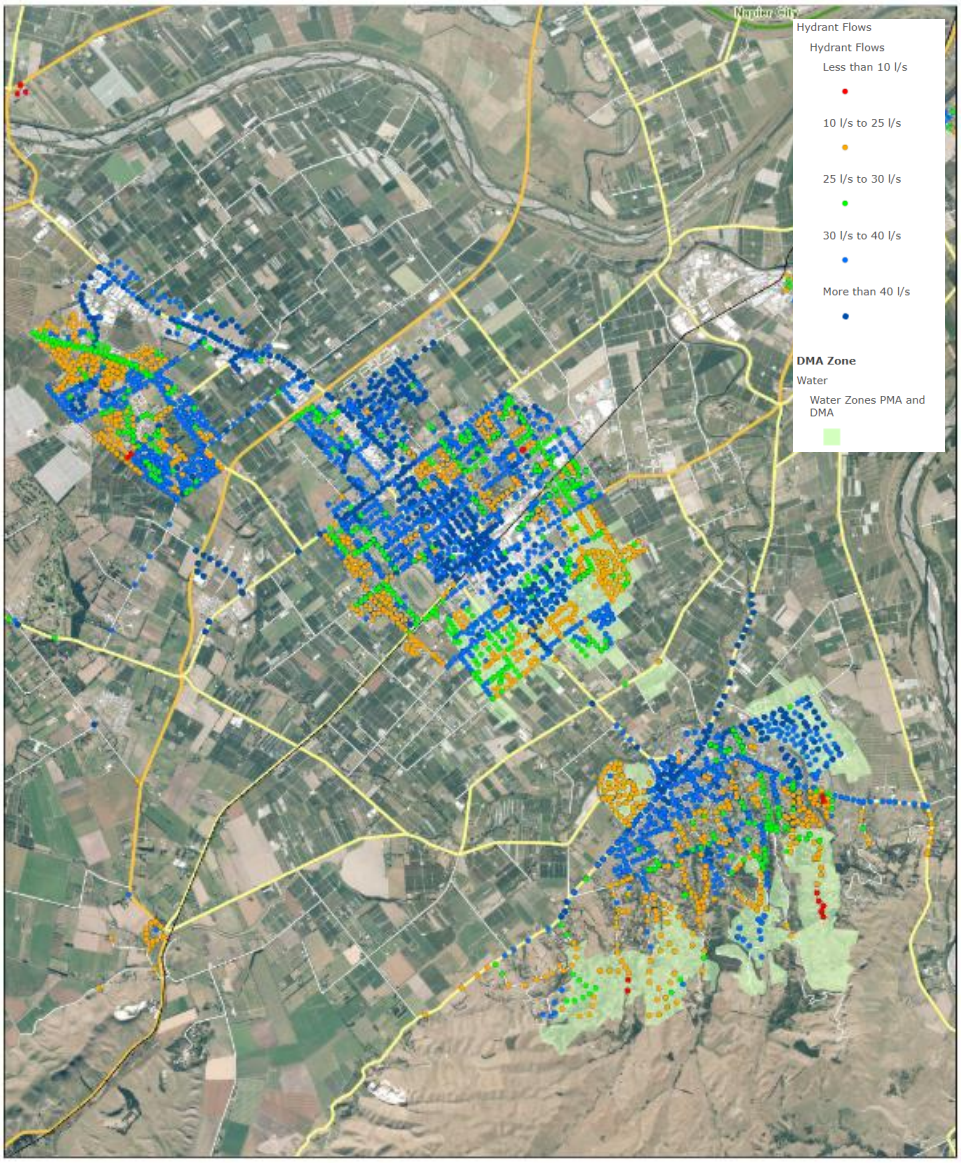
These diagrams indicate the significantly higher pressures required within Hastings to sustain pressures in the elevated areas of Havelock North and where we have reduced flows toward the extremities of the reticulation.

Summertime peak flows exacerbate pressure and flow distribution issues and it is not uncommon to have short term pressure and flow issues to residential properties in elevated areas of Havelock North but also in some parts of Hastings where our network connectivity is limited. The open nature of the water distribution network means that higher demand from areas closer to our water sources and pumping stations will be preferentially served at the expense of those who are further away.

Some of these issues will be resolved when the network reconfiguration commences (see Section 2.13 Planned Network Changes above) as this will allow more defined areas to operate in isolation from the rest of the network and be better serviced from storage.


Napier City
Hydrants Static Pressure
HYDRANTPRESSURESTATIC
More than 1000 kPa
801 to 1000 kPa
601 to 800 kPa
401 to 600 kPa
201 to 400 kPa
Less than 200 kPa
DMA Zone
Water
Water Zones PMA and DMA

2.17. Flow

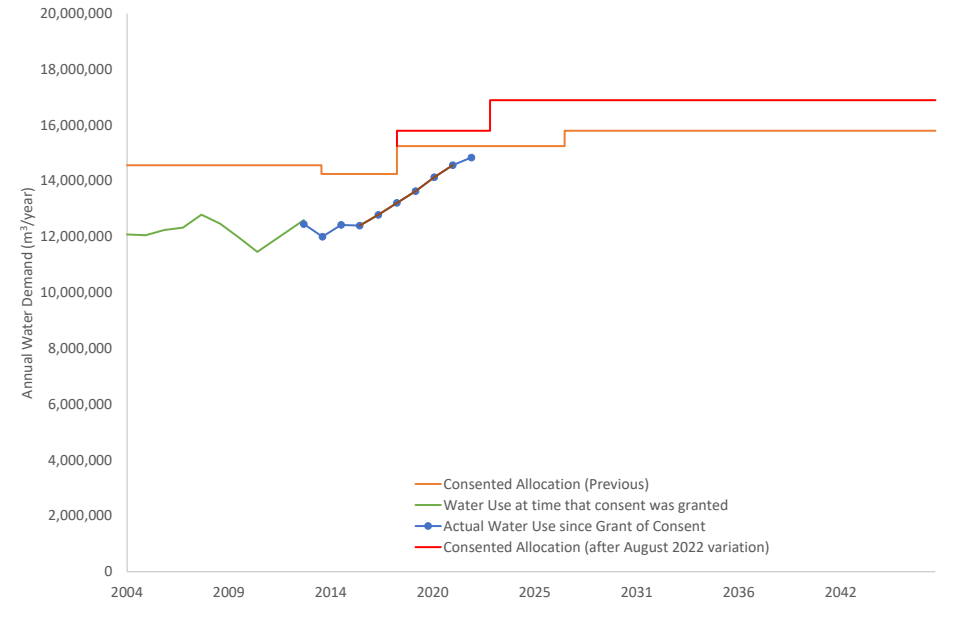

Napier City
Hydrant Flows
Hydrant Flows
Less than 10 l/s
10 l/s to 25 l/s
25 l/s to 30 l/s
30 l/s to 40 l/s
More than 40 l/s
DMA Zone
Water
Water Zones PMA and DMA

2.18. Drinking Water Summary

The main constraint for the Hastings drinking water supply is the ability to access sufficient quantities of water to meet our reasonable domestic, commercial and small industrial needs within the next 10 years.

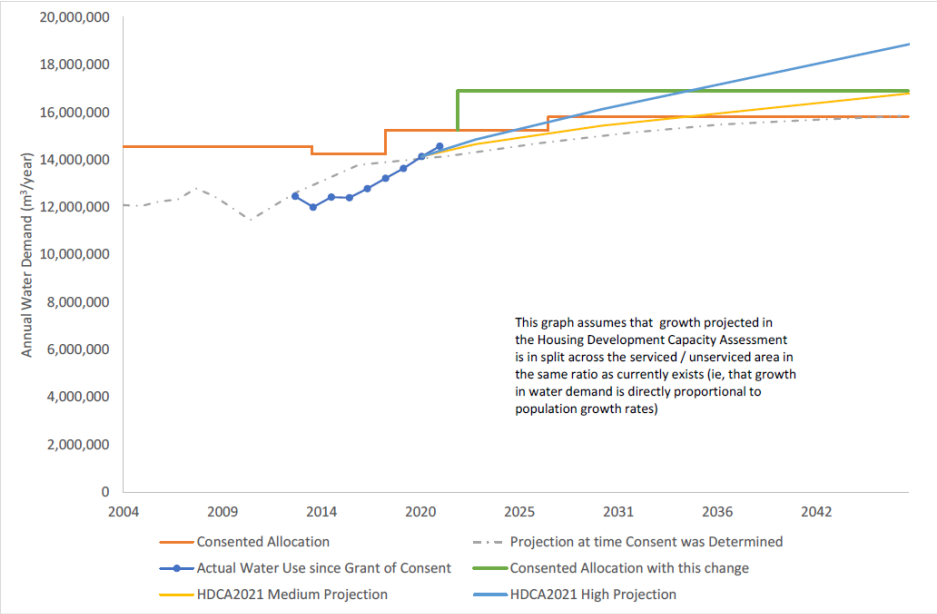
The impact of residential growth is apparent in our consumption data which shows a continuing upward trend and it is expected that this trend will continue in the foreseeable future. While this will be offset to some degree by the resource consent application to combine several separate consents into the Hastings allocation, on current predictions we will reach our maximum consented volume before 2030 based on current projections.

Figure 2.18.1 Increased Consent Volume (August 2022)



The predictions shown below in Figure 2.18.2 are based on our historic and current consumption rates and estimates of future water demand using a medium and high growth scenario. These projections do not account for potential reductions from demand management programmes that are underway to reduce network wide leakage (leak detection and accelerated asset replacements), pressure reduction and the potential for domestic water metering to be progressed over a similar timeframe. It is anticipated that these measures will realise some gains in capacity (potentially 5% to 10%) to buffer our future needs, improve our resilience and increase our efficient use of water however these gains will only be gradually achieved as part of this suite of long-term initiatives.

Figure 2.18.2 Projected Water Demand with Updated Population Projections



In summary, Council's approach to meeting our future growth needs will necessitate a dual approach of ongoing efficiency improvements alongside retaining existing allocations already provided to Council for municipal water supply.

3. Wastewater

3.1. Executive Summary

HDC currently supplies domestic wastewater services to approximately 70% of the district's population but primarily limited to the urban areas of Flaxmere, Hastings and Havelock North along with the small communities of Whakatu and Clive.

All domestic and industrial wastewater is conveyed to the wastewater treatment plant in East Clive where each flow train receives treatment prior to recombining before disposal into Hawke Bay. The wastewater treatment facility has a consent which allows a maximum daily discharge of 2,800 litres/second. The average dry weather flow is approximately 1,100 litres/second and peak flows are approximately 2,000 litres/second. There is adequate capacity at the plant for current and future growth.

Council's current Engineering Code of Practice (ECoP) together with the Land Development and Subdivision Infrastructure Standard NZS 4404:2010, defines wastewater parameters to calculate demand from a typical household equivalent for new residential and industrial areas. Anecdotally, a figure of 0.5 litres/sec/hectare was used as a level of service (LoS) proxy for network demand which in its day was representative of a 750m2 section. This has been useful to provide an indication of overall wastewater volumes for planning and growth purposes representing a density of 12-15 household equivalents per hectare.

The rate of development (infill and new subdivision) has accelerated over the last 20+ years and lot sizes are on average closer to 350m2. Wastewater demand is now well above historic values and further intensification (medium density housing and an inner city living precinct) will necessitate a review of the LoS in the ECoP to ensure it reflects future anticipated demand in conjunction with monitoring of network performance to identify and plan for upgrades to maintain operational capacity.

Where development exceeds the level of service, consideration needs to be given to whether:

- high density infill should continue to be permitted anywhere in the residential zone and services upgraded to match the anticipated demand
- higher density development is limited to particular areas where capacity is, or can more readily be, made available
- development is capped at a density that can be serviced by existing infrastructure based on detailed modelling to determine actual demand and available capacity

With over 440km of wastewater mains, pipes and connections to manage, network modelling plays a key role in predicting where limitations in the network may be occurring but may not have been apparent from operational observations alone e.g. surcharging greater than 0.5m above pipe full.

The introduction of dynamic modelling in more recent years has enabled predictive analysis to be undertaken to better understand the dynamic and interconnected state of the network, determine where the network may be under performing and to evaluate the cumulative effects of current and future growth on capacity. It is also a valuable planning tool that assists in identifying where the network may come under pressure from growth in the future enabling upgrade works to be programmed ahead of anticipated growth.

Analysis of the wastewater network in the sections below, has considered how each sub-catchment is performing and extends to including the known effects of inflow and infiltration (I&I) as well as

applying future growth demand. The results also take into consideration the effects of upstream catchments on lower parts of the network to assist in understanding where constraints are more localised and where they are more systemic in nature.

The Macro View

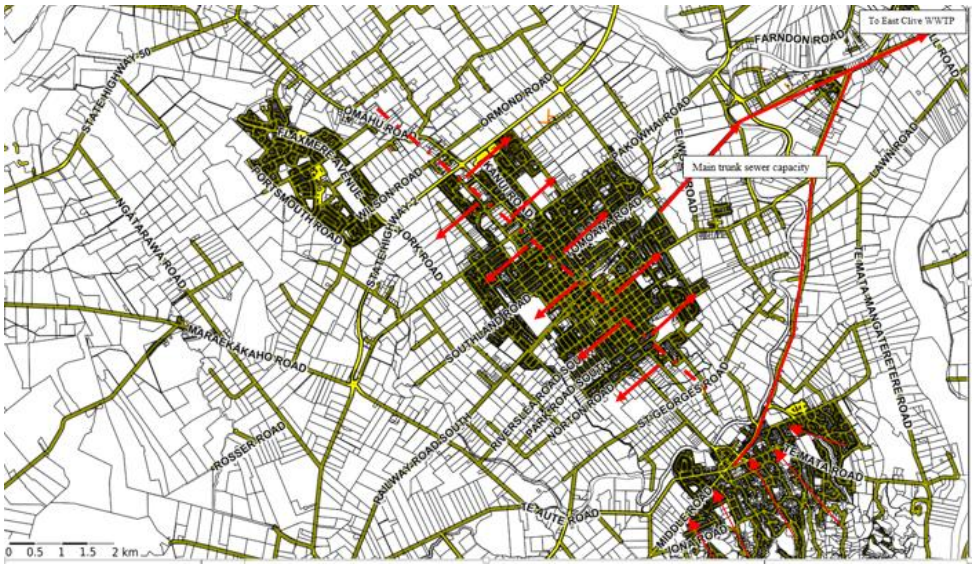
Results of the sub-catchment investigations clearly show that capacity is limited across many parts of the urban wastewater network. This is the result of a combination of factors that have occurred over many decades including greenfield growth, intensification from urban subdivision, factors that are related to asset deterioration and topography (primarily I&I), plus environmental changes i.e. rainfall patterns and increased flooding.

Many of these issues are compounded by the way the network has grown and expanded from its core beginnings (the Brick Arch in Hastings and the Napier Rd trunk main in Havelock North), into an expansive interconnected system of interceptor mains, local infrastructure and pump stations that extend for many kilometres to then all converge at a single large domestic trunk sewer outlet.

There is a limit to how far you can efficiently extend wastewater services away from the core bulk infrastructure and in many cases this involves complex arrangements that include multiple pumping stations and mains, and large distances to get the wastewater where it needs to go. This also places greater reliance on the older parts of the system to carry this additional load whilst ensuring that these assets continue to function in perpetuity.

An example of this is evident across the south-western half of Hastings and Flaxmere where due to topography, wastewater drains by gravity away from the trunk sewer and then has to be pumped back northward to then gravitate to the main trunk sewer. Likewise in Havelock North, a similar arrangement is in place to collect and pump wastewater south of the CBD into the Napier Rd trunk main. Figure 3.1.1 below shows the general fall of the land away from a central high point through the middle of Hasting which places a greater reliance on pumping as a primary means of conveyance.

Figure 3.1.1 – Direction of Wastewater Flows

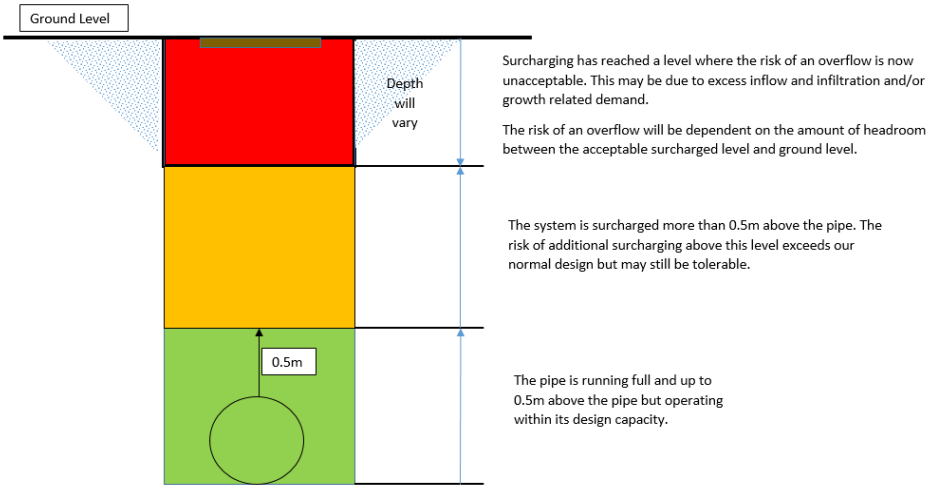


Expansion of our communities has occurred over a considerable period of time and the cumulative effects of growth on downstream capacity has not always been wholly accounted for at a network wide level. Infrastructure investment has sometimes been focused on relieving local area constraints so that new growth can be accommodated for in those areas of demand however the "slow creep" consumption across the wider network has until now, largely been absorbed. At a macro level, the analysis clearly indicates that the network can no longer absorb any further growth and substantive investment is required to keep ahead of capacity constraints before they become operationally untenable through excessive surcharging and overflows.

A Micro Level Assessment

Modelling has analysed each of the wastewater sub-catchments in both dry weather (typical daily operations) and in a 5 year rain event to account for inflow and infiltration (I&I) into the wastewater network during a typical design storm. The modelling scenarios include growth factored in to provide a comparison of dry and wet conditions in the current and future state. Industry standard wastewater pipe design allows for up to 4 times the dry weather flow in wet weather situations which is used as the base case for determining when the system is constrained and to what level. The following diagram is useful in explaining the colour coded rankings.

Figure 3.1.2 Colour Code for Dry and Wet Weather Pipe Condition



The wet weather analysis highlights areas of risk where surcharging occurs in excess of 0.5m above the pipe and where there is an increased risk of wastewater overflows occurring. Environmental standards are also ratcheting up the importance of avoiding wet weather overflows as much as possible but with a primary focus on eliminating dry weather overflows altogether. Outside of mains blockages, there are no areas where dry weather overflows are considered to be a risk.

The urban areas listed below represent those parts of the network that are the most constrained and/or will be the most impacted by growth:

- Flaxmere
- Oliphant Rd (including Harding Rd)
- Raureka (including Southland Rd, Hemi St, Akina Park, Murdoch Rd)
- Fitzroy Ave

- Akina (including Clive St, Lyell St)
- Southland Rd & St Aubyn St West
- Louie St & Hood St
- Mahora (including Frederick St and Waipuna St pump stations, Frederick St and Williams St gravity)

This modelling has also taken into account the additional capacity required to service greenfield developments that are projected to come on-stream in the next 15 years, as part of the overall assessment of existing and future growth impacts. Known residential greenfield areas that are included in the growth modelling include Flaxmere, the Heretaunga/Tamatea settlement Trust (HTST) block adjacent to Flaxmere, the Lyndhurst extension, Kaiapo Rd and an intensified Howard Street scenario. Servicing of these areas is influenced by the catchments that they will discharge into as follows:

- Flaxmere – Wilson Rd pump station
- HTST Block – IAF Expressway Pump Station and Rising Main (new infrastructure)
- Lyndhurst Extn – IAF Gravity Pipeline to Coventry Rd (new infrastructure)
- Kaiapo Rd – Oliphant Rd, Huia St pump station, Maraekakaho Rd
- Howard St – Park Rd North pump station

Macro Level Solutions

The mature state of the existing wastewater network means that we are at the limit of continuing to cater for growth through extensions and upgrades alone. At this stage the ongoing effort, expense and disruption to "tweak around the edges" is no longer viable and the cost to rebuild the network exceeds the cost to build new infrastructure.

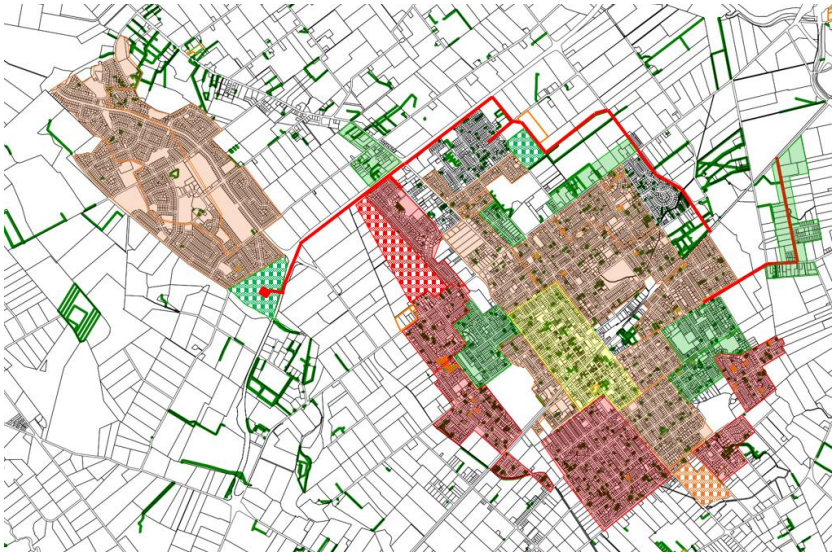
New infrastructure provides an opportunity to significantly increase network capacity and at the same time reduces the need to upsize existing assets that are otherwise operating effectively and in sound condition. This new approach also creates opportunities to optimise the location of these new assets, minimise costs, improve operational resilience and relieve existing constraints.

The following plans (3.1.2 & 3.1.3) provide a general traffic light summary of the Hastings, Flaxmere and Havelock North wastewater systems. Red depicts areas that are constrained with little or no capacity for growth, orange as moderately constrained but able to support some level of growth, and green representing areas that are not constrained and have sufficient capacity to facilitate medium density intensification.

These plans also show where proposed new bulk infrastructure works in Hastings are to be constructed in the next 2 years (2023 and 2024) as part of the Infrastructure Acceleration Fund (IAF) works to prepare for future growth. This government support package has been set up to help fund new and upgraded "enabling" infrastructure such as transport, three waters and flood management infrastructure to improve housing outcomes in areas of need.

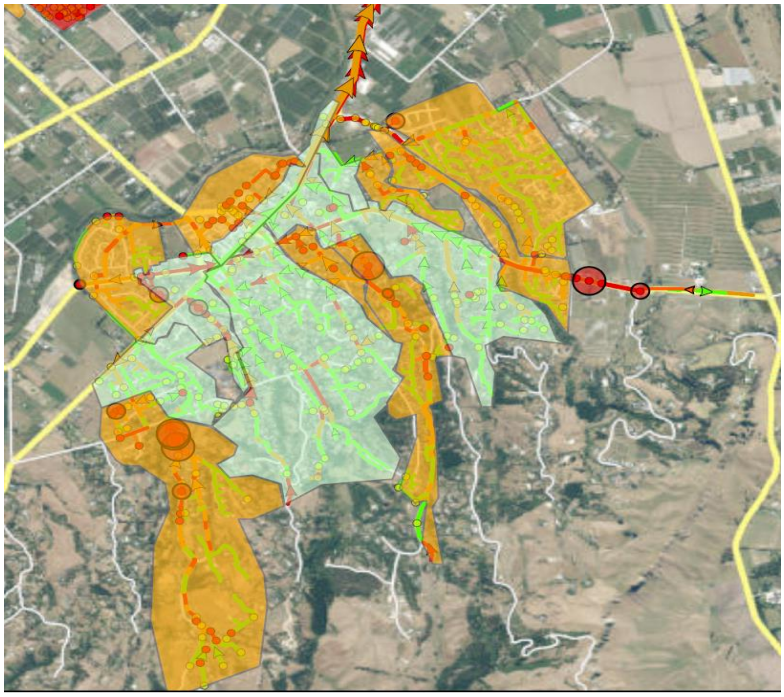
These new pipes and pump station(s) will divert wastewater flows away from existing infrastructure and directly downstream to the large domestic trunk sewer thereby bypassing some of the more congested parts of the system and creating new capacity at the same time. Local area new works and upgrades will still be necessary to join up to the new bulk infrastructure but the extent of these works will be substantially reduced. An initial forward works programme has been prepared (through an amendment to the LTP) to ensure that all of the growth related works are timed to align with known greenfield and medium density zones. The LTP amendment is attached as Appendix A.

Figure 3.1.2 – Hastings and Flaxmere Wastewater Constraints



The inner city living precinct is highlighted as yellow in the plan to distinguish it from residential areas however, as this area straddles a number of wastewater catchments, it has not as yet been categorised. Further detailed analysis is commencing to understand where constraints may exist and what level of density and occupation there may be in the future.

Figure 3.1.3 – Havelock North Wastewater Constraints



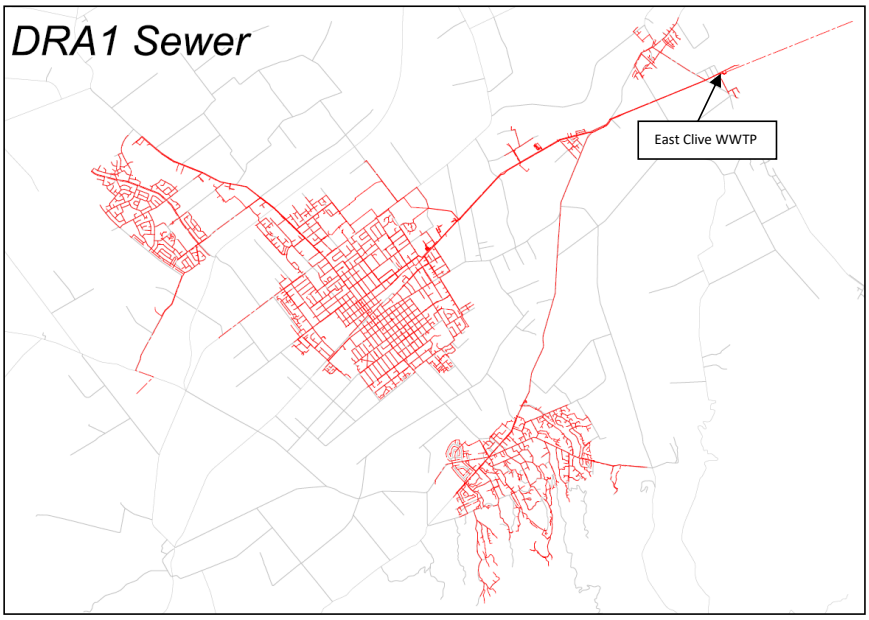
3.2. Overview of the Wastewater Service

The Hastings District Council currently supplies domestic wastewater services to approximately 70% of the district's population but primarily limited to the urban areas of Flaxmere, Hastings and Havelock North along with the small communities of Whakatu and Clive. A small domestic wastewater system services the largely holiday population at Waipatiki Beach and is managed by HDC however Waipatiki is excluded from this assessment.

The Hastings wastewater system includes:

- The integrated domestic wastewater system servicing the communities of Hastings, Flaxmere, Havelock North, Whakatu and Clive
- The separated industrial wastewater network which collects trade waste from industries in Omahu Rd

All domestic and industrial wastewater is conveyed to the wastewater treatment plant in East Clive where each flow train receives treatment prior to recombining before disposal into Hawke Bay. All domestic wastewater is screened to remove the gross solids component then passes through a Biological Trickling Filter (BTF) where high quality treatment is provided. The separated industrial wastewater passes through a milli-screen and then, along with the treated domestic effluent, is discharged via the long 2.75km ocean outfall into Hawke Bay.



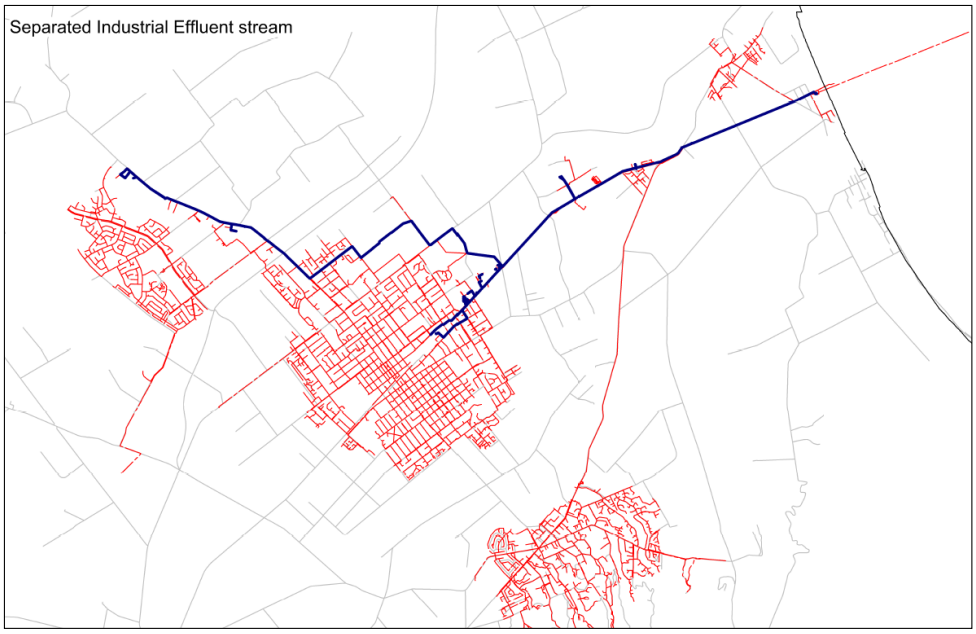


Figure 3.2.1 – HDC Domestic & Separated Industrial Effluent Network

3.3. East Clive Wastewater Treatment Plant

The Hastings treatment plant at East Clive receives all of the domestic wastewater and non-separable trade waste, industrial trade waste and septic tank waste into the plant. The domestic waste stream makes up approximately 50% of the total average annual flows. On average the industrial flow component makes up approximately 50% of the total wastewater flow however during the peak processing season (February to May) the proportion of industrial flow into the treatment plant increases by as much as 400%.

The wastewater facility has a consent which allows a maximum daily discharge of 2,800 litres/second. The average dry weather flow is approximately 1,100 litres/second and peak flows are approximately 2,000 litres/second. There is adequate capacity for current and future growth within the consented limits.

3.4. Trade Waste Disposal

Council's Hastings District Council Consolidated Bylaw 2021 Chapter 7 regulates the discharge of Trade Waste from commercial and industrial premises. As well as rules regulating the amount and characteristics of wastewater it also contains provisions to ensure that the costs to collect, treat and dispose of trade waste are recovered fairly and equitably amongst users.

Trade Waste is discharged into either the domestic (sanitary waste) network or the separated trade waste reticulation where that is available. Waste discharged into the domestic network must be conveyed and treated with that flow, via the BTF treatment plant and the bylaw limits these discharges (flow and characteristics) to ensure they do not compromise capacity or the treatment process. Waste discharged into the separated trade waste system has different requirements and may require onsite treatment prior to discharge.

3.5. Why we provide a Wastewater Service

Council's key strategic objectives are based on legislative requirements and community outcomes. In particular *Section 10 of the Local Government Act* defines the purpose of Local Government and Council has identified the wastewater activity as an essential service that contributes towards the Council objective to provide healthy drinking water and sanitary services.

Council provides wastewater facilities for the following reasons:

- Public Health and Safety – The provision of wastewater activity promotes health and wellbeing of the community by ensuring all wastewater systems owned and operated by the Council provide adequate and satisfactory collection, treatment and disposal of wastewater according to current legislation at an affordable cost
- Environmental – The provision of wastewater activity enables properly treated wastewater discharges to the environment and thereby promoting the protection of the environment

The Level of Service and performance framework includes the following:

- Wastewater system performance measures that ensure that the system safely collects, conveys, and treats our domestic and trade waste for discharge into Hawke Bay
- Resource consent compliance to ensure the environment is protected
- Reliability and fault resolution measures that help ensure availability of the service

Council's current Engineering Code of Practice (ECoP) together with the Land Development and Subdivision Infrastructure Standard NZS 4404:2010, defines wastewater parameters to calculate demand from a typical household equivalent for new residential and industrial areas. Anecdotally, a figure of 0.5 litres/sec/hectare was used as a level of service (LoS) proxy for network demand which in its day was representative of a 750m2 section. This has been useful to provide an indication of overall wastewater volumes for planning and growth purposes representing a density of 12-15 household equivalents per hectare.

The rate of development (infill and new subdivision) has accelerated over the last 20+ years and lot sizes are on average closer to 350m2. Wastewater demand is now well above historic values and further intensification (medium density housing and an inner city living precinct) will necessitate a review of the LoS in the ECoP to ensure it reflects future anticipated demand in conjunction with monitoring of network performance to identify and plan for upgrades to maintain operational capacity

Where development exceeds the level of service, consideration needs to be given to whether:

- high density infill should continue to be permitted anywhere in the residential zone and services upgraded to match the anticipated demand
- higher density development is limited to particular areas where capacity is available
- development is capped at a density that can be serviced by existing infrastructure based on detailed modelling to determine actual demand and available capacity

3.6. Demand Management

As noted in the introduction, higher density development is under consideration for Hastings, Flaxmere and Havelock North areas. The wastewater network will likely be a constraint to growth in many areas. Urban development, in particular infill, is imposing demands on the wastewater

infrastructure that cannot always be met beyond the site of the development or in the timeframes desired by the developer.

A more structured and coordinated approach is required between developers and Council to ensure that where infrastructure constraints are identified, there is a future plan for works to increase capacity and the timeframes for implementation are clearly established. The management and coordination of development alongside planned infrastructure upgrades is therefore necessary for the Medium Density Strategy [21] to be successfully implemented.

3.7. Wastewater Network Planning and Modelling

MWH (now Stantec) built and calibrated a hydraulic model of the HDC sewer network during two phases between 2014 and 2016. Phase 1 of calibration was completed in 2015 based on data collected in 2014. During this phase the model was calibrated at trunk level, where reasonably high confidence in model predictions for the performance of the trunk sewers was achieved, according to the report.

Network performance assessment based on the initial calibration has revealed performance issues in upstream catchments. A decision was made to carry out a Phase 2 flow monitoring and calibration, which focussed on the upstream catchments with identified problems. Phase 2 calibration was completed in 2016 based on data collected in the same year.

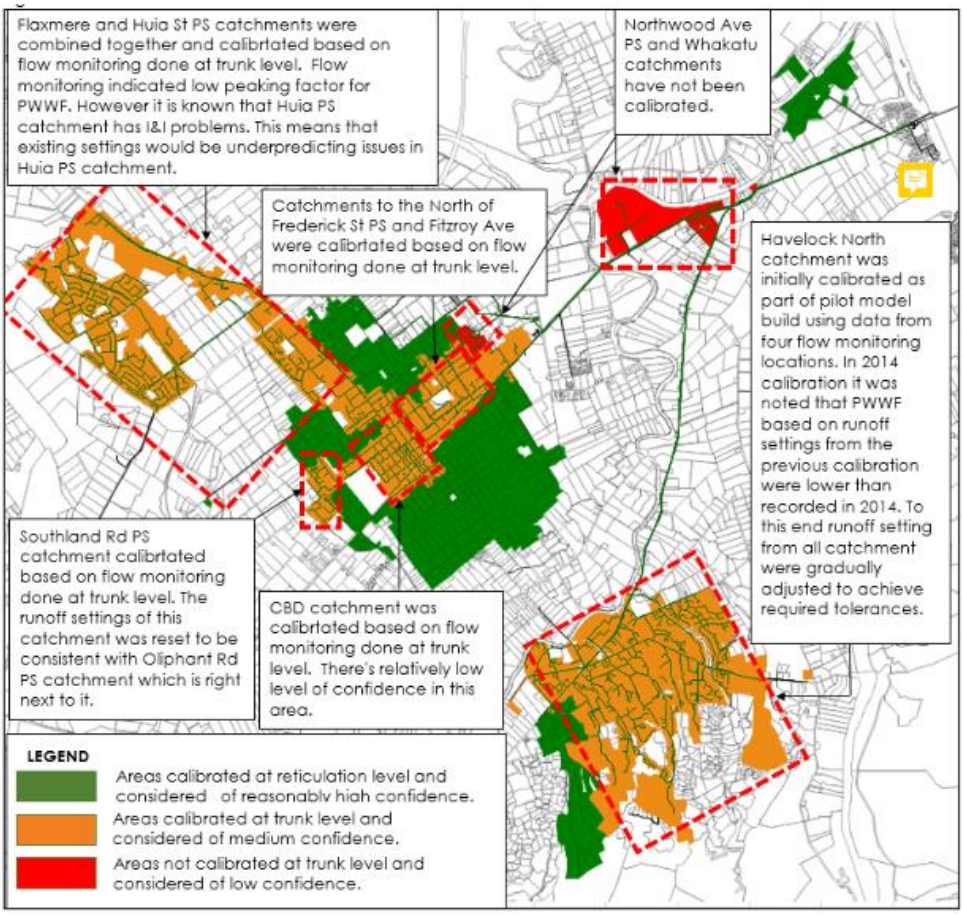
In 2019, a review was undertaken as part of a sewer flow monitoring and model enhancement programme which found that:

> *The current model has incorporated network calibration, further network upgrades, and network assessments as requested by HDC. Catchment calibration has been undertaken for both the domestic sewerage and the trade system. No calibration of flows arriving at the WwTP has been undertaken by either of the previous calibration phases. The model does not attempt to model sewer quality. (pg 2).* [22]

Figure 3.8.1 provides a summary of the Hastings, Flaxmere and Havelock North wastewater network model state after the phase 1 & 2 calibration work.

[21] Plan Change 5
[22] HDC Existing WW Model Review Report (Stantec 2019)

Figure 3.8.1 - Calibration confidence for each modelled area after Phase 1 and 2 calibration is represented below.



The following issues should be noted by all users of the Hastings Wastewater Network model:

Model Type - the Hastings Wastewater Network Model is a Type 1 Simplified or Strategic Model at trunk level and Type 2 Planning Model in discreet upstream parts of the catchment.

Model Confidence - The model has been calibrated at over 32 sites for a mix of flow, velocity and depth over two different periods. Users of the model must familiarise themselves with the degree of calibration achieved at the calibration sites local to the points of interest and determine the model accuracy regarding flow and depth. Report 'Hastings Sewer Network Model Development and Calibration Report' submitted by MWH in August 2015 and 'Hastings Sewer Network Model Phase 2 Calibration Report' submitted by Stantec in December 2017 identified modelling issues as below:

- Some areas of the calibration did not observe suitable rainfall depths for appropriate calibration and should be treated with caution
- The model has not been validated against long term flow data (e.g. at the WwTP) and may not represent seasonal wetness or ground water variations that could have a significant effect on the model predicted peak flows and volumes

- The model does not represent the changes to dry weather flows during key public and school holidays
- The trade waste contributions in Hastings can vary significantly due to fruit picking and canning seasons and this is not represented in the model
- The fruit picking season may also result in a significant increase in temporary residents in Hastings and surrounds which may affect DWF peak flows and volumes.

Further reviews are ongoing to determine the next tranche of work that will enhance the existing model, improve its accuracy (through calibration and data validation programmes) and to ensure that the model is maintained in an appropriate state for predictive analysis.

3.8. Overflows

Wastewater overflows occur when untreated wastewater enters public or private property, waterways and the sea, and can lead to negative effects on public health, the environment and social and cultural values. The causes for wastewater network overflows are complex, ranging from:

– Connections: Illegal private stormwater connections to sewage networks

– Pipes: Ageing pipes that receive subsoil inflows via leaky joints or cracked pipelines

– Blockages: Flushing of inappropriate material into the system that causes blockages

– Designed overflow: A significant majority of wastewater networks are designed to overflow in particular circumstances; primarily when rainwater inundates the network.

Complete elimination of wastewater overflows is not affordable for New Zealand in the near term. However, the frequency of wastewater overflows could be reduced significantly over time for many communities, through a better understanding of network performance, upgrades to infrastructure and improvements to operations.

In the long-term, complete elimination could become an attainable aspiration for some communities. Community expectations about overflows are changing, with many communities now expressing a preference for little or no discharge of untreated wastewater into freshwater or onto recreational beaches. For Māori, there is widespread abhorrence to the discharge of wastewater to natural waterways, both for cultural and spiritual reasons, and due to the risks posed to mahinga kai (food gathering place, activity of harvesting food). [23]

3.9. Inflow and Infiltration (I&I)

As wastewater network systems age, the infrastructure tends to deteriorate and in turn the likelihood that I&I will enter the sewer generally increases. Extraneous water from infiltration/inflow sources reduces the capacity and capability of sewer systems and treatment facilities to transport and treat domestic and industrial wastewater. Inflow and infiltration is the process of liquids other than wastewater, such as stormwater and groundwater, entering the wastewater system. I&I is a complex issue requiring multi-disciplinary strategies to firstly understand their occurrence and then in addressing their impacts on wastewater networks. Furthermore, it has historically been difficult to accurately predict the amount of I&I reduction corresponding to a certain level of system rehabilitation.

Overflows are a combination of the base flow from the community and the addition of rain water entering either directly through illegal connections (e.g. downpipes into gully traps), through ponding that then enters into the system or indirectly from groundwater entering through cracks, joints and

[23] ADDRESSING WET WEATHER WASTEWATER NETWORK OVERFLOW PERFORMANCE. WATER NEW ZEALAND Good Practice Guide. Pg 1.

other pipe failures. Wastewater system design includes an allowance of 4 x ADWF to cater for stormwater inflows and infiltration (I&I).

Operational data and modelling is used to determine how the network is performing and in particular to predict where I&I is adversely affecting performance and increasing the risk of wastewater overflows.

An inflow and infiltration study was conducted in 2016 (Inflow & Infiltration Strategy Parts 1 & 2) [24] to help determine if excessive I&I exists in the Hastings sewer system and to recommend remedial measures. Prior to this study, HDC had ascertained that there are no I&I sources affecting the wastewater discharge at the Wastewater Treatment Plant (WWTP) and three mainland trunk sewers but raised concerns about I&I sources in the reticulation, such as wastewater spills predicated by modelling work and known localised overflows and inflows in the wastewater network. This study included I&I investigations completed to date and investigations planned for the future.

3.10. Other Non-Asset Demand Management Strategies

Demand Management strategies are used as alternatives to the creation of new assets. They are aimed at modifying customer demands to achieve:

- Social, environmental and legislative objectives for Hastings District
- The delivery of cost-effective services
- Defer the need for new assets and optimise the performance/utilisation of the existing assets.

3.11. Summary of Demand Management Methods

The table below summarises the demand management methodologies for wastewater:

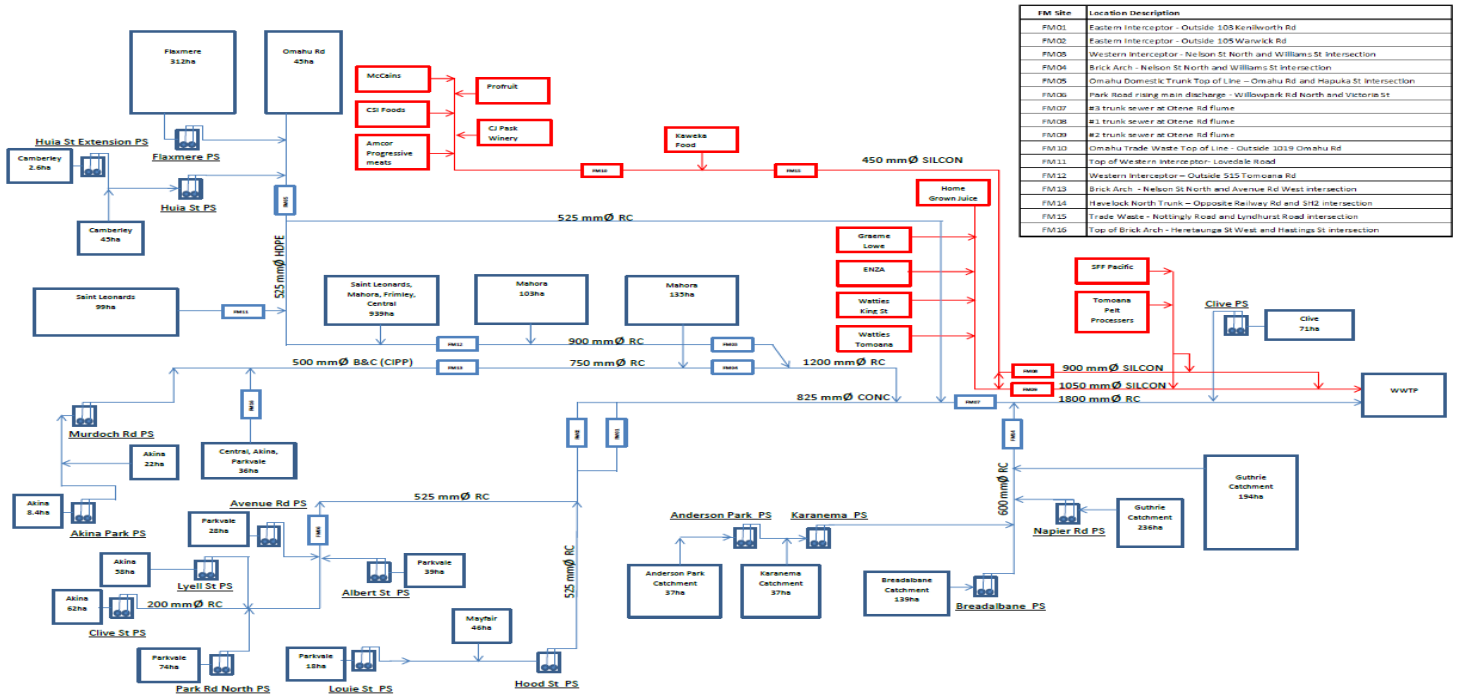
Table – Demand Management Methods

Strategy	Objective/ Description
Operations	Reduce direct stormwater entry into the wastewater reticulation system by detection and control The use of smoke testing and ongoing property inspections programmes will continue to assist in the reduction of direct stormwater entry into the wastewater system thereby reducing overflows in peak wet weather periods and reducing the loadings (and ongoing operations costs) at the treatment plants From international and national studies it is known that a large component of inflow and infiltration does occur on private property. The remedial work on private service lines will be a major cost within the community (for the individual property owners) in the future
Operations	The instigation of an integrated renewals strategy that considers the effects and consequences of: • Reduced ingress of ground water into the reticulated system via a proactive renewals programme that targets the areas most affected by stormwater flooding and infiltration • Use of modelling to ascertain effects and constrains within the systems • Increasing storage capacity at priority pump stations

[24] Infiltration and Inflow Strategy (MWH, Part 1 – April 2016; Part 2 – May 2016)

Strategy	Objective/ Description
Regulation	The use of the District Plan to control the areas in which development can occur and the associated density that is permitted
Consolidated Bylaw	To protect the Councils wastewater reticulation and treatment processes, promotion of waste minimisation, regulation of new and existing connections, setting performance requirements The promotion of on-site pre-treatment for the major industrial contributors
Education	Implementation of Wastewater education programmes aimed at increasing community awareness of the impacts of direct stormwater disposal into the wastewater system
Embargo	Prevent development from occurring where there is no spare capacity available in the existing wastewater system. This is expected to be a temporary measure to allow infrastructure to be installed to meet demand

3.12. Hastings Wastewater Network Schematic



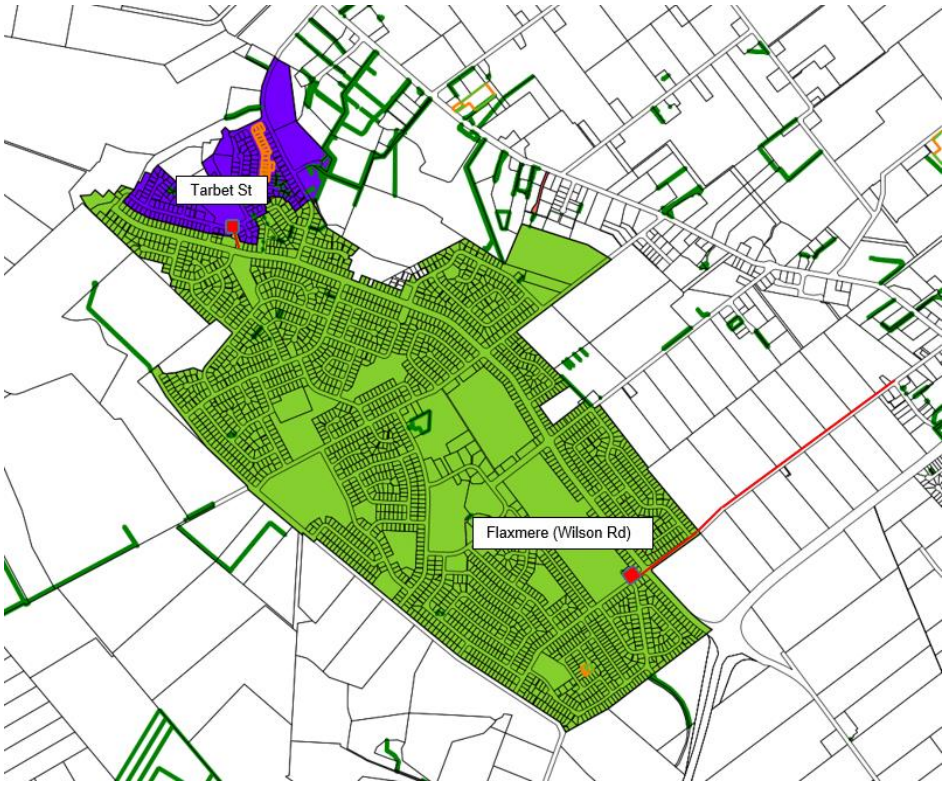
3.13. Wastewater Catchment Analysis

This section provides more specific detail at a sub-catchment level and also includes commentary on any potential impacts to the downstream receiving catchment. This information is based on a combination of sources including modelling outputs, reports, data from the GIS system, historic and operational information from staff and contractors.

3.14. Tarbet Street and Flaxmere

The suburb of Flaxmere was established in 1965 when the then Hastings City Council purchased and subdivided over 160ha of land for housing development. At the time the City of Hastings was seeking to deal with population growth and the need to expand onto land within the jurisdiction of the then Hawke's Bay County Council. The County sought to protect the fertile Heretaunga Plains land immediately adjoining the existing city and directed new development to an area of the Plains west of Hastings City onto 'poor quality' gravely soil of little value for livestock farming, cropping or orcharding. Hindsight has shown that this land is in fact immediately adjoining and sharing similar attributes to the famed Gimblet Gravels red wine viticultural area. [25]

Figure 3.15.1 Flaxmere Wastewater Catchments



The Flaxmere wastewater network is the largest of the Hastings wastewater catchments. The network services the Flaxmere community and includes the small Tarbet Street sub-catchment that discharges

[25] STR-24-2-11-531 Strategies & Development Projects - Urban Design - Flaxmere Town Centre - History of Flaxmere Timeline & Case Study by Philip McKay

into Flaxmere Ave opposite Ramsey Cres. Current information shows Flaxmere as having a resident population of approximately 12,000 people.

Wastewater reticulation terminates at the Wilson Road pump station which pumps wastewater via a 375mm diameter rising main into a manhole in Wilson Rd approximately 1.6km downstream towards Omahu Rd.

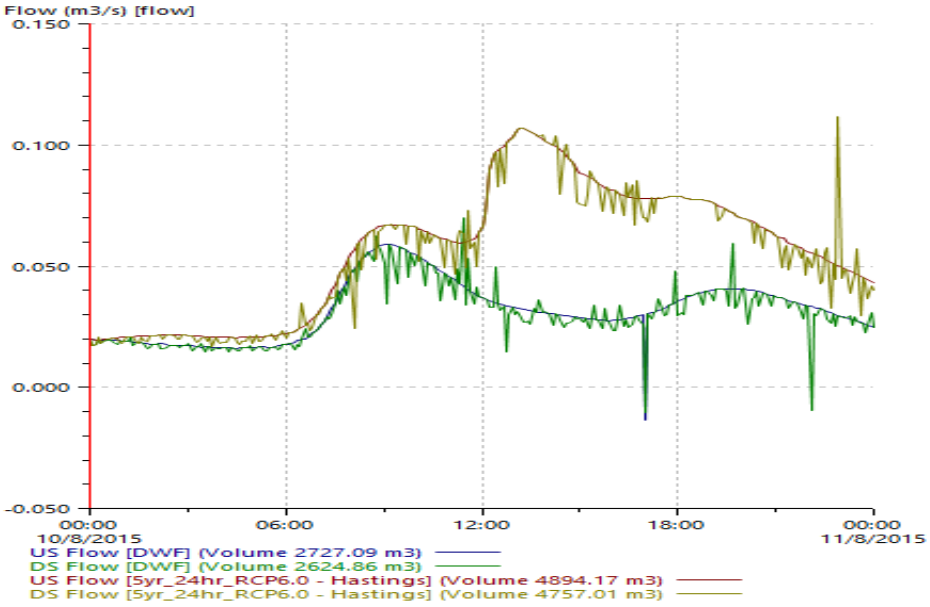
In the last two years, there has been significant development in the Tarbet Street catchment including the Waingākau Housing Project where plans are to build upwards of 120 homes. In addition to this, HDC has undertaken staged development at 244 Flaxmere Drive and developments are underway in the Town Centre and Gum Tree which collectively will yield 300 new homes.

3.15. Network Analysis

The Flaxmere pump station was built in 1965 and was designed for a population of 5,500 people. [26] The original specifications and pumping capacity (91 l/s) are the same today however there has been an increase in pump operating times and wastewater volume due to a much larger population. As a rough guide, the pump station is in operation for around 8 hours per day (derived from SCADA pump run times) which equates to an average dry weather flow (ADWF) of approximately 220 litres/person/day for the 2.6 million cubic metres of wastewater that passes through this pump station every day.

Dynamic modelling of the current dry and wet weather flows (Figure 3.16.1) show that dry weather flows are well within the capacity of the pump station (90 l/s) however wet weather flows result in surcharging in the wet well and local network. Modelling with future growth factored in (Figure 3.16.2) shows how that growth increases base flows and has a detrimental impact on the future operation of the pump station.

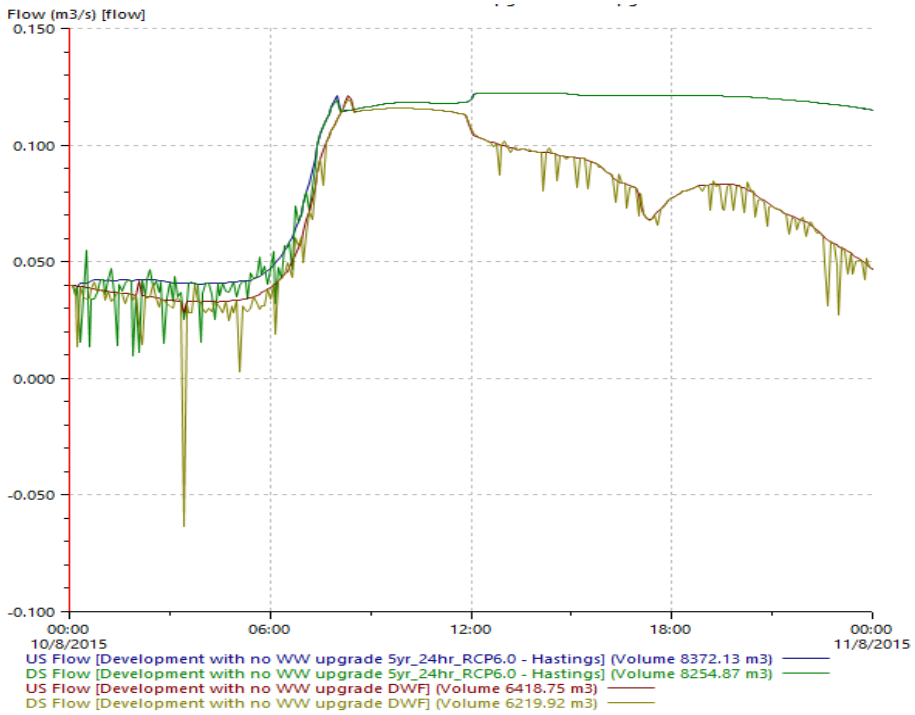
Figure 3.16.1 – Daily Diurnal Flows (Base and 5 Year Rain Event – No Growth)



[26] MAP-3-14-5256

Modelling of the catchment (Figure 3.16.2 below) shows the effects on the network where pipes within Flaxmere are surcharged and overflowing and the pump station is running continuously at peak flows.

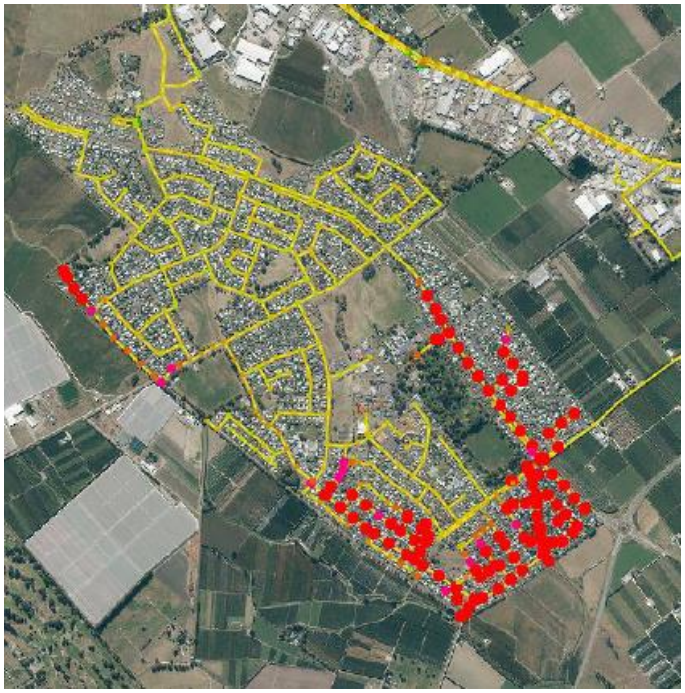
Figure 3.16.2 – – Daily Diurnal Flows (Base and 5 Year Rain Event – With Growth)



Sections of the collector network in Portsmouth Road, Flaxmere Drive, Carnarvon Drive, Peterhead Road, Sunderland Drive and Dundee Drive are operating in surcharged conditions during the 5 year storm with an increased risk of overflows occurring.

Figure 3.16.3 below shows the manhole locations where the system is surcharged and vulnerable to overflows and in particular the immediate areas around Dundee Drive which feeds directly into the wastewater pump station at Wilson Road.

Figure 3.16.3 – Predicted Surcharging – At Risk Manhole overflow locations



Summary

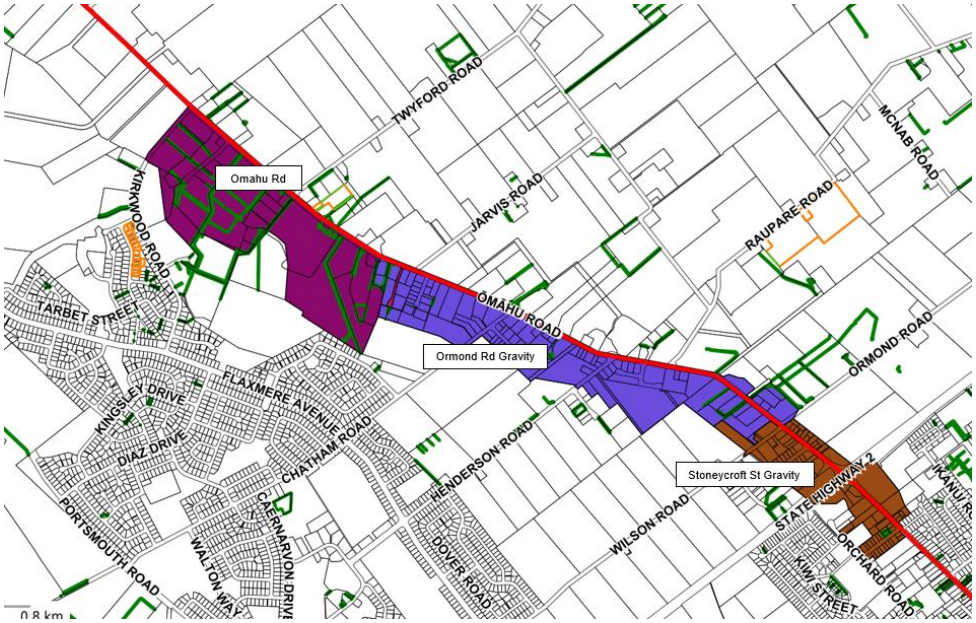
What this analysis confirms is that the Flaxmere wastewater system is currently operating adequately on a day to day basis however there is an increasing risk that additional base flows from growth will increase operational risks in the longer term unless peak pumping capacity can be increased.

The impact of rain derived flows into the reticulation pushes the system to where wastewater overflows are predicted to occur and the pump station can no longer cope with the increase in peak flows. It is also important to state that more severe rain events plus the impacts of climate change will exacerbate a network that is becoming increasingly vulnerable.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Tarbet St				
Flaxmere				

3.16. Omahu Road Industrial Area, Ormond Road Gravity, Stoney Creek Gravity

The Omahu industrial wastewater catchment sits at the upper end of the Omahu Industrial area in Hastings. It includes a small pump station that is located at the end of James Rochfort Place which receives domestic wastewater from nearby industries with the balance of discharges via gravity to Omahu Road. The recent Omahu North Industrial Area includes two new wastewater systems, one discharging to Omahu Rd via a pump station and a larger network and pump station discharging to the Ormond Road gravity catchment. There are no known capacity issues in the Omahu catchment.



The Ormond Rd and Stoneycroft St catchments receive wastewater from Omahu industrial and the Flaxmere catchment and these flows are then conveyed into the downstream Maraekakaho Rd catchment. Both catchments are thin ribbon areas to Omahu Rd where there are predominantly industrial and commercial premises with small pockets of residential housing and little scope for large scale growth.

The domestic trunk main downstream of Wilson Rd (where Flaxmere discharges into) is a 525mm diameter concrete pipe that is silicon enriched to reduce the potential for corrosion from hydrogen sulphide and sits alongside the 450mm dia. separated industrial trunk main that is also silicon enriched. There are no known capacity issues apart from a small section of main downstream of the Flaxmere rising main discharge in Wilson Rd which modelling shows to be constrained.

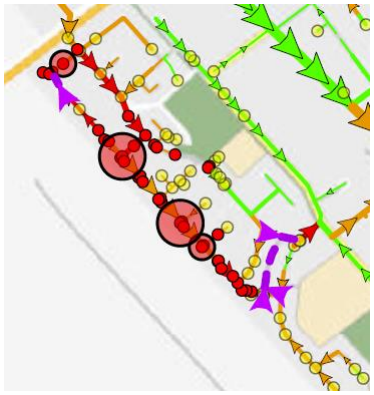
Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Omahu Rd				
Ormond Rd				
Stoney Creek Rd				

3.17. Huia St Extension, Huia St, Camberley

The Huia St catchment straddles parts of the industrial area (Stevens Place and Manchester Street) and services the Camberley residential area. Within Camberley there is a small lift station (Huia Street Extension) that services a low lying pocket of residential housing and the combined discharge is pumped to Orchard Rd where it gravitates to the Maraekakaho gravity system via Canning Street and into Omahu Rd.



There are known areas within Camberley where the reticulation is under capacity in the 5 year rain event. The entire area is reliant on pumping and capacity issues arise at the pump stations in quite moderate rain events. There is potential for housing intensification in this area which could see the resident population increase requiring capacity increases which could also resolve known problems.



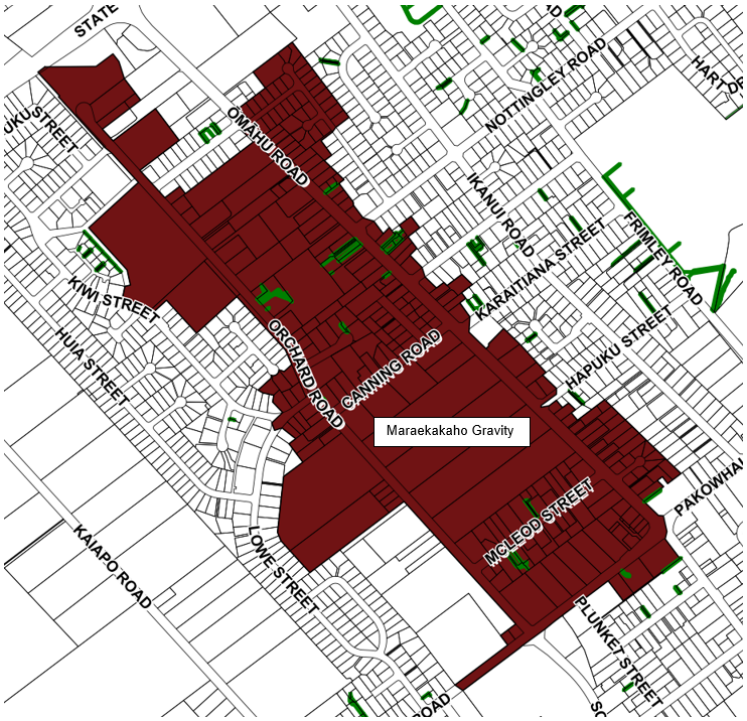
Alternative solutions may be influenced by servicing options for intended greenfield residential development in the Kaiapo area which is immediately adjacent to and downslope of Camberley.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Huia St Extension				
Huia St				

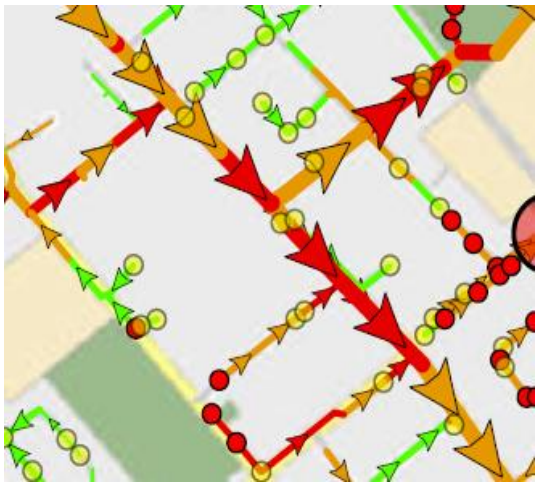
3.18. Maraekakaho Road Gravity

The Maraekakaho catchment sits strategically at the western entry into the Hastings wastewater system where it receives wastewater from all of the western catchments and Camberley including the separated industrial trade waste sewer trunk main from the Omahu Industrial area.

The catchment straddles the area between Omahu Rd and Orchard Rd which is primarily commercial in nature with small pockets of residential housing. It also receives all wastewater from the Hastings Hospital across a number of connections to the streets surrounding the site. The top end of the Western Interceptor starts at Hapuku St and has historically shared wastewater flows from Omahu Rd. In the last decade or so, this main has been valved off meaning that all wastewater continues down Omahu Road and into Heretaunga St.



There are few constraints and the catchment itself is probably unlikely to experience significant changes as a result of urban residential growth. However, the hospital site is being considered for redevelopment and upgrading which could concentrate health services in the area and increase the number of people visiting daily for health care needs.



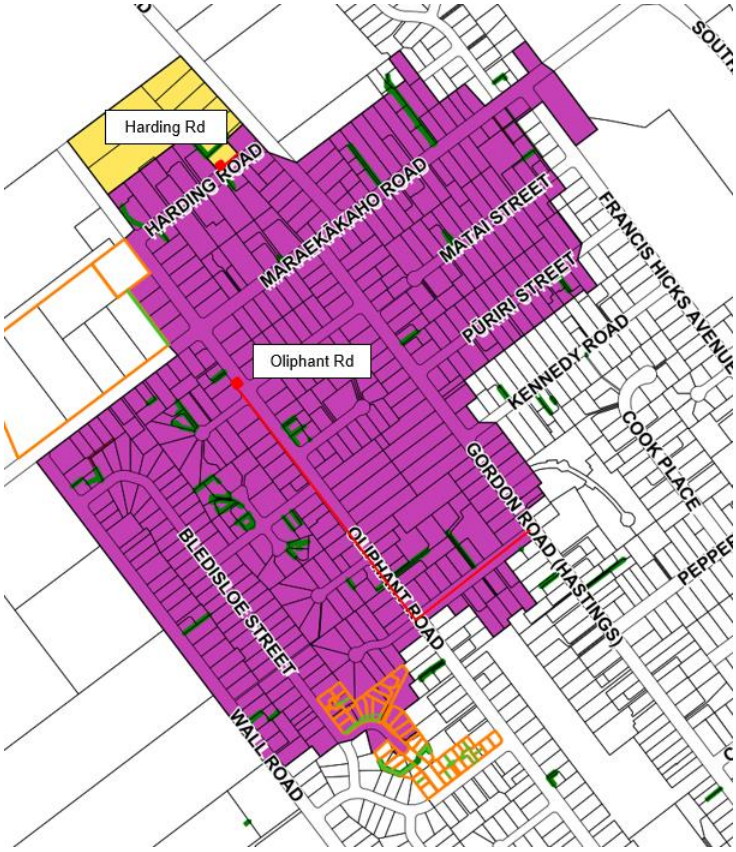
Modelling shows that the sewer main in Canning Rd experiences moderate surcharging in the 5 year rain event and this will be exacerbated by increased flows from Camberley and the hospital. Modelling also confirms surcharging in the section of sewer main between Hapuku St and Pakowhai Rd where the 600mm diameter trunk sewer and an associated 375mm wastewater main converge into a 560mm diameter main which then discharges into the Townshend St gravity system in Heretaunga St West. This will be exacerbated by growth primarily in Flaxmere and with the additional flows from the proposed HTST development at Irongate/York.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Maraekakaho				

3.19. Harding Road, Oliphant Road

Harding Road is a very small catchment that services 8 properties via a small pump station that discharges into the Oliphant Road catchment. There are no current or future capacity issues anticipated and it is anticipated that this catchment will be redirected to the future Kaiapo wastewater system. However, as Harding Road discharges into the Oliphant Rd catchment, any growth will contribute to existing problems and hence is downgraded to reflect this.

The Oliphant Rd catchment is sizeable and includes areas within St Leonard and Raureka. The catchment drains to the Oliphant Rd pump station which is located in Oliphant Rd opposite Wentworth St. The sewer rising main (200mm diameter PVC main) heads along Oliphant Rd, into Florence St and discharges into a manhole in Gordon Rd which then feeds into the Pepper St main.

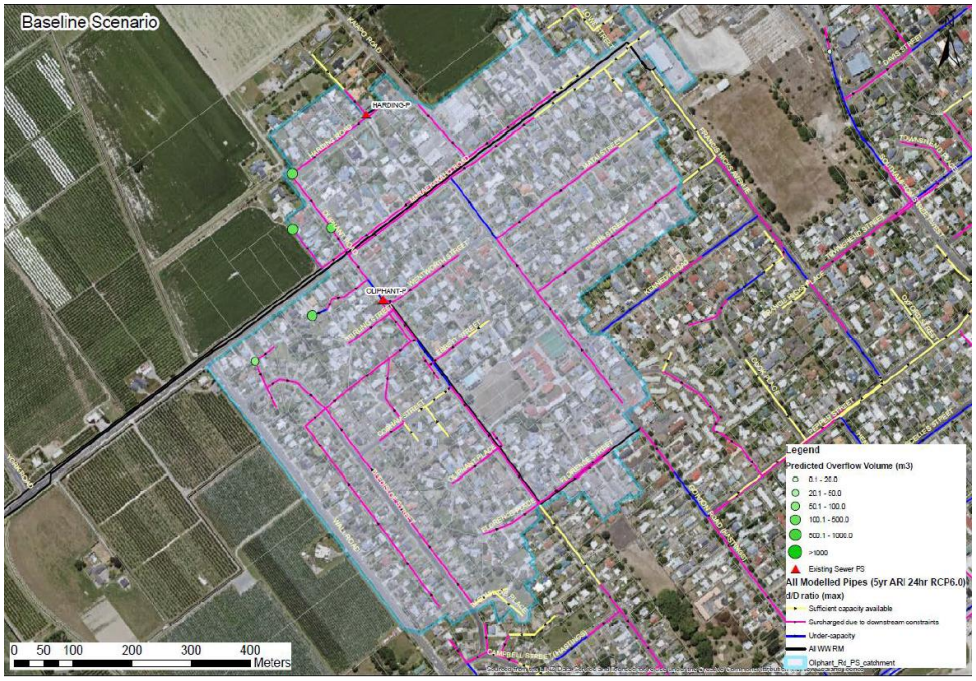


The Oliphant Road catchment performance was assessed in May 2021 due to an application in the area proposing to construct 90 new residential units. This modelling report (WAT-14-35-21-178) confirms that the catchment is heavily constrained both in the reticulation and at the pump station.

The model indicates that the network fails to fully contain the flow within the network during wet weather event largely due to under-capacity of Oliphant Road Pumping Station and some under-capacity in the gravity network. The existing system does not achieve the required level of service as per HDC's ECoP. [27]

[27] WAT-14-35-21-178 #1110 Oliphant Road Development Wastewater Options Assessment Report (Stantec - May 2021) page 7

Figure 3.20.1- Baseline Scenario showing performance of existing system within Oliphant Road PS catchment



(Source: Figure 1, Appendix WAT-14-35-21-178)

The pump station capacity limitations cause surcharging in pipes immediately adjacent to the pump station but also contribute to effects within the Wall St/ Bledisloe Rd reticulation due to the flat and low lying nature of pipes in this area. As noted in the report, the risk of overflows is high and upgrades are required to resolve these issues regardless of any growth implications that will simply add to the scale of work required.

There is the potential to consider a joined up solution when the Kaiapo greenfield development services are developed as this area alone will contribute significant additional wastewater. It is however increasingly unlikely that an upgraded Oliphant Rd catchment will be able to cope with Kaiapo due to further limitations that exist downstream of Oliphant Rd.

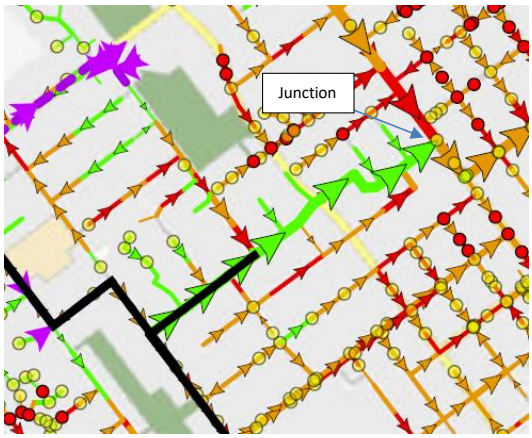
Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Harding Rd				
Oliphant Rd				

3.20. Pepper Street Gravity

The Pepper Street gravity catchment links between Oliphant Road and Townshend Street and services the immediate residential area of St Leonards. Conveyance of wastewater is via a 750mm diameter reinforced concrete main and modelling confirms that there is sufficient spare capacity to cater for urban intensification within this catchment area plus the surrounding Oliphant Road and Southland Road catchments.



Modelling indicates that even under wet weather conditions, this main is not surcharged. Further analysis also confirms that the impact of upgrades to the Oliphant Road pump station and input from the Southland Road catchment (including intensification) could be catered for via the Pepper Street main. The issue of capacity then moves to the Townshend Street gravity catchment where this flow, coupled with the substantive flows from Omahu Road (via Heretaunga St) become apparent. The consequence of pushing more wastewater into a constrained network is highlighted in this situation requiring additional work downstream to realise the capacity that is available within the Pepper Street catchment.



At the junction of the Pepper St and Heretaunga St mains, surcharging can occur with an increase in the potential for overflows. While this constraint does not impact on the Pepper St main and the catchments above, consideration of the overall network effects are still required to ensure that upgrades and approvals for substantive intensification do not create unacceptable conditions downstream. The catchment ranking therefore reflects this.

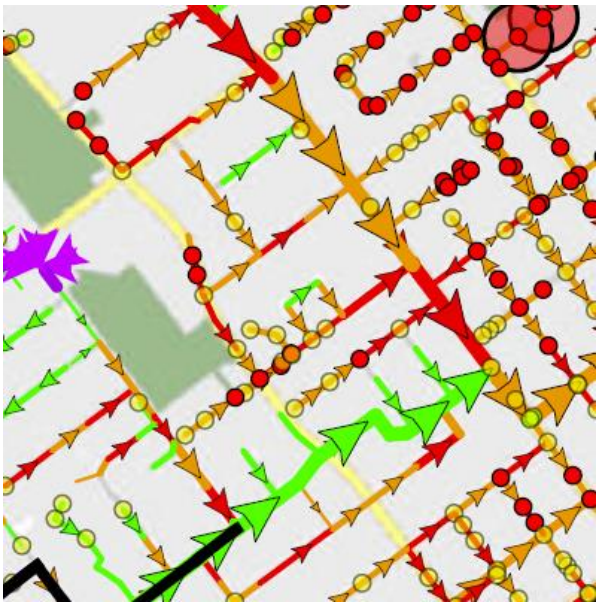
Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Pepper St				

3.21. Townshend Street Gravity

The Townshend St catchment collects wastewater from the Stortford Lodge commercial strip and residential areas into the Heretaunga Street trunk sewer main. This trunk sewer also conveys all of the upstream flows from Omahu Road and above into the downstream Tōmoana Road gravity catchment. This main trunk sewer upsizes from a 560mm diameter main to a 900mm diameter main at Lovedale Rd where the Pepper Street (and above) catchments discharge at this location and just prior to entering the Tōmoana gravity catchment.



Modelling shows that the Heretaunga Street trunk sewer immediately upstream of the Pepper Street inflow, operates in a surcharged state suggesting that there is a capacity and/or head loss issue at this major junction. This also affects the majority of the local reticulation where pipes connect into the Heretaunga Street main. The modelling also indicates that there may be several streets where local constraints exist and are exacerbated by growth.



The adjacent modelling plan shows the surcharged state of the reticulation in this area. This modelling is based on the 5 year rain event and includes a component of future growth in the analysis. The future state model also assumes that the Western Interceptor (WI) situated upstream at Hapuku St is open and taking a proportion of flow from the western catchments, in particular Flaxmere.

With the Western Interceptor isolated (the normal operational state), the effects in Heretaunga St and in the local network will be greater with the potential for overflows to occur. Further analysis will be required to optimise the future network arrangement once the final growth plan has been finalised. In the interim it is assumed that the WI will remain closed as the model shows that this main is also surcharged if it receives wastewater from Omahu Road.

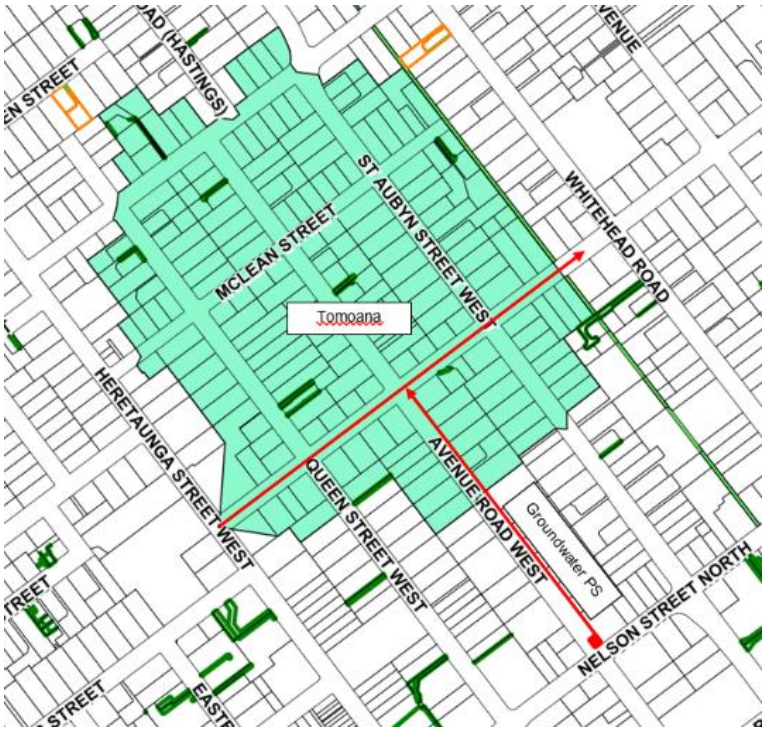
The Townshend Street catchment is where flows from the western most catchments (Flaxmere, Omahu, Camberley) combine with flows from Stortford Lodge. The lack of capacity in the Heretaunga Street main (in the 5 year rain event) is exacerbated by growth and this impacts the local network which is also surcharged. This constraint has implications for the upstream catchments where increased flows from growth will create a cascade effect downstream and in the Townshend Street catchment.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Townshend St				

3.22. Tōmoana Road Gravity Catchment

The Tōmoana catchment is a relatively small cluster of streets that drain to the 900mm diameter trunk sewer situated in Tōmoana Road. This trunk sewer carries a substantial proportion of wastewater from the western and southern catchments as it traverses to the Brick Arch interceptor in Nelson Street

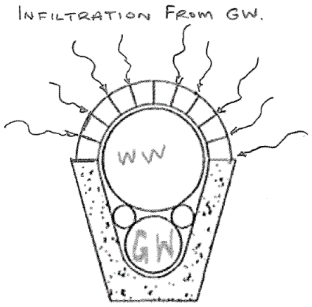
North. Modelling shows that many of the streets are impacted to a degree by surcharging in the trunk sewer and relatively flat grades within the street reticulation during a 5 year rain event.



3.23. Groundwater Discharge

A controlled groundwater discharge enters the 900mm diameter trunk sewer in Tōmoana Road from a pump station located on the intersection of Avenue Street West and Nelson Road North. This groundwater is collected from the Heretaunga Street section of the Brick Arch via a separate 225mm diameter PVC pipe.

Groundwater separation was instigated in 2001 as part of the sewer rehabilitation works on the Heretaunga St section of the Brick Arch that runs through the Hastings CBD from Willowpark Road to Nelson Street North. Rehabilitation was undertaken to remove significant infiltration that was occurring due to the deteriorated nature of the brick lining which was impacting wastewater capacity. Rehabilitation involved the insertion of a 225mm dia pipe into the invert of the egg-shaped sewer with a 450mm dia pipe sitting above to carry wastewater. Separation is maintained whereby the sewer main is continuous through manholes but the stormwater pipe is sectioned to allow groundwater to be collected and maintain separation. There is a continuous base flow of around 9 litres per second that is diverted to the Tōmoana Road trunk sewer.



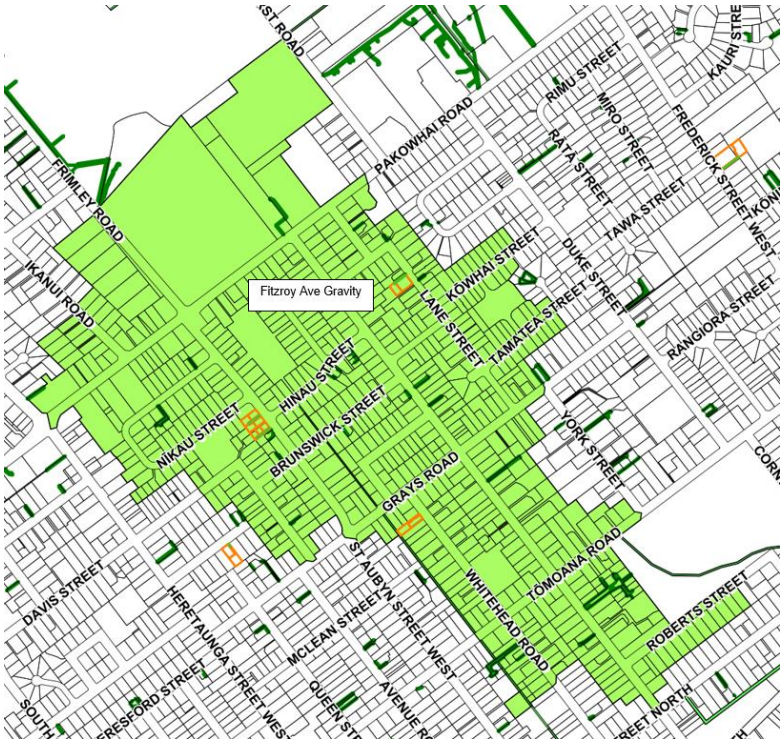
While this system has been successful in increasing capacity in CBD Brick Arch section, the separated groundwater is ultimately returned to the wastewater system downstream so the benefits are limited to the CBD area. Further investigative work is underway to determine whether the discharge is suitable for diversion to the stormwater system which will assist in recovering some wastewater capacity for growth.

The Tōmoana catchment exhibits similar characteristics to that of the immediate upstream catchment and is ranked similarly.

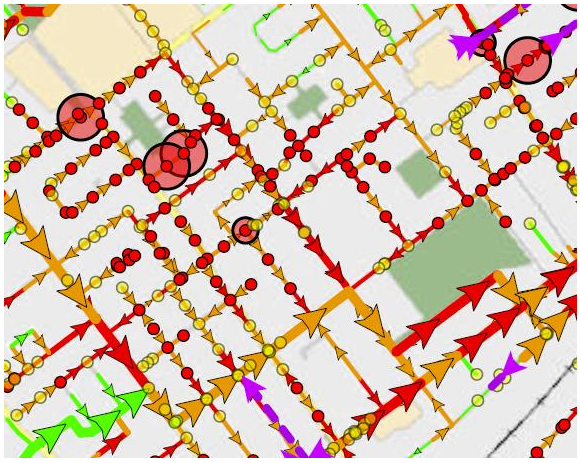
Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Tōmoana Rd				

3.24. Fitzroy Avenue Gravity

The Fitzroy Avenue catchment collects urban stormwater from an area that stretches from Pakowhai Road to Nelson Street North. Wastewater gravitates in an easterly direction to Tōmoana Road and joins the combined wastewater flows from Tōmoana Road before discharging into the Brick Arch via Roberts and Kitchener Street.



Modelling indicates that the western quadrant including Nikau Street and Hinau Sreet and some sections on St Aubyn Street West are constrained and there have been operational issues in these areas during rain events. Operational issues include flat and shallow pipes, dips and depressions in mains resulting in regular debris removal, ingress of gravel and inflow and infiltration from old cracked and leaking pipes as well as capacity limitations introduced from the sleeving of old reinforced concrete pipes using polyethylene.



The dual collector sewers in Fitzroy Ave (225mm and 300mm dia) discharge into the 900mm trunk main which is already known to be moderately constrained in the 5 year rain event. Surcharging can be accommodated via a higher level 300mm main that gravitates down to the Nelson Street North Brick Arch which relieves some localised pressure on the 900mm dia. main. The Fitzroy Ave catchment is currently unable to support comprehensive residential intensification due to a combination of exisiting infrastructure issues plus increasing limitations in the trunk sewer network to accommodate additional flows from the upstream catchments.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Fitzroy Ave				

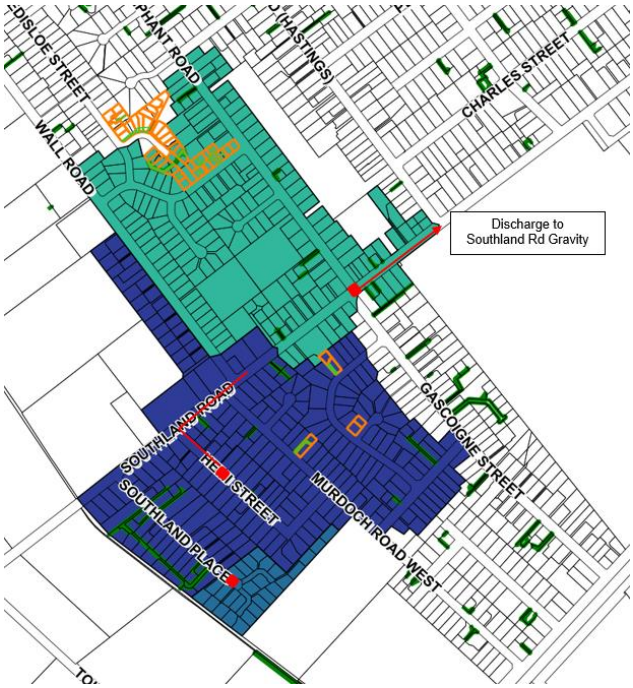
3.25. Nelson Street North Gravity

This catchment straddles the lower end of the Brick Arch sewer and also accommodates flows from commercial properties in King Street North. It is the last urban catchment on the western side of the railway prior to the No.3 trunk sewer. The trunk sewers are deep in this location and while they operate in a surcharged state, there is little impact on the Nelson St urban network therefore some capacity is available to support urban intensification.



Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Nelson St Nth				

3.26. Southland Place, Hemi Street, Southland Road Pump Stations



This cluster of catchments are all reliant on pumping to discharge wastewater into the Southland Rd gravity catchment. Southland Place operates via a small lift station that gravitates to the Hemi St pump station which discharges into Southland Rd. This joins with local flows from the Southland Rd catchment into the Southland Rd pump station at the intersection with Oliphant Rd. The rising main terminates at a manhole on the intersection of Gordon Rd and Southland Rd prior to entering into the Southland Rd gravity catchment.

Southland Place is very small and services less than 30 properties which are recent builds so is unlikely to have further growth potential.

Modelling outputs are consistent with operational knowledge of the network and pump station performance which confirms that these catchments are heavily impacted during the 5 year storm event with surcharging to the extent that overflows occur without some level of intervention. That intervention includes the deployment of sucker trucks on a continuous basis to Hemi St where the pump station is overwhelmed and service to the local community can be affected.

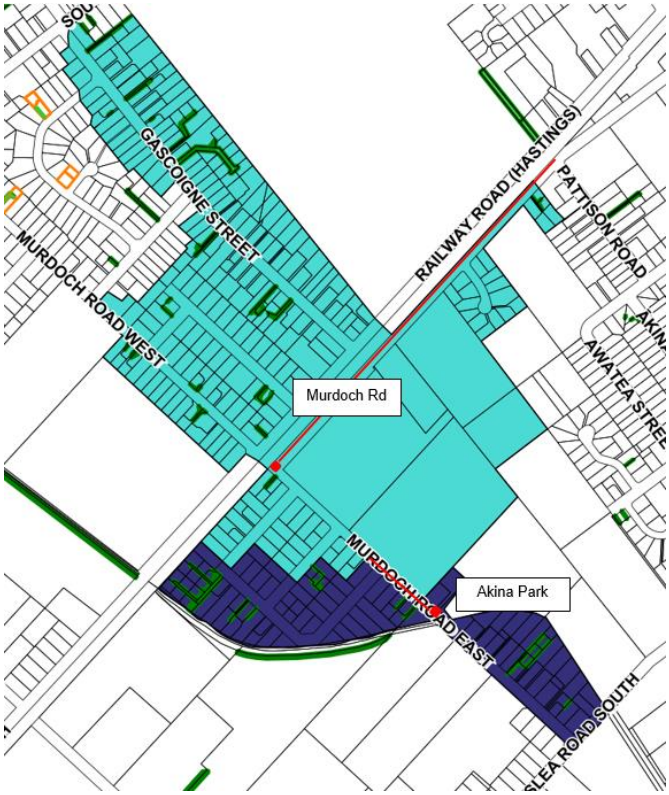


The primary issue appears to be inflow and infiltration from within the local network and this I&I continues for a sustained period after rain has abated. This area would be a prime candidate for an intensive investigation at a property level to ascertain where I&I may be occurring to enable solutions to be implemented and potentially create some local capacity for intensification. Until this work is undertaken the catchment will remain heavily constrained.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Southland Place			N/A	N/A
Hemi St				
Southland Rd				

3.27. Akina Park, Murdoch Road

The Akina Park and Murdoch Rd pump stations service the most southern wastewater catchments in Hastings. Akina Park discharges into the Murdoch Rd system which pumps wastewater north to discharge at a manhole opposite Pattison Rd at the head of the Russell St gravity catchment.



The residential area to the west of the railway line discharges via a single 150mm diameter poly-ethylene sleeved wastewater pipe at Murdoch Rd. There are a number of operational issues in this area including flat grades, regular blockages, I&I issues in Gasgoine St and the area suffers from a relatively high water table especially when it rains. Some of these issues are thought to stem from the use of polyethylene materials in the local reticulation and the restriction at Railway Rd has been problematic for many years.

Modelling confirms that the entire network in the Murdoch Rd and Akina Park areas is surcharged in the 5 year rain event and this causes backing up and overflows to the lowest lying properties. Murdoch Rd pump station is known to be overwhelmed in moderate rain events requiring the deployment of sucker trucks to keep the area serviceable and to prevent overflows. The area is unlikely to be able to support intensification without significant efforts to address the underlying capacity constraints.

Further analysis of pump station capacity will be required to ascertain whether the existing pump stations would need to be upgraded once the I&I issues have been resolved.

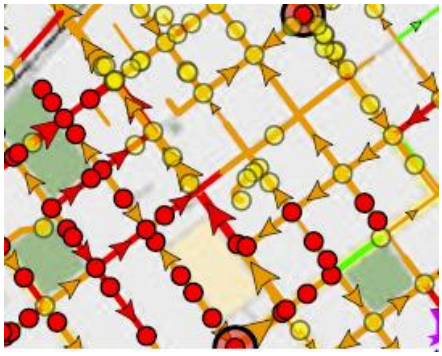
Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Akina Park				
Murdoch Rd				

3.28. Heretaunga Street East Gravity

This catchment straddles the area immediately east of the Hastings CBD between Hastings Street and Willowpark Road and Southampton Street and St Aubyn Street. It includes a mix of residential and commercial premises, a school and supermarket which discharges trade waste into the domestic system.



The top end of the Brick Arch commences at the intersection of Willowpark Rd and Heretaunga St East and follows Heretaunga St through the CBD to Nelson St. As discussed in the Tōmoana catchment section above (Section 3.23) the Brick Arch has been rehabilitated and infiltration of groundwater has been separated from the wastewater flow.

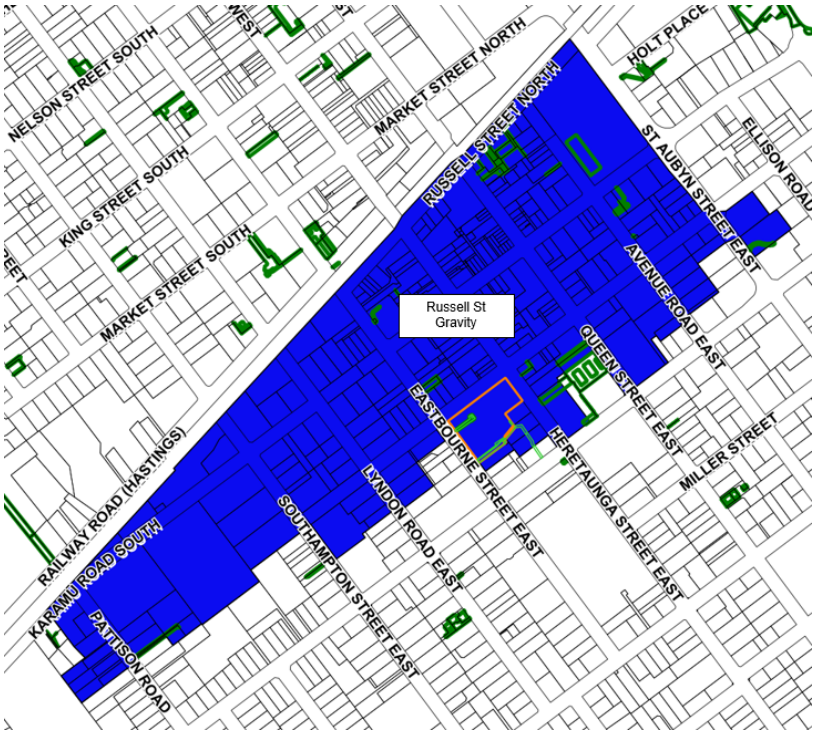


Modelling shows that the local reticulation is moderately surcharged in the 5 year rain event which will limit the extent of overall development however some level of residential development can be accommodated subject to the locality and density of any proposal. Intensification in the CBD (inner city living precinct) could be the catalyst for more substantive reticulation upgrades to extend into the Heretaunga St catchment particularly if the Brick Arch were to be replaced or duplicated or alternatively, upstream catchments being redirected to create capacity in the local network.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Heretaunga St				

3.29. Russell Street Gravity

The Russell Street catchment receives wastewater from Akina, Murdoch and Heretaunga Street East catchments and this combined discharge flows into the Southland Road gravity catchment on its way to the Nelson Street Brick Arch. The catchment sits on the eastern side of the railway corridor and extends across the CBD area from St Aubyn St East to Southampton Street and between the railway line and Hastings Street.



This area is fully commercialised and is already experiencing pockets of commercial redevelopment including the Opera House precinct, the Herald Tribune corner and Rush Munroe's in Albert Park. There is some potential for the inner city living precinct to expand into this area which could increase the base wastewater demand but at this stage the modelling shows that there are no significant issues in the area between Heretanga St and St Aubyn St and only moderate surcharging occurs in this part of the network.

The block between Southampton Street and Eastbourne Street (including Karamū Rd Sth) experiences additional surcharging in streets possibly as a result of some sections being HDPE slip-lined (125mm diameter). This block ultimately feeds into the Brick Arch at Heretaunga Street.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Russell St				

3.30. King Street, Southland Road Gravity

The King St gravity catchment is a standalone area that services a largely urban residential area between the Racecourse and the CBD along with commercial blocks on the CBD fringe. All wastewater flows gravitate to the bottom end of the Southland Rd catchment and into the Brick Arch in Heretaunga St West.

The Southland Rd catchment is sizeable in its extent and encompasses residential and commercial areas of the city including the CBD west of the railway line. This catchment also serves as a major junction for wastewater flows from upstream catchments including Southland Place, Hemi Street, Southland Rd pump station, Akina Park, Murdoch Road, King Street, Heretaunga Street and Russell Street.



At a street level, the King Street reticulation is moderately surcharged in the 5 year rain event but the current risk of overflows is considered low. Future demand from growth is uncertain however there are considerable opportunities on the fringe of the CBD area for commercial redevelopment/ apartment style living and the Racecourse presents significant potential for more intensive urban residential development if this land were to become available. The rating however excludes the Racecourse land from this final assessment due to the uncertainty of future development in this space.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
King St				

The Southland Rd catchment is constrained in its ability to convey flows from upstream catchments combined with wastewater generated within the catchment area. This is compounded in rain events where I&I exacerbates problems at a street level across many parts of the network and growth will add to these issues.

It is also important to note that upsizing in Southland Rd to increase capacity must be considered alongside reducing I&I to acceptable levels in the upstream catchments otherwise the new capacity will simply be replaced by the excess stormwater that is currently not able to be accommodated and exits the system as overflows.

Figure 3.30.1

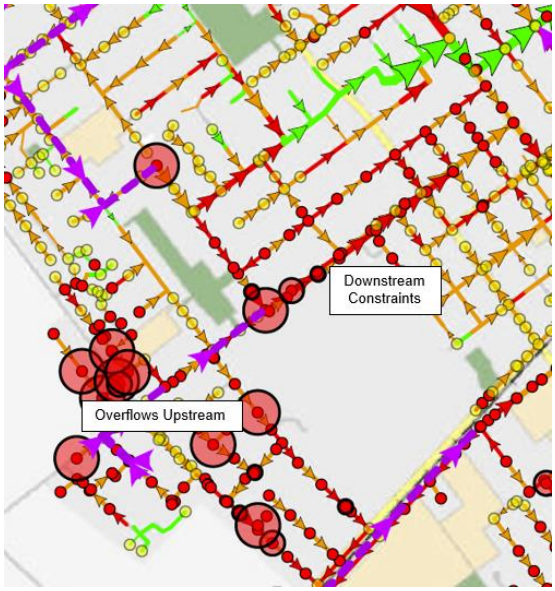
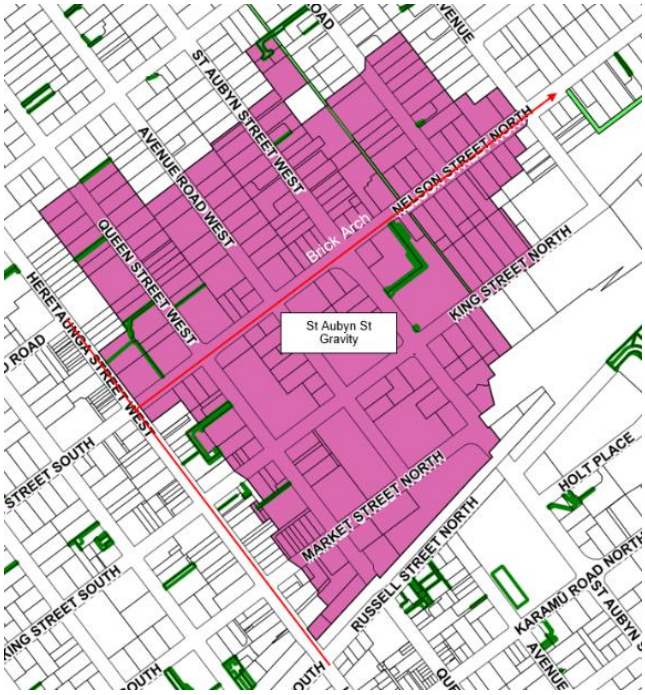


Figure 3.30.1 shows the impact that upstream catchments can have on downstream networks that are already constrained but also highlights that future infrastructure upgrades to create capacity for growth need to include solutions to address existing issues that have the potential to simply consume the new capacity that has been created.

The adjoining Pepper St catchment has spare capacity that could assist in supporting future growth by redirecting some of the upstream catchment flows into the Pepper St main but this needs to be further modelled to understand if adverse impacts further downstream may occur.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Southland Rd				

3.31. St Aubyn Street Gravity



The St Aubyn St catchment sits immediately to the north of the CBD from Heretaunga St West to Fitzroy Ave and between the railway line and Tōmoana Rd. The catchment is predominantly commercial in nature with urban residential inputs on the western side of Nelson St North. The lower end of the Brick Arch traverses the catchment conveying a large proportion of the city's wastewater to the No.3 trunk sewer.

Modelling indicates that the local reticulation in the CBD is constrained due to surcharging in the 5 year rain event but the level of surcharging does not show as being at concerning levels that would result in overflows. However, operational knowledge within this part of the CBD suggests that there are capacity issues under normal operation where high localised demand can present problems in the reticulation. Determining the actual (and future) wastewater demand across the CBD and calibrating the wastewater model is a priority as redevelopment of commercial premises e.g. the Kiwibank Call Centre, can result in significant increases in staff numbers where they were low before.

Our confidence in the model outputs in this part of the network needs to be viewed with some caution and the impact of an inner city living precinct, with conversion of commercial buildings to apartment style living, will significantly increase the wastewater demand.

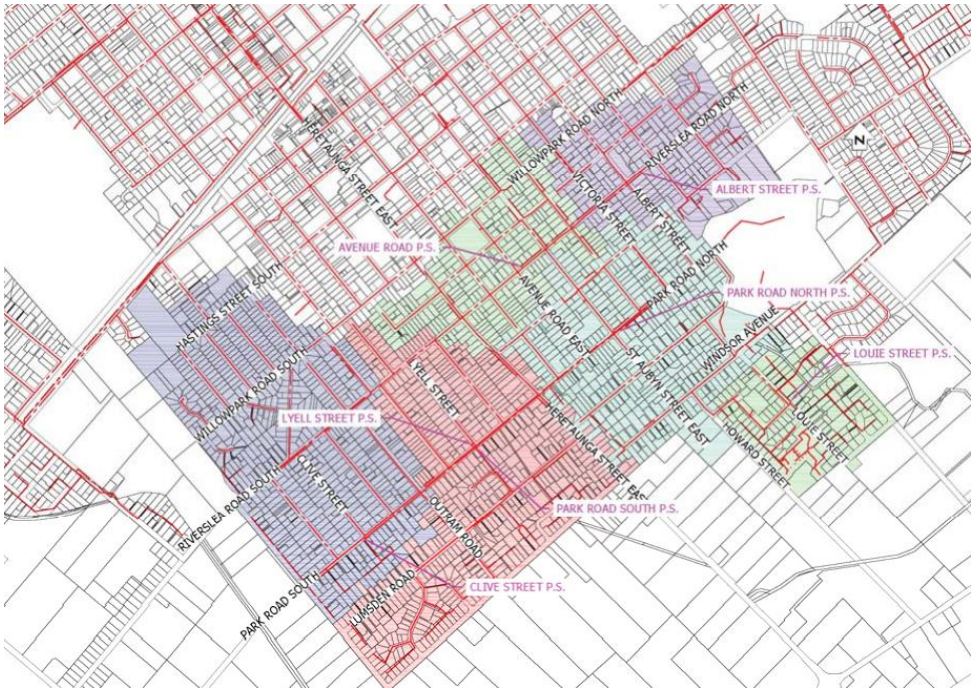
It is anticipated that the CBD network will require upgrading to account for future growth and this will need to include options for creating additional capacity in the Brick Arch system to cater for existing and future growth capacity or alternatively, bypassing the central part of the network in and around the Brick Arch. Ranking in this catchment therefore reflects a cautionary approach.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
St Aubyn St				

3.32. Park Road Rising Main

The Park Road rising main services the Akina and Parkvale areas within Hastings. HDC's sewer renewal strategy classifies the rising main as Category A – a high priority pipeline critical to the HDC sewer network.

Figure 3.32.1 Park Road Rising Main Catchments



The Park Road rising main and associated pump stations have had a history of operational and maintenance issues due to the complex arrangement (up to 6 pumps into a single rising main) and interdependency of the pump stations. The area is prone to significant inflow and infiltration which has a detrimental effect on the local network and can quickly overwhelm the pump stations. This results in heavily overloaded pipes, backed up connections with consumers unable to use the system, and overflows on private property. The greatest risk is at or close to the pump stations which are in the lowest lying locations and due to limited existing wet well capacity, the system relies on storage within the immediate upstream pipework.

In 2017, a Master Plan study (File Ref: PRJ18-95-0108) was undertaken looking at options to improve the level of service in the Akina and Parkvale areas and remove the risk of overflows in the 1 in 5 year rain event. This study set out a programme of works to address the complex issues associated with the way the Park Road Rising Main is configured, factor in future proposed developments within the catchment area and prioritise the significant investment required to renew the Victoria Street rising main and eastern interceptor which are immediately downstream of the Park Rd rising main.

The analysis included an updated assessment of inflow and infiltration in the area based on previous work which indicated that all of the sub-catchments within the Park Rd rising main network experience I&I due to the following:

- The low-lying areas in Lumsden Place (Lyell Street pump station catchment), which have the potential to flood, are now developed and could be a source of stormwater inflow if the gullies are not raised high enough above ground level

- The Park Road rising main catchments have the worst inflow sources due to known overflow incidents and/or wastewater overflows predicted by hydraulic modelling, and I+I analysis yielding high peaking factors in comparison with threshold values
- Infiltration and inflow (I+I) analysis recorded high rainfall dependent infiltration (RDI) and higher than threshold groundwater infiltration (GWI), a sign of possible leaky pipe joints within the system
- The catchments were predicted by network modelling to have dry weather flow surcharges/spills.

This work also indicated that groundwater infiltration (GWI) was significantly above the recommended indicator of 20% for dry weather GWI. The table below compiles the various catchment I&I.

Pump Station Name	Catchment Area (Ha)	Catchment Population		Dry Weather – Groundwater Infiltration	Wet Weather Flow Peaking Factor
		2017	2046	% of ADWF Volume	
Clive Street	62	2286	2799	42%	5.7
Lyell Street	59	2248	2928	76%	12.0
Park Road South	N/A	N/A	N/A	N/A	N/A
Park Road North	92	2292	3113	58%	5.4
Albert Street	39	1099	1099	83%	3.7
Avenue Road	28	1172	1172	56%	4.3
Louie Street	18	407	407	25%	3.8
Hood Street	65	1617	1617	55%	5.0

Source: Table 3.1- Park Rd Rising Main Master Planning (pg 28) File Ref: PRJ18-95-0108

A wet weather peaking factor of 8 is typically adopted as an upper threshold that would trigger the need to implement I&I management or rehabilitation programmes aimed at reducing I&I.

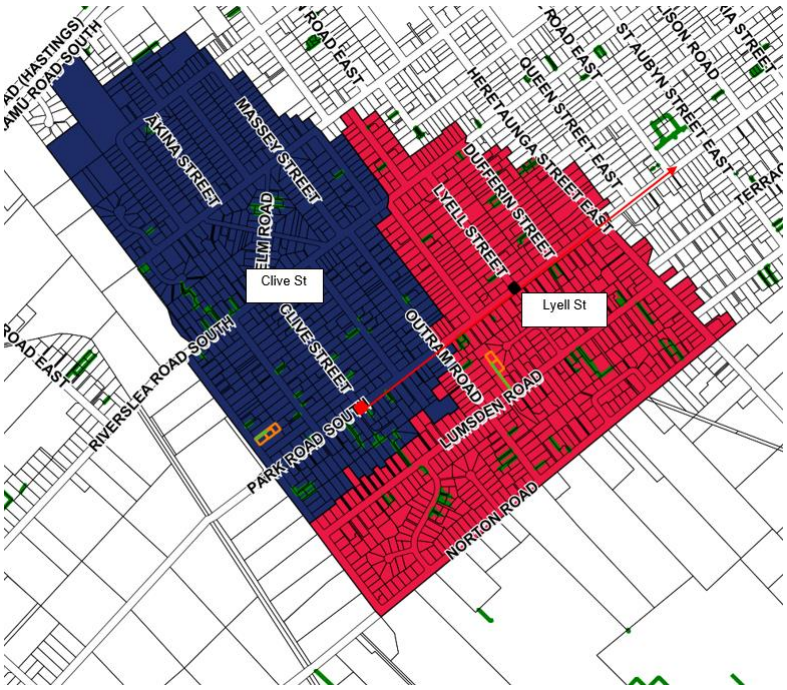
A range of upgrade works were recommended to address existing issues and to cater for anticipated growth out to 2046, based on the HPUDS (2017) projections. These works included:

1. Construction of a dedicated rising main to service Avenue Rd and Albert Park pump stations
2. Construction of a dedicated rising main for the Park Rd North pump station
3. Replace Clive St pump station rising main
4. Rehabilitation of the Park Rd Sth/Nth rising main to service Clive St and Lyell St pump stations
5. Upgrading of pump capacity
6. Upgrading of local reticulation to remove under capacity sections and choke points
7. Upsizing of the Eastern Interceptor

At the time of writing this report, items 1, 2, 3 and 4 were complete and the Eastern Interceptor upgrade contract has been awarded with construction commencing in the first quarter of 2023. Further investigations are ongoing to identify I&I areas of concern and to develop a strategy for addressing rainfall derived flows in this sector of the network.

3.33. Akina Wastewater Catchment (Clive Street, Lyell Street)

The Akina catchment covers a large urban residential area from Copeland Rd in the south up to Heretaunga St East and from Norton Rd across to Akina St and Massey St just south of the CBD. The area comprises two catchments, Clive St and Lyell St, which are serviced by pump stations that discharge into a common rising main in Park Rd South. The rising main then continues via Park Rd North and Victoria St to finally discharge into the top of the Eastern Interceptor at Willowpark Rd North. The rising main was rehabilitated in 2020 using a 355mm diameter PE sleeve inside the original 375mm reinforced concrete main. (Refer CON2019061 & WAT-14-15-19-529)



The upgrade works have successfully reduced the potential for overflows and backing up to occur however the extent of I&I into the system is still an issue that requires further work (onsite investigations, stormwater modelling etc.) to develop targeted programmes for minimising direct inflows and groundwater infiltration. The catchment ratings reflect the ongoing limitations that exist and will continue to limit the ability to accommodate redevelopment and intensification in this area.

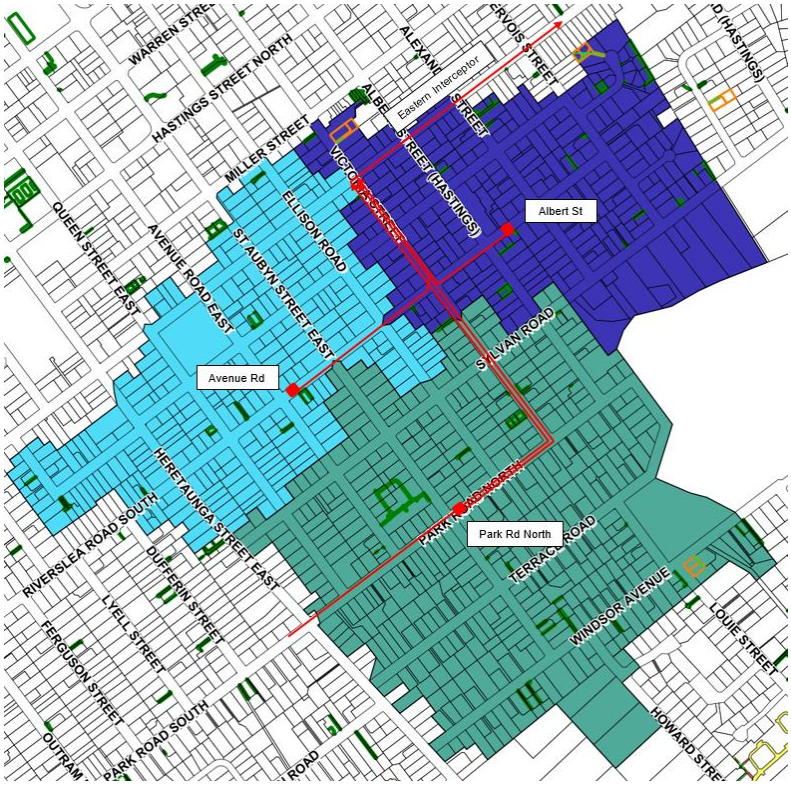
Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Clive St				
Lyell St				

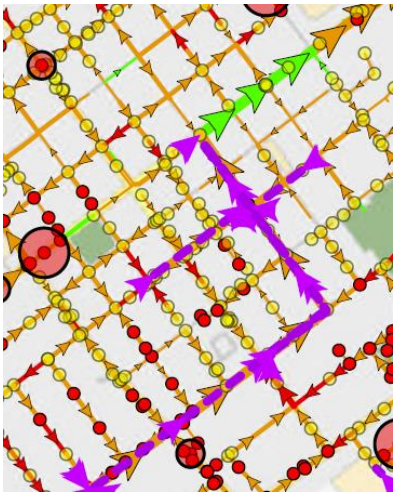
3.34. Park Road North, Avenue Road, Albert Street

This cluster of catchments includes the residential area bounded by Windsor Avenue, Heretaunga Street East and Willowpark Road.

As described in the Park Rd Rising Main section, the Park Road pump station now has a dedicated rising main that discharges into the top end of the Eastern Interceptor and is no longer influenced by the other pumped catchments in this area.

Likewise, Avenue Road and Albert Street operate on a separate rising main and these catchments, along with the discharge from Clive Street and Lyell Street converge on the Eastern Interceptor at the Victoria Street, Willowpark Road North intersection.



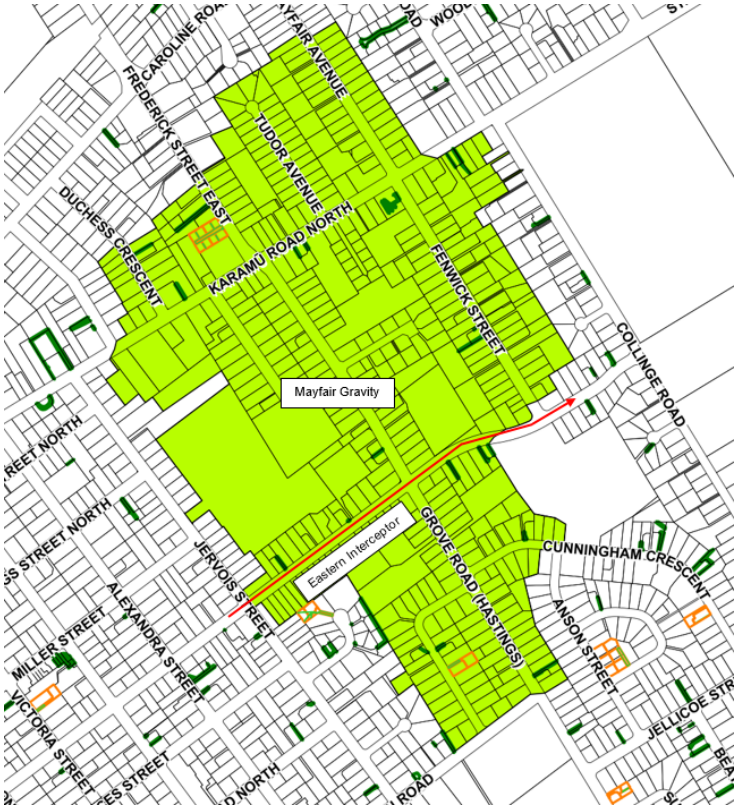


Modelling shows that these catchments are moderately surcharged in the 1 in 5 year rain event with some localised pinch points where relining with PE sleeves has resulted in hydraulic constrictions and ongoing maintenance issues. Despite this, these catchments have some capacity to cater for intensification dependent on the scale of development and location. The Park Rd catchment is also able to cater for residential intensification in the Howard St greenfield development where wastewater infrastructure is currently being built. The intention is that as this new growth materialises, the Park Rd North pump station will be upsized to meet the future increase from this development and other anticipated medium density in the area.

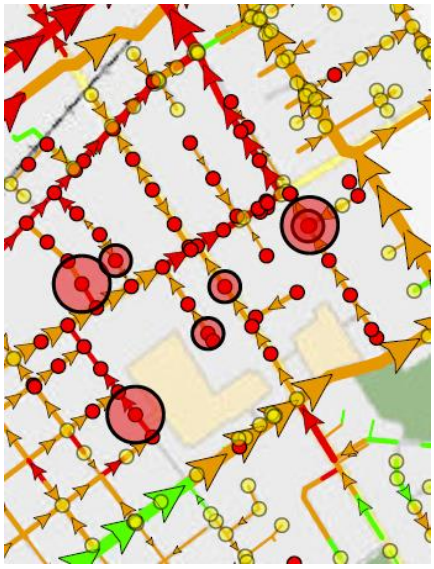
Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Park Rd North				
Avenue Rd				
Albert St				

3.35. Mayfair Gravity

The Mayfair wastewater catchment is largely residential in nature but includes the St John's High School and the commercial strip along Karamū Rd North including the Mayfair shopping precinct. The Eastern Interceptor passes through the catchment via Willowpark Rd North but does not pick up much of the wastewater flows within the catchment as the majority of the local infrastructure drains into Karamū Rd North and then into Mayfair Ave where it exits into the Caroline Rd catchment.



Modelling shows that the 300 diameter concrete wastewater main in Karamū Rd is surcharged in the 5 year rain event and this carries downstream into Mayfair Ave. Asset information shows this wastewater main as being constructed in 1912 and it is a candidate for renewal however its location in private properties along Mayfair Ave presents complications for renewal or rehabilitation.



A study of the catchment was undertaken in February 2021 (File Ref: PRJ18-95-0112) to determine whether diversion options could enable the Mayfair Ave main to be abandoned. The study showed the surcharging that occurs in this area is related to downstream capacity issues even with the recent upgrade of the Eastern Interceptor through Warwick Rd.

The modelled surcharging in a 5 year rain event still has headroom capacity i.e. the potential risk of overflows is considered to be low and diverting the Fenwick and Karamū Rd mains into the Eastern Interceptor could be accommodated. The long-section analysis below shows the extent of surcharging and freeboard available which is primarily caused by the surcharged state of the No.3 trunk sewer in the railway corridor.

The option to divert existing flows from Karamū Rd into the Eastern Interceptor is viable meaning that the 300mm diameter main in Mayfair Avenue could be abandoned without impacting local residents or the upstream network. Adopting this solution would compromise the HDC level of service to not have surcharging in a 1 in 5 year rain event which may need to be reviewed in circumstances where the risk (and consequence) of overflows is still relatively low.

EASTERN INTERCEPTOR IMPACT ASSESSMENT

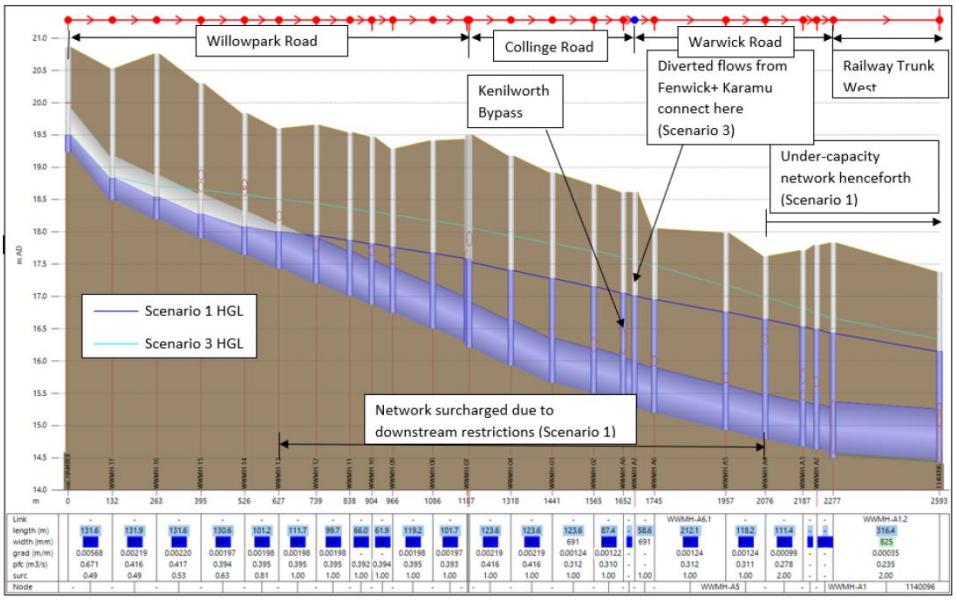


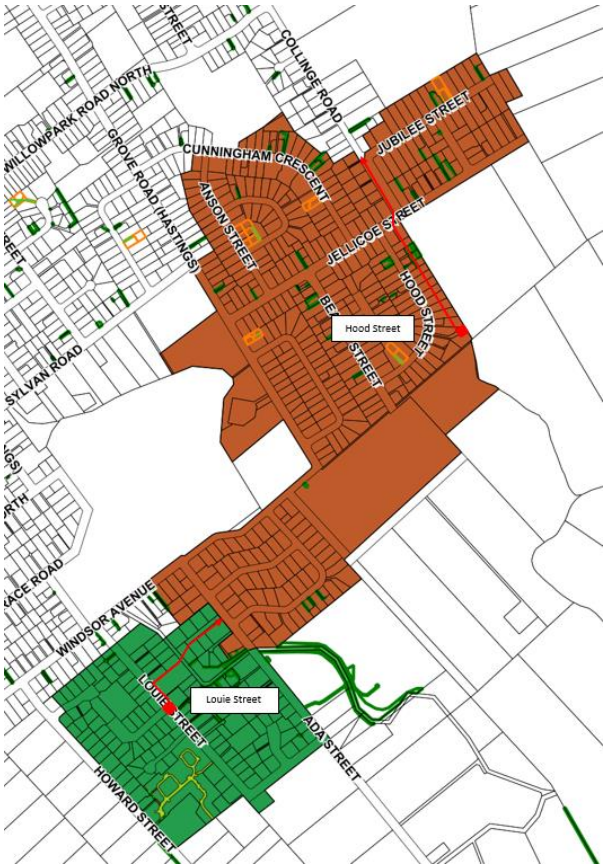
Figure 3-3: L- Section 2- Long section showing the change in HGL over the entire length of Eastern Interceptor (Scenario 1 vs Scenario 3)

The catchment ranking is therefore based on the assumption that the strategy outlined above is likely to proceed in the next 3 to 5 years.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Mayfair Gravity				

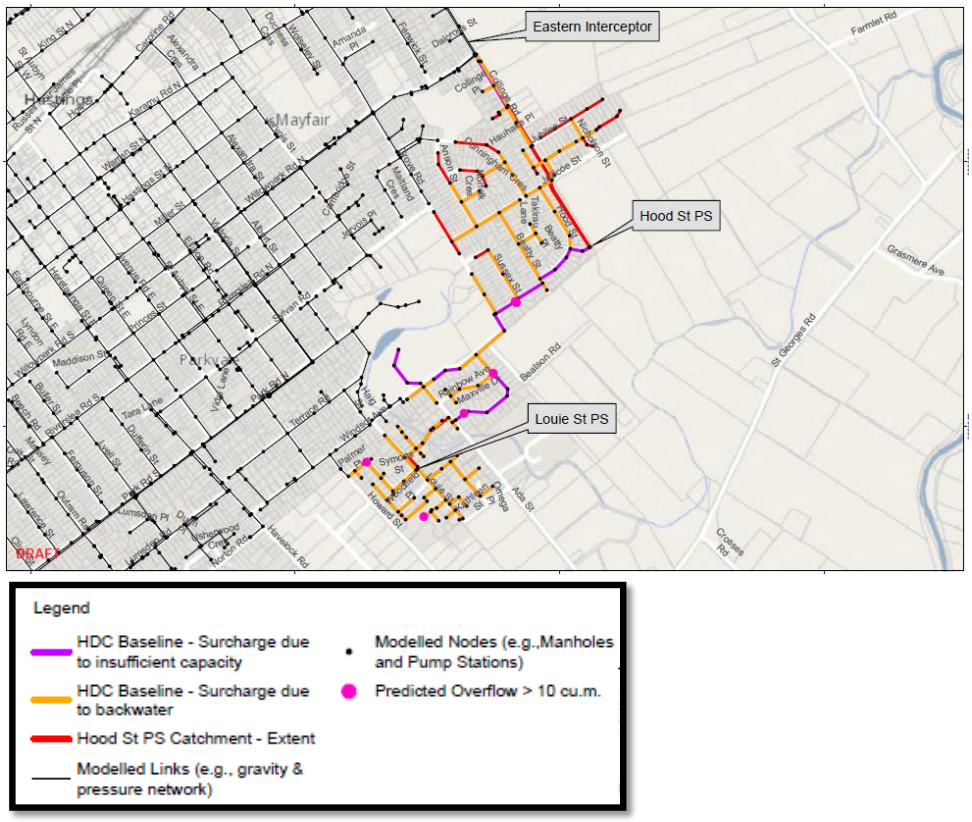
3.36. Louie Street, Hood Street

Louie St and Hood Street are two catchments that service the eastern most areas of Hastings between Howard Street and Collinge Road. The Louie Street pump station discharges into Hood Street catchment at Ada Street and the combined discharge from both areas is pumped to Collinge Road upstream of the Eastern Interceptor via the Hood Street pump station.



The Hood Street pump station catchment has known existing wet-weather capacity issues. HDC has confirmed the wastewater network located in Sussex Street overflows during wet-weather events with two network overflows occurring in the last few years. A wastewater modelling assessment was undertaken in November 2021 [28] to determine the extent of upgrades required to provide capacity for proposed Kāinga Ora residential redevelopments in the Hood St catchment of 42 lots. The following diagram shows the extent of surcharging and overflow locations in the current system based on current rainfall rates without climate change applied.

[28] Hood Street Wastewater Catchment Network Modelling Report (Stantec 2021)



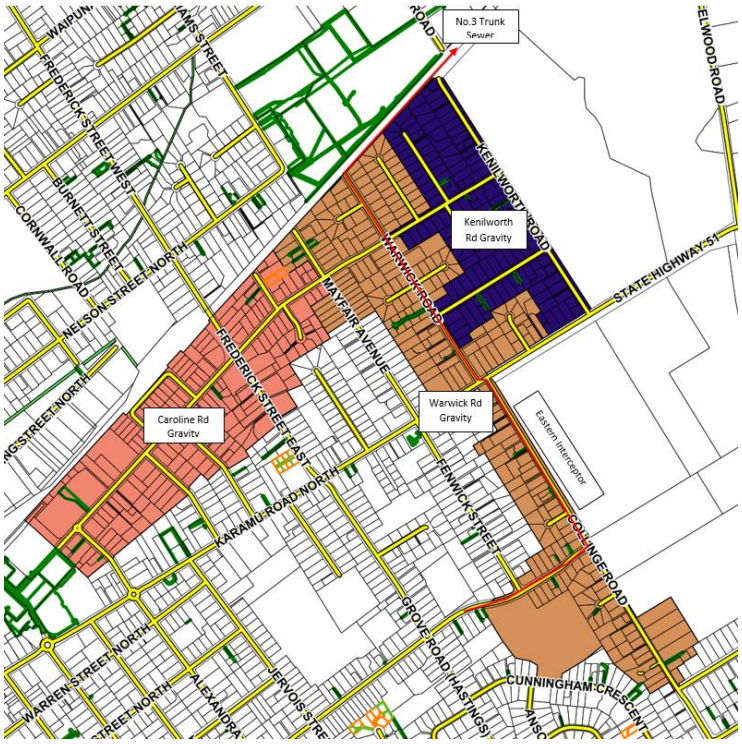
The following table summarises the upgrade options and cost estimates to resolve the existing capacity issues and to cater for climate change factors and future growth in the Louie and Hood St catchments. The options include providing significant wet weather storage to accommodate up to 600m3 of wastewater designed to buffer storm flows into the Hood St wastewater pump station. The alternative involves a significant upgrade to the Louie St and Hood St pumping stations. Both of these options rely on network upgrades to around 35% of wastewater mains across the two catchments to increase capacity and conveyance capability.

Louie PS Catchment					
Scenario	Total Length of gravity network upgrade	Divert Louie Street PS and upgrade capacity	Gravity Upgrades Cost Estimate	Pump station Upgrade Cost Estimate	Total Cost Estimate
HDC Baseline	0.50 km	40 L/s	$1.2M	$1.7M	**$2.9M**
HDC Future					
Hood PS Catchment - PS Upgrade Option					
PS Upgrade Option					
Scenario	Total Length of gravity network upgrade	Pump Station Capacity Upgrade	Total Gravity Upgrades Cost Estimate	Pump station Upgrade Cost Estimate	Total Cost Estimate
HDC Baseline	2.35 km	80 L/s	$7.9M	$2.6M	**$10.5M**
HDC Future		100 L/s	$8.0M	$2.9M	**$10.9M**
Wet Weather Storage Option					
	Total Length of gravity network upgrade	Storage Volume	Total Gravity Upgrades Cost Estimate	Wet Weather Storage Cost Estimate	Total Cost Estimate
HDC Baseline	2.90 km	360 m^3	$8.4M	$1.9M	**$10.3M**
HDC Future		600 m^3	$8.4M	$3.3M	**$11.7M**

This study provides detail on the extent of wastewater constraints across the existing Hood and Louie St catchments and highlights the need for significant upgrades to address LoS issues and the impacts of climate change, provide for current demands from Kāinga Ora developments in this area and to future proof capacity for growth in the future.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Louie St				
Hood St				

3.37. Caroline Road, Warwick Road, Kenilworth Road



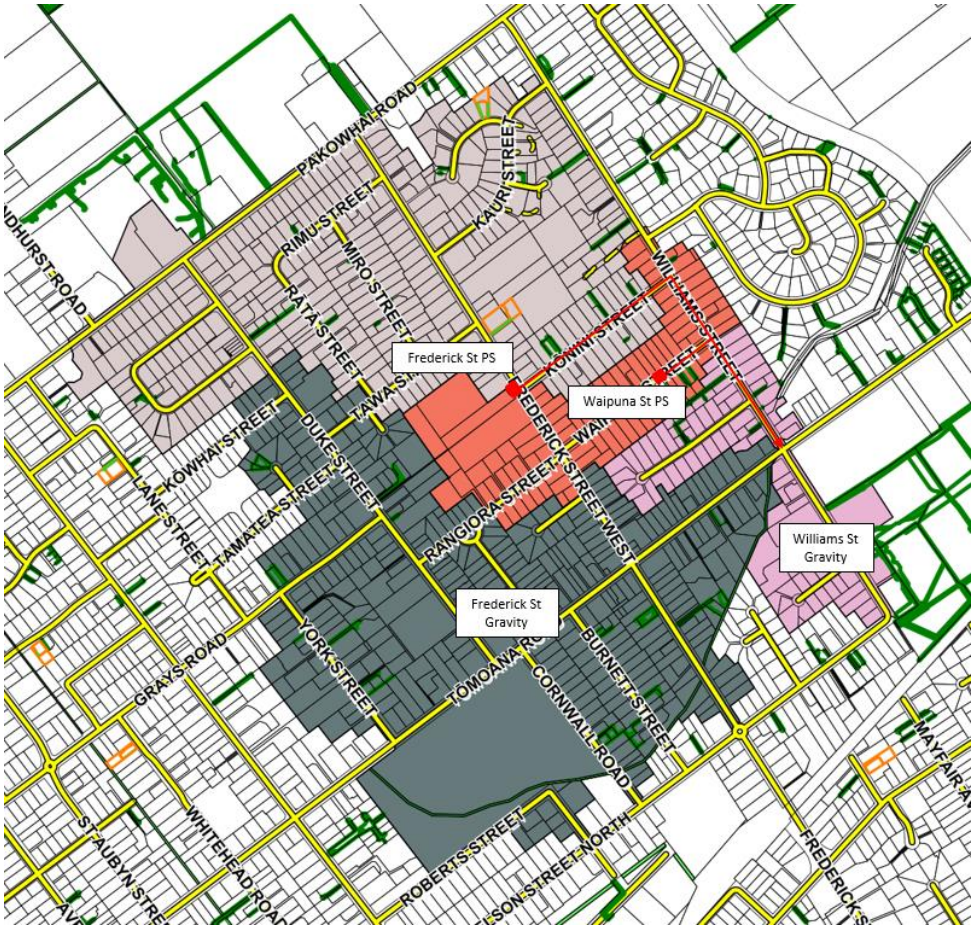
These three catchments are immediately upstream of the main trunk sewers and are intersected by the Eastern Interceptor which traverses Collinge Rd and Warwick Rd before discharging into the head of the No.3 trunk sewer. Modelling indicates that there are some issues with surcharging in the Caroline Rd sewer (which services the Large Format Retail area) and elevated levels in the local reticulation of all 3 areas. While these areas are not currently considered to be at high risk of overflows in the 5 year rain event, the risk of overflows will increase with growth both within these catchments and across the wider network.

Analysis indicates that the Kenilworth Rd catchment is likely to be impacted by backwater effects and surcharging in the No.3 trunk sewer which is then transmitted upstream within the adjacent local networks. Modelling of trunk sewer capacity is underway to better predict the conditions that lead to this surcharging including how growth will be a contributor in the future. This work will also enable the development of options for managing wastewater flows when the system is impacted by rain events.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Caroline Rd				
Warwick Rd				
Kenilworth Rd				

3.38. Mahora

This cluster of catchments make up the Mahora suburban area. They include the Frederick Street and Williams Street gravity catchments and the areas serviced by Frederick Street and Waipuna Street pump stations.



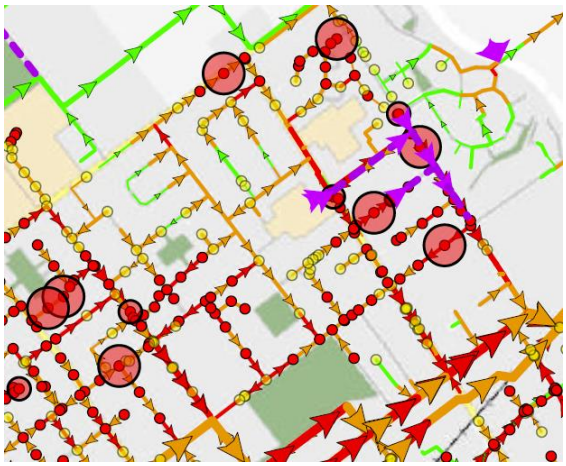
Modelling information was reviewed in 2022 [29] to verify the extent of bifurcations (interconnects) between the Frederick St and upstream Fitzroy catchment and to confirm pump station parameters.



This analysis confirms the potential for several overflow locations in York St, Grays Road, Tamatea St, Kowhai Street and Duke Street in the modelled 5 year rain event. It has also been confirmed that the Frederick Street and Waipuna Street pump stations are under capacity in a wet weather scenario but are managing dry weather flows under current demand.

Further work is required to identify rain derived sources and in particular modelling indicates that the Mahora School may be a major contributor to wet weather flows into the Waipuna pump station.

Other upgrades identified include Frederick Street West between Tōmoana Road and Nelson Street and Williams Street downstream of the Tōmoana Rd intersection where the combined rising main discharge from both pump stations enters into the gravity network.



The Mahora suburb is already identified as a Medium Density area and the impacts of MD growth will exacerbate existing wastewater issues. A number of options are being investigated to redirect some wastewater flows into other parts of the network where capacity is available. This has the potential to reduce the volume of wet weather flows at the pump stations and reduce surcharging effects in the local network as part of a suite of upgrades that will be required to ensure this area is development ready.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Frederick St PS				
Waipuna St PS				
Frederick St Gravity				
Williams St Gravity				

[29] HDC Internal Email Report – Mahora Medium Density Upgrade (Joe Xie – 12 October 2022)

3.39. Frimley & Western Interceptor

The Frimley urban area sits between Omahu Road and Frimley Road. Wastewater gravitates to Frimley Road and discharges into the Western Interceptor at the Hapuku/Frimley Road intersection. Modelling in the 5 year rain event shows that this area is performing without issue and can cater for growth.

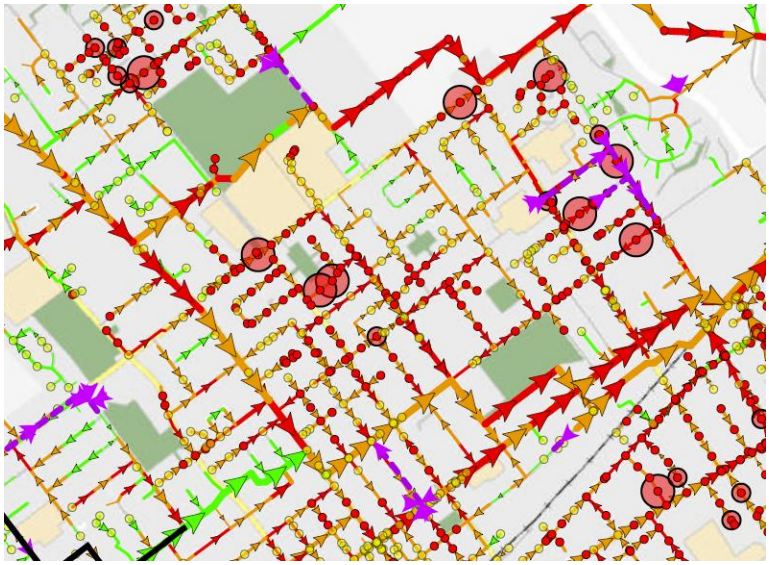
The Western Interceptor (WI) is a 525mm diameter pipe that commences in Hapuku St at the intersection with Omahu Rd and terminates at Otene Rd where it joins the No.3 trunk sewer. This main is isolated from flows that travel down Omahu Rd and into Heretaunga St and only receives wastewater from the Frimley and Lyndhurst areas of Hastings.



The WI is normally closed at Omahu Rd and this is the standard operational configuration. Modelling has been undertaken to assess how the system operates with the WI open at Omahu Rd and receiving flows from the upper catchments including Flaxmere, Omahu and Camberley. The results show that there is very little benefit to the Hastings wastewater network downstream in terms of relieving pressure (Heretaunga St, Brick Arch, Nelson St) and the WI operates in a surcharged state which is exacerbated downstream of Lyndhurst Rd where all of the domestic wastewater from the Lyndhurst urban area enters the WI.



Western Interceptor Closed (Normal configuration)



Western Interceptor Open

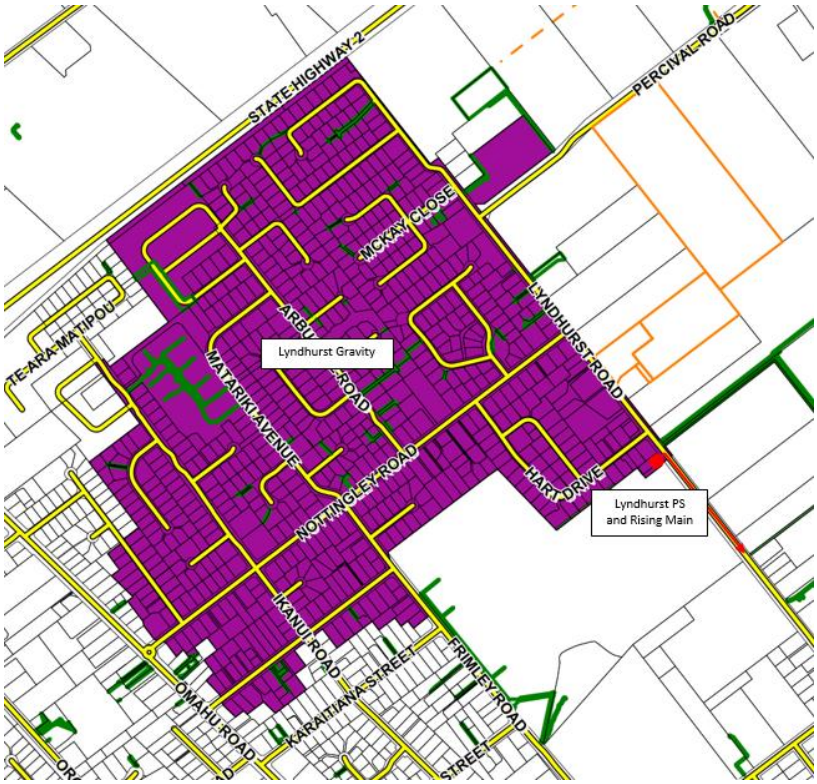
These results do however provide an insight into how the WI might be better utilised in a future growth environment where sub-catchment flows are preferentially redirected to the WI as an alternative to creating capacity in Heretaunga St and downstream of the Western Interceptor. This would require careful consideration of flow control to ensure that the WI was not overloaded at the expense of other network efficiencies.

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Frimley Gravity				

3.40. Lyndhurst

The Lyndhurst residential area encompasses a large urban development block between Nottingley Rd and the Expressway, and Omahu Rd and Lyndhurst Rd. Properties to the east of Nottingley Rd were developed at a similar time to Frimley (1960s and 70s) whereas the Lyndhurst subdivision (west of Nottingley) has seen ongoing development since the mid 2000s when the Stage 1 infrastructure was first initiated.

It is important to note that the wastewater network was originally designed to accommodate the entire development area but recognising that development would be staged and implemented over many years. This meant that the layout of internal infrastructure was only indicative but the bulk infrastructure in Lyndhurst Rd was designed and built to cater for the entire area based on yields expected at the time.



As development has progressed we have experienced an increase in the density of housing along with retirement village style living in the area. The overall increase in population has exceeded the original wastewater design and also in how wastewater has been distributed internally across the area. While changes in layout have been able to be accommodated through design, more recent hydraulic analysis[30] recommended that the pump station and a section of the 225mm diameter wastewater main in Lyndhurst Rd required capacity upgrades. This ensured that the Lyndhurst area would maintain our level of service standards in the 5 year rain event and that the risk of surcharging and overflows would be minimised.

[30] STR-16-06-12-18-22 - Lyndhurst Rd Stage 2 Development HDC Sewer Capacity Review 2018

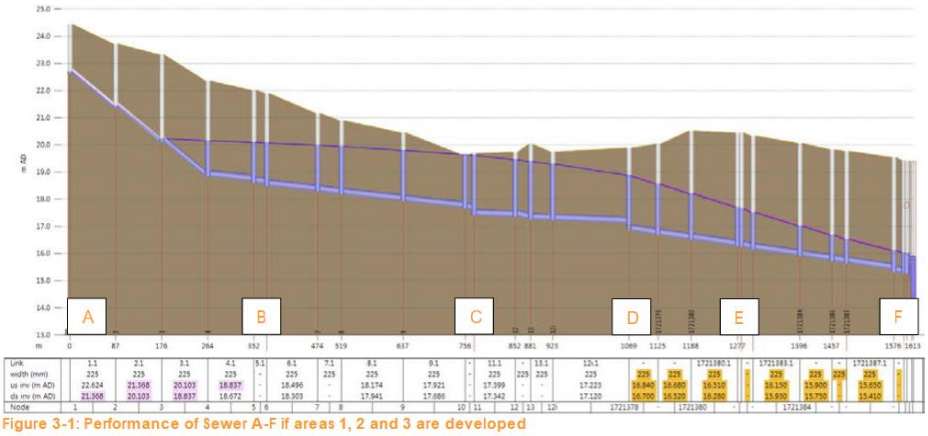


Figure 3-1: Performance of Sewer A-F if areas 1, 2 and 3 are developed

Very recent modelling work in August 2022 [31] confirms that pumps were upgraded in 2021 however a review of operational data and population counts in the Lyndhurst area and remodelling of the local network has identified further upgrades are necessary as flow and population data are greater than those used in the 2018 modelling exercise.

As Lyndhurst is a new development area, it is unlikely to experience further increases in density through redevelopment. The more recent and new developments are already at a higher density and Council is not planning to provide additional capacity over and above the current levels or to undertake upgrades other than to implement works as recommended in the hydraulic modelling report(s).

3.41. Other Hastings Catchments

Northwood – A recent development area that is serviced by the Northwood pump station discharging into the lower section of the Western Interceptor. A discreet catchment that is not known to have any capacity issues, will not be impacted by growth nor does it create any downstream issues.

Pakowhai Rd Gravity – A very small catchment around Pakowhai Rd and Williams St intersection. No known issues.

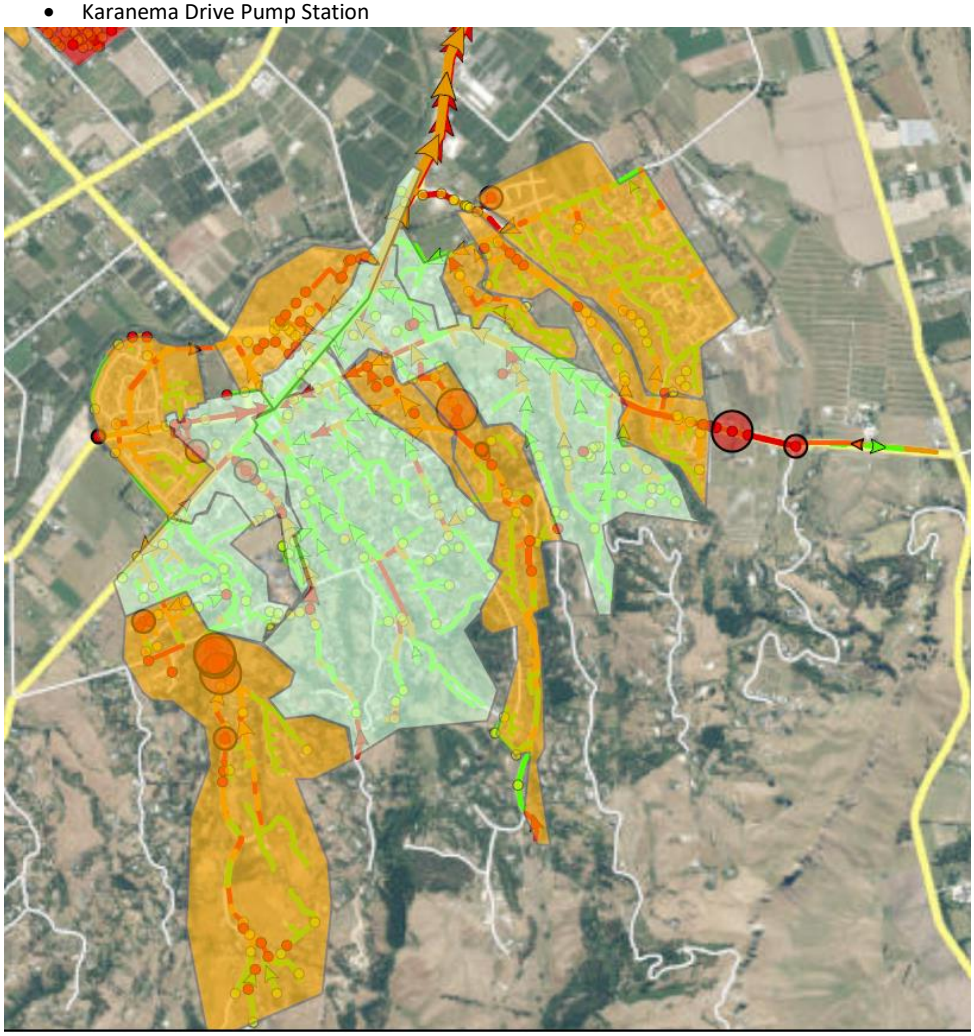
King St, Watties and Coventry Rd – Small areas providing domestic wastewater service to industrial and commercial operations. Not considered to be relevant to this urban growth constraints report.

[31] HDC Internal report – Frimley Pump Station Catchment Capacity Assessment (Joe Xie, August 2022).

3.42. Havelock North

The Havelock North wastewater network services a series of catchments that are treated by the Hastings Wastewater Treatment Plant at East Clive. The network feeds into the Napier Road Wastewater interceptors that join with the main Hastings interceptors at Whakatū. The network includes the following catchments:

- Breadalbane Road
- Napier Rd (including Tanner Street Pump Station)
- Tokomaru Drive
- Havelock Nth (including Greenwood Road and Franklin Terrace.)
- Napier Road (including Blackbarn Pump Station and Te Mata Extn.)
- Arataki Road
- Anderson Park Pump Station
- Karanema Drive Pump Station



The township is serviced by collector mains in Middle Rd to the south and Napier Rd to the north which collect wastewater from the elevated areas in the hills above. Lower lying areas in Te Aute Rd and the CBD rely on pump stations to lift flows into Napier Rd and there are several minor pump stations located in the valleys (Greenwood Rd, Franklin Tce, Tanner St etc.) to lift wastewater up to the gravity sections of the network. There are also a number of private pump stations that service housing clusters due to the terrain limiting access for gravity discharge.

All wastewater from Havelock North is conveyed to the No.3 trunk sewer at Whakatu via two trunk sewers located in Napier Rd and SH5. In 2015, a new PE 700mm trunk main was installed to increase capacity and future-proof services to the Village. The original 600mm diameter reinforced concrete pipe is offline but is available to provide capacity when flows are severely impacted by rain (Inflow &Infiltration) which has been an ongoing issue for many years.

The impacts of I&I coupled with significant growth has required major upgrades to be implemented over the last 25 years as part of growth capacity provision in the wider Hastings Wastewater network. This work is now supporting continued expansion to the south in Middle Rd and Iona. Residential expansion into the Havelock Hills continues and this adds to the wastewater burden particularly where pumping is required. The network continues to extend away from the bulk collector mains and this will be problematic in the future if this expansion continues without thought to re-engineering parts of the network to ensure pipes are not overloaded and surcharged. While the current suite of upgrades has released some pressure, it is almost inevitable that Council will at some point have to plan for much wider network improvements to meet the needs of a growing community.

High level analysis of the current network shows that in general the network is performing as intended. It should be noted that the wastewater model for Havelock North is at a relatively basic level with a low confidence rating in the outputs produced from modelling analysis. There are improvements needed to optimise provision of growth capacity in the Brookvale area, and further growth may occur in the Middle Road and Anderson Park localities. Anecdotally, there are also operational issues during wet weather events, particularly in the elevated areas, where ponding occurs within properties that enters into the wastewater system creating issues in the lower parts of Havelock North. Ongoing surveillance at a property level is required to identify and remedy these direct inflows.

While the Havelock catchments and growth areas have benefited significantly from growth related investment over the past 20-25 years, future growth means that further investment is likely to be required, particularly in Brookvale and Anderson Park areas (dependent on growth location decision-making).

3.43. Summary of Sub-Catchment Analysis

Table 3.44.1 below collates the sub-catchment analysis into a useful comparison table. Catchments are highlighted where they are considered a priority based on either current known constraints or will be constrained by predicted greenfield and/or brownfield growth.

Table 3.43.1 - Sub-Catchment Analysis

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Tarbet St				
Flaxmere				
Omahu Rd				
Ormond Rd				
Stoney Creek Rd				
Huia St Extension				

Huia St				
Maraekakaho				
Harding Rd				
Oliphant Rd				
Pepper St				
Townshend St				
Tōmoana Rd				
Fitzroy Ave				
Nelson St Nth				
Southland Place			**N/A**	**N/A**
Hemi St				
Southland Rd				
Akina Park				
Murdoch Rd				
Heretaunga St				
Russell St				
King St				
Southland Rd				
St Aubyn St				
Clive St				
Lyell St				
Park Rd North				
Avenue Rd				
Albert St				
Mayfair Gravity				
Louie St				
Hood St				
Caroline Rd				
Warwick Rd				
Kenilworth Rd				
Frederick St PS				
Waipuna St PS				
Frederick St Gravity				
Williams St Gravity				
Frimley Gravity				

4. Stormwater

4.1. Executive Summary

Councils have obligations under the Health Act 1956 and Local Government Act 2002 to improve, promote and protect public health within the District, including providing stormwater services that contribute to the protection of life, property, and the environment.

The District Plan and the Engineering Code of Practice (ECoP) provide a regulatory framework to ensure that controls and design standards for stormwater infrastructure are in place and adhered to. Infrastructure design and performance criteria are specified in the ECoP and complement the Building Act which requires that plans comply with the Building Regulations for drainage. These Building regulations specify the standards for protection of buildings against flood inundation.

The Hastings District Council (HDC) stormwater consent includes a comprehensive suite of conditions that require the Council to manage both quantity and quality of stormwater to minimise adverse effects on the environment from activities within the urban areas of Hastings, Flaxmere, Clive and Havelock North.

The HDC stormwater network operates to safely convey rainfall from properties and roads and to manage flood risks in rain events up to the design storm. Most of the stormwater eventually enters streams within Te Karamū Awa catchment, then the Karamū-Clive system which flows into the Waitangi Estuary and into Hawke Bay.

There are over 250 urban outlets where stormwater enters streams and drains that are under the management of the Hawke's Bay Regional Council. Stormwater received into HDC's network from industrial or trade premises is required to be treated to meet standards pursuant to Council's Consolidated Bylaw 2021 (Chapter 7) and these align with our stormwater consent. Some stormwater from Hastings' industrial areas discharge to land located above the Heretaunga Plains' Aquifer System and are managed by HDC via separate stormwater consents. The total replacement costs of the Hastings system (including Flaxmere and Havelock North) is $309 million [32].

The Hastings population is expected to grow to between 104,600 and 119,800 (from around 87,000) over the next 30 years with household numbers (estimated at 31,300 in 2020), increasing to 42,300 in the long-term by 2050 [33]. Industrial areas have also grown and are predicted to grow further with this expansion occurring along Omahu Road, in the Irongate area, and in the Whakatu/Tōmoana Corridor.

The stormwater network plays a crucial role in minimising flooding and mitigating effects on the environment. Potential effects on receiving environments are:

- Physical impacts/damage including inundation of properties and buildings, erosion, sediment build-up etc. (from the discharge flow)
- Surcharging of wastewater systems (from inflow and infiltration of stormwater)
- Chemical impacts (and potentially human health impacts) from contaminants in the discharges
- Microbiological impacts and human health implications where these waters are used for recreational or drinking water purposes.

Industrial and urban expansion increases the volume of traffic resulting in an increase in vehicle related contaminants into stormwater runoff, an increase in impermeable areas (roofs and hardstand)

[32] Stormwater Assets Management Plan (Draft 2021)
[33] STR-4-2-21-987

which increases the rate of stormwater runoff with potential adverse effects. This increased run-off reduces the capacity within the pipe network (pipes fill up faster) with an increase in overland flows, flooding, and the release of contaminants into our waterways. The predicted impacts of climate change (more intensive rainfall rates) will only exacerbate flooding issues further.

As we move to a more intensive living environment, the solutions that are required to minimise the impacts of growth (and climate change) will require Council, the development community and the HB Regional Council to work jointly to ensure that the whole system (from property to the sea) is managed in an integrated way and that people and property are protected from flooding and the quality of stormwater that is discharged from the urban area is improved.

4.1.1 How are we performing?

Primary Pipe System - Modelling of the pipe network for a 5 year ARI event (including factors for climate change) indicates that many parts of the urban area are more susceptible to overflows and flooding due to increased rainfall intensities and run-off that exceeds the capacity that the pipes were originally designed for. This is not unexpected given today's built environment and the changes in the intensity of storm events that have increased the rates and volumes of stormwater being experienced.

Modelling shows that 50% or more of the pipe network is surcharged in the 5 year rain event and the ability for the pipe system to contain these flows has been reduced in some areas. Stormwater is increasingly likely to surcharge into roads, overland flowpaths and detention areas with some properties identified as being at risk of minor flooding.

Havelock North is in a similar situation and it is expected that the urban streams in Havelock North will come under increasing pressure to carry increased flood flows. Ponding in private property is also an ongoing issue due to topography and stormwater that is trapped onsite can enter the wastewater system through direct inflows from gully traps.

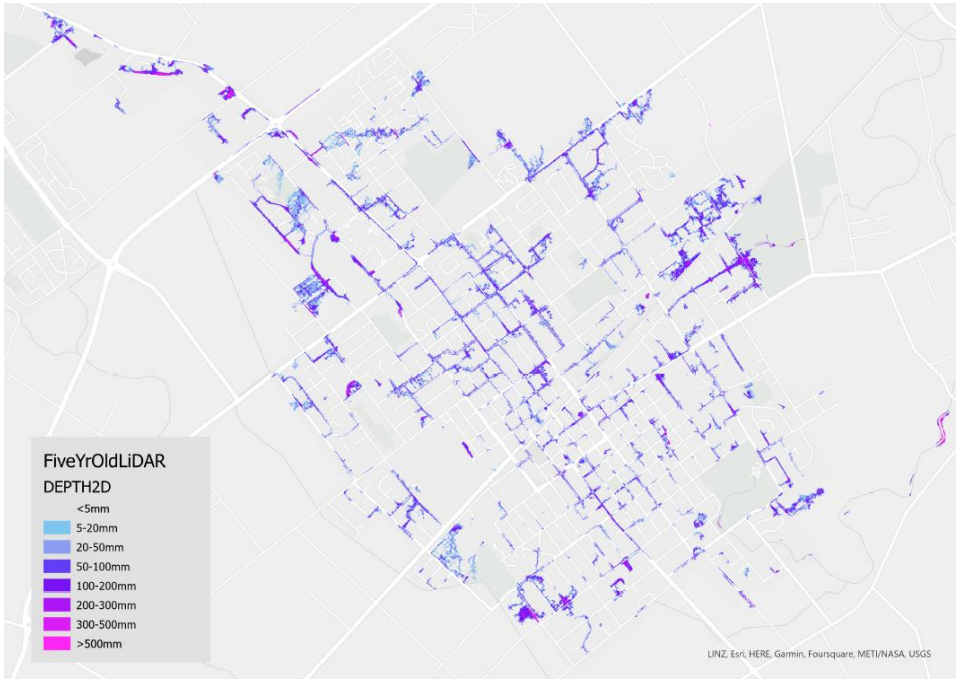
Secondary System – Overland flow occurs when rainfall exceeds the primary pipe system capacity and stormwater then exits the system. The secondary system is intended to manage overland flow within corridors (road carriageways, open spaces, parks etc.) so that as much as possible, people and properties are not adversely affected or inundated.

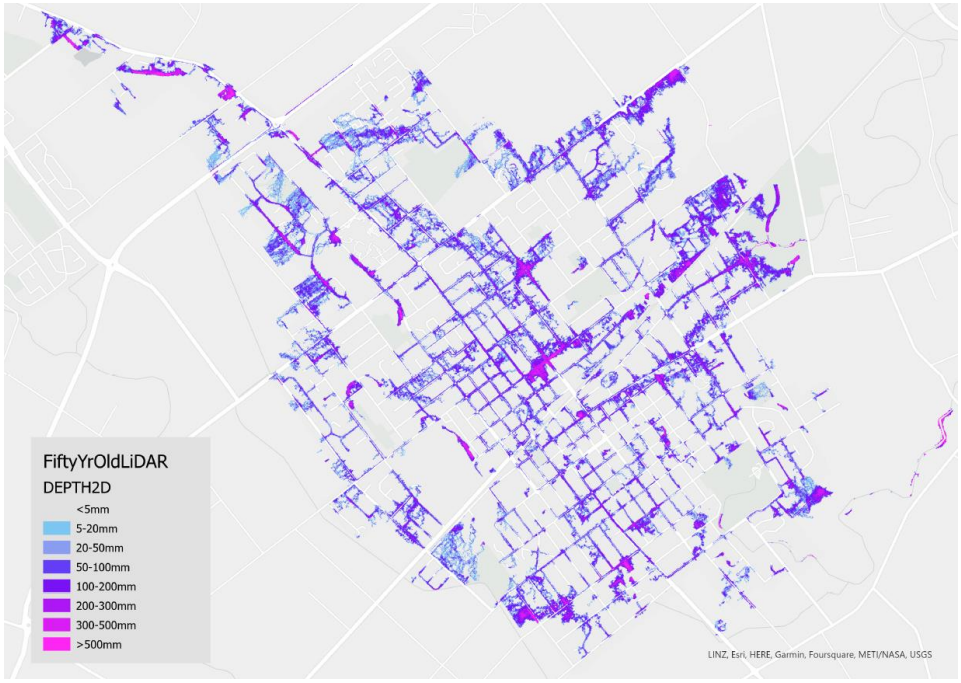
Modelling utilising terrain data shows where stormwater overland flows will most likely occur and there are a number of breakout points where inundation, ponding and some flooding is expected in higher intensity storms. Some of this happens in low lying land on private property and stormwater can enter the wastewater system at these locations.

Further work is necessary to develop solutions for these low lying areas and to quantify the extent of works required to define better overland flow paths, contain flooding and minimise impacts to property and the wastewater system. As re-development of the urban area progresses, this will provide opportunities to reduce or eliminate existing problems using a mix of onsite and community based solutions.

Current & Future Design Principles – The suite of stormwater modelling is based on the 5 year rain event for the primary pipe system and the 50 year storm event to determine overland flows and flooding that will occur. As we continue to see the impacts of climate change affecting rainfall patterns with more intensive storms, we need to consider the impact of larger scale events within the urban area and in the wider stormwater catchment of the Heretaunga Plains. The following two diagrams

show predicted surface flooding in a 5 year and 50 year rain event based on high resolution ground contours. There is further work required to improve the stormwater models and improve the accuracy and extent of flood areas but this initial work provides guidance on potential priority areas.





Work is underway with the HB Regional Council to integrate our stormwater models and to understand how the future urban environment will affect the drains and streams that convey stormwater into the Karamū catchment. This work includes exploring opportunities to utilise rural land to capture and contain flood flows in large scale events and to inform the long-term plans for managing growth and in reducing the impacts of climate change in an integrated and sustainable way.

Alongside these approaches, the use of low impact stormwater solutions within developments are being implemented to mitigate increased run-off as part of the suite of stormwater management techniques being deployed.

Stormwater Quality – There has been significant progress over the last 10 years as Council has sought to quantify the effects of urban stormwater in the receiving environment and to understand the risks associated with urban and industrial run-off.

A detailed investigation in 2014 [34] (described in the current resource consent application) of the water quality in the Ruahāpia Stream, Wellwood Drain and Irongate Stream indicated that the water quality was negatively impacted by the stormwater discharges. High nutrient levels, dissolved heavy metals and suspended sediment were observed at all streams. *E.coli* sampling of the water of a variety of drains and streams (2019, 2020) indicated that concentrations at several sites were elevated above the alert or action level of the Microbial Quality Guidelines for Marine and Freshwater Recreational Areas.

The greatest risk of contamination to urban stormwater is run-off from industrial sites and Council has undertaken site surveys and implemented a multi-barrier approach in these areas to ensure that high and medium risk sites are capturing and treating (where required) contaminants prior to discharge to the urban network. Road run-off is another source of contamination, in particular around high traffic areas and industrial activities. Treatment options are being trialled (sumps and catchpit inserts) to capture gross pollutants and finer materials, and to evaluate cost effective ways for improving stormwater quality.

Based on the sediment and water concentrations however, it is possible that not all contaminants originate from the urban stormwater discharge. In Ruahāpia Stream for example, contamination, atypical for urban stormwater but typical for industrial stormwater has been measured at high concentrations indicating that there may be discharges to the stormwater system that are not rain derived. HDC undertakes individual industrial site audits of high and medium risk sites to help identify and address issues related to stormwater quality. This project is ongoing and HDC are working with industrial sites to mitigate any risks to stormwater.

This notwithstanding, there is an expectation that stormwater system design and management will be required to improve over the next twenty years to achieve the receiving water quality standards required to be met under the TANK Plan Change. Industrial and urban growth and intensification will exert additional pressures on the stormwater system requiring a greater focus on both quantity control and minimising urban stormwater pollution.

[34] WAT-18-8-14-158 HDC Urban Stormwater Quality Assessment – Water Quality Report

4.2. Description of the Current System

The stormwater system consists of a primary and secondary network. The primary network is generally the built stormwater assets (pipes, manholes, culverts etc.) that provides conveyance and (in some cases) treatment for smaller rainfall events. The secondary system provides for conveyance of stormwater in larger events to reduce the potential for land and buildings to be flooded and for people to be threatened. Secondary flow paths (such as roadways) act to control overland flow when the pipe system is overloaded and to contain excess stormwater within defined areas including parks and reserves.

The piped stormwater network dates back to the 1950s and comprises sumps, pipes, culverts, a few small pump stations and constructed open channels including some discharges to land that can subsequently enter the waterways and the non-confined groundwater aquifers[35].

Prior to the introduction of a piped system, the entire urban area relied on open street channels and drains which were inadequate to keep up with expansion of the city at that time.

4.3. Stormwater Catchment

The historic boundaries of the stormwater catchments have been recently re-established to incorporate land changes in the last 10 years, to account for expansion of residential, commercial, and industrial areas that has already occurred and in preparation for anticipated population growth. The changes also reflect an improved level of understanding of the physical characteristics of the stormwater network and behaviour of freshwater bodies based on stormwater modelling however more modelling work is needed to understand the interaction between the Hastings discharges and the HBRC drainage network and how these two systems function collectively.

The overall catchment / serviced area is shown in Figure 4.3.1. Within the overall catchment, there are 19 sub-catchments or individual catchments in the areas of Flaxmere, Hastings and Havelock North (Clive is not included in this report).

Our stormwater approach adopts standards and limits that are broadly targeted across the entire urban area. Individual catchments may have varying characteristics and risks within them that may necessitate bespoke solutions to lessen impacts where the risks are greatest. For example:

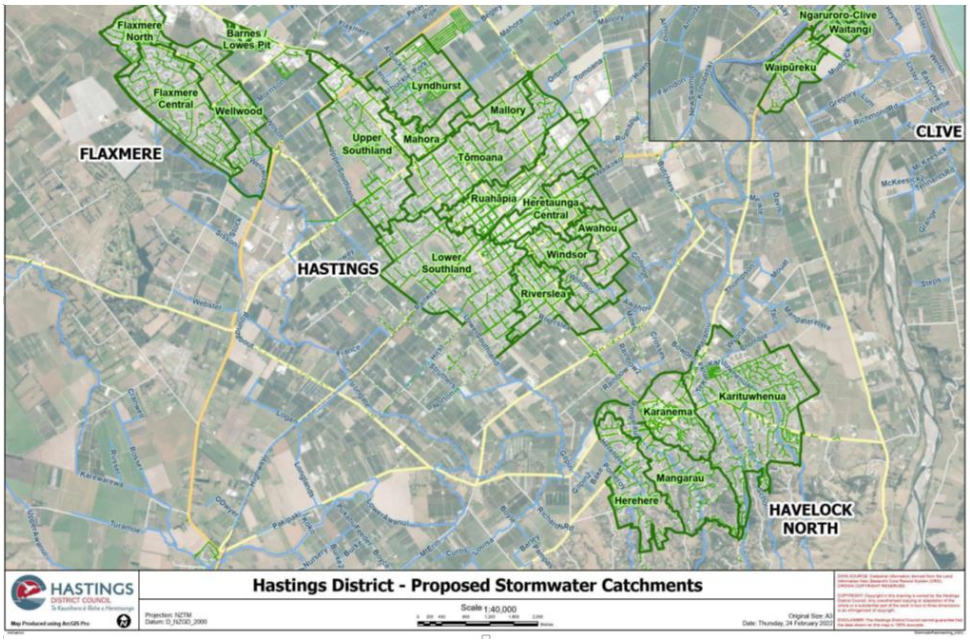
- Built-up areas with impervious surfaces prevent stormwater from soaking into the ground, resulting in a higher reliance on stormwater infrastructure to prevent flooding;
- A flat topography that reduces our capacity to manage discharges via gravity alone;
- Industries can sometimes be linked to specific chemical contamination which are not found in urban stormwater or are found at higher than expected concentrations. Urban stormwater often contains copper, PAHs, zinc from cars (brake and tyre "dust") or buildings (e.g. zinc from roofs);
- Industries or land uses (e.g. large scale ploughing or logging) with a high risk of dust and sedimentation can increase turbidity in the stormwater and receiving environment;

Understanding the different levels of risk and the associated challenges of a catchment contributes to more effective stormwater management. The individual catchment size varies between 0.02 km^2 at Barnes Place and the Karitūwhenua Stream at 3.89 km^2. Relative land coverage and land use is highly variable between catchments. Built-up areas vary between 50 and 100% of the individual catchment areas. As a result, the more pervious land uses (cultivated crops/pasture, and urban parkland/open

[35] Hastings District Stormwater Network Resource Consent Application (2022)

spaces) that enable ground soakage vary highly between catchments affecting run-off rates and rain associated issues (e.g flooding). Some catchments are highly industrialised, are fully impervious and include verified hazardous activities and processes, industrial activities, on-site chemical storage or a heavy traffic environment (e.g. the Lowes Pit catchment area where Council is currently implementing a multi-barrier approach to address potential contaminants).

Figure 4.3.1 Stormwater Catchments, Discharge Locations and Monitoring Sites (Resource Consent Application, 2022)



The Urban Stormwater Discharge consent held by the Hastings District Council (HDC) was granted in May 2010 and expired on 31 May 2022 (AUTH-118324-0336) with a new global consent lodged in February 2022. This application encompasses the more area-specific consents held for areas such as Barnes Place, James Rochfort Place, Lowes, Omahu North Industrial, Whakatu West Industrial stormwater and others which have also expired. In accordance with s124 of the RMA, the discharges authorised under the expired consents are able to legally continue under the expired consents until such time as the new consent application is determined.

4.4. Consolidated Bylaw 2021 (Chapter 7)

Under the Resource Management Act 1991 (RMA), the Council has no direct enforcement role regarding the discharges from individual sites into the Council stormwater network, nor any misuse of the public stormwater network. The Stormwater Bylaw (Chapter 7 Water Services of the Consolidated Bylaw, 2021)[37] creates a legal framework under the Local Government Act that requires approval for individual site stormwater that is classified as 'controlled' before it can be discharged into the network. Controlled stormwater includes stormwater from sites with large impervious areas, flow rates that

[36] Resource Consent Discharge Permit (DP090355Wb) 2018

[37] HDC Consolidated Bylaw 2021 (hastingsdc.govt.nz)

exceed the Code of Practice standard, and / or sites with hazardous substances or other factors which may impact on the performance of the stormwater network.

The bylaw is a key mechanism to achieve the intent of the network consent(s) as well as enabling Council to manage individual site connection to the stormwater network where they may affect the level of service.

4.5. Engineering Code of Practice

Hastings District Council has adopted the Engineering Code of Practice 2020 (ECoP) [38]which is based on the NZS4404:2010 Land Development and Subdivision Engineering Standard. The document provides minimum compliance on the engineering standards for the management of urban stormwater. The District Plan requires compliance with the Engineering Code of Practice.

The ECoP includes some changes and additions to NZS4404 standard which are detailed in Schedule D of the ECOP [39]. This document sets out the performance criteria for the reticulation layout, materials and capacity as well as minimum design standards for a range of low impact design solutions.

4.6. Design Standards for Quantity of Stormwater

A stormwater system is expected to include provisions for an acceptable level of service, minimised adverse environmental impacts (including the aquatic ecosystem) and community impacts while complying with relevant requirements. During development a whole catchment approach, service life (including maintenance and life-cycle costs) and low impact design solutions are required to be considered.

Council's standards (as specified in the ECoP) are:

- The primary stormwater drainage system of pipes and open water courses is required to have sufficient capacity to convey a 5 year rainstorm event without surcharging on the roads. This is an amendment to the NZS4404 standard which requires primary systems in residential, commercial and industrial areas to be designed for a 10 year event, unless the local council specifies an alternative design standard.
- For rainfall in excess of a 5 year storm and up to a 50 year rainstorm, the secondary storm water system shall have sufficient capacity to prevent stormwater entry into existing habitable buildings and inundation of household gully traps.
- An assessment of the effects of a 100 year storm is required, albeit that the system is not required to be designed for a 100-year storm.

Specifically for secondary systems, climate change considerations are added. The requirements are:

- that no existing habitable floors are flooded for all events up to a 1 in 50 year ARI storm event (or 2% Annual Exceedance Probability or AEP)
- Residents should be safe to enter and exit the flooded site up to at least a 1 in 50 ARI storm event (or 2% AEP) inclusive of climate change up to 2090.

The Asset Management Plan also references the 1 in 100 years ARI storm event (or 1% AEP) for new developments inclusive of climate change up to 2090 are included.

[38] HDC Engineering Code of Practice 2020 Document without Appendices (hastingsdc.govt.nz)

[39] SCHEDULE D - HASTINGS DISTRICT COUNCIL ALTERED REQUIREMENTS TO SECTION 4 NZS 4404:2010 - STORMWATER DRAINAGE

4.7. Attenuation using Low Impact Design

Council seeks, via the ECoP, to promote low impact design including the utilisation and enhancement of natural systems for stormwater treatment and integration into the environment through subdivision and land development design. Climate change impacts, such as increased intensity and frequency of heavy rainfall events are also required to be taken in to consideration.

Management activities are undertaken to manage the quantity and quality of stormwater from developments and industrial areas [40].

4.8. Stormwater Quantity Level of Service

The Stormwater Asset Management Plan (Final Draft January 2021), ECoP and Long-Term Plan (LTP) 2021 - 2031 set out the expected Level of Service for stormwater infrastructure. This includes specific details on network capacity for 5 and 50 year rain events (protect buildings etc. from inundation including overland flow management and climate change), resource consent compliance and the overall expectations in terms of providing a reliable service with minimal service interruptions. The LTP introduced additional provisions for increasing resilience of the system for climate change impacts.

The LoS in the Stormwater Asset Management Plan specifically indicates that the network capacity should cater for future climate change and associated flood protection.

4.9. Stormwater Quality - PPC 9 (TANK Plan Change) Targets [41]

Hawke's Bay Regional Council has proposed a new policy approach and rules to the Regional Resource Management Plan in order to manage water quality and quantity for the Tūtaekurī, Ahuriri, Ngaruroro and Karamū (TANK) catchments. This proposal is being referred to as the 'Proposed TANK Plan Change' or 'Proposed Plan Change 9'.

In general, the TANK provisions provide for discharges from local authority systems to be assessed as a Controlled Activity (Rule TANK 23) giving certainty that the Council can obtain consent subject to specific criteria being met. These criteria include that there is an Integrated Catchment Management Plan in place. As noted above, the Council has recently lodged an application to renew its resource consents for discharges from the stormwater network and this is being assessed under the new rules and policies.

Discharges from sites which do not connect to the Council's stormwater network are regulated directly by the HBRC under the Regional Plan (including new rules under the TANK Plan Change).

The TANK Plan Change signals a new phase of stormwater management and sets objectives and policies for stormwater management which require the environmental performance of those systems to improve over the next 20 years. There are two key dates and milestones to be met under the TANK provisions:

- 2030 being the date in Policy 29 whereby the Councils (HBRC, HDC, NCC) will have worked together to implement similar stormwater performance standards and management approach.
- 2040 being the date in Policy 28 by which the stormwater discharges are expected to meet the target attribute states of Schedule 26 after reasonable mixing.

[40] Stormwater Asset Management Plan (Draft 2021) (Internal document)

[41] PPC9-Commissioners-Decisions-Clean-Version-Aug22 (hbrc.govt.nz)

The 2040 target attribute states are stated in Schedule 26 of the TANK Plan Change. It includes targets to be met by 2040 as well as long term targets (albeit that long term is not defined but considered to be post-2040). For attributes not specified in Schedule 26, the ANZECC [42] guidelines 80th percentile level are required to be met by 1 January 2025 and the 95th percentile level are required to be met by 31 December 2040.

As further described below this target is currently unlikely to be met in some of the receiving environments (particularly given that it is a new requirement for stormwater management) and it should be noted that stormwater is not the only contributing factor to these standards not being met in several of the receiving water bodies.

4.10. Current System Performance

Current system performance in terms of stormwater quantity is assessed by modelling of the stormwater network and identifying areas which are known to experience flooding in heavy rainfall events. Separate base stormwater models have been constructed for the each of the urban areas (Hastings, Flaxmere and Havelock North) and encompass all stormwater catchments in the respective urban area. The models are at a preliminary level of development but are considered suitable to be used for high level assessments to identify general areas where surface flooding may be expected and associated network capacity constraints.

The models for Hastings and Flaxmere are validated for the 5-year Annual Recurrence Interval (ARI) events however the model for Havelock North has not been calibrated due to insufficient data. None of the models have been validated for the 50-year ARI events and this impacts the reliability of the results and therefore results should only be used for general guidance purposes.

The designed storm event for Hastings included in the models does not include climate change, while the Flaxmere model takes climate change factors into account (RCP 6.0). The HDC stormwater models are at a relatively basic level but will need to be upgraded (data improvements, calibration and refinement) to enable more detailed analysis of the pipe networks, overland flow path assessments and integration with the HBRC drainage model.

The modelling assessments have been undertaken based on the impacts of a nested 24-hour rainfall event (using NIWA HIRDS V4 tool), as per general modelling practice. This means that the simulation event represents combinations of duration and intensity in the system however can generate an overestimate of the short-term rainfall intensity.

While each of the models have limitations, constraints in the network system can be identified, as well as locations where ponding is expected to occur. The higher intensity events (e.g. 50-year ARI) are especially useful to identify where overland flow paths are activated and areas at greater risk of flooding in more significant rain events that exceed a 50 year ARI.

4.11. Level of Service Performance Assessment

Based on the models and performance assessments undertaken to date, stormwater catchments have been categorised on their respective performance against the design standards in the ECoP and our knowledge of where flooding typically occurs across the urban area. It should be noted that the modelled flooding risk is based on a range of assumptions that are not currently validated and should be viewed with a degree of uncertainty as far as predicted flooding risk.

[42] Australian and New Zealand Environment and Conservation Council

4.12. Primary System

Modelling of the pipe network for a 5 year ARI event (including factors for climate change) indicates that many parts of the urban area are susceptible to overflows and flooding due to increased rainfall intensities and run-off that exceeds the capacity that the pipes were originally designed for. This is not unexpected given that today's built environment and the types and intensity of storm events have increased the rates and volumes of stormwater that need to be managed. As we move into a more intensive asset renewals phase it will be important to consider the future impacts of climate change and community expectations to minimise flooding.

The conservative outputs indicate that the current Level of Service described for the primary system is not being met and stormwater is predicted to surcharge into roads, overland flowpaths and detention areas potentially impacting properties are identified as being at risk of flooding.

Havelock North is in a similar situation and it is expected that the urban streams in Havelock North will come under increasing pressure to carry increased flood flows. Ponding in private property is also an ongoing issue due to the topography and many small sub-catchments which impacts the wastewater system through direct inflows from gully traps.

Some initial upgrade assessments were undertaken to determine what improvements on the current system would be beneficial in improving performance of the piped network. In some cases, the upgrades would reduce all flooding, while in most cases flooding was still observed in the model results. This raises questions about the level of investment required to upgrade pipes in the network versus our ability to manage overland flows more efficiently through designated overland flowpaths, storage and stormwater detention while minimising the impacts to people and property.

4.13. Secondary System

For rainfall in excess of a 5 year storm and up to a 50 year rainstorm, the secondary storm water system is required to have sufficient capacity to prevent stormwater entering into homes and buildings and to avoid inundation of household gully traps. The aim is to ensure that habitable dwellings are above flood levels and people are safe however they may be unable to leave their properties where roadways are flooded.

The presented maps at 4.10.1 and 4.10.2 (without climate change scenarios included) indicate ponding areas and depths up to and above 0.5m across the Hastings urban area.

4.14. Climate Change & Infill Development Implications

Climate change and infill development will exacerbate existing issues and place additional pressure on the stormwater system. Detailed modelling and sub-catchment analysis is required to ensure proposed solutions will be fit for purpose and this will require our stormwater models to be improved so that predictions of future impacts are fully understood. A summary of our initial findings can be found in Table 4.17.2.

4.15. Flaxmere

Primary System (1 in 5 year rain event)

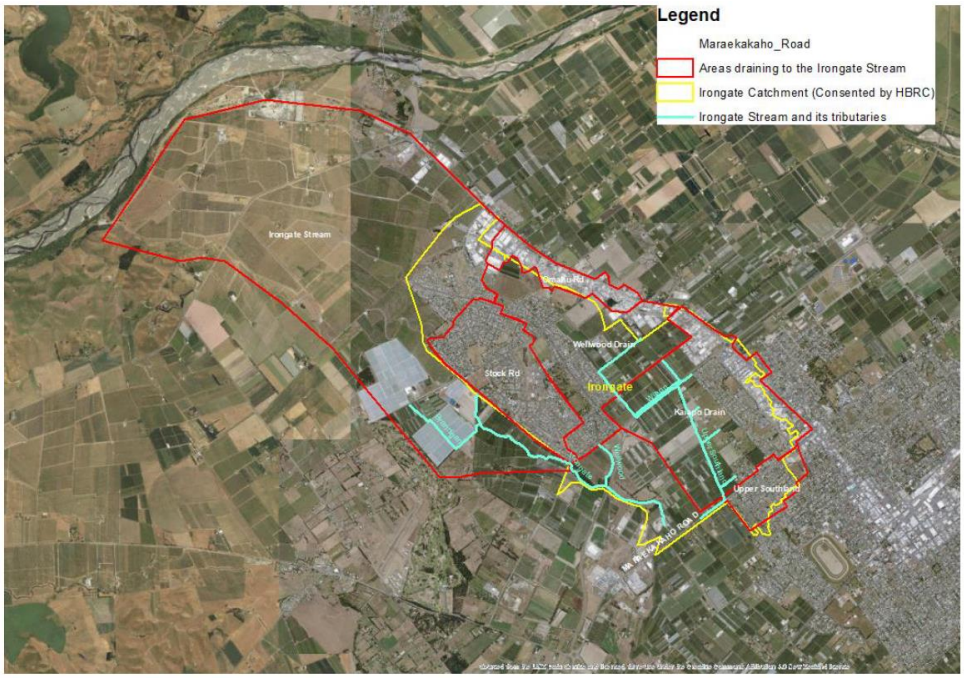
Stantec was engaged by HDC in March 2018 to develop a coupled 1D/2D stormwater model for the area covering Flaxmere and part of the Hastings urban area discharging via the Upper Southland Drain and piped along Maraekakaho Rd to Irongate Stream.[43] The majority of Flaxmere falls under the Irongate Catchment however, the runoff generated by the large rural catchments (orchards/

[43] WAT-18-9-20-243 System Performance Assessment of Flaxmere Stormwater Network (stage 5) (2020)

farmland) located to the north and west of Flaxmere contribute to smaller streams that ultimately converge to form the Irongate Stream.

The Flaxmere urban area and associated stormwater catchments are shown in Figure 4.15.1 below.

Figure 4.15.1 Stormwater Areas of the Upper Irongate Catchment



Modelling of the Flaxmere system indicates that 46% of the pipe network is under capacity to convey the runoff from a 5-year ARI storm event. 50% of pipes are hydraulically restricted due to the Irongate Stream creating backwater effects that reduce pipe efficiency, increasing the likelihood of overland flow. The flat nature of Flaxmere and Hastings terrain makes water levels at HDC network outlets an important consideration as small differences in water level can restrict the network's ability to discharge. This, in turn, can contribute to surface flooding which may result in significant problems.

Parts of the stormwater network are therefore not meeting the minimum 5 year ARI criteria within the primary system due to the hydraulic nature of pipes, grades and the effects of high levels in the Irongate Stream. Flooding during the 5-year ARI storm is predicted to be mostly limited to within the road corridors with minor impact (partial property inundation) in the residential areas on parts of Flaxmere Avenue and Swansea Road.

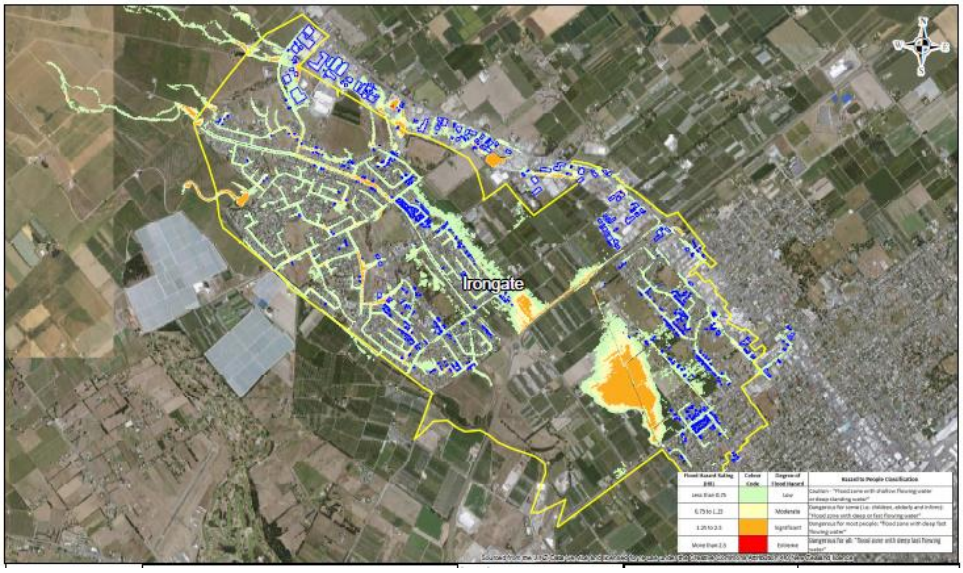
Drainage in the Wellwood catchment and the Upper Southland Drain (and tributaries) exhibit overtopping during the 5 year ARI storm at various locations. Most of this flooding is considered to have a low to moderate risk to adjacent urban properties but areas of increased risk are also identified on rural land alongside the urban fringe and in the Kaiapo area.

Work is underway to prioritise areas of the pipe network for upgrades alongside our growth planning scenarios to ensure that infrastructure solutions address deficiencies and provide future capacity for growth and climate change.

Secondary Flow Assessment (1 in 50 year rain event)

The Stantec report includes analysis of the Flaxmere urban area in a 50 year rain event with flooding depicted in Figure 4.15.2. Overland flow is mostly contained within urban roadways with some flooding spilling into properties where flood levels encroach onto lower lying land. Flooding is also identified in low lying rural land adjacent to the expressway and in Upper Southland Drain in the Kaiapo basin.

Figure 14.5.2 Flaxmere 50 Year ARI Flooding



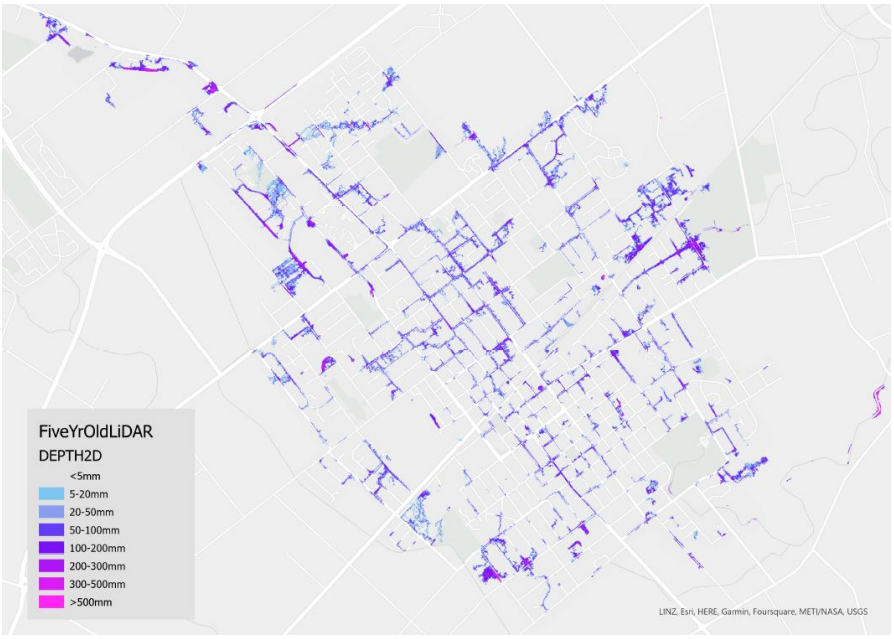
4.16. Hastings

Primary system (1 in 5 year rain event)

Modelling of the Hastings urban area indicates that approximately 50% or more of the primary pipe system is under capacity and operating under surcharged conditions during a 5-year ARI storm event. These assessments are primarily based on a "free outflow" assuming there are no downstream constraints from the HBRC drainage network however we expect that some backwater effects will be present in the 5 year rain event. Further analysis was performed by adding a downstream backwater influence which indicates that the flood volume is underestimated under "free outflow" conditions in most catchments.

Figure 4.16.1 below shows where flooding is predicted to occur across Hastings in the 5 year rain event.

Figure 4.16.1 - Modelled 5 Year Rain Event - Hastings



There are several areas of inundation and ponding throughout Hastings including Nelson Street South, Nelson Street North, Tōmoana Road and Caroline Rd adjacent to the Tōmoana showgrounds. These areas where flooding is predicted to occur are generally limited to road corridors and watercourses but there will be instances where ponding occurs to low lying residential properties.

Maintaining capacity within pipes during a 5 year rain event will require a combination of upsizing pipes, where it is practical and cost effective to implement infrastructure upgrades, and improved management of overland flows and flooding to ensure that the urban areas of Hastings are not adversely affected by flooding and that access on roads is not unreasonably restricted.

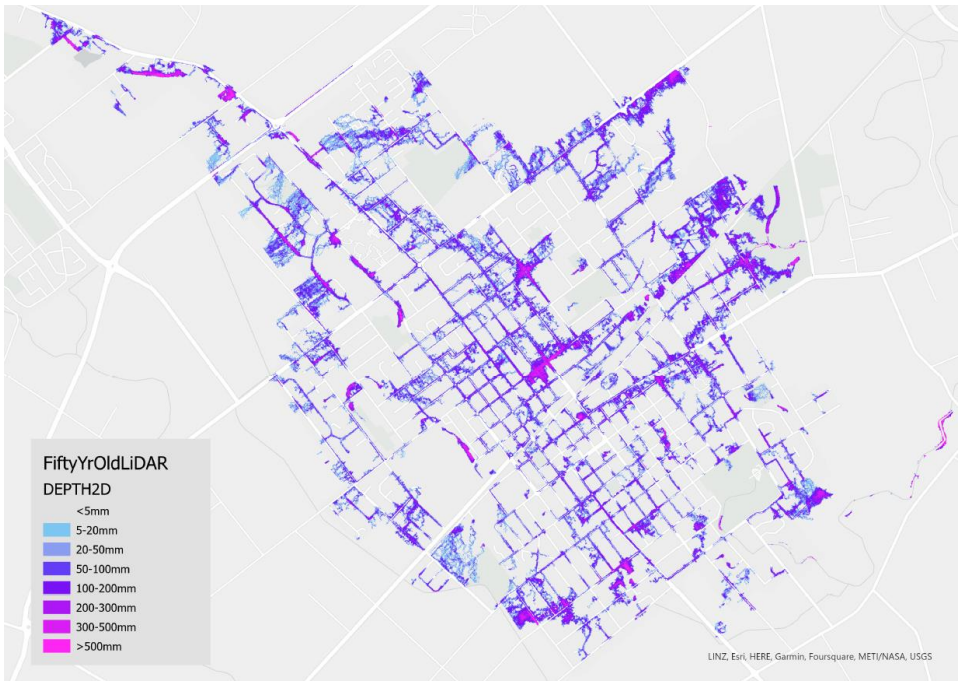
Secondary Flow Assessment (1 in 50 year rain event)

Analysis of the secondary overland flow regime across the Hastings urban area shows where residential areas are more directly affected by flooding and overland flow. As can be seen in Figure 4.16.2, there is an upscaling of impacts across a much wider area of Hastings with the depth of ponding in the worst areas predicted to be up to 500mm or more.

The lower lying areas of Hastings include parts of Akina, Mahora, Nelson St, Karamū Rd North and Caroline Rd which are more likely to see flooding on properties and roadways in conjunction with hindered wastewater services due to stormwater entering into sewers from flooded gully traps.

The limitations of the current stormwater model have a bearing on this analysis and work is underway to improve our ability to more accurately define flooding extents during large scale events and to assist in developing long-term solutions.

Figure 4.16.2 - Modelled 50 Year Rain Event - Hastings



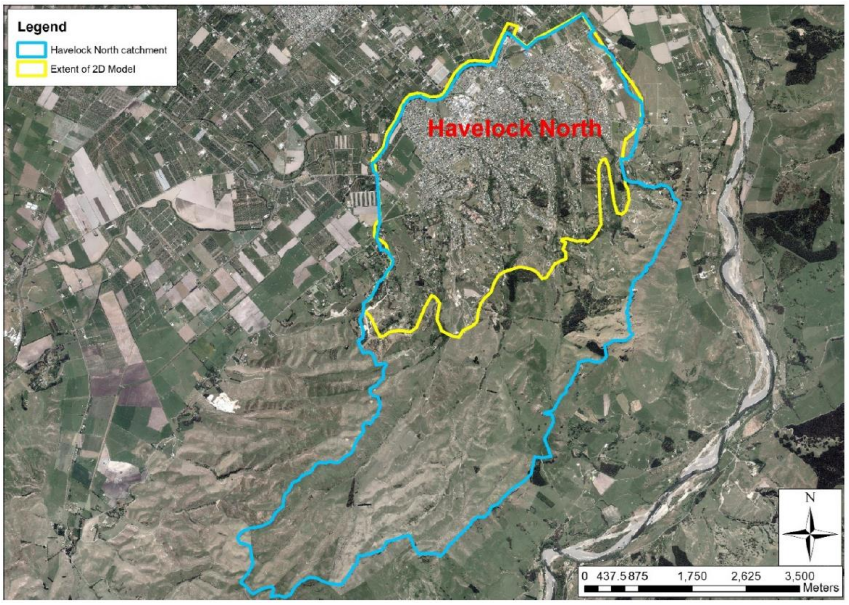
4.17. Havelock North

Preliminary analysis in Havelock North [44] using a base stormwater model first developed in 2019, follows a similar direction as Flaxmere and Hastings where 20% of the pipe system is under capacity in the 5 year rain event and 40% of the outlets are under backwater conditions due to high levels in the Karamū Stream.

The Havelock North Catchment (Figure 4.17.1) comprises the land draining to and through Havelock North. The Havelock North catchment extends across 2960 ha from the Heretaunga Plains at an elevation of approximately 8m above sea level, up to Te Mata Peak at an elevation of 399m. Havelock North is bound in the northwest by the Karamū Stream. A number of smaller gullies and streams/creeks drain the catchment, many of these incised deeply into the terrain. The township comprises five main administrative areas including Anderson Park, Havelock North Central, Iona, Te Mata, and Te Mata Hills and is predominantly residential and rural residential with a relatively small and compact industrial and commercial centre.

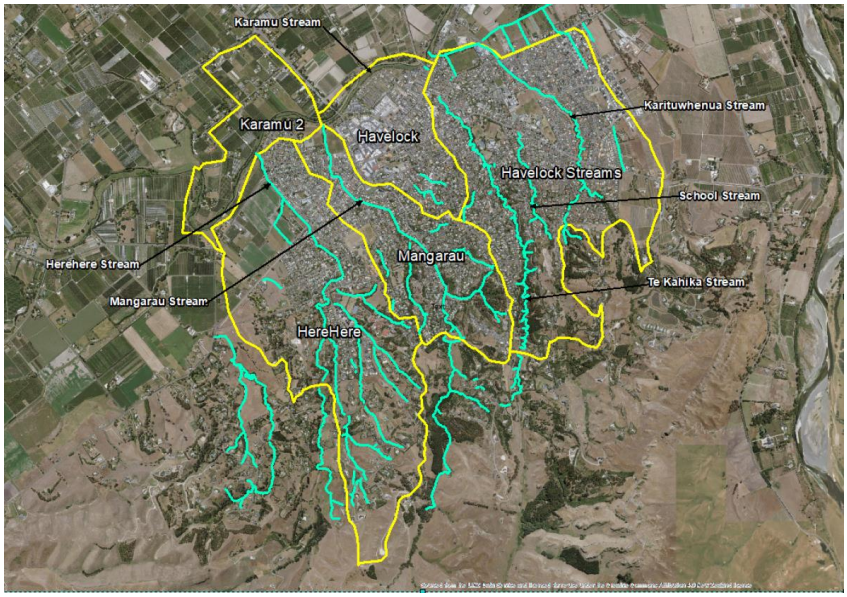
[44] WAT-18-9-20-242 System Performance Assessment of Havelock North September (2020)

Figure 4.17.1 Havelock North Stormwater Catchment



The Havelock North area is divided into five hydrological catchments including the Here Here Stream, Mangarau Stream, Te Kahika Stream, School Stream and the Karituwhenua Stream. Most of the urban areas in Havelock North discharge at various locations into these streams which then flow into the Karamū Stream to the north.

Figure 4.17.2 Havelock North Streams



Since the catchment drains directly to the Karamū Stream, it is heavily dependent on the performance of the primary network and levels within the Karamū Stream. The performance of the primary network is significantly affected due to the high flood levels in the Karamū Stream which impede a free discharge from the catchment's primary network. The ponding depths and extents are exacerbated due to surplus overland flow from the neighbouring catchments and limitations of the primary network.

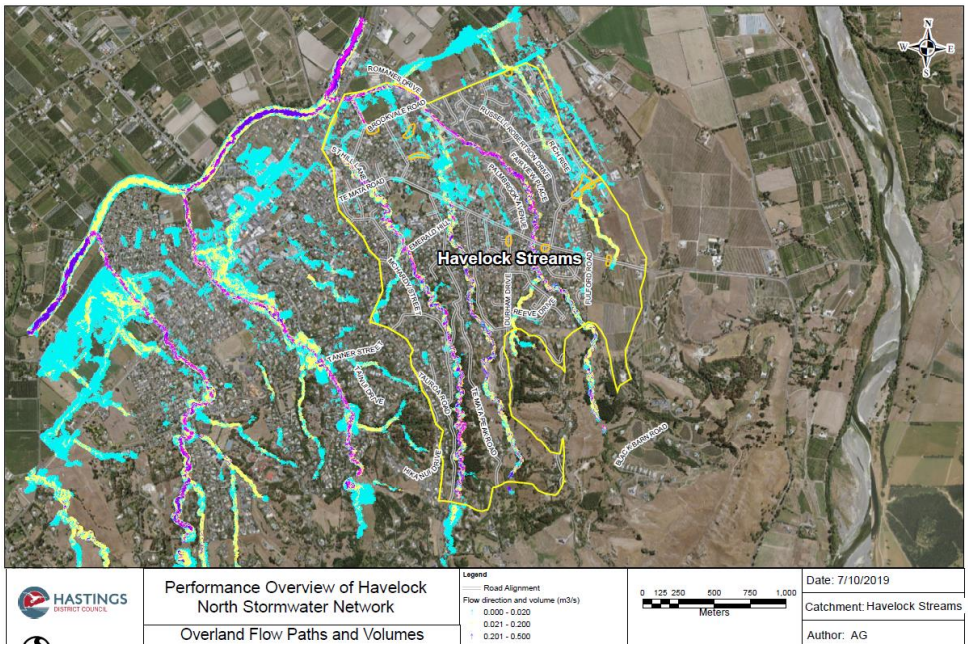
Approximately 40% of the reticulated stormwater network in Havelock North has downstream restrictions i.e. the network remains under backwater condition. Approximately 20% of the network does not have sufficient capacity to carry the runoff from a 5-year ARI storm event and is therefore likely to result in overland flows.

The Mangarau catchment shows the largest flooding volume but most of the flood water is carried downstream by the Mangarau Stream where it overtops the stream banks at several locations to enter the Havelock catchment.

Modelling shows that all streams in the Havelock North area are at risk of overtopping by flood water at various locations for both 5 year and 50 year ARI storm events. Karituwhenua Stream appears to have sufficient capacity in most of its reaches to carry the runoff while Mangarau Stream appears the most undersized as the runoff overtops its banks at several locations.

No significant flooding is predicted from the Karamū Stream, although the backwater levels do impact the primary network. This assessment is reliant on 50-year ARI levels in the Karamū Stream calculated by HBRC.

Figure 4.17.3 Havelock North Streams – Overland Flow



Detention Dams

While this assessment only considers the urban stormwater network, it does take into account the large detention dams that sit in the upper catchments of the 5 Havelock North Streams. These large scale dams were constructed in the late 1970s to provide major flood protection to Havelock North following the 1974 flood event.

The review of the performance of the detention dams indicates no spilling for the 50-year ARI storm event. The dams are constructed to attenuate the runoff from a 100-year ARI storm event therefore it can be concluded that though the dams' hydrology is simplistic in the model, the results are reasonable and reliable considering the scale and objective of this initial study.

Table 4.17.4 Relative Performance of Stormwater Infrastructure

Level of Service met for 5 year ARI event			
Level of Service can be met for 5 year ARI event with reasonable upgrades (defined as modelled < 35% network upgrade and/or <100 m^3 spill after upgrades)			
Level of Service cannot be met for 5 year ARI event unknown impact of upgrades (no model available)			
Level of Service cannot be met for 5 year ARI event even with reasonable upgrades (modelled) or upgrades were considered significant (>35% network and/or >100m^3 spill after upgrade)			
	Catchment name	**5-year ARI- event**	**50-year ARI-event**
Flaxmere	Irongate Catchment	Flood risk: mostly classified as low to moderate in residential areas but is more significant in some areas (mostly in road corridors) Backwater conditions: 50% of network length Insufficient capacity: 46% of network length Flooded manholes: 441 Properties affected: 273 with some level of ponding	Flooding predicted (a range of impacts to 777 properties) and up to 0.5m in areas
		Impact of potential upgrades: Unknown	
Hastings	Collinge	Flooding predicted (including on property) Flooding has been reported after recent upgrades (report date 2018) There are several significant ponding locations identified in the catchment draining to Collinge Drain. HDC historical flooding records are consistent with modelling predictions.	Flooding/ponding predicted (including on property) and >0.5m in areas
		Most flooding could be prevented with upgrades. Network Upgrade needed: 36% (replace and new pipework) in a smaller catchment (76 Ha) Reduction of spills with upgrade: 99% Flood volume after upgrade: 29 m^3 Impact HBRC drains: yes, Flood volume (m3) after upgrade with HBRC drains constraints: <100 m^3	

	Catchment name	5-year ARI- event	50-year ARI-event
	Kaiapo	Flooding predicted (to rural property)	Flooding predicted and >0.5m in some areas
		Most flooding could be prevented with upgrades. Network Upgrade needed: 70% (replace and new pipework) Reduction of spills with upgrade: 95% Flood volume after upgrade: 573 m^3 Impact HBRC drains: not applicable	
	Lower Southland	Flooding predicted Flooding has been reported after recent upgrades (report date 2018) HDC historical flooding records indicate major drainage problems in this area prior to upgrades in the 90s. The Copeland Rd pump station has been constructed to ensure that high downstream water levels do not prevent effective management of stormwater runoff in the area which appears to have significantly improved catchment drainage. Flooding still occurs within Akina, some areas are low laying and flat which can make it difficult to drain and obtain suitable connectivity with the pump station	Flooding predicted (including on property) and >0.5m in areas
		Most flooding could be prevented with upgrades. Network Upgrade needed: 8% (replace existing pipework) Reduction of spills with upgrade: 97% Flood volume after upgrade: 82 m^3 Impact HBRC drains: yes Flood volume (m^3) after upgrade with HBRC drains constraints: 1861 m^3	
	Mahora	Most of the flooding locations predicted by the model could not be validated by HDC historical flooding records.	Flooding/ponding predicted (including on property) and < 0.5m

	Catchment name	5-year ARI- event	50-year ARI-event
		Most flooding could be prevented with upgrades. Network Upgrade needed: 16% (replace existing pipework) Reduction of spills with upgrade: 99% Flood volume after upgrade: 8 m^3 Impact HBRC drains: limited Flood volume (m^3) after upgrade with HBRC drains constraints: 12 m^3	
	Mallory	Several flooding locations have been identified (and some confirmed with historical data).	Flooding predicted (including on rural property) and >0.5m in areas
		Most flooding could be prevented with upgrades. Network Upgrade needed: 33% (replace and new pipework) Reduction of spills with upgrade: 99% Flood volume after upgrade: 7 m^3 Impact HBRC drains: limited Flood volume (m^3) after upgrade with HBRC drains constraints: no increase in volume	
	Omahu Rd (independent of Hastings network, not included in any maps?)	Not all flooding could be prevented with upgrades. Network Upgrade needed: 31% (replace existing pipework) Reduction of spills with upgrade: 87% Flood volume after upgrade: 524 m^3 Impact HBRC drains: not applicable	Not included in 50 year ARI-assessment
	Railway	Flooding predicted (including on property). There are many HDC flooding records for this area which the model also predicts. HDC have decided and are currently implementing significant upgrade works to connect this problem area to the Railway drain.	Flooding predicted (including on property) and >0.5m in areas

	Catchment name	5-year ARI- event	50-year ARI-event
		Most flooding could be prevented with model upgrades, some remain (however, volume is small). Network Upgrade needed: 29% (replace and new pipework) Reduction of spills with upgrade: 99% Flood volume after upgrade: 19 m^3 Impact HBRC drains: unknown (model limitations)	
	Riverslea	Flooding predicted (including on property). HDC historical flooding records are generally consistent with model predictions.	Flooding predicted (including on property) and >0.5m in areas
		Most flooding could be prevented with upgrades. Network Upgrade needed: 15% (replace and new pipework) Reduction of spills with upgrade: 98% Flood volume after upgrade: 4 m^3 Impact HBRC drains: yes Flood volume (m^3) after upgrade with HBRC drains constraints: 88 m^3	
	Ruahapia	Flooding predicted (including on property) There are number of flooding locations predicted to occur which in many instances are consistent with HDC flooding records for the area.	Flooding predicted (including on property) and >0.5m in areas
		Most flooding could be prevented with upgrades, but some areas remain at risk for flooding. Network Upgrade needed: 28% (replace and new pipework) Reduction of spills with upgrade: 92% Flood volume after upgrade: 808 m^3 Impact HBRC drains: yes Flood volume (m^3) after upgrade with HBRC drains constraints: 1955 m^3	

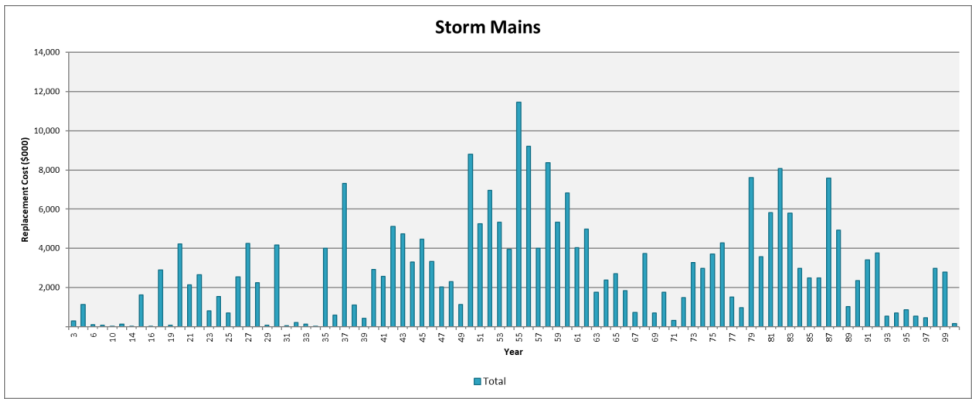
	Catchment name	5-year ARI- event	50-year ARI-event
	Southland	Significant flooding predicted (including on property). Flooding has been reported after recent upgrades (report date 2018)	Flooding predicted (including on property) and >0.5m in areas
		Most flooding could be prevented with upgrades. Network Upgrade needed: 12% (replace pipework) Reduction of spills with upgrade: 98% Flood volume after upgrade: 90 m^3 Impact HBRC drains: unknown, model limitations	
	Mareakakaho/Upper Southland (part of Southland catchment)	Significant flooding predicted. Flooding has been reported after recent upgrades (report date 2018) Most flooding could be prevented with upgrades	Flooding predicted (including on property) and >0.5m in areas
		Most flooding could be prevented with upgrades. Network Upgrade needed: 33% (replace and new pipework) Reduction of spills with upgrade: 99% Flood volume after upgrade: 20 m^3 Remaining flooding seems mostly on roads. Impact HBRC drains: not applicable	
	Tōmoana	Flooding predicted (seems not to be on property) Several flooding locations predicted to occur which in general are consistent with HDC flooding records for the area.	
		Most flooding could be prevented with upgrades. Network Upgrade needed: 26% (replace and new pipework) Reduction of spills with upgrade: 99% Flood volume after upgrade: 12 m^3 Impact HBRC drains: yes Flood volume (m^3) after upgrade with HBRC drains constraints: 191 m^3	

	Catchment name	5-year ARI- event	50-year ARI-event
	Windsor	There are several significant flooding locations identified which are also consistent with HDC historical flooding records for this area.	Flooding predicted (including on property) and >0.5m in areas
		Most flooding could be prevented with upgrades, but some flooded areas still remain. Network Upgrade needed: 17% (replace and new pipework) Reduction of spills with upgrade: 93% Flood volume after upgrade: 101 m^3 Impact HBRC drains: yes Flood volume (m^3) after upgrade with HBRC drains constraints: 127 m^3	
Havelock North	Herehere	No performance reports available	
	Mangarau		
	Karanema		
	Karitūwhenua		
Barnes	Barnes	No performance reports available	
Lowes Pit	Lowes Pit	No performance reports available	

4.18. Network Age & Condition

The Resource Consent Application (2022) and Long-Term Plan 2021-2031 describes that the stormwater system is expected to be in good condition considering the age of most assets (majority constructed in the 1950s and 60s). First replacements are expected within the next 10 years and will increase over the next 30 years, with significant investment required. The graph below shows the expected upgrades for the various assets, year zero is 2022. Condition assessments have not been completed and therefore the projected stormwater renewals shown in the graph is based on known asset age only. The renewal profile below shows that the majority of stormwater renewals are due in the 10+ year timeframe. Pipe renewal timing provides an opportunity to increase capacity of the stormwater network as there is only an incremental cost incurred to renew the pipes with a larger pipe size.

4.18.1 Stormwater Asset Replacement Schedule (based on age)



4.19. Identified Risks

A report focussing attention on identifying risks and critical infrastructure was included as part of the renewal application for the global stormwater consent in 2020 [45].

Identified risks for stormwater pathways include:

- Flat topography of most of the district means the Heretaunga Plains are slow to drain and therefore at greater risk of flooding. In addition, minor changes in the topography can significantly affect runoff flows and increase flooding.
- The pipe system is predicated on stormwater from private property discharging to the road kerb and channel. However there are areas where properties are below road level and are unable to gravitate and the pipe network does not extend to these low lying areas. This results in ponding and flooding of properties that are disconnected or rely on pumping to discharge on property stormwater.
- Dam safety - flood detention dams on the main catchments south of Havelock North and potential impacts of overtopping in a major rain event.
- Reliance on stormwater pump stations where gravity solutions are not available and the risk of pump failure during a flood event.

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- Erosion and scour in open flow paths and property flooding via secondary overland flow paths which are expected to increase with climate change.
- Trunk Railway line which is slightly elevated creating a physical barrier (SW-NE of Hastings CBD) that creates a boundary between catchments but does not seem to present a significant increase in flood risk.
- Overland flow paths within private property that are built in, filled or obstructed i.e. fences, garages etc.
- Difficulty in establishing existing and new overland flow paths within urban areas (easements, compensation and ongoing management).
- Upgrades in road corridors may cause some disruption. Such disruptions can be mitigated by aligning stormwater upgrades when road upgrades are scheduled to be undertaken.

4.20. Critical Assets

- Pipes considered extremely critical or moderately critical are mostly located under the main trunk railway, under or parallel to high use roads (e.g. SH), under or close to buildings and within the CBD zone. Several aspects have been considered including disruption to third parties, property damage, public health, costs, complexity of repair etc. Pipe failure could result in ponding, land stability issues and overland flow. Inundation of the wastewater system could also occur that could lead to contamination of stormwater, freshwater bodies, and land.

- The Ngaruroro River: Built to a 1 in 50 year level of protection, the river and floodway are considered to be capable of coping under the current conditions. Management and maintenance is the responsibility of the Hawkes Bay Regional Council.

- Stormwater Sumps, Entry Cages, Pipe Barrier Grilles and Manholes: Sumps, entry cages and grills are identified as being prone to blockage, which can result in surface flooding and associated damage. "Popping" of manhole lids because of a rain event can indicate the system at that point is under capacity.

4.21. Stormwater Quality

The ultimate receiving environments for the stormwater network are the Ngaruroro River and the coastal / marine environment of Hawke's Bay which are under the jurisdiction of the Hawke's Bay Regional Council. The Waitangi Regional Park encompasses the common mouth of three major river systems including the Ngaruroro, Tutaekuri and the Clive River.

Prior to reaching these environments, the catchments predominantly drain to Te Karamū Awa catchment via several streams and watercourses, then the Karamū-Clive system which flows into the Waitangi Estuary and Hawke Bay. Stormwater discharges over the unconfined areas of the Heretaunga aquifer may also contribute to a deterioration of groundwater quality if not properly managed.

Benthic macroinvertebrates can be important indicators of water quality. Based on available data, the benthic macroinvertebrate community in Te Karamū and other environments receiving urban stormwater reflect ecosystems in a "poor" state. Benthic macroinvertebrates are aquatic animals without backbones that are large enough to see without a microscope. They include worms, crustaceans, and immature forms of aquatic insects such as stonefly and mayfly nymphs.

The observed species are considered to be tolerant to pollution and the portion of "EPT" species (Ephemeroptera, Plecoptera and Trichoptera), which are sensitive to pollution, was low. It should be noted that two sites, known not to receive stormwater discharges had a similar quality and that

stormwater discharges are only one of several contributing factors to the receiving environment's water quality. As noted, the TANK Plan Change has introduced an RMA objective, policy and rule framework focused on improving water quality which the new stormwater rules and requirements are contributing to.

4.22. Stormwater Consent Monitoring

As part of the stormwater discharge consent, sediment quality sampling for several substances (metals and hydrocarbons), water samples for *E.coli*, as well as visual assessment are undertaken every second or every fourth year depending on the site. The findings below are based on the most recent Annual Stormwater Monitoring and Compliance Report - Network Consent AUTH-118324-03 (2021) [46].

The stormwater consent for James Rochfort Place (AUTH-119173-01), Barnes Place (AUTH-119174-01) and Lowes Pit (AUTH-119172-01) require monitoring prior and after pre-treatment device(s) as well as prior to discharge. The sampling frequency of these high-risk locations varies between 2 and 4 times per year.

- **Sediment**: The most recent sediment and water samples for consent AUTH-118324-03 have been taken in March 2021, throughout the district. Samples were analysed for metals, PAHs and *E.coli* (as an indicator for pathogens). Sample locations generally represented the receiving environment of one of the main catchments (i.e. Flaxmere, Havelock North or Hastings) except for KAR2 which received discharges from the three catchments combined.

  The sediments in all catchments receiving stormwater have contaminant concentrations above the Australian and New Zealand guidelines for fresh and marine water quality. This means there is a potential of environmental effects from these discharges. The concentrations of some substances seem to be accumulating in the sediments of certain locations (visual assessment), for example in the streams receiving the stormwater discharge from Flaxmere. This increased concentration in the sediment indicates a "chronic" inflow of contaminants in the system that has the potential to contribute to poor receiving water quality. Typical contaminants for urban environments were found to be above the guideline values in most sites with zinc, lead, copper and PAHs identified as the primary contaminants of concern in the resource consent application [47]. Similar conclusions could be drawn for Lowes Pit, James Rochfort Place and Barnes Place (based on information in the resource consent application).

- **Receiving Water Quality:** A detailed investigation in 2012, described in the resource consent application, of the water quality in the Ruahāpia Stream, Wellwood Drain and Irongate Stream indicated that the water quality was negatively impacted by the stormwater discharges. High nutrient levels, dissolved heavy metals and suspended sediment were observed at all streams. *E.coli* sampling of the water of a variety of drains and streams (2019, 2020) indicated that concentrations at several sites were elevated above the alert or action level of the Microbial Quality Guidelines for Marine and Freshwater Recreational Areas.

HDC undertakes individual industrial site audits of high and medium risk sites to help identify and address issues related to stormwater quality. This project is ongoing and HDC are working with industrial sites to mitigate any risks to stormwater.

46 Annual Stormwater Monitoring and Compliance Report - Network Consent AUTH - 118324-03, 2020/2021

47 Hastings District Stormwater Network Resource Consent Application (2022)

4.23. Conclusions on Stormwater Quality

The resource consent application for the stormwater discharges currently being processed by HBRC states:

> *"HDC maintains that the existing and proposed stormwater discharges are not (and will not be) the predominant cause of the current degraded state of the receiving environments ; namely Te Karamū and its tributaries. […], there are existing activities, including diffuse run-off, outside the control of HDC's urban stormwater network (and under the proposed consent for discharges from that network) [(48)] which contribute to pollution and changes in hydrologic regime within the receiving environments, and have done for decades in some cases." [(49)]*

This notwithstanding, there is an expectation that stormwater system design and management will be required to improve over the next twenty years to achieve the receiving water quality standards required to be met under the TANK Plan Change.

4.24. Hastings District Council is Implementing Mitigation Measures - Multi-Barrier Approach

HDC is implementing a multi barrier approach to improve the quality of the stormwater. The approach consists of onsite pollution management as well as first flush spill event diversion and end of pipe treatment systems. This approach is currently being implemented in high risk areas with an intent to roll-out the approach across the network.

A multi-barrier approach is required to ensure an appropriate level of pollution mitigation occurs in higher risk catchments at high-risk discharges. The three main barriers imposed are as follows:

- Barrier 1: Working collaboratively with industrial/commercial property owners to minimise the risk of pollution entering the public storm drainage system.
- Barrier 2: Implementing treatment interventions within HDC's urban stormwater network.
- Barrier 3: End-of-pipe treatment systems which are designed to treat contaminants that pass-through catchpit filters and exceed the capacity of the first flush systems.

This approach will initially be implemented in high-risk areas and finally in the entire urban stormwater network with prioritised application. Modelling shows that the combination of first flush and Bioscape treatment systems will address 90% to 95% of the average stormwater runoff volume, significantly improving the quality [(50)].

4.25. Source Control: Reduction of Run-Off & Contaminants from Buildings and Sites

HDC is also implementing a strategy of managing stormwater quantity at source through District Plan and other controls. The District Plan sets policies and rules to reduce stormwater from industrial properties to enter the urban stormwater system and to limit stormwater contamination. This includes, but is not limited to, rules limiting impervious surface area and requiring on-site attenuation, landscaping requirements for parking areas and requirements for the handling of hazardous substance (e.g. Rule CSR9 refers to7.3.5 and 7.3.6 General Performance Standards and Terms),

48 For example: Upstream takes, industrial discharged consents, illegal and accidental discharges, public state highway run off.

49 Hastings District Stormwater Network Resource Consent Application (2022)

50 Hastings District Stormwater Network Resource Consent Application (2022)

Buildings are required to have roof surfaces constructed from inert materials or should be painted with non-metal based paints (and maintained in good order). This will reduce run-off of copper and zinc from buildings, reducing the amounts of these contaminants in the stormwater in the Hastings Commercial Environment, Havelock North Village Centre, Flaxmere Village Centre and Industrial zones. [51].

51 Hastings District Plan

5. Transport

5.1. Executive Summary

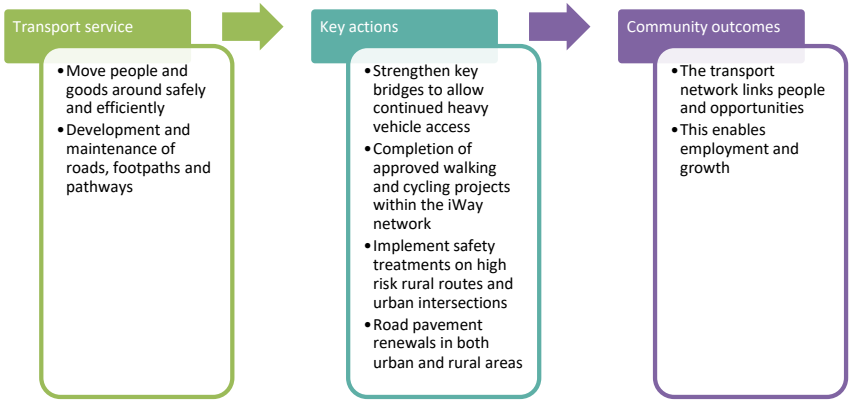
An effective transportation network is a key element in the efficient functioning of the Hastings District and its economy. The District is a major producer of primary produce and manufactured goods and linkages to domestic and international markets are crucial in maintaining a healthy economic sector. However, the transport network can also generate negative environmental effects. For road and rail these are commonly noise and exhaust pollution. These effects are increasingly compounded by the continued growth of traffic, particularly on routes that were not designed to handle present or predicted levels, or by the inappropriate use of local access roads as arterial or primary collector routes, or de facto bypasses.

Public transport is also a major consideration and is an important component in transport planning and services. Regional plans aim to promote increased numbers of trips being undertaken on public transport thereby lessening the reliance on private motor vehicle travel and contributing to reduced congestion and carbon emissions on the road network.

There are a number of regional and local plans and strategies with objectives to improve the safe and efficient movement of people and goods across the district while enhancing our social and cultural fabric and delivering improved environmental outcomes. Key themes include creating safe multifunctional urban centres with accessibility to a range of transport options, providing safe walking and cycling facilities and incentivising the improved use and integration of environmentally sustainable transportation forms.

A summary of the Council's transportation strategy is depicted in Figure 5.1.1 below.

Figure 5.1.1: Summary of the Key Actions and Outcomes for the LTP Transport Strategy



5.1.1. How Are We Performing?

Getting Around – The open grid pattern of central Hastings has resulted in a large number of suburban roads becoming used as de facto traffic bypasses, and as Collector or Arterial routes. This generates unnecessary and undesirable levels of traffic on Access roads and has safety and environmental consequences for the community, particularly in terms of noise, vibration and impact on the amenity of residential areas.

Transport models and field observations are used to understanding how our urban network is performing and to identify key locations that are under pressure or could become congested in the future. At present, congestion is not considered to be a significant issue in the network[52] however, observations indicate pinch points where congestion is observed including the St Aubyn Street / Karamū Road Intersection, Stoneycroft Street / Omahu Road Intersection, Railway Road / Southampton Street Intersection. All intersections indicated queuing during peak times and risk taking behaviours due to traffic flow issues at the Stoneycroft Street / Omahu Road Intersection were also observed.

Road Safety – The Hastings District has a poor road safety record when compared against national averages and peer groups. Roughly half of the crashes in the district occur on urban roads (51% of all crashes) with intersections playing a relatively large role in crashes in urban areas (54% of crashes in urban areas). Vulnerable road users are involved in 34% of the fatal or serious injury crashes (cyclist 9% of fatal or serious injury crashes, pedestrians 8% of fatal or serious injury crashes, motorcyclists 17% of fatal or serious injury crashes) in the period of 2014-2019.

Roughly half of the crashes in the district occur on urban roads with a posted speed limit of less than 70 km/hr (51% of all crashes) with intersections playing a relatively large role in crashes in urban areas (54% of crashes in urban areas). A growing population might result in a higher rate of overtaking crashes when there are potentially more people on the road and different driving speeds, driver ability and higher levels of congestion could also lead to frustration and higher risk taking behaviour in future.

Public Transport - Long run census data of people travelling to work (2001 to 2018) indicates a continued high reliance on private and commercial vehicle use (80 - 85%). The public bus was only used by 1% of commuters and 6 - 10% of commuters used another mode of sustainable transport (bicycle, walk or jog).

While this data is prior to the Covid-19-pandemic where we have seen an increased proportion of people who work from home on a regular basis, based on historic census data for work related commuting, the relative fraction of sustainable transport use (public transport, bicycling, walking, or jogging) has not increased in the period and bicycling appears to have been reduced (5% to 2%).

Sustainable transport does not appear to be an appealing mode of transport for people to commute to and from work. In order to meet current long term targets, public transport and other sustainable transport mode initiatives will need to be more strongly promoted and supported by the community.

Sustainable Transport - The long-term plan (2021 2031) has prioritised "getting around" to connect people with each other and places. One of the main focusses is to develop sustainable transport alternatives in the long term, promoting walkability in new subdivisions and there has been significant investment in sustainable transport infrastructure in the last 11 years via the iWay initiative.

[52] Infrastructure strategy part of the long term plan 2021-2031

Projects include closing gaps, improving intersection connectivity, targeting short journeys to schools and for work. Renewal of pavement is budgeted for which provides an opportunity to make paths more appealing to walk on. A walking and cycling network development strategy is part of the work-program ensuring future prioritisation of sustainable transport and to promote walking and cycling as alternatives to the currently high use of private vehicles for getting around.

Parking – The current long-term plan includes increased parking opportunities in Hastings and Havelock North, noting that when sustainable transport is established the locations can be used for other purposes. The proposed implementation of parking sensor technology is expected to reduce the time spent looking for an available space thereby reducing emissions and improving traffic flows and providing valuable data to inform future growth planning.

Changes to the National Policy Statement - Urban Development (2020) that are already in effect, mean that district plans no longer require developments (residential, commercial) to provide for parking areas (except for accessible parking). Predicted housing intensification will therefore increase the need for on-street and inbuilt carparks to cater for the additional demand.

5.1.2. Regulations and Guidelines

Developments that do not adequately account for transport needs can have a significant impact on access, connectivity, efficiency and road safety. Alongside existing regulations, the Hastings District Council has developed several guides to help developers understand and contribute to Council's transport objectives and outcomes.

The Subdivision and Infrastructure Development Best Practice Design Guide (2009) provides guidance on designing subdivisions that deliver high quality places for people to live and Council's vision is to create connected and resilient neighbourhoods where transport choice is maximised reducing the reliance of residents on private vehicles for short trips.

5.2. Level of Service Statement

An effective transportation network is a key element in the efficient functioning of the Hastings District and its economy. On a local scale the transportation networks are critical in the daily functioning of the District. Journey times across the urban area are a maximum of 10 minutes and 20 minutes for inter-district travel to Napier. While the Hastings District is a large area the majority of trips, particularly within the urban area, are short distances with many rural areas connected to the main city in 15 minutes driving time. The longest trips within the district from northern to southern extent are approximately 2 hours driving time.

The District is a major producer of primary produce and manufactured goods and linkages to both domestic and international markets are therefore crucial in maintaining a healthy economic sector. However, the transport network can also generate negative environmental effects. For road and rail these are commonly noise and exhaust pollution. These effects are increasingly compounded by the continued growth of traffic, particularly on routes that were not designed to handle present or predicted levels, or by the inappropriate use of local access roads as arterial or primary collector routes, or de facto bypasses.

Establishing clear environmental criteria for the transport network, and promoting its safe and efficient use, is important for the community. This can be achieved by traffic management on the network, and the control of land use activities alongside the network. It is also achieved by long term network planning, and the development of a strong hierarchical transportation network.

Public transport is also a major consideration and is an important component in transport planning and services. The Hawke's Bay Regional Council is responsible [53] for public transport as part of their Regional Public Transport Plan which links to the Regional Land Transport Strategy. The Regional plans aim to promote increased numbers of trips being undertaken on public transport, lessening the reliance on private motor vehicle travel and contributing to reduced congestion and carbon emissions on the road network. For parts of the community, public transport is an essential component of their actual mobility and the Council will work with the Hawke's Bay Regional Council to investigate ways of encouraging greater levels of usage of public transport.

This section therefore excludes public transport, and focusses on the roading, walking and cycling networks. Performance measures for this infrastructure network focus on safety, maintenance of roading surfaces etc.

5.3. District Plan and Engineering Code of Practice

Roading patterns on the Heretaunga Plains are largely unstructured, and this has led to undesirable environmental consequences on residential and rural areas associated with inappropriate traffic patterns. The adoption of a roading hierarchy, consistent with the New Zealand Transport Agency's One Network Roads Classification (ONRC) hierarchy, which identifies a tiered roading system based on road function and planned levels of service is important to enable the effective management of traffic and to control the environmental effects associated with different traffic patterns.

53 Under the Land Transport Amendment Act 2008/Land Transport Act 1998

The Transport Strategy in the Hastings District Plan [54][55] (updated via Plan Change 2 to align with the Engineering Code of Practice 2020) aims to manage transport (excl. public transport) provision to achieve the outcomes listed below and Table 5.3.1 summarises the objectives and policies set out to achieve these outcomes.

- The reduced intrusion of unnecessary vehicular traffic into residential streets.
- The establishment of an effective arterial and collector roading system to manage vehicle flows and provide attractive routes for heavy vehicles and inter-District/inter-region traffic.
- The establishment of long term design and environmental standards for roads, and for activities adjoining different types of roads in the network.
- The improved use and integration of environmentally sustainable transportation forms throughout the urban area, and across the Heretaunga Plains.

Table 5.3.1: Objectives and Policies from the Transport Strategy in the District Plan (including Plan Change 2)

Transport Strategy Objective	Policies
TSO1: To establish and maintain a safe, efficient, and environmentally appropriate roading network which mitigates the adverse effects on the community.	**TSP1:** Ensure that when land use activities require to join or leave the roading network the efficiency or operation of the roading network is not adversely affected. **TSP2:** Minimise the exposure of the community to environmental effects of inappropriate or unnecessary traffic on different parts of the District's
TSO2: To protect the efficient operation of the roading network from the adverse effects of land uses, and any adverse traffic impacts associated with land use activities on the District's roads.	**TSP3:** Progressively introduce environmental limits within the roading hierarchy to define the environmental standards that the roading hierarchy will be required to meet. **TSP4:** Allow identified land activities to establish on certain routes within the roading hierarchy.
TSO3: To promote the effective co-ordination and integration of roading development as well as other transportation networks in the region.	**TSP5:** Work collaboratively with other agencies with transport responsibilities to achieve the integrated management of the effects of transportation networks.
TSO4: To provide for the effective, safe, and convenient use of alternative transport modes on the Heretaunga Plains.	**TSP6:** Encourage the opportunity to utilise alternative transportation modes throughout the District.
TSO5: To promote the continued use and development of Bridge Pa Aerodrome in a manner that remains sensitive to the environmental and amenity values of adjoining communities.	**TSP7:** In conjunction with the Hawke's Bay Aero Club and the wider Bridge Pa community, review future development opportunities, constraints and environmental consequences associated with the continued growth and development of the Bridge Pa Aerodrome. **TSP8:** Manage the effects associated with the operation of the Bridge Pa Aerodrome on adjoining activities.
TSO6: To protect the environment from the adverse effects and risks from facilities and activities involving the transportation of hazardous substances.	**TSP9:** The transportation of hazardous substances will be considered in the planning and management of transportation networks and their relationship to land use activities so as to avoid, remedy or mitigate the adverse effects and unacceptable risks to the environment.
TSO7: To provide for adequate levels of public car parking in the commercial areas of Hastings and Havelock North.	**TSP10:** Review the provision of public car parking in the Central Commercial Zones as required.

54 Hastings District Plan

55 Plan Change 2 Engineering Code of Practice 2020

Transport Strategy Objective	Policies
TSO8: To minimise the risk of biosecurity incursions of an unwanted organism in the district and enable response to any such biosecurity incursions.	**TSP11:** To participate in an integrated approach towards the management of biosecurity issues by assessing potential risks from new activities and adopting methods to enable the response to any biosecurity incursions.
TSO9: To protect the safe and efficient operation of the rail network from inappropriate development adjacent to that network	**TSP12:** Greenfield residential development should be located in such a way that avoids or manages reverse sensitivity effects arising from the use of the rail network.

The roading network is classified in a hierarchy. Prior to this the roading patterns on the Heretaunga Plains were largely unstructured leading to undesirable environmental consequences on residential and rural areas associated with inappropriate traffic patterns. The roading hierarchy is based on road function and planned levels of service as described in Table 5.3.2. Table 5.3.3 displays the classification system and length of different road types across the District and Figures 5.3.4 and 5.3.5 show the roading hierarchy in a plan view across the Hastings urban areas and Hastings District.

Table 5.3.2 Roading Hierarchy Classifications for Hastings District

HASTINGS DISTRICT ROADING HIERARCHY (adapted from the New Zealand Transport Agency's One Network Road Classification)		
CLASSIFICATION	**DESCRIPTION**	**ROAD TYPES INCLUDED**
Arterial	Roads of strategic regional importance and contributing significantly to the regional economy. Linking regionally significant places, industries, ports or airports. Additionally, arterial roads may perform a 'lifeline' function.	State Highways (not managed by Council) and major local roads that are of an inter-regional nature and provide links between significant areas of population and other inter-urban links.
Primary Collector	Roads of strategic importance which provide significant links within the local economy. Links to arterials or state highways.	Links between areas of activity within a community, providing alternative links between centres of population and contributing significantly to the movement of goods or produce.
Secondary Collector	These roads link population and economic sites. Locally preferred routes or within areas of population and activities.	Road giving connectivity between local populations areas and places of interest. Most roads within an industrial area would be collector roads.
Access Roads (includes Low Volume roads)	These roads provide access and connectivity. Roads whose primary function is a street for people, public space, meeting, gathering as well as accessing property. These also provide access to the wider network.	All Council roads not categorised in the above hierarchies and servicing land use activities including cul-de-sacs.

Table 5.3.3 Road classification, length and % of network for Hastings District

Road Classification	Network Length (km)	% of Network Length
Arterial	47.96	2.25%
Primary Collector	161.98	7.59%
Secondary Collector	448.15	21.00%
Access	472.43	22.14%
Low Volume	515.94	24.18%
TOTAL	1646.46	100%

Figure 5.3.4 Roading Hierarchy for Hastings urban areas

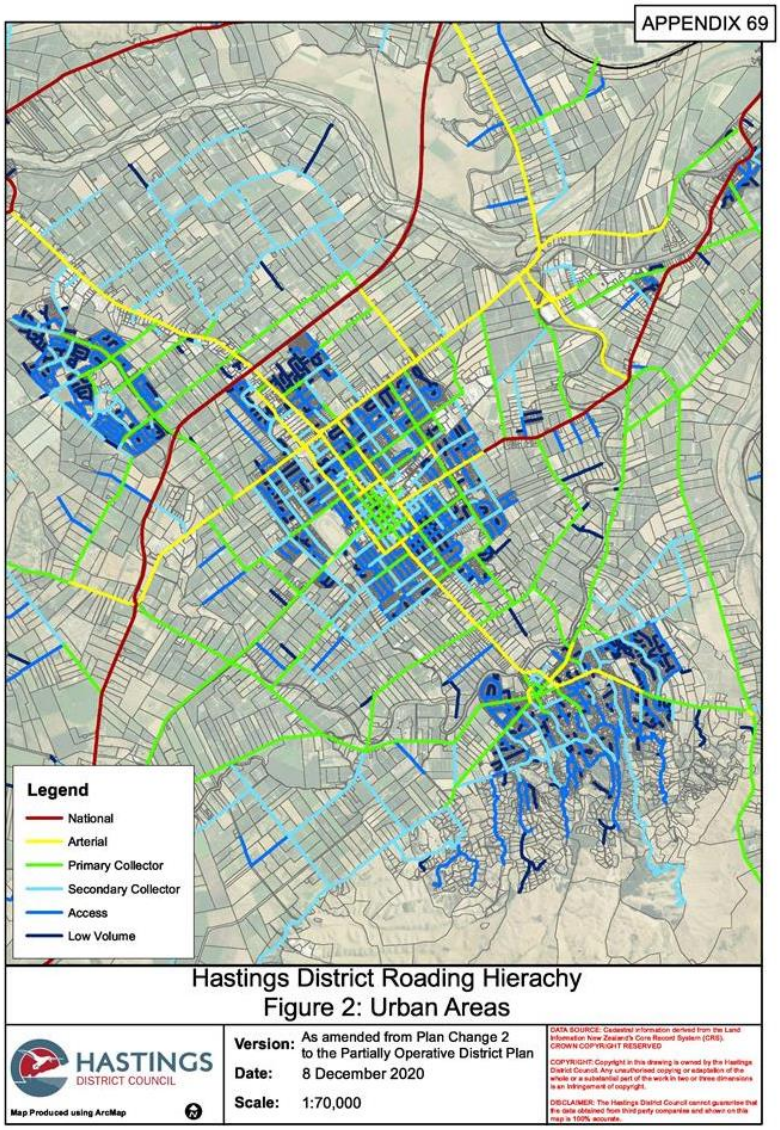
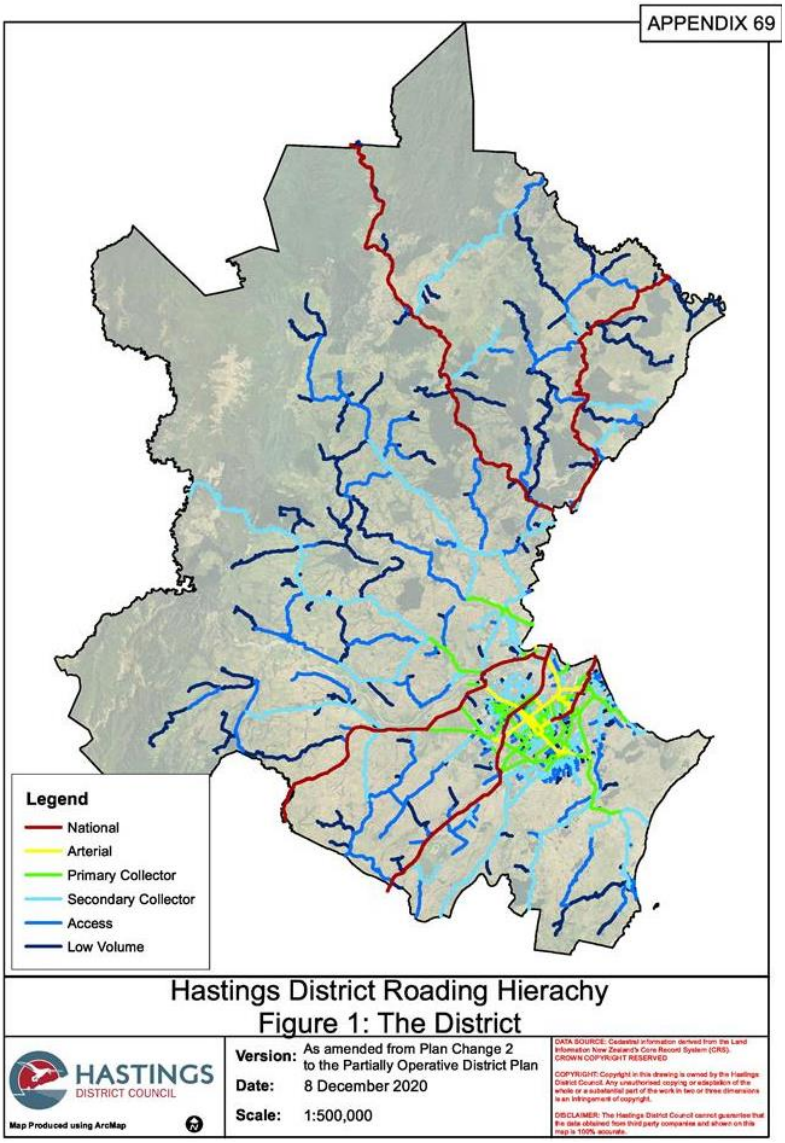


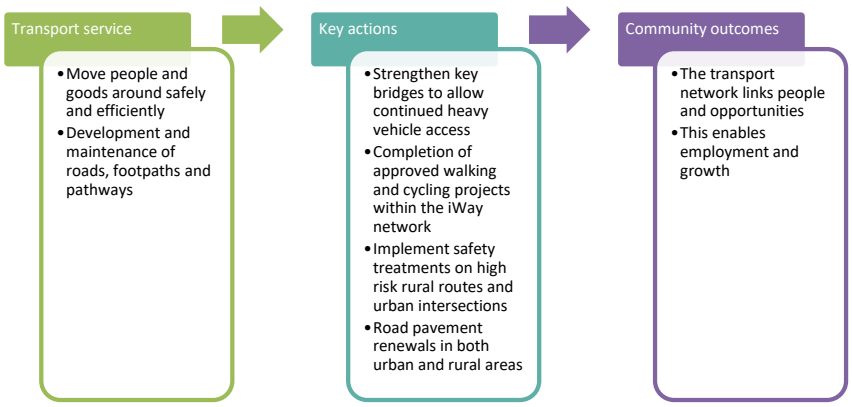
Figure 5.3.5 Roading Hierarchy for Hastings District



5.4. Long Term Plan

The Council's Long Term Plan states that council is responsible for ensuring that people and goods are "getting around" safely and efficiently by developing and maintaining roads. How this relates to community outcomes, as summarised in the figure below [56]:

Figure 5.4.1: Summary of the Key Actions and Outcomes for the LTP Transport Strategy



The Long Term Plan 2021-2031 has set performance targets in areas like road accessibility and transport choice. The draft development contribution policy (2022/2023) [57] has defined long term community outcomes for transport:

- Less than 5% of roads exceed national rough ride limits
- Less than 3% of roads with condition classified poor or worse
- Less than 1km of footpaths classified poor or worse
- All property will be accessible by vehicles meeting maximum as of right mass and dimensions, except by special agreement

5.5. Heretaunga Plains Transportation Study [58]

The Heretaunga Plains Transportation Study is a joint project between Hawkes Bay Regional Council, Waka Kotahi, Hastings District Council and Napier City Council, with the aim to understand the most efficient ways for people and goods to be moved around the study area while enhancing the social and cultural fabric, and environmental condition of the area. This study was completed and integrated existing development strategies for Hastings and Napier in the Heretaunga Plains Urban Development Strategy. [59]

56 Long-Term-Plan-2021-2031

57 Annual Plan 2022-2023 Development Contributions Policy-2022-2023

58 Heretaunga Plains Transportation Study Report

59 Heretaunga Plains Urban Development Strategy incl Maps Aug 17

As part of this work, engagement with stakeholders via a questionnaire identified community opinions on a number of issues, including an urgent need to increase mode share for both public transport (e.g. buses) and active transport (e.g. cycling). Recommendations from the study included household and origin destinations to provide more detailed information on community movements as well as specific investigations of network areas or transport types to support further assessment and planning.

Due to the high inter-connectivity between Hastings and Napier, The HDC transport model uses the same base model from the HPTS to assess performance of the current system and future growth planning.

5.6. Current Service Level Performance Assessment

At this point no performance results appear to have been published. The targets set by the Department of Internal Affairs (DIA) are mandatory and are included in the Long-Term Plan 2021 - 2031. Targets are set about road safety, condition of the sealed road, conditions of footpaths within the local roads, maintenance of sealed road network as well as response time to service requests. The performance targets set by DIA have been achieved in 2020-2021 [60],[61]

All assets (sealed pavement, surface bridges etc.) are currently considered reliable to highly reliable but require continued maintenance. [62] The age and forecast performance of the roading network signals that escalation in pavement and related renewals investments are required to retain current levels of service. It is highlighted that performance in the future for at least one of the targets is uncertain (road maintenance). Potential funding issues are identified in the Long-Term Plan 2021-2031, the maintenance of the roads will require NZTA funding which at this point is potentially insufficient. [63]

Several different targets and measures are summarised in Table 5.6.1, including an assessment of the current performance of the network against these measures.

Table 5.6.1: Performance Measures and Targets

	2021-2021 and LTP year 4-10 (2025-2031) target achieved
	2021-2021 target achieved and LTP year 4-10 (2025-2031) will likely be achieved
	2021-2021 target achieved and LTP year 4-10 (2025-2031) requires interventions to be met
	Information insufficient

60 Long-Term-Plan-2021-2031

61 2020-2021-Annual-Report

62 Infrastructure strategy part of the long term plan 2021-2031

63 Long-Term-Plan-2021-2031

Performance measure	Baseline	2021-2022 target	2021-2022 result	LTP year 4-10 (2025-2031) target
DIA Non-Financial Performance Measures				
Road Safety - reduction in number of fatalities and serious injury crashes	39	Reduction	Achieved (36)	24
Condition of the sealed road - The average quality of ride on a sealed local road network, measured by smooth travel exposure.	91%	>90% smooth travel	Achieved (93%)	>90%
Maintenance of a sealed local road network - The percentage of the sealed local road network that is resurfaced.	3.23%	>5.5%	Achieved (6.5%)	>8.0%
Condition of footpaths within the local road network - as set out by the territorials relevant documents	1.93%[64]	<1.5%	Achieved (0.33%, 2020 survey)	<1.5%
Response to Service Requests - Response within the time set in the Long Term Plan (28 days)	94.7%	>95%	Achieved (99%)	>95%
Additional Targets set in LTP 2021- 2031				
% of network inaccessible to Class 1 and 50 Max vehicles	11.18%	3.21%		0.4
% of network available to HPMV vehicles	17.5%	22.9%		30.9
Journeys affected due to unplanned road closures not more than 500,000 per annum	tbd	<500,000		<500,000
10% annual increase in walking and cycling trips	5,500	>6,000		>15,000
7% annual increase in walking and cycling mode share	11%	>12%		>20%
Greenhouse gas emissions from transport [(65)]	313,500 tonnes CO2 eqv	<295,800		<204.000
DRAFT 2022/2023 Development Contribution Policy				
< 5% of roads exceed national rough ride limits				
< 3% of roads with condition classified poor or worse				
< 1km of footpaths classified poor or worse				
All property will be accessible by vehicles meeting maximum as of right mass and dimensions, except by special agreement				

5.7. Overview - Census Data

According to the Long Term Plan 2021-2031 the population in the Hastings District is aging which will change the way the population uses the transport options.

[64] of footpaths classified poor or worse as measured by Council's condition rating system

[65] Note: This measure is not under direct Council control but acknowledges Councils contribution to this overall goal

The census data of 2001 till 2018 of people travelling to work (people working from home or not working on census day are excluded) indicate a high reliance of private and commercial vehicles (80 - 85%). The public bus was only used by 1% of commuters and 6 - 10% of commuters used another mode of sustainable transport (bicycle, walk or jog). Note that this data is prior to the Covid-19-pandemic and associated societal changes which is likely to have increased the proportion of people who work from home on a regular basis.

Based on historic census data for work related commuting, the relative fraction of sustainable transport use (public transport, bicycling, walking, or jogging) has not increased in the period of 2001 till 2018 and bicycling appears to have been reduced (5% to 2%). This does not necessarily mean the use of private, or company vehicles is overrepresented during other transport occasions as well (e.g. shopping, school drop offs). However, sustainable transport appears not to be an appealing mode of transport for work commute. To meet the additional long term targets set, public transport and other sustainable transport modes should be promoted.

5.8. Road Safety

Hastings road safety record, unfortunately, performs poorly against the national averages. Investments have been escalated forward perform a "safer system approach" using the Safer Journeys Strategy, which evaluated the entire transport system. The aim is to deliver greater levels of safety on the HDC roads. [66]

The Hastings District Council 2020 Road Safety Strategy, describes how road safety should be managed on Council maintained roads within Hastings District. It sets out the priorities and key focus areas from 2020 onwards and outlines the current safety statistics. The Councils Road Safety objective is a 40% reduction in fatal and serious injuries (to 24 per year by 2030). In 2020, Hastings District Council has worked with NZTA, through the safe network pipeline tool, to determine road safety concerns as well as to develop a 10 year safety improvement program. The first 3 years of this programme have been endorsed by NZTA. The long term plan indicated there is a potential funding short fall for general maintenance of the roads, this could negatively impact the safety of the Hastings network.

The Council want to create safe multifunctional urban centres, ensure accessibility of a range of transport options and ensure safe walking and cycling facilities. In the whole district there have been 17 fatal and 152 serious injury crashes over a period of 5 years (2014-2019) that resulted in 18 fatalities and 177 serious injuries. The associated costs of crashed in the district is estimated to be $36.6M per annum of which 90% is attributed to fatal and serious injury crashes.

Roughly half of the crashes in the district occur on urban road [67] (51% of all crashes) with intersections playing a relatively large role in crashes in urban areas (54% of crashes in urban areas). Vulnerable road users are involved in 34% of the fatal or serious injury crashes (cyclist 9% of fatal or serious injury crashes, pedestrians 8% of fatal or serious injury crashes, motorcyclists 17% of fatal or serious injury crashes) in the period of 2014-2019. The IWay initiative has and is proposed to make improvements in road safety for cyclists, focussing on connectivity and intersections. More recent data might show an improving trend.

66 Infrastructure strategy part of the long term plan 2021-2031

67 70km/hr or less posted speed limit

On the Hastings Roads (urban and rural combined) fatigue and overtaking are a relatively high contributor (Table 5.8.1, below) to the fatal and serious injury crashes (relatively twice compared to the peer-group). Fatigue crashes might increase with increasing industries and/or primary production as truck drivers are known to travel large distances, it is unlikely to increase with increased housing density. A growing population might result in a higher rate of overtaking crashes with more people participating in traffic. Different driving speeds, ability and higher levels of congestion could lead to frustration and higher risk taking behaviour.

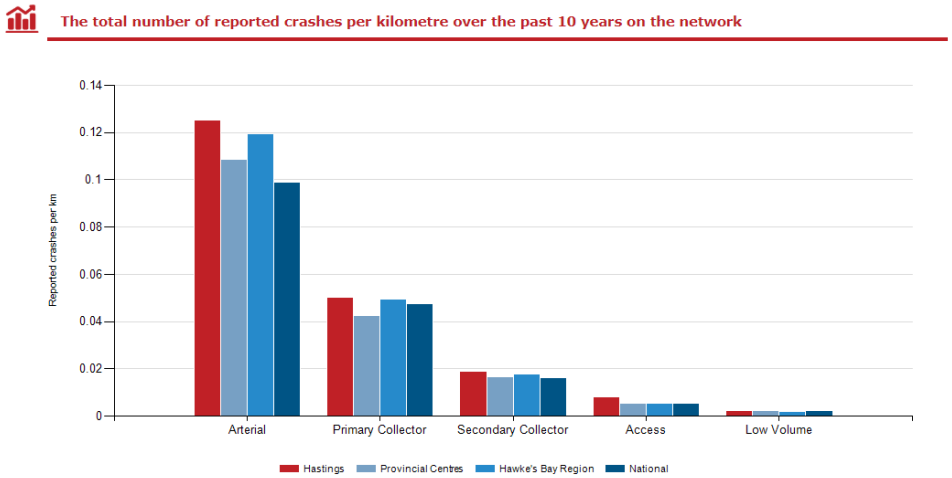
Table 5.8.1 HDC DSI Crash Comparison by Crash Type and Factor

Crash Type/Factor	HDC	All NZ (non-SH)	Peer Group	Ratio peer group
Run-off Road	48%	34%	65%	
Intersection	31%	35%	28%	1.1
Head-on	9%	8%	15%	
Rear-End	2%	3%	3%	
Alcohol*	30%	25%	27%	1.1
Overtaking	4%	1%	2%	2
Fatigue	6%	4%	3%	2
Dark/Twilight	34%	34%	32%	1.1
Wet	16%	19%	19%	

*NZTA is advising at this stage that crash data involving alcohol should be used with caution

Collective risk, also known as crash density, is a measure of the total number of serious injuries and fatalities (DSI) per km over a section of road. Figure 5.8.2, below, shows the collective risk for Hastings and Hawke's Bay against other provincial centres and national rates.

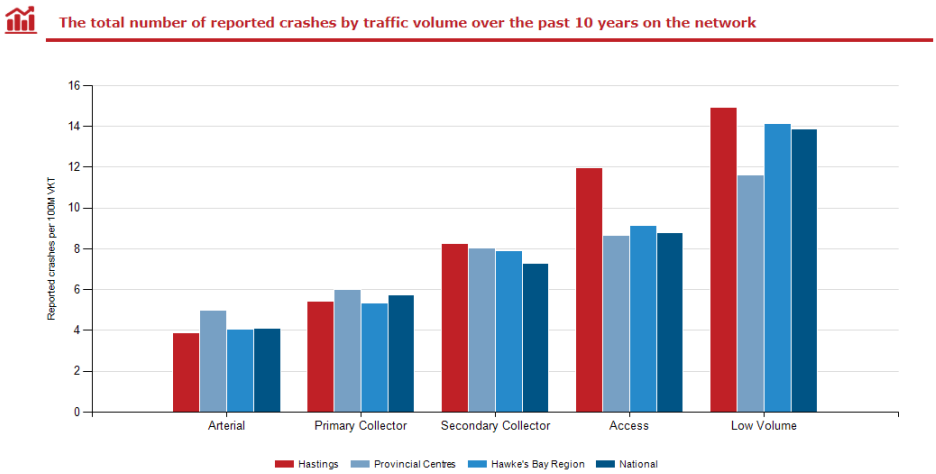
Figure 5.8.2 Collective risk comparison



Personal risk is a measure of the danger to each individual using the roads. It shows the likelihood on average of being involved in a fatal or serious crash. Low volume and access roads in the district have a high personal risk profile compared to national average and peer group.

Figure 5.8.3 below shows the personal risk for Hastings and Hawke's Bay against other provincial centres and national rates.

Figure 5.8.3 – Personal risk comparison



The following urban routes were identified as a concern:

- Te Mata Road - Havelock North - high collective risk
- St Aubyn Street - Hastings - high collective risk
- Karamū Road - Hastings - medium high collective risk
- Heretaunga Street - Hastings - medium high collective risk

The following urban intersections were identified as a concern:

- Karamū Road North / Grove Road - medium high collective risk
- Hastings Street North / St Aubyn Street East - medium collective risk
- Maraekakaho Road / York Road - medium collective risk
- Southland Road / Eastbourne Street West - medium collective risk

Figure 5.8.4, below, shows the identified high-risk corridors in red, and high risk curves in yellow, across the Hastings District [68]

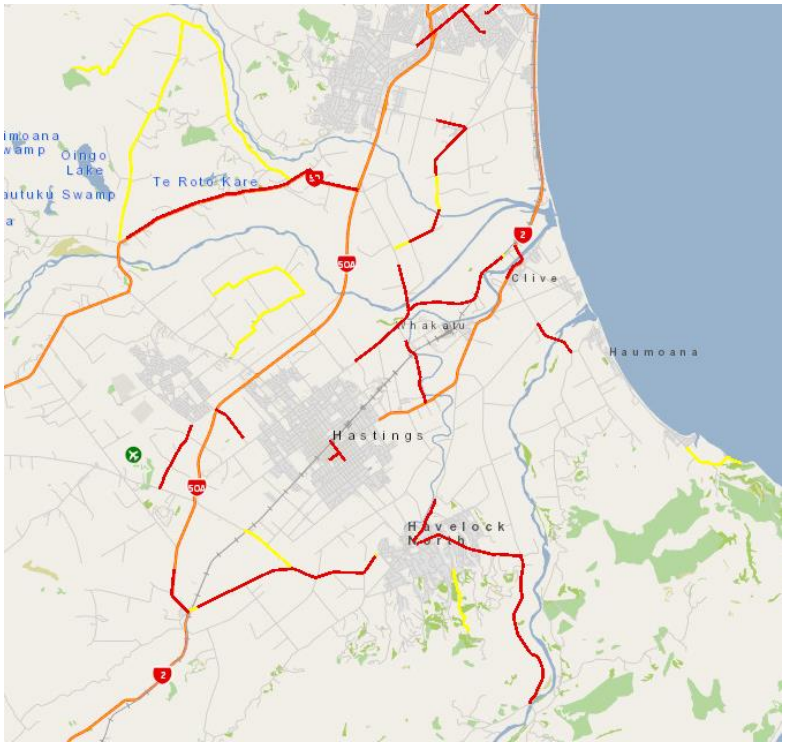


Figure 5.8.4 High risk corridors in Hastings District

St Aubyn Street and Karamū Road are identified in the traffic model, and noted during field observations as being congested. At this stage it is unclear if this contributes to the crashes.

For some areas (e.g. Te Mata Road) safety measures were implemented and future crash information will determine if this was sufficient. For the other routes and intersections, a treatment philosophy was formulated to address the concerns in the future.

In addition to high risk corridors and intersections the Hastings District Council 2020 Road Safety Strategy has identified some other areas that require investment in the urban areas:

- Investment in pedestrian safety and access in the urban area through new and improved facilities
- Cycle safety around intersections
- Implementation of a district wide speed limit review (In line with the Speed Management Guide)
- Network-wide delineation review and improvements
- Traffic calming to ensure speeds on local roads are safe and appropriate for road users and the community.

[68] Hastings District Council, 2020, Road Safety Strategy

Future data will indicate if the implemented measures have been successful.

5.9. Parking

The current Long Term Plan includes increased parking opportunities in Hastings and Havelock North, noting that when sustainable transport is established the locations can be used for other purposes.

Parking sensor technology is proposed to be implemented in the Hastings Central Business District, this technology could be used to present available parks to end-users via a mobile application which could reduce the time drivers spend finding a carpark, subsequently reducing emissions (including CO_2), improving air quality. Another benefit of reducing distance travelled to find a carpark, in particular during peak traffic hours, is reducing traffic-flow. This technology would also provide HDC with yield data on use of parking spaces (including by area and time), occupancy duration and turnover etc. which would be useful to assess performance of the current system and future growth planning.

Because of the predicted housing intensification additional on-street and inbuild carparks are likely to be in higher demand. Changes to the National Policy Statement - Urban Development (2020) that are already in effect, mean that district plans no longer require developments (residential, commercial) to provide for parking areas (except for accessible parking).

5.10. Sustainable Transport

The long-term plan [69] has prioritised "getting around" to connect people with each other and places. One of the main focusses is to develop sustainable transport alternatives in the long term, promoting walkability in new subdivisions (more below). There has been significant investment in sustainable transport infrastructure in the last 11 years via the iWay initiative.

5.11. Walking and Bicycling

Hastings District Council envisaged to become New Zealand's first "Model Community" – an initiative designed to demonstrate that carefully planned, sustained investment in walking and cycling can have a positive impact on a community. Hastings was awarded $4m of central government funding (NZTA) and with a local contribution of $2.4m more than 100km of new pathways were constructed, including four key "arterial" routes that link the communities of Flaxmere, Hastings, Havelock North and Clive. After this initial step further funding has been awarded and Napier City Council joined the project [70].

This current long-term plan also contains some on-going funding to address network gaps and safety priorities, details are not available at this point. Some projects promoting sustainable transport sit within the iWay Network and should be completed in the next 10 years. Projects include closing gaps, improving intersection connectivity, targeting short journeys to schools and for work. Renewal of pavement is budgeted for which provides an opportunity to make paths more appealing to walk on. A walking and cycling network development strategy is part of the work-program ensuring future prioritisation of sustainable transport.

A 10% annual increase in walking and biking trips and a 7% annual increase in walking and cycling mode share are included as performance measure in the long-term plan, equating to >12-14% journeys walking or cycling in LTP years 1-3, and >20% of trips in LTP years 4 - 10. Greenhouse gas emissions from transport are aimed to be reduced from 315,500 to less than 204,000 tonnes CO_2 equivalent. Considering the growing population the greenhouse gas reduction might be harder to

69 Long-Term-Plan-2021-2031

70 https://www.iway.org.nz/about-iway/

achieve, when more people use automotive transport the proportion of sustainable transport trips (walking, cycling) from the existing population should increase as well to compensate.

The transport model (described) has been calculated on the assumption that there will be a significant increase in the use of bicycles in the next 28 years. This includes "peak traffic" hours in the morning and evening. By 2048, the highest increase in bicycle journeys of 67.4% (compared with 2020) is observed in the afternoon. To meet this demand additional well-designed infrastructure is likely required, especially based on the current use of cycling as a mode of transport in the city from the census data which shows a declining trend.

5.12. Public Transport

According to the census 2018 information only 1% of the work commuters used public transport. Traffic flow issues are observed and predicted (see section on transport model) and increasing public transport participation could reduce the future traffic flow. It should be noted that the census data is from 2018 and further efforts have been made to promote sustainable transport options and therefore potentially more work commuters use public transport.

Initiatives include the MyWayHB [71] transport option (which only commenced June 2022), which is an "on call" public transport system within Hastings, replacing specific bus routes. The "mini-bus" can be requested using a mobile application. Operation of this system can be challenging for people with limited access or experience with technology and the bookable nature might make "ad hoc" trips more challenging. In addition it is unclear how this system can handle increased capacity with tourism and how tourists will be informed about the specific way this public transport model is operating. Between 2018 and now the public transport system service delivery most likely has been changed. Most bus services appear to be available during peak work commuting times but are mostly limited to the central areas of the towns.

For parts of the community, public transport is an essential component of their actual mobility and Council will work with the Hawke's Bay Regional Council to investigate ways of encouraging greater levels of usage of public transport.

5.13. HDC Transport Model [72], [73]

HDC commissioned Stantec to create a basic traffic flow model for Hastings, mainly focussing on the Hastings urban area with some consideration to connecting routes. The limitations of this model are that:

- Traffic flow in and out of the study area does not always add up.
- There is a point in the model where queueing traffic builds up and blocks the rest of the model from functioning.
- The model does not always predict driver behaviour accurately in relation to observations of drivers at pinch point locations during peak traffic.
- The model assumes an uptake in active commuting that does not correlate with current census data and predictions.

71 MyWay | New Zealand (mywayhb.nz)

72 210629 Hastings DoMin Forecast Model Development Report

73 210629 Hastings DoMin Forecast Model Development Report

5.14. Field Observations Regarding Current Performance

Based on model projections several locations in the network that would be under pressure in the future, field observations were made to validate the model and evaluate the current status of the network flow. At present, congestion is not considered to be a significant issue in the network [74], however, observations during the validation of the model indicate pinch points where congestion is observed. Observations were made at the St Aubyn Street / Karamū Road Stoneycroft Street / Omahu Road and Railway Road / Southampton Street Intersection. All intersections showed queuing during peak times. Risk taking behaviours due to traffic flow issues at the Stoneycroft Street/Omahu Road Intersection were also observed.

5.15. Modelling of Travel Flows

The model incorporated a projected increase in traffic of 11.6-12.2% in 2028 compared with the 2020 base year, depending on the time of day and vehicle type. This increased to 29.7 - 34.5% by 2048. The growth expectation for 2038 was assumed to be linear between 2028 and 2048, namely 20.9 - 23.3%.

The model works using an assumption that there will be a significant increase in walking and cycling resulting in a projected increase in bicycle journeys by 2048 of 23 - 25% (from 2020) and of 42 - 67% by 2048 (from 2020). It should be noted that this increase is not consistent with the current trend of cycling in the current census data.

The model has been further updated with speed limit changes, the Thompson Road Connection and other committed projects.

5.16. Projections for 2028

The 2028 model projections indicate that no significant upgrades are required to maintain an acceptable level of travel flow. However, the Stantec report on the model does not appear to define what an acceptable level of travel flow is.

5.17. Projections for 2038

It was predicted that between 2020 and 2038 the average travel time increased by 14% with 5 intersections being classified as congested. When the model is adjusted with speed limit changes and some other committed projects travel time increased only up to 8% during peak periods (<1 minute). The highest increase in corridor travel time appears to be most pronounced in the afternoon peak.

Average queue lengths show there are areas of the network under pressure in the future for both the AM and PM peak periods. Congestion on key arterial roads is expected but with the forecasted growth is expected to be tolerable. The stress in most areas is mostly due to flow increases in the central Havelock North, Hastings CBD and Frimley area.

Congested / Delayed intersections are:

1. Raupare Road / Omahu Road
2. Flaxmere Ave / Wilson Road
3. St Aubyn Street / Karamū Road
4. Railway Road / Southampton Street
5. Karanema Drive / Napier Road

74 Infrastructure strategy part of the long term plan 2021-2031

Some minor adjustments at Raupare Road / Omahu Road intersection (upgrade to a signal), St Aubyn Street / Karamū Road intersection (adjust timing) and Karanema Drive / Napier Road intersection (upgrade to a signal) would improve traffic flow. The implementation of these improvements does not completely get rid of congestion but does reduce it.

Higher than average queuing is expected in these areas as well with queuing observed on the following streets:

- Omahu Road (between SH 2 and Pakowhai Road intersections)
- St Aubyn Street (between Tōmoana Road and Hastings Street intersections)
- Karamū Road (between Eastbourne Street and Frederick Street intersections)
- Roads within the Hastings CBD in general (such as Southampton Street, Lyndon Road and Eastbourne Street, as well as St Aubyn Street and Karamū Rad mentioned above)
- Karanema Drive / Napier Road
- Pakowhai Road (between Frimley Road and Orchard Road intersections)

5.18. Further Projections (2048)

The significant projected high travel demand conditions of the network by 2048 resulted in heavy congestion and areas of the modelled network to be blocked. This resulted in unreliable predictions for this respective year.

5.19. New Developments and Growth

The increased demand for infrastructure is mostly determined by the population growth and industrial growth. The Council's growth nodes are well defined along with the infrastructural investments required to service those new development areas and future growth planning should revisit these to ensure new development is adequately accounting for increased demand on the infrastructure in these areas, including promotion and facilitation of more sustainable transport methods. The transport study identified a number of key areas of new infrastructure development to accommodate the projected growth [75].

5.20. Key Developments and Upgrades

In the workplan key routes are identified as being a priority to upgrade, this includes the Karamū Rd corridor, Omahu Road Corridor, St Aubyn and Pakowhai corridors. The North Eastern Connector and other projects associated with Irongate Industrial area, Havelock Road Development (potential 2 lanes) are on a longer-term programs. Most of the roads were built in the 1950's with a high level of road renewal being expected in the next 10 years.

5.21. Development Guides

Developments with inappropriate consideration for transport can have a significant impact on access, connectivity, efficiency and road safety. The Council has developed, besides regulations, several guides to help developers understand and contribute to the council's objectives regarding transport. The most influence at this stage, will most likely be the subdivision and infrastructure design Guide [76]

By providing guidance on the ambitions as well as expectations, the Council can influence and inspire designers to design subdivisions that deliver high quality places for people to live. Hastings District Council vision is to create connected and resilient neighbourhoods where transport choice is maximised reducing the reliance of residents on private vehicles for short trips by infrastructure design

75 Infrastructure strategy part of the long term plan 2021-2031

76 Subdivision and Infrastructure Development in Hastings District 2009

and public transport options. The Hastings urban area has a short travel-time from one side to the other (10 mins), so reducing reliance on vehicles for these trips would have immediate benefit to environmental and air quality impacts in the urban area, and the shared use and safety of the space.

The open grid pattern of central Hastings has resulted in a large number of suburban (Access) roads becoming used as de facto traffic bypasses, and as Collector or Arterial routes. This generates unnecessary and undesirable levels of traffic on Access roads and has safety and environmental consequences for the community, particularly in terms of noise, vibration and impact on the amenity of residential areas.

However, the development guide promotes the increase of (grid structured) streets that increases the choice of transport by reducing the journeys distance would increase community interactions and increase the safety, vibrancy and success of commercial/mixed use developments. Based on observations, these streets should be made less desirable to drive through by traffic calming measures to achieve these outcomes.

6. Parks and Open Spaces

6.1. Executive Summary

Open Space is the publicly owned land that is set aside primarily for recreation, nature conservation, passive outdoor enjoyment, and public gatherings. They are vital for the social, cultural, environmental and economic wellbeing of the community and improve our quality of life, enhance the natural environment, act as ecological corridors and habitats for wildlife as well as providing for active and passive recreation (places to play), and relief from the built environment.

There are a range of Acts that set out the core regulatory functions, and management responsibilities for councils. The Reserves Act 1977 requires councils to prepare reserve management plans and the Long Term Plan outlines the activities and services Council is planning to undertake that contribute to our stated community outcomes including the likely costs of Council providing those services and activities over the next 10 years.

The District Plan defines open space categories and describes their purpose and includes a range of objectives and policies to ensure that there is sufficient open space to meet the present and likely future recreational, conservation and visual amenity needs of the District and to give effect to Council's Reserve Strategy. Where housing density increases, it is likely that there will be a correlating reduction in the provision/availability of private open space and greater need and demand for public open space.

In terms of growth, the vision for the Hastings District has been informed by HPUDS 2017 and the Medium Density Housing Strategy to articulate how Council will ensure an appropriate level of urban amenity through the inclusion of reserve areas and public open spaces. This vision states:

> *'The needs of the community for open space and recreation opportunities are met through the provision of a variety of open space, which includes high quality gardens and active recreation uses; coastal and river access and protection; and local neighbourhood and amenity areas'.*

An assessment of performance against the current levels of service shows that at a district wide level, the target of **8.7ha/1000 residents** is largely being met however the Hastings Urban area (3.94ha/1000 residents), Flaxmere (5.82ha/1000 people) and urban areas overall (6.32ha/1000 people) are significantly below the target. When broken into reserve categories Hastings City has a low reserve distribution for community, natural and community parks spaces. It should be noted that while the park categories assist in defining the mix of activities and functions, they are seldom discrete and can overlap. In many cases, parks could fulfil a range of functions that cross over a number of the categories.

The 'ha/1000' level of service provides guidance to Council on the existing provision of public open space however there are a number of limitations in this approach. It is a somewhat crude measure that does not take into account distribution, function, quality and usability of areas of public open space. It would be recommended that this is developed further into ha/1000 per category of reserve space to assist in a more cohesive parks assessment to support the future growth strategy.

An alternative catchment based approach considers a 500m 'walking circle' around 'local useable' reserve and playgrounds, i.e. every resident should have a good level of 'local' reserve and open space provision within 500m walking distance of their residence. Analysis of the number of dwellings within 500m of a Local Area Park or playground shows that Flaxmere is well serviced for both playground and local area park targets while Hastings, Havelock North and the Urban Total fail to meet the 500m LTP target for local area parks or playgrounds.

As these urban areas will be under increasing demand from growth, the strategy will need to address improving both the current service level to the targeted aims and those required for intensification.

Parks are critical to housing intensification and city growth to maintain positive community outcomes. Park features such as community facilities (bbqs, picnic areas) will be in higher demand in urban intensification areas and a more cohesive assessment is needed to ensure parks and reserves are fit for purpose for our existing and future growth community. At a high level, the current service level for urban areas is not being met and if these areas are to be intensified these facilities will need to be at a higher level than the current urban needs.

6.2. Statement on Parks and Open Spaces LoS

Open Space is the publicly owned land that is set aside primarily for recreation, nature conservation, passive outdoor enjoyment, and public gatherings. Throughout this document both 'parks and reserves' and 'open space' refer to general public open space covered within the Hastings parks and reserves strategy and policies.

The Hastings District Plan sets out policies for the provision of easily accessible public open spaces and recreational facilities stating that they are vital for the social, cultural, environmental and economic wellbeing of the community. Their availability is key to:

- improve quality of life is achieved for all members of the community.
- enhancement and protection of the natural environment, and provision of ecological corridors and habitats for wildlife.
- enhance the character and amenity of the District.
- provide places for active and passive recreation.
- provide open space within urban areas and provide relief from the built environment.
- provide spaces for children's play and development.

The Reserves Strategy [77] (Draft, non-statutory) provides further detail on these benefits of open space to the Hastings district, summarised in Figure 6.2.1, below.

Figure 6.2.1 Benefits from Public Open Spaces to the Community



The District Plan and this report refer to parks, reserves and open spaces that are owned, managed or controlled by the Hastings District Council, in addition to recreation spaces and community facilities in

77 Reserves Strategy End November 2019

public ownership of the Hawke's Bay Regional Council and land managed by the Department of Conservation. There are private ownership recreation spaces in the region (e.g., Te Mata Peak) that are considered separately. Other land such as school playing fields may also provide open space values and public recreation access, but access to and provision of these areas is not guaranteed, therefore these areas are not included in reserve provision calculations.

A number of these parks, reserves and open spaces have also been vested or gazetted under the Reserves Act 1977, which will specify an additional classification, and require that reserve to be managed in accordance with the provision of the Act relating to that classification.

6.3. Relevant Policies (National)

A key function of the Local Government Act 2002 is to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for the community. The Reserves Act, the Local Government Act (LGA) and Resource Management Act (RMA) set out the core regulatory functions of local authorities and apply to all aspects of reserve land management - from financial planning and funding of assets and services, to governing land use and planning matters. The LGA enables and directs administrative processes generally, while the Reserves Act provides specific powers for the administration of reserves. The relevant statutory provisions under which decisions will be made about the reserve will most likely be found in the Reserves Act.

The Long Term Plan (LTP) is Council's method for outlining the activities and services it is planning to provide over the coming 10 years. It states the vision for the District, the Community Outcomes, the service and activities Council is planning to undertake to contribute to those Outcomes, and the likely costs of Council providing those services and activities over the next 10 years. Community outcomes are the outcomes Council aims to achieve in meeting the current and future needs of the Hastings District community for good quality local infrastructure, local public services and performance of regulatory functions.

The majority of parks and reserves in the District are managed under the Reserves Act 1977, which requires Reserve Management Plans to be prepared for all parks held under this Act. Council has prepared a District Wide Reserve Management Plan adopted in 2008 which meets this legislative requirement. The Resource Management Act 1991 applies to all public open space areas in the District, which are managed within the provisions of the Hastings District Plan. This includes provision for subdivision which often result in the creation of esplanade reserves that contribute to Council's open space network.

6.4. District Wide Reserve Management Plan

The Reserves Act envisages that a Reserve Management Plan will be prepared for each reserve within the District. With over 160 reserves within the Hastings District, this would be a costly and time consuming process, with a duplication of information as a result of the majority of reserves sharing common management issues. There are also a large number of areas of open space and land, referred to in the District as reserve, which do not hold formal reserve status. If not held under the Reserves Act, management plans are not required to be prepared for them.

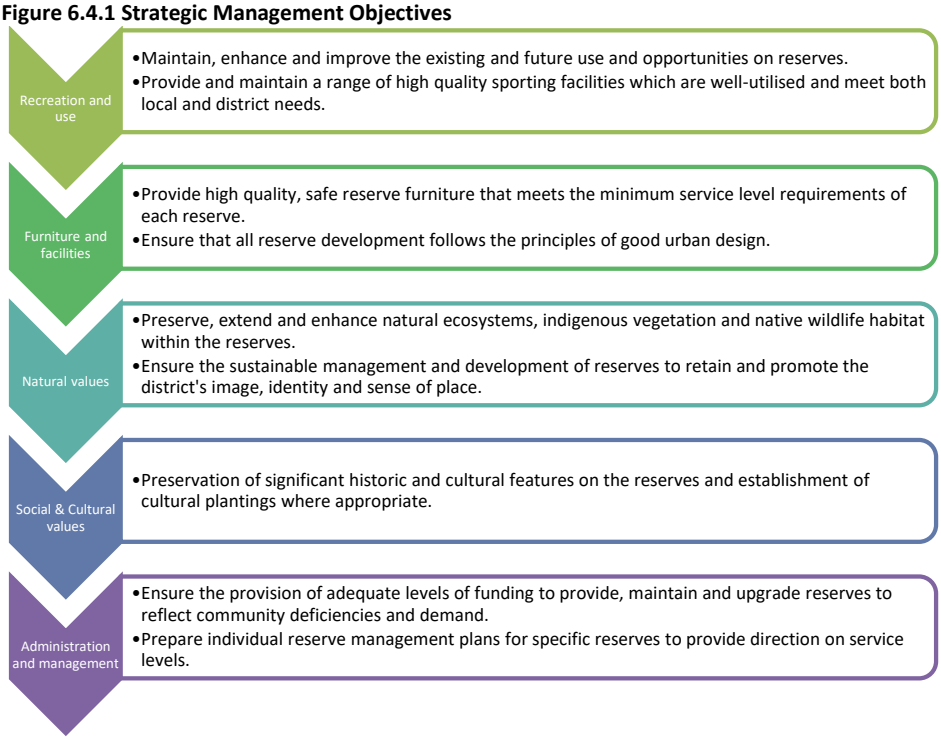
However, HDC considers that guidance on the maintenance and future development of all reserves, regardless of their status, is imperative to ensure consistency in reserve planning across the District. HDC has therefore prepared a 'District Wide Reserve Management Plan [78] to provide objectives and policies which apply to all reserves and open spaces throughout the Hastings District, including those not vested or classified as reserves under the Reserves Act. This will ensure consistency, transparency and enable

[78] District Wide Reserve Management Plan

greater community awareness of Council's intentions for all reserves throughout the District. Individual Reserve Management Plans can then be prepared for specific reserves, where needed, for those where unique issues or opportunities require more detailed specific information.

The strategic management objectives of the DWRMP are shown in the figure below.

Figure 6.4.1 Strategic Management Objectives



6.5. District Plan

The Open Space Zone of the District Plan is divided into 8 open space categories that reflect the characteristics and functions of the open spaces. The Open Space categories recognise the effects activities may have upon the surrounding environment and are categorised in line with guidance from the New Zealand Recreation Association (in consultation with the New Zealand parks sector). These are outlined in Table 6.4.2, below.

Table 6.4.2 Summary of Open Space Categories and their Purpose

Open Space Category	Purpose
OS 1 (Sport and Recreation) Area	Provides larger areas of open space which cater for organised sports and active recreation i.e. sports grounds, tennis courts, netball courts and bowling greens as well as a range of community activities. Although the Zone is designed to provide primarily for outdoor recreation and associated buildings such as clubhouses and other structures, it also permits indoor recreation and community facilities such as leisure centres and swimming pools
OS 2 (Community) Area	Provides for informal leisure social opportunities and may provide general amenities e.g. green space or picnic areas i.e. playgrounds, skate parks, walkways cycle paths and community buildings.
OS 3 (Public Gardens) Area	Provides for the display of high-quality horticultural collections and/or landscaping for relaxation and contemplation i.e. botanical and public gardens.
OS 4 (Open Space) Area	Provides for large outdoor areas; either maintained or natural. Maintained areas focus on the provision of space where a range of informal recreation activity can take place (e.g. picnicking, visiting beach, dog exercise, kicking a ball, flying a kite, etc.). Natural open spaces focus for the provision of opportunities to experience nature with visual amenity, physical landscape values, and/or address protection of biodiversity, conservation or restoration.
OS 5 (Cultural Heritage) Area	Provides for the protection, conservation and restoration of cultural and natural heritage features i.e. cemeteries, archaeological sites, historic monuments / buildings and heritage plantings.
OS 6 (Civic Space) Area	Provides for high quality well designed urban spaces suitable for a variety of community uses i.e. in town centres, urban seating areas, water features, community buildings and rural halls, memorials and art.
OS7 (Linkages: Urban or Ecological) Area	Provides for either the urban linkage: a maintained urban corridor for active transport connection and /or small green space e.g. open spaces set aside with walkways or cycleways and road verges/reserves within Hastings District Council's Parks management (typically linear or less than 0.3 hectare) or the ecological linkages that are minimally maintained that serve as biodiversity linkages and/or water margins e.g. Rural esplanades and stream corridors.
OS8 (HBRC and DoC) Area	Covers all land owned by Hawke's Bay Regional Council or the Department of Conservation and public open space. Note: Other sections of the District Plan contain provisions which relate to activities in the above Zones, (see Rules section below)

The District Plan has the following objectives and policies to achieve these outcomes, summarised in the table below.

Table 6.4.3 Summary of Objectives and Policies Relating to Open Spaces in the District Plan

References	Objectives and policies
OSEO1 (Objective)	To provide sufficient open space to meet the present and likely future recreational, conservation and visual amenity needs of the District.
OSEP1 (Policy)	To ensure reserves are vested upon urban subdivision, where appropriate, to serve the needs of residents in the area and to give effect to Council's Reserves Strategy. Explanation Reserve land contributions will be taken via the provisions of the subdivision section of this Plan, from subdividers and developers, to meet the adopted reserve targets. Financial contributions for reserve development will be taken under the Local Government Act. The Reserves Strategy identifies land to be acquired for reserves together with reserves and facilities requiring expansion as a result of increased population or demand. Structure plans for urban growth areas are also produced as part of the District Plan.
OSEO2 (Objective)	To ensure that open space is used and developed in a manner which is compatible with its function and character and to ensure any adverse effects on surrounding activities, particularly residential, are avoided or mitigated.

References	Objectives and policies
OSEP2 (Policy)	Manage the scale, size, design and location of buildings so as to avoid, remedy or mitigate any adverse effects on the amenity of surrounding areas and the function and character of the open space. Explanation The Council as landowner needs to ensure that buildings are designed and sited to complement the function and character of the reserve and minimise any nuisance to neighbouring properties.
OSEP3 (Policy)	Manage activities on open spaces to ensure that adverse effects of activities on the surrounding environment is minimal and/or temporary. Explanation Open spaces provide numerous benefits to communities, and are available for a range of recreational activities. There are however some activities that can generate noise, disturbance and traffic congestion and have the potential to be detrimental to the wellbeing of the surrounding community.

6.6. Long Term Plan

Parks and open spaces are described as strategic assets in the Long Term Plan [79] i.e. they are strategic assets where a decision affects the whole of the asset group, not just some of the asset group. The funding provision is outlined as a combination of:

- General rates and targeted rates which are generally set on a differential basis by location. Differentiating by location reflects the properties' relative location to urban based facilities and ability to use those facilities.
- Subsidies, Grants and Donations
- Minor revenue accrues periodically from donations.
- Development Contributions are applied to new developments to recognise increased capacity requirements.
- (Sports grounds only) Council policy is to recover some of the operational expenditure excluding depreciation and renewals from sportsground expenditure, having regard to the outcomes of affordable access and maximum patronage of sportsgrounds. Note: Capital expenditure relating to growth is funded separately.

In addition, there is some capacity for City Centre vibrancy and parks and public space improvements included in budget under the “Finishing Touches” package to support parks funding.

The level of service performance measure is defined as 'parks user satisfaction' at 95% for the Years 1 - 10. To address changes in population and land use a key response in the long term plan is upgrading and the extension of parks & reserves facilities.

The Council uses various methods to engage with the community ranging from community surveys, stakeholder groups, industry forums, the reserve management planning process and community planning processes for a number of communities within the district. This enables the Council to keep abreast of changing expectations. The key area where level of service expectations continues to grow is for parks and reserves– the Long Term Plan contains funding provision to meet the aspirations from the above planning processes.

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6.7. The Heretaunga Plains Urban Development Strategy 2010 (HPUDS)

The Heretaunga Plains Urban Development Strategy 2017 (HPUDS) [80] was jointly created by Hastings District Council (HDC), Napier City Council (NCC) and Hawke's Bay Regional Council (HBRC) to allow for a collaborative approach to managing growth on the Heretaunga Plains while recognising the value of water and soil as resources for ongoing food production and as a major contributor to the regional economy. The preferred long-term approach to growth in the region strategy is compact development gradually restricted to urban development boundaries.

This strategy, planned to cover growth through to 2045, relies on Napier and Hastings having defined growth areas and urban limits, with a need to balance increased intensification and higher densities closer to the commercial nodes and higher amenity areas in the districts. Defined growth areas are a key element of the settlement pattern. They are more efficient and cost effective from an infrastructure and servicing point of view, and ensure land use and infrastructure can be co-ordinated, development well planned, and growth on the versatile land of the Heretaunga Plains avoided as much as possible. Significant levels of increased density and intensification will occur under the compact development scenario. There are issues relating to public acceptance of moving quickly to more-dense living environments and in some cases potentially higher costs of funding intensification of existing areas and for these reasons a slow transition from the current approach through to a full compact settlement scenario was adopted.

The 2016 review of the HPUDS 2010 (now HPUDS 2017), found that the updated projections showed a significant population increase over the 30-year period and an associated 30% increase in dwelling growth, largely as a result of adopting a medium to high projection scenario. The review confirmed this increase is generally still able to be accommodated within the HPUDS identified growth areas and the infill growth projections, albeit with the inclusion of some expansion of greenfield growth options and the inclusion of reserve areas to accommodate immediate greenfields supply issues.

To facilitate appropriate intensification, the Medium Density Housing Strategy provides and articulates a comprehensive and coherent strategy for the development of Medium Density Housing within the existing urban areas to meet the intensification targets of HPUDS.

The provision of sufficient and quality open space (both private and public) is a key requirement of ensuring an appropriate level of urban amenity. Insufficient provision or access to open spaces can lead to both negative perceptions of an area and poor amenity values.

Where housing density increases, it is likely that there will be a correlating reduction in the provision/availability of private open space and greater need and demand for public open space. Residential Intensification can have a number of implications including:

- Increased pressure on existing public open spaces and their facilities and range of facilities/uses.
- Demand for a greater quantity of public open spaces which can be difficult to provide in fully developed urban centres if only utilising existing open space land.
- Demand for improved quality of public open spaces and their facilities
- The provision of good quality and quantity public open space is necessary to ensure the achievement of appropriate levels of amenity and positive community and development outcomes.
- With regards to the provision of public open space, the vision for Hastings District is that:

  'The needs of the community for open space and recreation opportunities are met through the provision of a variety of open space, which includes high quality gardens and active

80 Heretaunga Plains Urban Development Strategy 2017

recreation uses; coastal and river access and protection; and local neighbourhood and amenity areas'.

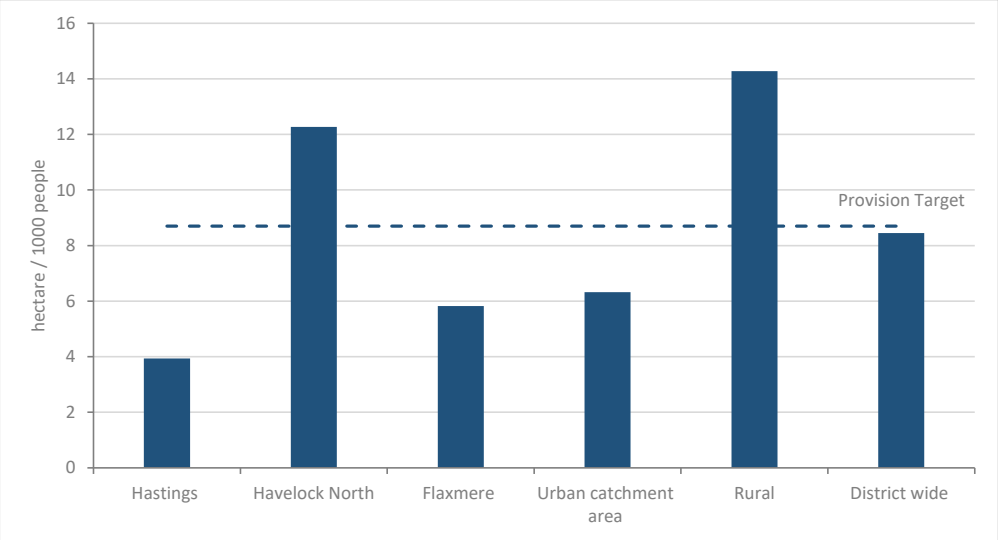
To provide the amenity, healthy living opportunities and green open space needed to encourage and support higher density living in the urban centres, including:

- Provision of open space in higher density areas as relief from and contrast with built form and hard surfacing
- Adequate space for large trees, amenity planting, children's play and exercise opportunities
- To compensate for loss of private garden space for recreation activities as urban infill progresses and residential density objectives promote higher residential density.
- To provide open space nodes of sufficient size to fulfil neighbourhood recreation needs in greenfield and brownfield areas.

6.8. Overview of current provision – Service Level Based on Reserve Contribution (Area)

The Reserves Strategy [81] provides a recommended minimum District reserve provision target of **8.7ha/1000 residents.** The 184 reserves totalling 689 ha, equate to a 2018 [82] level of service provision of 8.45ha/1000 residents, while the Hastings Urban area includes a total of 41 reserves, with an area of 131 ha, equating to a level of service provision of 3.94ha/1000 residents (Figure 6.8.1 below), i.e only half of the reserve provision target. While the District-wide reserve provision is close to the target (8.45ha/1000 people) the Hastings Urban area, Flaxmere (5.82ha/1000 people) and urban areas overall (6.32ha/1000 people) are significantly below the target. This is a whole reserve area assessment. When broken into reserve categories Hastings City has a low reserve distribution for community, natural and community parks spaces.

Figure 6.8.1 Total Area (ha) of Open Spaces per 1000 People of Population



These figures are indicative only and actual reserve provision should be determined by local structure plans, other reserve provision in the area, and a check of other variables, i.e., types of reserve space

81 Reserves Strategy End November 2019

82 Assessment uses the 2018 census population data and latest reserve area data

available. It should be noted that while the park categories assist in defining the mix of activities and functions, they are seldom discrete and can overlap. In many cases, parks could fulfil a range of functions that cross over a number of the categories.

Figure 6.8.2 and 6.8.3, below shows the current distribution between reserve categories in Hastings Urban area and for the whole district, noticeably sports and recreation are a greater proportion for the urban area than district wide, with a significant decrease in the proportion of Open Space from the Hastings District to Urban area only. Table 6.8.4 overleaf shows the area per category and per population from the latest available data.

Figure 6.8.2: Hastings Urban Area Reserve Category Distribution

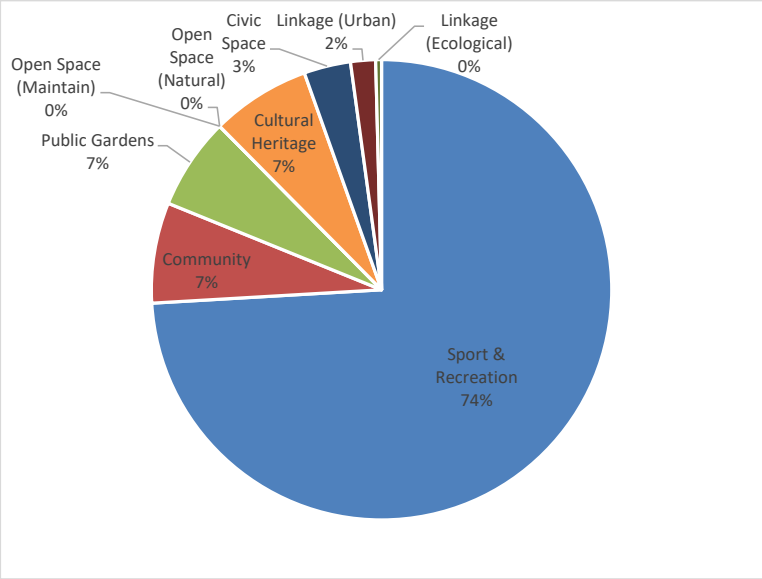


Figure 6.8.3: Hastings District-Wide Reserve Category Distribution

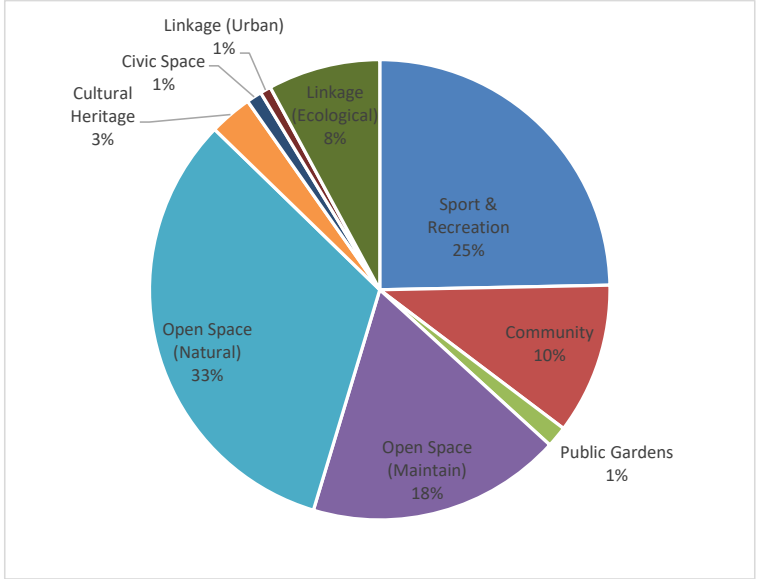


Table 6.8.4: Area (ha) per Reserve Category and per Population (red denotes where the target reserve area has not been met, green for where it is met)

Category	Hastings (popn 33,514)			Havelock North (popn 14,331)			Flaxmere (popn 10,965)			Urban catchment area (pop 58,800)		Rural (popn 22,749)			District wide (81,549)	
	No.	Area (ha)	Area (ha) /1000 people	No.	Area (ha)	Area (ha) /1000 people	No.	Area (ha)	Area (ha) /1000 people	Area	area ha/1000 people	No.	Area (ha)	Area (ha) /1000 people	Area	area ha/1000 people
Sport & Recreation	7	97.71	2.92	3	19.32	1.35	4	41.67	3.8	158.7	2.70	1	11.27	0.5	169.97	2.08
Community	10	9.31	0.28	10	10.09	0.7	13	13.27	1.21	32.67	0.56	15	40.41	1.78	73.08	0.90
Public Gardens	1	8.51	0.25	2	1.7	0.12	0	0	0	10.21	0.17	0	0	0	10.21	0.13
Open Space (Maintain)	0	0	0	3	4.52	0.32	3	6.22	0.57	10.74	0.18	15	112.4	4.94	123.14	1.51
Open Space (Natural)	0	0	0	7	126.6	8.83	0	0	0	126.6	2.15	12	98.02	4.31	224.62	2.75
Cultural Heritage	2	9.2	0.27	2	2.8	0.2	0	0	0	12	0.20	5	8.7	0.38	20.7	0.25
Civic Space	7	4.33	0.13	1	0.82	0.06	1	0.91	0.08	6.06	0.10	5	1.36	0.06	7.42	0.09
Linkage (Urban)	13	2.31	0.07	4	1.16	0.08	5	1.75	0.16	5.22	0.09	0	0	0	5.22	0.06
Linkage (Ecological)	1	0.54	0.02	2	1.07	0.07	0			1.61	0.03	30	52.73	2.32	54.34	0.67
Totals	41	131.91	3.94	34	175.82	12.27	26	63.83	5.82	371.56	6.32	83	324.88	14.28	688.7	8.45

6.9. Alternative Assessment of Current Provision

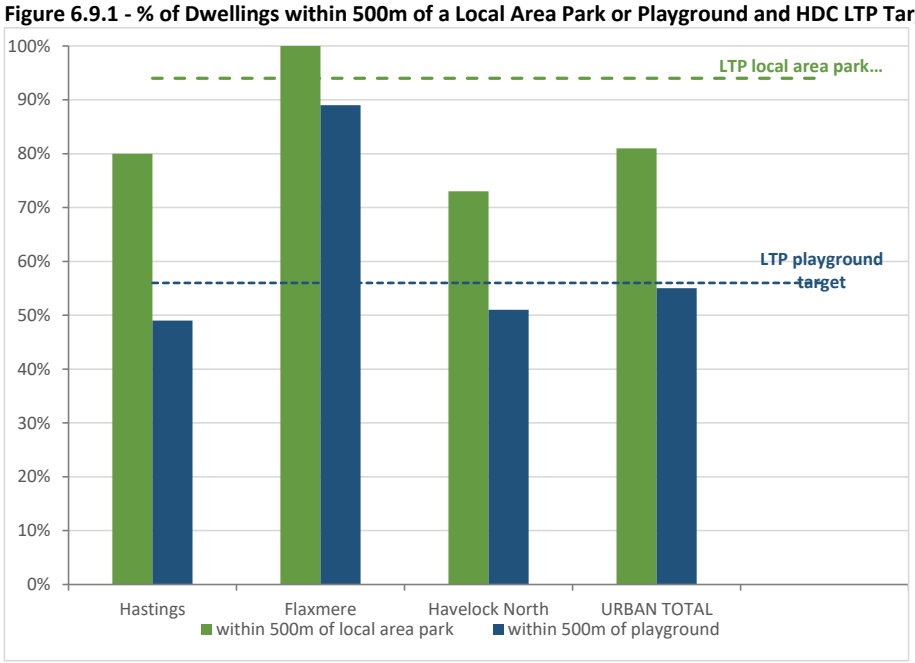
The 'ha/1000' level of service provides guidance to Council on the existing provision of public open space which can be extrapolated to identify future requirements to meet the needs of predicted population growth. This however has a number of limitations in that it is a crude measure that does not take into account distribution, function, quality and usability of areas of public open space. It would be recommended that this is developed further into ha/1000 per category of reserve space to assist in a more cohesive parks assessment to support the future growth strategy.

An alternative measure used by HDC is a catchment based approach which defines a 500m 'walking circle' around 'local useable' reserve and playgrounds, i.e. every resident should have a good level of 'local' reserve and open space provision within 500m walking distance of their residence.

The optimal size of a 'Local Area' park is based on the identified size of a Community Reserve. This size is considered adequate to provide open space for children to kick a ball, and for playground pieces to be located. Smaller sizes may be acceptable, dependent on their location, layout, topography and facilities. In order to provide the necessary amenity, healthy living and recreation opportunities, a 'Local Area' park must have adequate space for large trees, amenity planting, children's play and exercise opportunities, and have flat or undulating grass areas, suitable for small scale ball play. Local Area parks will typically include all open space areas classified as Community Parks, but may also include those with other classifications.

There is a generally accepted reserves planning objective that playgrounds also be provided within walking distance of all residential properties. For Hastings District, this has been defined as a distance of 500 metres. Playgrounds will generally be provided on Community Reserves. They may be located on other reserves where appropriate for the reserves usage and/or where the reserve is fulfilling a neighbourhood function.

Figure 6.9.1 - % of Dwellings within 500m of a Local Area Park or Playground and HDC LTP Targets



As shown by Figure 6.9.1 above and Figures 6.9.2 to 6.9.4 below, Flaxmere is well serviced for both playground and local area park targets while Hastings, Havelock North and the Urban total neither meet

the LTP target for local area park or playgrounds. As these urban areas will be under increasing demand from growth, the strategy will need to address improving both the current service level to the targeted aims and those required for intensification.

Figure 6.9.2 Hastings Dwellings within 500m of Local Area Park and Playground

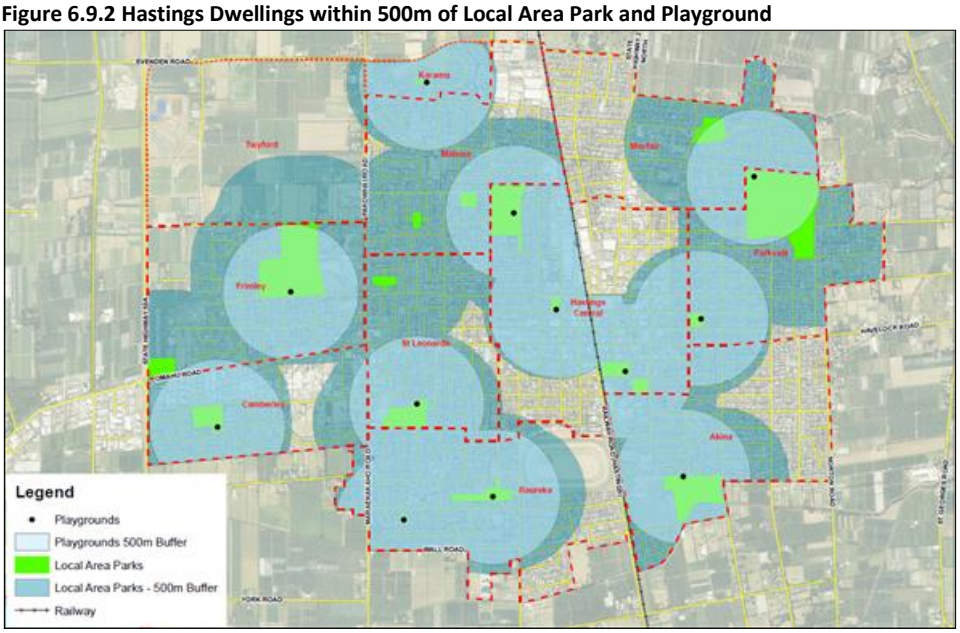


Figure 6.9.3 Havelock North Dwellings within 500m of Local Area Park and Playground

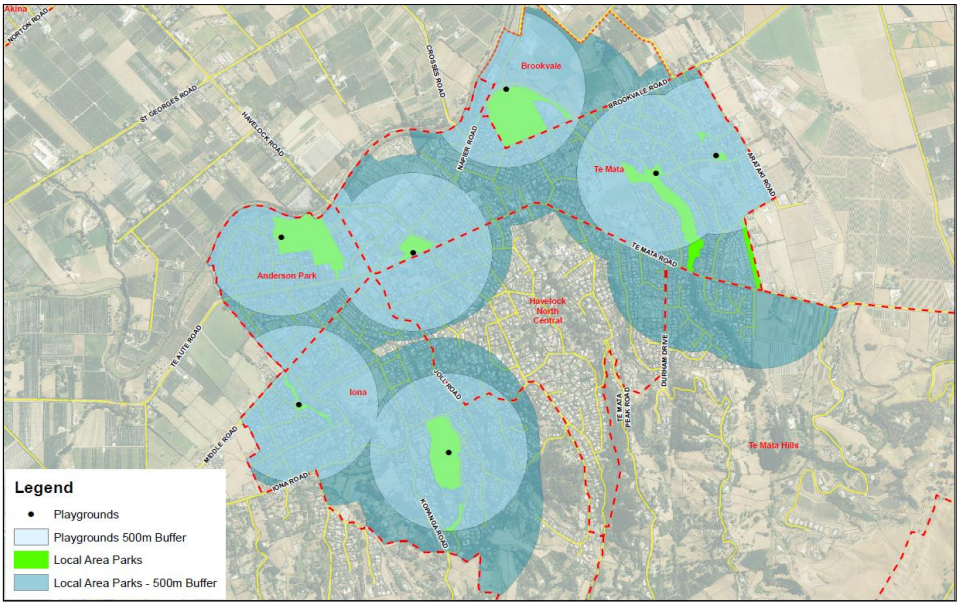
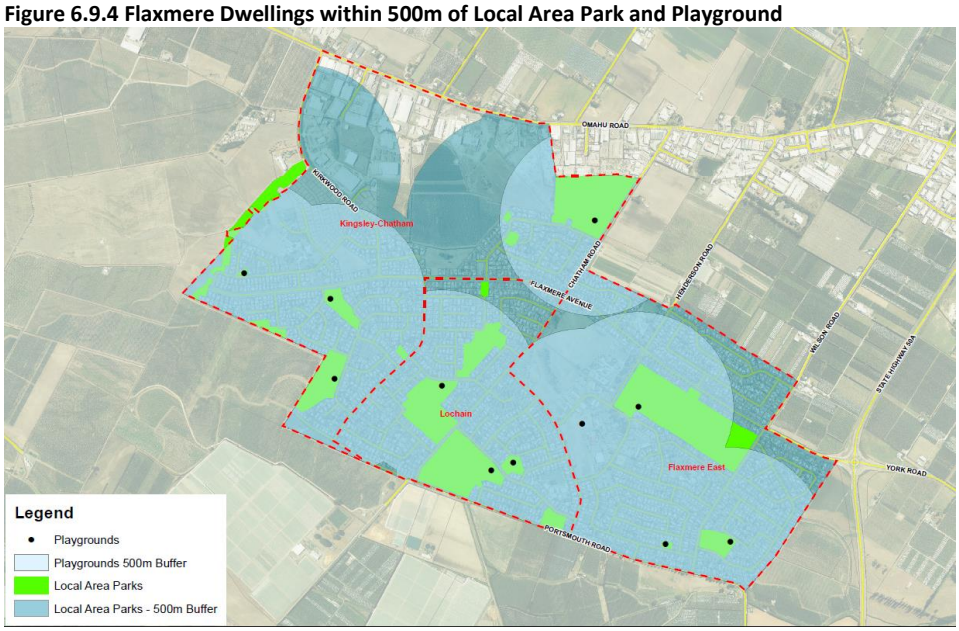


Figure 6.9.4 Flaxmere Dwellings within 500m of Local Area Park and Playground



6.10. Summary of performance measures

In addition to the ha/1000 people assessments of performance presented in Table 6.8.4 earlier in this section, there are three key performance measures available for the parks and open spaces in the District Plan and annual reports:

- a user satisfaction survey with a target of 97% satisfaction, and
- the percent of urban properties within walking distance (500m) of a park
- the percent of urban properties within walking distance (500m) of a or playground.

Performance against these measures is summarised in Table 6.10.1 below, this should be read with the prior ha/1000 people assessment to provide a more comprehensive assessment of the current service level for parks and open spaces.

Table 6.10.1 Summary of Performance Targets for Parks and Open Service Provision in Hastings District from Annual Reporting [83].

Year	% of urban properties within 500m radius of a park.	Target	% of urban properties within 500m radius of a playground.	Target	User satisfaction result	Target	Notes	Scoring on overall service level
2020/21	93%	89%	58%	60%	-	-	User satisfaction not collected	Did not meet targets/did not record data.
2019/20	85%	88%	58%	60%			User satisfaction not collected	Did not meet targets/did not record data.
2018/19	87%	87%	60%	60%	75%	97%	User satisfaction: A change in survey methodology this year meant surveys were deliberately targeted at the poorest reserves to aid in renewal planning and forward investment decisions. A follow-up survey is planned once the identified works have been completed	Achieved lower park radius target and improved on previous years scores. Struggling to meet 97% threshold and declining trend.
2017/18	86%	94%	53.2%	56%	92%	97%		Did not meet targets.
2016/17	86%	94%	60%	56%	97.5%	97%	Walking distance to park: Reduction has occurred as effect of connector reserves now not included. New parks acquisitions in Lyndhurst and Northwood will reverse trend in 17/18	Partially achieved targets.
2015/16	93.5%	94%	56.6%	56%	93.5%	94%	Walking distance to park: Slight reduction recorded as there has been little new park acquisition and more new houses built away from parks. New acquisition in Lyndhurst and Northwood will reverse trend in 16/17	Partially achieved targets.
2014/15	93.5%	94%	56.8%	56%	97%	95%		Achieved targets.
2013/14	93.8%	94%	55.6%	56%	97%	85%		Achieved targets.

[83] Hastings Annual Reports

6.11. Limitations of Current Service Level

To summarise the above assessments:

- District wide reserve provision is 8.45ha/1000 people where the target is 8.7 ha/1000 people
- The Hastings central (3.94ha/1000 people), Flaxmere (5.82ha/1000 people) and urban areas overall (6.32ha/1000 people) are significantly below the target. This is a whole reserve area assessment, when broken into reserve categories Hastings city has a low reserve distribution for community, natural and community parks spaces. More detailed category and usage based assessments are recommended to better understand provision.
- Flaxmere is well located for both playground and local area park targets. While Hastings, Havelock North and the Urban total neither meet the LTP target for local area park or playgrounds.
- There is a generally declining trend in both dwellings in a 500m radius of a local area park and in the user satisfaction ratings in annual reports since 2013/14. While percentage of dwellings within a 500m radius of a playground is generally increasing/remaining stable.

The quantitative measure of hectares per 1000 population provides guidance to Council on the existing provision of public open space which can be extrapolated to identify future requirements to meet the needs of predicted population growth and how this compares to Industry Standard. However, this measure has a number of limitations, in that it does not take into account the quality of open space being provided, nor does it recognise the differing uses or functions that open space provides, or relative accessibility and distribution of these reserves.

It would be recommended that a more cohesive assessment is used for the parks and reserves where it relates to future growth. At a high level, the current service level for urban areas is not being met and if these areas are to be intensified these facilities will need to be at a higher level than the current urban needs. Parks are critical to housing intensification and city growth to provide positive community outcomes. Other features of parks such as community facilities (bbqs, picnic areas) that are in higher demand in urban intensification areas, increased pressure on services and maintenance (rubbish collection etc.) and how the connection between playground facilities and dog exercise areas is managed to ensure positive community shared use of spaces are also absent, and it would be recommended these are incorporated into assessments, particularly for central urban areas preferred for intensification.

7. Glossary of Terms

HBRC Hawkes Bay Regional Council

HDC Hastings District Council

NCC Napier City Council

FDS Future Development Strategy

RSS Regional Spatial Strategy

Te Mana o te Wai

Te Mana o te Wai refers to the vital importance of water. When managing freshwater, it ensures the health and well-being of the water is protected and human health needs are provided for before enabling other uses of water. It expresses the special connection all New Zealanders have with freshwater. By protecting the health and well-being of our freshwater we protect the health and well-being of our people and environments. Through engagement and discussion, regional councils, communities and tangata whenua will determine how Te Mana o te Wai is applied locally in freshwater management.

Te Oranga o te Taiao

A te ao Māori phrase that translates to **the health and wellbeing of the environment**. Te Oranga o Te Taiao is defined as an intergenerational ethic for all New Zealanders to support a more responsible and positive relationship with the natural environment.

ESDP Essential Services Development Plan

NAP National Adaptation Plan

Ministry for the Environment 2020. *National Climate Change Risk Assessment for Aotearoa New Zealand: Main report – Arotakenga Tūraru mō te Huringa Āhuarangi o Āotearoa*: *Pūrongo whakatōpū*. Wellington: Ministry for the Environment.

Firefighting	The provision of water at sufficient flow and pressure that meets the NZ Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008)
Taumata Arowai	Taumata Arowai is the new water services regulator for Aotearoa.
TANK Plan Change	Hawke's Bay Regional Council is proposing to add new rules to the Regional Resource Management Plan to manage water quality and quantity for the Tūtaekurī, Ahuriri, Ngaruroro and Karamū (TANK) catchments.
Potable Water	In the **drinking water standards** made under section 47 of the Water Services Act 2021, **potable water** means water that—

(a) is safe to drink; and

(b) complies with the drinking water standards

RMA	Resource Management Act 1991
NPS-UD	National Policy Statement on Urban Development 2020

ILI	**Infrastructure Leakage Index** is a performance indicator of real (physical) water loss from the supply network of water distribution systems. The ILI was developed by the International Water Association (IWA) Water Loss Task Force (WLTF) and first published in 1999.
NRW	**Non-revenue water** is basically produced, cleaned water which is lost somewhere in the water distribution system, never reaching its final destination. This means water not used or paid for.
HTST	Heretaunga Tamatea Settlement Trust
Surcharging	Where flow within a pipe is greater than the full pipe capacity creating a hydraulic head i.e. liquid pressure is above the top of the pipe.
I&I	Inflow and Infiltration – stormwater into wastewater either through a direct connection or through groundwater infiltration into wastewater pipe joints and cracks.
RDI	Rain Dependent Infiltration – the influence of rain on shallow groundwater levels.
ECoP	HDC Engineering Code of Practice 2020
AEP	Annual Exceedance Probability - the probability of a flow of a certain size occurring in any river or stream
ARI	Average Recurrence Interval - the average time period between floods of a certain size
TANK	Tūtaekurī, Ahuriri, Ngaruroro and Karamū (TANK) catchments
ANZECC	Australian and New Zealand Environment and Conservation Council Guidelines

Benthic macroinvertebrates:

Benthic macroinvertebrates are aquatic animals without backbones that are large enough to see without a microscope. They include worms, crustaceans, and immature forms of aquatic insects such as stonefly and mayfly nymphs. Benthic macroinvertebrates can be important indicators of water quality.


HASTINGS
DISTRICT COUNCIL

Infrastructure Management

Hastings District Council

Strategic Growth Infrastructure Solution Review
June 2023



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Quality Record Sheet

Hastings District Council
Strategic Growth Infrastructure Review

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1.0 INTRODUCTION

This report provides a review of the Hastings District Council (HDC) Strategic Growth Infrastructure Planning. This review was commenced in December 2022, with further analysis completed in March 2023. Severe Tropical Cyclone Gabrielle hit New Zealand February 6-16th 2023, and caused extensive damage in Hawkes Bay. Observations, analysis and infrastructure reviews following Cyclone Gabrielle have not been completed at the time this report.

It is anticipated that post Cyclone Gabrielle analysis and findings will be incorporated into future revisions of the Hastings DC Strategic Infrastructure planning.

1.1 Overview of Strategic Growth Infrastructure Review

HDC have commissioned this Strategic Growth Infrastructure Review to provide an independent challenge to their infrastructure growth planning and Infrastructure Constraints Report.

This Review is one of a suite of reviews commissioned by HDC to both challenge and support the further development of the Strategic Growth Infrastructure Planning.

1.2 Review Methodology

This Review has been completed as an 'iterative' review to allow challenges and feedback to HDC staff:

- Briefing, transfer of documents and commencement of review, October 2022
- Initial review feedback and discussion around challenge topics, December 2022
- Compilation of progress and HDC feedback to challenges in this report, March 2023

Information sources are noted in each section of the report to allow ease of reference for any future updating of the base information source reports.

The Review interaction is expected to continue as required throughout 2023 as HDC requests feedback on additional modelling, design and planning projects.

1.3 Summary of Findings

A summary of the Findings of this review are included below. The detailed Findings are included in Section 7.0

1. Structured approach taken in accordance with good infrastructure management practice.
2. The Infrastructure Constraints Report provides detailed analysis of issues and possible solutions.
3. The Strategic Growth Infrastructure Plan examined three broad options, new arterial infrastructure and network wide improvements chosen, supported by IAF funding.
4. The adopted Network Wide Improvement Option passes the common sense test for the HDC network, and provides an elegant and relatively low-risk solution to pressing growth demands.
5. Cost estimates have been reviewed. Growth, renewal and level of service costs are adequately separated.
6. Wastewater wet weather flow mitigation is being undertaken in accordance with established infrastructure industry good practice.
7. Wastewater Pump Station and Rising Main expenditure should be shown separately in the project estimates.
8. The Infrastructure Constraints Report may benefit from more discussion of infrastructure resilience issues and solutions.

9. The infrastructure investment costs developed for the Strategic Growth Infrastructure have been accepted as accurate and reviewed for logic and reasonableness.

2.0 GROWTH DYNAMIC AND CONSTRAINTS

Data Source - Statement of Proposal: Long Term Plan Amendment, Dealing with Growth

Why provide development capacity for growth?

We are growing

- Hastings District is currently experiencing significant and rapid growth. Statistics New Zealand's latest population estimate (2021) for Hastings District is 90,100; an increase of 5,400 since the 2018 estimate (84,700)
- Building consent volumes have grown significantly: excluding consents for solid fuel heaters, residential building consents granted have risen from 685 in calendar year 2015 to 1021 in 2021 – an increase of 49%
- Commercial building consents are similar in volume to 2015, however the estimated value of the works consented has increased by in excess of 150% (from $95M to more than $250M)
- Resource consent volumes have increased year on year from 428 in 2015 to 673 in 2021. Uptake of development land in both the residential and industrial sectors has been at a rate above both projected rates and historic trends and infill housing follows a similar trend
- We need more houses – as at June 2022 there were 762 households registered on the Ministry of Social Development's social housing register, with an estimated shortage of between 1,000 and 1,600 houses overall

We have responded – but growth runs strong

The Council has been taking action to respond to this growth pressure. Beginning in 2015, the Council initiated a number of structure planning and planning processes to make available a number of areas of land for residential and industrial development. Infrastructure investments were programmed and subsequently made alongside these planning changes, with appropriate revisions made to the Council's Development Contributions Policy. Through this work, the Lyndhurst Stage 2, Howard St, Brookvale, and Iona residential development areas were initiated, as was the rezoning and infrastructure servicing of the Irongate and Ōmāhu Industrial areas.

These initiatives and investments by Council have helped enable the significant residential and industrial development and investment Hastings has seen since 2015. However, even that unprecedented rate of rezoning and infrastructure development has not been enough to keep up with growth demand. The rate of growth being experienced is rapidly using up available development land (both residential and business land) and network infrastructure capacity (particularly with respect to the Hastings urban wastewater network and consented water supply volumes). And the population driven housing shortage has continued to worsen, with 762 households on the MSD social housing register as at 30 June 2022 (there were 69 households on the register as at 30 September 2016). Based on the 2021 Housing Capacity Assessment, there is a current shortage of approximately 1,300 in Hastings currently. In 2021, demand was expected to grow by another 1,600 – 1,800 households by the end of 2023, although open borders and changed migration settings may reduce those predicted numbers. Nonetheless, significant new housing stock is expected to be required both in the immediate future and over the coming decades.

Council is acting to make new development areas available in the short to medium-term, including in Flaxmere and with structure planning work on the Lyndhurst Extension area, Kaiapo Road and the Heretaunga Tamatea Settlement Trust owned land at York Road. However, Council has also understood that action is required now to ensure the availability of development land and infrastructure capacity over the medium to longer-term.

The Chief Executive has responded to this context by establishing a Future Growth Unit to lead and coordinate future growth planning, infrastructure, and funding activity across the Council. This brings focused resource to bear on medium to longer-term growth management work (including responding to new legislative responsibilities outlined below). The Chief Executive has also moved to augment, where possible in the external employment and consultant markets, resourcing being applied to immediate-term building and resource consenting activity and short to medium-term structure planning work.

New legislative responsibilities

Alongside this high-growth context, statutory requirements on Council to provide development capacity have also increased. The National Policy Statement on Urban Development 2020 (NPS-UD) requires councils to "*provide at least sufficient development capacity in its region or district to meet expected demand for housing".* It also requires councils to provide sufficient development capacity for business land. Development capacity refers to land being available that is able to be developed under the planning objectives, policies and rules that apply **and** for which there is adequate infrastructure capacity to enable development.

Councils in tier 1 or 2 urban environments (Hastings and Napier are a tier 2 urban environment) are required to adopt housing bottom lines in their District Plans or Regional Policy Statements clearly stating the development capacity that is sufficient to meet expected housing demand plus an appropriate competitiveness margin. The NPS-UD also requires councils in tier 1 and 2 urban environments to work together to prepare and adopt a Future Development Strategy (FDS) for that urban environment.

These increased requirements come amidst wider proposed changes to the legal framework for planning and growth management. The Government has signalled that the Resource Management Act 1991 (RMA) will be replaced by three pieces of legislation. The proposed Natural and Built Environment Act (NBEA) will replace the RMA and provide the legal framework for statutory planning instruments and consents. The proposed Strategic Planning Act will introduce a requirement for regional spatial strategies to guide high-level strategic planning on a regional basis. In addition, a proposed Climate Change Adaptation Act is likely to address issues relating to managed retreat and funding and financing adaptation.

Collectively, these current and prospective legal requirements signal a more collaborative and regionalised approach to planning and growth management. Councils will need to work together regionally, and with mana whenua and central government agencies, in the development of both spatial plans and statutory plans under NBEA.

The wider regional context will therefore affect the work to be carried out and impact on the Hastings District. The constraints on Napier City in terms of additional development capacity generally, and industrial capacity in particular, are likely to create further demand pressures on Hastings. Both Napier and Central Hawke's Bay are also experiencing relative significant growth in the residential sector which will also influence the regional development capacity picture. Efforts to address housing shortage, such as Kāinga Ora's investment programme, will also continue to affect how available development capacity is utilised in Hastings and beyond, creating flow on effects in the development market. These are just some of the broader contextual issues that have been considered in developing this proposal.

3.0 STRUCTURED PLANNING PROCESS ADOPTED BY HDC

HDC has undertaken a structured and detailed planning process to develop the Strategic Growth Infrastructure Solution currently being reviewed in this report. This process has been overseen by the HDC Future Growth Unit, in conjunction with supporting work undertaken by Councils Asset Management Group.

3.1 Infrastructure Constraints Report

Data Source: Infrastructure Constraints Report
The Infrastructure Constraints Report is an evolving report that compiles all the supporting information, modelling, analysis and reviews of HDC growth related infrastructure constraints. The Infrastructure Constraints Report covers all major Council asset classes – Drinking Water, Wastewater, Stormwater, Transport, Parks and Open Spaces. Detailed analysis is provided for the Wastewater network, as this network has the most growth related constraints.

3.2 Catchment Options Plans/Reports

Data source: : Infrastructure Constraints Report Summary table of Catchment Options Plans/Reports s3.44
HDC have undertaken extensive and thorough sub-catchment analysis of the wastewater network, with summaries included in sections 3.14-3.44 of the Infrastructure Constraints Report.

The Summary Table of Catchment analysis is included below for reference and shows the following data:

- 40 sub-catchments analysed for constraints
- High constraint (red) in 13/40 catchments in current wet weather flows (33%)
- High constraint (red) in 7/40 catchments in growth scenario dry weather flows (18%)
- High constraint (red) in 23/40 catchments in growth scenario wet weather flows (58%)

Catchment	Current Dry	Current Wet	Growth Dry	Growth Wet
Tarbet St				
Flaxmere				
Omahu Rd				
Ormond Rd				
Stoney Creek Rd				
Huia St Extension				
Huia St				
Maraekakaho				
Harding Rd				
Oliphant Rd				
Pepper St				
Townshend St				
Tōmoana Rd				
Fitzroy Ave				
Nelson St Nth				
Southland Place			N/A	N/A
Hemi St				
Southland Rd				
Akina Park				
Murdoch Rd				
Heretaunga St				
Russell St				
King St				
Southland Rd				
St Aubyn St				
Clive St				
Lyell St				
Park Rd North				
Avenue Rd				
Albert St				
Mayfair Gravity				
Louie St				
Hood St				
Caroline Rd				
Warwick Rd				
Kenilworth Rd				
Frederick St PS				
Waipuna St PS				
Frederick St Gravity				
Williams St Gravity				
Frimley Gravity				

3.3 Options Modelling Reports (external- Stantec)

Data source: summary of Stantec Modelling and options examined. Modelling methodology
Modelling of the HDC Water and Wastewater Networks in separate models has been undertaken by Stantec (previously MWH) over an extended period.

Water Network modelling has been ongoing since the first model build in 2005and has been updated as required to develop various scenarios including examination of the impact of growth scenarios. Further modelling was undertaken in 2021 to support the IAF water network upgrades.

Wastewater network models were built and calibrated by Stantec in two phases between 2014 and 2016. The 2015 first phase calibration was at a trunk sewer level. The 2016 second phase calibration (supported by flow monitoring) was focussed on upstream catchments with identified problems. A 2019 review report identified the constraints and limitations of the wastewater network model, these are summarised in the Infrastructure Constraints Report s3.8.

HDC with support from Stantec plan further work to enhance the existing model, improve its accuracy, and ensure that the wastewater network model is maintained in an appropriate state of predictive analysis.

3.4 Regional Spatial Planning Implications (HPUDS)

Commentary on HPUDS and development into FDS – reference Infrastructure Constraints Report, s2.6
HPUDS has been the Hawkes Bay regional growth model for several decades. HPUDS has been regularly updated to reflect growth patterns. Recent models and updates include HPUDS 2010 and HPUDS 2017.

Growth in HDC has been occurring at a greater rate that anticipated in HPUDS 2010, which was used as a basis for HDC planning, consents and investment at that time. HPUDS 2010 was based on the Statistics NZ "medium' growth projections. The 2017 HPUDS review found that the Statistics NZ "medium-high" projection should be adopted.

HPUDS is being superseded by the requirement in the National Policy Statement on Urban Development 2020 (NPS-UD) to develop a Future Development Strategy (FDS). Statistics NZ subnational population updated December 2022 showed the "medium-high" growth has continued, subject to some minor trend adjustments.

3.5 Future Development Strategy

Commentary development of the FDS – reference Infrastructure Constraints Report, s1
HDC is defined as a Tier 2 local authority in the NPS-UD. In accordance with the NPS-UD, Hawkes Bay councils (being HBRC, HDC and NCC) as Tier 2 local authorities are required to prepare a Future Development Strategy (FDS). The councils, together with Central Hawke's Bay (CHB) and Wairoa District Councils, have also agreed to prepare a Regional Spatial Strategy (RSS), a regional strategic plan signalled in the proposed Spatial Planning Act. Notwithstanding the lack of a statutory basis for a RSS at this time, it is intended that the Future Development Strategy (FDS), together with the Kotahi Plan being developed by HBRC, will form fundamental building blocks of the RSS

3.6 Essential Services Development Plan (ESDP)

Commentary development of the ESDP – reference Infrastructure Constraints Report, s1.1
The Infrastructure Constraints report is not intended to determine the extent of the infrastructure response to overcome the growth demands predicted to occur. However, it is an important first step in providing the foundation for that further work to occur and to support the development of an Essential Services Development Plan (ESDP) which will then inform the Future Development Strategy.

The ESDP will provide:

- Detailed engineering examination of options
- Detailed option costing and analysis
- Independent review of option costing at key points in the ESDP process
- Supporting information for the development contribution financial package

3.7 Whole of District Development Approach

HDC has adopted a Whole of District Development Approach. In the past decade this approach has been applied primarily to providing addition infrastructure capacity to Havelock North, to enable further development.

Development Contributions over the past decade have been applied using the Whole of District Development Approach.

With the planned Strategic Growth Infrastructure (reviewed in this report) Council intends to continue using the Whole of District Development Approach.

3.8 Growth Ready and Growth Reactive Planning

Data Source - Statement of Proposal: Long Term Plan Amendment, Dealing with Growth
The Strategic Growth Infrastructure planning has been split into 2 Stages over 10 years as outlined in more detail in Section 6.0.

Stage 1: Growth Ready – Years 1-3, $85m, $18m IAF Funded. Main arterial infrastructure and linking infrastructure.

Stage 2: Growth Reactive – Years 4-10, $144m. Balance of local infrastructure and upgrades at the East Clive wastewater treatment plant. Infrastructure investments made 'as required' by market demand.

The two stage approach provides an elegant and relatively low-risk solution to pressing growth demands:

- Major arterial infrastructure planned are green fields sites, with route corridors currently available
- This Stage One arterial infrastructure and associated linking infrastructure immediately provides capacity for growth areas
- The two stage approach minimises infrastructure overbuilding risks, as Stage Two can be built in phases as growth requires
- The major arterial infrastructure planned removes the top end of the network flows and opens additional capacity in the central Hastings wastewater sub-catchments

3.9 East Clive Trunk Main and Treatment Plant Capacity

Data Source: Infrastructure Constraints Report s3.3 and 3.4
The East Clive Treatment Plant receives all domestic wastewater and non-separable trade waste, industrial trade waste and septic tank waste into the plant. The domestic waste stream makes up approximately 50% of the total average annual flows. During the peak food/fruit processing season the proportion of industrial flow can increase by 300% over the base flow.

The East Clive Treatment Plant has a consent that allows for a maximum daily discharge of 2,800 litres/second. The average dry weather flow is approximately 1,100 litres/second and peak flows are approximately 2,000 litres/second. There is adequate capacity for current and future growth. Capacity upgrades are planned for the East Clive Treatment Plant in Stage Two $29m.

3.10 Asset Management Plan (AMP) Linkages

There are strong linkages between the Infrastructure Constraints Report and HDC Asset Management Plans. Growth constraints identified, and planned growth infrastructure will be incorporated into the AMP projections and managed with planned renewals to ensure optimal expenditure and investment programmes.

4.0 ISSUES EXAMINED IN REVIEW

4.1 Wastewater Capacity Hastings Area

Data Source: Infrastructure Constraints Report s3.6 and s3.7
The Infrastructure Constraints Report notes that "Council's target level of service standard of 0.5 L/sec/Ha is appropriate for sanitary waste disposal demand from new residential and industrial areas permitted in the district plan, however it is not adequate to cope with more than a density of 12-15 household equivalents per hectare. The rate of infill development has accelerated over the last 10 years and now some areas have reached or exceeded this value and capacity issues have arisen. *(Note: Higher density development than allowed in the 0.5 L/sec/Ha target level of service is permitted for infill in the District Plan – Plan Change 5)."*

The Infrastructure Constraints Report provides a good discussion of the impacts of infill development. The individual catchment modelling and analysis unpacks these impacts in detail and demonstrates that the wastewater network capacity in the Hastings Area has in some catchments been exceeded, and with many other catchments is rapidly approaching capacity. The wastewater network reaching capacity has become the constraint on growth, housing intensification, and the achievement of the Governments and Councils broader objectives. It is worth noting that the wastewater network reaching capacity due to infill and associated development occurred over the period of a decade plus.

4.2 Holistic Approach Sense Check on Proposed Options

Data Source - Statement of Proposal: Long Term Plan Amendment, Dealing with Growth
The Strategic Growth Infrastructure Plan examines three broad options:

- Do nothing – growth severely restricted, does not meet NPS-US requirements for sufficient network capacity, or government/community housing growth objectives
- Extend Existing Alternate Approach – requires replicating capacity, significant upsizing of pipes and pump stations, and/or construction of duplicate mains across the network within an existing operational network. Higher complexity and disruption level were assessed to add cost and time delays for infrastructure needed as soon as possible
- Network wide improvements with Stage One being new main arterial infrastructure, upsizing of pump stations as needed and some of the necessary linking infrastructure to accommodate planned future growth. Stage Two being the balance of local infrastructure required for growth as it develops, and upgrades at the East Clive WWTP to provide additional treatment capacity when required by increased flows. Stage One of this option is currently being consulted on, and developed to design stage

Option development is always dependant on the characteristics of the existing network, topography and allocated growth areas. The adopted Network Wide Improvement Option passes the common sense test for the HDC network, and provides an elegant and relatively low-risk solution to pressing growth demands:

- Major arterial infrastructure planned are green fields sites, with route corridors currently available
- This Stage One arterial infrastructure and associated linking infrastructure immediately provides capacity for growth areas
- The two stage approach minimises infrastructure overbuilding risks, as Stage Two can be built in phases as growth requires
- The major arterial infrastructure planned removes the top end of the network flows and opens additional capacity in the central Hastings wastewater sub-catchments

4.3 IAF Funding for Trunks, Greenfield Approach

Data Source - Statement of Proposal: Long Term Plan Amendment, Dealing with Growth
HDC has successfully applied for and entered agreements with the government Infrastructure Acceleration Fund for funding support for the Strategic Growth Infrastructure. The funding is based on the two stage approach with arterial and linking infrastructure approved in Stage One. The IAF funding secured is $18.5M.

IAF support for the Strategic Growth Infrastructure provides baseline support for the project and a significant cost offset for the remainder of the project costs - to be funded by development contributions and Council debt buffering of projects.

4.4 Wastewater Catchment Capacity Analysis, Modelling

Data Source: Infrastructure Constraints Report
As noted in Section 3.2 of this report HDC has undertaken extensive sub-catchment modelling and summarised the analysis and results well in the Infrastructure Constraints Report. The need for ongoing future model calibration and improvement is discussed in the Infrastructure Constraints Report.

The catchment capacity analysis, modelling results and operational observations provide sufficiently robust information to understand where the sub-catchment capacity issues that constrain growth are. The catchment capacity analysis and modelling results provide a sufficient framework of information to design network solutions to provide additional capacity where required.

4.5 Wastewater Wet Weather Flows, Overflows, Peaking and I/I

Source: Infrastructure Constraints Report, Interview with David Mackenzie
As a result of topography, stream location, and historical development the HDC Wastewater Network is subject to a complex mix of infiltration/inflow, peaking wet weather flows, interactions with stormwater drainage and stream/river systems and on occasion wastewater overflows.

The Infrastructure Constraints Report analysis discusses this in detail in the individual sub-catchment modelling analysis, and summarises the issues in s3.33 (included below for reference).

This work also indicated that groundwater infiltration (GWI) was significantly above the recommended indicator of 20% for dry weather GWI. The table below compiles the various catchment I&I.

Pump Station Name	Catchment Area (Ha)	Catchment Population		Dry Weather – Groundwater Infiltration	Wet Weather Flow Peaking Factor
		2017	2046	% of ADWF Volume	
Clive Street	62	2286	2799	42%	5.7
Lyell Street	59	2248	2928	76%	12.0
Park Road South	N/A	N/A	N/A	N/A	N/A
Park Road North	92	2292	3113	58%	5.4
Albert Street	39	1099	1099	83%	3.7
Avenue Road	28	1172	1172	56%	4.3
Louie Street	18	407	407	25%	3.8
Hood Street	65	1617	1617	55%	5.0

Source: Table 3.1- Park Rd Rising Main Master Planning (pg 28) File Ref: PRJ18-95-0108

HDC has operational, renewal and capital expenditure programmes in place to address the highest priority issues that have been identified by the catchment and modelling analysis.

I/I, and subsequent wet weather peaking in wastewater networks can measured at pump stations and through the use of flow loggers. HDC has good records of the impacts of I/I.

Resolving I/I issues is notoriously difficult, time and resource consuming. It is easy to expend a lot of time, resource and expenditure for what can be quite marginal gains. HDC has developed a pragmatic approach to dealing with I/I that involves application of the 80/20 rule, and not chasing marginal reductions in I/I. The Infrastructure Constraints report notes that a wet weather peaking factor of 8 is the trigger for the implementation of I/I management and network rehabilitation programmes. Current HDC practice is addressing catchments with the highest I/I with the goal of reducing the wet weather peaking to under 10.

HDC have also implemented a range of upgrade works that have been recommended to address existing capacity issues and to cater for anticipated growth out to 2040. The Infrastructure Constraints Report lists these projects, and notes that the first 4 projects have been completed, and the Eastern Interceptor projects is expected to be completed in 2023.

A fundamental question in relation to the Strategic Growth Infrastructure is how much of the new higher capacity infrastructure is required as a result of growth, and how much is required to resolve existing I/I peak wet weather flow restraints.

This is an easy question to ask, and a difficult question to answer, given there is never enough information or modelling detail. The wastewater network is not a static system, given there has been over a decade of infill growth taking up network capacity, and that rainfall frequency and intensity patterns are evolving as a result of climate change.

HDC's current approach to:

- Identify to catchments with the highest wet weather peaking and most capacity constraints (detailed in the Infrastructure Constraints Report)
- Survey identified catchments and undertake detailed I/I reduction field inspections and remedial works (detailed in Infrastructure Constraint Report s3.12)
- Build additional network capacity where required (arterial mains, trunk mains, pump stations, rising mains and treatment plant)

Is in accordance with established infrastructure management industry good practice.

The IAF funded Stage One Strategic Growth Infrastructure arterial mains and linking network provides the a major part of the additional network capacity required - removing flow from the top end of the Hastings network, and provides capacity for additional housing (green fields development and urban intensification). The Stage One project also assists with addressing broader I/I and network capacity issues.

To provide analysis of the question regarding growth capacity verses I/I peak wet weather capacity HDC have prepared a budget analysis based on a no-growth scenario. This spreadsheet 'Alternative – no new Infrastructure' provides a basis of comparison for the Strategic Growth Infrastructure plan, and will be an input into the setting of Development Contributions. This is a reasonable approach, with the previous caveat that the HDC wastewater network has not been a static system over the past decade.

4.6 Wastewater Pump Station Acceleration Plan, Constraints and Renewals

Source: Infrastructure Constraints Report Interview with David Mackenzie, supporting spreadsheets
The Infrastructure Constraints Report and supporting spreadsheets show significant Pump Station and Rising Main upgrades as part of the Strategic Growth Infrastructure project. Over the 10 year period $24m of pump station upgrades and renewals, and $29m of rising main renewals are identified.

Information about these required upgrades and renewals are included in the Infrastructure Constraints Report sub-catchment analysis, but are not summarised. Given this identified expenditure is $53m/$229m (23%) of the total Strategic Growth Infrastructure project, it is suggested that there would be value in collating and summarising the Pump Station and Rising Main upgrade planning and cost estimates in the Infrastructure

Constraints Report. This would allow focus to be maintained, and progress reported on this important component of the project.

The following pump station and rising main projects were identified in the Infrastructure Constraints Report and associated spreadsheets:

- Oliphant PS capacity upgrade, emergency storage and reticulation
- Iona/Middle Breadlebane PS capacity improvement and renewal
- Akina PS capacity upgrade
- Park North PS capacity improvement and renewal
- Flaxmere PS capacity improvement and renewal
- PS Accelerated capacity improvement and renewal
- Rising main renewals
- Flaxmere rising main renewal

It is noted that HDC have initiated a PS Accelerated Capacity Improvement and Renewal programme as a response to I/I overflow issues and the network impacts of growth.

Several of these projects contain reference to capacity improvement and renewal. To assist with confidence in the robustness of HDC processes and capacity improvement budget development it would be prudent to provide a split of the capacity improvement and renewal components of these budget estimates.

The Service Level included in the modelling = no surcharge in 5 year ARI event. Further discussion of this service level in the Infrastructure Constraints Report would assist in understanding of the project and estimate development. Consideration should be given to the adequacy of the Service Level within a broader discussion of resilience, climate change, climate adaptation and Te Mana o te Wai/Consenting imperatives with regard to potential wastewater overflows to both land and waterways.

4.7 Wastewater Service Levels v Growth Expenditure (esp. Flaxmere links)

The question of HDC Wastewater Service Level delivery verses growth expenditure was examined as a component of the this review report to ensure HDC had demonstrated that growth expenditure was not being used as a substitute for required service level expenditure. As noted in Section 4.1 above the infill development over the past 10 years has exceeded the target level of service in a significant number of catchments, and planned new growth areas are adding to the network capacity issues.

The Flaxmere sub-catchment is at the top of the HDC wastewater network and was chosen as the high-impact catchment to ensure the network capacity issues identified were growth related and not service level related.

The Flaxmere sub-catchment is served by the Flaxmere pump station which was installed in 1965 and designed to service a population of 5,500 people. The Infrastructure Constraints Report s3.15 and s3.16 provide a detailed analysis of the flow characteristics of the catchment and pump station including graphs of Daily Diurnal Flows with Base and 5 Year Rain Event (No Growth) and Base and 5 Year Rain Event (With Growth). The modelling and analysis show that even with the current larger population the catchment service levels are still within daily operating limits, with an increased risk of wet weather overflows. The growth model shows increased risks and problems with wet weather flows. The modelling clearly shows that the need to increase Flaxmere pumping capacity and associated rising mains is growth related.

4.8 Renewals v Growth Expenditure

HDC has a range of wastewater network renewals that are required as part of normal network condition deterioration and aging. The growth expenditure is addressing growth related issues by the two stage Growth Ready and Growth Reactive planning.

Stage One of the Strategic Growth Infrastructure comprises new arterial infrastructure and associated linking infrastructure. The Stage One approach does not create a risk that wastewater network renewals will be bundled with the growth projects.

Stage Two Growth Reactive involves more local infrastructure and presents more opportunity to bundle network renewals with growth infrastructure. This is noted for wastewater pump station projects in Section 4.6 above. This bundling opportunity, which is good practice, will also apply to rising mains and parts of the gravity wastewater network.

HDC will need to provide clarity in project estimates which parts of the growth projects have asset renewal components, and are to be funded by asset renewal budgets. This will allow for clarity and integrity in the development contribution budgets and charges which will be used to fund the growth component of this work.

4.9 Resilience Upgrades v Growth

Infrastructure resilience requirements are an ongoing study throughout New Zealand. Proposed changes to the RMA (currently before Parliament) and the proposed Climate Adaptation Act will add to the legislative guidance around this topic. The recent Cyclone Gabrielle has raised awareness and discussion of infrastructure resilience issues both in Hawkes Bay and nationally. As the impacts of climate change continue to develop, and society re-examines the need for resilient infrastructure, there will be a range of projects HDC will develop over time in response.

As noted in Section 4.5 HDC has developed a spreadsheet of projects that would be required if there was no-growth. As the post Cyclone Gabrielle event analysis is completed, identified resilience projects will be added to HDC projects.

The Strategic Growth Infrastructure is adding to network resilience by allowing for additional growth, by adding capacity the projects are reducing the risk of network surcharging and overflows. Providing new arterial wastewater pipelines also increases the overall condition and resilience of the wastewater network.

It is expected over the next two decades additional network resilience projects will be required, particularly in primary stormwater network, secondary overland flow network and their interaction with the streams and rivers.

Given the complex interaction between the stormwater system and wastewater network I/I the Infrastructure Constraints Report may benefit from more discussion of infrastructure resilience issues and solutions.

4.10 Climate Change Adaption esp. Stormwater

Source: Infrastructure Constraints Report, s4
The Infrastructure Constraints Report provides a good discussion of the HDC urban stormwater system, service levels, and assessment of flooding risks on a catchment by catchment basis. HDC has modelled the pipe network for a 5 year ARI event (including factors for climate change). The modelling showed that 50% or more of the pipe network is surcharged in a 5 year rain event, with potential for road and some property flood ponding in Flaxmere and Havelock North. The interaction with urban streams in Havelock North is complex, and increase rainfalls will increase the requirement of urban streams in Havelock North to carry flood flows.

The Infrastructure Constraints Report notes that further work is necessary to develop solutions for low lying areas and to quantify the extend of works required to define better overland flow paths, contain flooding and minimise impacts to property and the wastewater system.

Onsite and community based solutions will be appropriate solutions as infill and redevelopment continues.

Stormwater system responses to climate change will be subject to ongoing analysis and work, which will be added to the Infrastructure Constraints Report and the analysis is updated.

4.11 Urban Intensification, Engineering Code of Practice, Application for Specialist Facilities

Source: Infrastructure Constraints Report, s4.6
HDC has an Engineering Code of Practice (ECoP), which provides service levels and minimum standards for land development and urban intensification. Discussion of the ECoP is provided in the Infrastructure Constraints Report, s4.6.

Periodic revision of the ECoP is encouraged to ensure that it provides sufficient guidance for the urban intensification work allowed under by the District Plan. The ECoP requirements for the increasing number of specialist facilities such as large site retirement centres should also be considered, including impacts on the stormwater and wastewater networks.

4.12 Estimates and Valuations

The New Zealand infrastructure sector has been subject to considerable inflation pressure over the past 3-5 years as a result of resource, capacity and material shortages, coupled with a significantly increasing infrastructure spend across New Zealand.

This inflation pressure has been reflected in Council asset revaluations and project cost estimates, which have required revision upwards.

The infrastructure investment costs included in this review report, and the associated spreadsheets are from a 2022 cost base, with no inflation allowance.

The infrastructure investment cost development in the various reports and spreadsheets reviewed have been checked for logic and reasonableness, particularly in option development.

HDC have validated costs for the IAF proposal and for the audited annual budget development. This review has accepted the infrastructure investment costs presented as accurate, and have undertaken no further investment cost accuracy analysis.

As noted in Section 3.6 the ESDP process will include detailed independent validation of infrastructure investment costs, and associated assumptions.

Inflation pressure is the New Zealand infrastructure sector is expected to continue for some years. Resulting from this expectation, and general New Zealand economy inflation, the updated Development Contributions will include inflation adjustment mechanisms to reflect future infrastructure investment cost changes.

5.0 FUTURE DEVELOPMENT STRATEGY (FDS)

Commentary development of the FDS – reference Infrastructure Constraints Report, s1 – extract of commentary
"The National Policy Statement on Urban Development 2020 (NPS-UD) requires local authorities to provide "at least sufficient development capacity" for housing and business land over a 30 year horizon. This development capacity must be both plan-enabled (by a statutory planning instrument) and able to be serviced by infrastructure on a timely basis.

Hastings District is a Tier 2 local authority under the NPS-UD and is therefore also required to provide sufficient development capacity for the expected demand plus 15-20% additional capacity as a "competitiveness margin". This makes the ability to plan and deliver growth-related infrastructure essential to councils in meeting Government requirements under the NPS-UD.

In accordance with the NPS-UD, the councils (being HBRC, HDC and NCC) as Tier 2 local authorities are required to prepare a Future Development Strategy (FDS). The councils, together with Central Hawke's Bay (CHB) and Wairoa District Councils, have also agreed to prepare a Regional Spatial Strategy (RSS), a regional strategic plan signalled in the proposed Spatial Planning Act. Notwithstanding the lack of a statutory basis for a RSS at this time, it is intended that the Future Development Strategy (FDS), together with the Kotahi Plan being developed by HBRC, will form fundamental building blocks of the RSS.

The NPS-UD provides that *"the purpose of an FDS is:*
a) To promote long-term strategic planning by setting out how a local authority intends to:
i. Achieve well-functioning urban environments in its existing and future urban areas;
and
ii. Provide at least sufficient development capacity, ... ,over the next 30 years to meet expected demand; and
b) Assist the integration of planning decisions under the Act with infrastructure planning and funding decisions."

In the context of a well-functioning Napier-Hastings Urban Environment, the councils wish to prepare a FDS that provides for sufficient development capacity in a manner appropriate to the sub-region, its strengths and constraints."

The Hawkes Bay FDS has a completion target of December 2023.

The HDC District Plan has no limit for intensification in urban areas. This is reflected in the FDS.

6.0 LONG TERM PLAN AMENDMENT 1 JULY 2023

Data Source - Statement of Proposal: Long Term Plan Amendment, Dealing with Growth

6.1 Proposal Summary Extracted from Long Term Plan Amendment

What does the infrastructure solution look like?

Current state assessment

In assessing Hastings' overall infrastructure situation as it relates to growth, the picture that emerges is that the older, core three waters networks have almost reached their full or 'natural' capacity as 'growth-responsive' additions have been made to them over time.

Investment in additional arterial infrastructure is required to enable new development capacity.

In terms of wastewater, while there is capacity in the main interceptor sewer pipes connecting the urban areas to the treatment plant at East Clive and a planned additional biological trickling filter at the plant as required, the internal networks and pump stations within Hastings (which help service Hastings and Flaxmere) are either at or reaching capacity. The construction of new 'arterial capacity' is required to enable wider uptake of medium density development and urban intensification, and to provide for future new growth areas. Adding to this picture, Hastings is located on a 'hump' that runs along Omahu Road and Heretaunga Street. This means potential growth areas around the south and west of Hastings drain away from the main trunk infrastructure connecting Hastings to the East Clive treatment plant. Growth on this side of Hastings puts pressure on our ability to pump wastewater to the north into our trunk sewers.

In terms of water supply, abstraction limits in the Council's municipal water supply resource consent provide a constraint to development capacity. Improved network distribution infrastructure is required to improve network efficiency and reduce network pressure and water loss, thereby improving efficiency of use and providing capacity for growth while still delivering flows required for firefighting.

The approach to stormwater will also need to adapt to growth pressures, increasing environmental standards and the future impacts of climate change. New and upgraded infrastructure will be required to provide stormwater capacity and treatment in respect of development in particular catchments and sub-catchments, as well as work with the Hawke's Bay Regional Council to address overall capacity issues in their Heretaunga Plains network. These stormwater works may involve land purchases or designations as part of structure planning or subdivision processes and are likely to be addressed catchment by catchment. As development occurs over time, there are also likely to be transport, parks and reserves and community infrastructure requirements. However, these investment requirements are not as well defined as wastewater and drinking water requirements as yet, and, aside from stormwater, are not affected by the Three Waters reform process. Accordingly, this Long-Term Plan amendment focuses on identified requirements for wastewater and water supply. Other growth investment requirements will be identified as growth infrastructure planning work continues through the FDS and Essential Service Development Plans, and included in subsequent Long-Term Plan processes.

Proposed approach – A total $229m investment

The main capital investment component in this amendment is in building new wastewater main trunk infrastructure. This comprises major new wastewater pipes which add macro-level wastewater capacity to the Hastings and Flaxmere network, improving capacity and improving connectivity to the main trunk interceptor pipes that convey wastewater to the East Clive Wastewater Treatment Plant. This new infrastructure redirects wastewater from existing urban areas, which will in-turn free up capacity in the Hastings City network to enable the district's housing objectives (in relation to higher density developments) to be achieved, whilst continuing to support planned greenfield developments. Allowing more intensive urban development and restricting development away from the fertile Heretaunga soils has been a key objective for some time and is embedded in Council's growth policy and planning framework.

The township of Havelock North by comparison has had substantive wastewater and drinking water investment since the early 2000s in response to growth pressure. Although the township is not constrained to the same extent as Hastings and Flaxmere, continued expansion to the south and in the Havelock North hills will necessitate continued future investment in new infrastructure.

Key components of the wastewater investment are as follows:

- **Stage 1 Pāharakeke Wastewater Pump Station and Rising Main (HTST Irongate Development) –** This wastewater project will link the Heretaunga Tamatea Settlement Trust greenfield housing development Irongate/York/Stock Road via the main Hastings wastewater network and the Stage 2 works outlined below. This will enable around 400 additional houses
- **Stage 2 Pāharakeke Wastewater Gravity Main (Ōmahū Rd to No.3 Trunk Sewer) –** This major pipeline will run from the junction of State Highway 2 and Ōmāhu Road along SH2 to the Hawke's Bay Regional Sports Park, along the bottom boundary of the Sports Park, through the Lyndhurst extension area and via easements to Evenden Road, along Evenden Road crossing over Pākowhai Road, and continuing along the alignment for the proposed North-Eastern Connector to Coventry Road to discharge at the No. 3 trunk sewer. This new sewer main will collect wastewater flows from Flaxmere and the western parts of Hastings, creating capacity in the existing Hastings network for medium-density housing and new growth areas
- **Karamū/Waipatu/Ōtene Rd Pump Station and Trunk Sewer Main –** This project will provide a major wastewater outlet pipe for the eastern side of Hastings from Karamu Road North along State Highway 51 and down Bennett Road to discharge at the No. 3 trunk sewer in Ōtene Road. The pipe will redirect wastewater flows from the eastern and southern parts of Hastings, creating capacity in the existing Hastings network for medium-density housing and new growth areas. As well as providing additional wastewater capacity to Hastings, the pipe will also serve papakāinga development around Waipatu

Together the three components are vital to enabling over 4,000 additional homes to be serviced over the next 15 years, with further additional housing beyond that. They also provide domestic sewer capacity for commercial and industrial growth. The total estimated cost of the three projects is $31.5M.

In addition to these major capacity enhancing pipes, further wastewater investment is required to fully utilise the capacity that these new projects are intended to provide. Future works will connect new development areas and areas of the existing urban wastewater network to the new capacity and a component of this expenditure will include capacity upgrades at the East Clive wastewater treatment plant. This investment is made up of the following broad components:

- Southern wastewater link $36.4M
- Medium density wastewater capacity upgrades $78.0M
- Inner City Living capacity upgrades $14.2M
- Hood Street Wastewater upgrade $9.6M
- East Clive WWTP capacity upgrades $29.0M

These components compliment the major main trunk wastewater investments outlined above, linking new capacity with localities within the city and creating capacity for growth within the wider wastewater network. This will ensure wastewater services for planned and likely new development areas as well as capacity for medium-density and apartment developments in the inner city and parts of the existing urban area.

The other wastewater investment provided for delivers a community based solution to the Kohupātiki community. A sewer pump station will be constructed within the Kohupātiki area, and a pipeline under the Clive River linking with the main domestic wastewater interceptor travelling to the East Clive Wastewater Treatment Plant near the intersection of SH 51 and Richmond Road. The cost of this programme component is $1.18M.

This project will enable the development of papakāinga housing within the Kohupātiki community.

Other Infrastructure

Water Supply

- **Waipatu –** a water supply main will be laid along Karamu Road, SH 51 and Bennett Road. This project will be laid alongside the main sewer works and will enable the development of papakāinga housing in the Waipatu area. Project value - $3.6M
- **Growth and resilience improvements to the water supply network –** improvements across the municipal water supply network are programmed to help accommodate growth, improve network efficiency and ensure network resilience. This programme is estimated to cost $25.4M

Transport

- **Irongate/York Rd** - public roadway connections between the existing roading network and the Irongate/York development
- **Capacity Improvements** – minor roading improvements to support housing development at Kohupātiki, Tangoio, Te Hauke and Mōteo

What's the proposed programme sequencing?

Sequencing of the proposed investment is important as we don't know with absolute certainty key drivers such as the rate of population and housing growth, and we do not control macro factors such as economic conditions and activity.

The overall programme ($229m over 10 years) has been split into 2 distinct stages as follows:

Stage 1: Growth Ready - Years 1-3

This stage would put in place the main arterial infrastructure (big pipes) and some of the necessary linking infrastructure to set the district up to accommodate future growth. It would also unlock wastewater capacity to enable those areas initially prioritised for intensification to be developed. This stage is costed at circa $85m (with $18m funded from the Government Infrastructure Acceleration Fund).

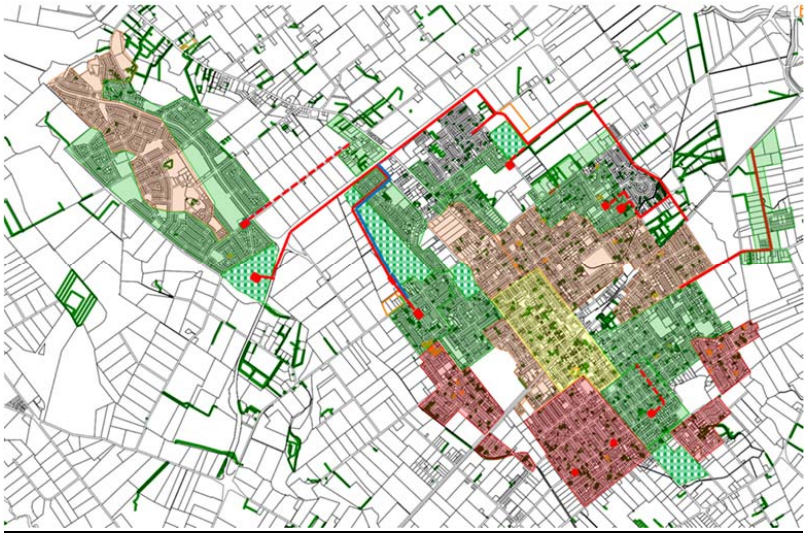
Stage 2: Growth Reactive – Years 4-10

This stage will see the balance of the local infrastructure and upgrades at the East Clive WWTP ($115M + $29M) rolled out between years 4-10 to progressively unlock further areas for intensified development and to provide additional treatment capacity for the increased flows. Importantly, the rollout of these investments can be timed with market conditions and demand. Therefore should the market "cool down" investment can be delayed and alternatively should it be warranted investment can be stepped up. This is how Council can optimise the capex spend and minimise its investment risk.

The proposal on a map

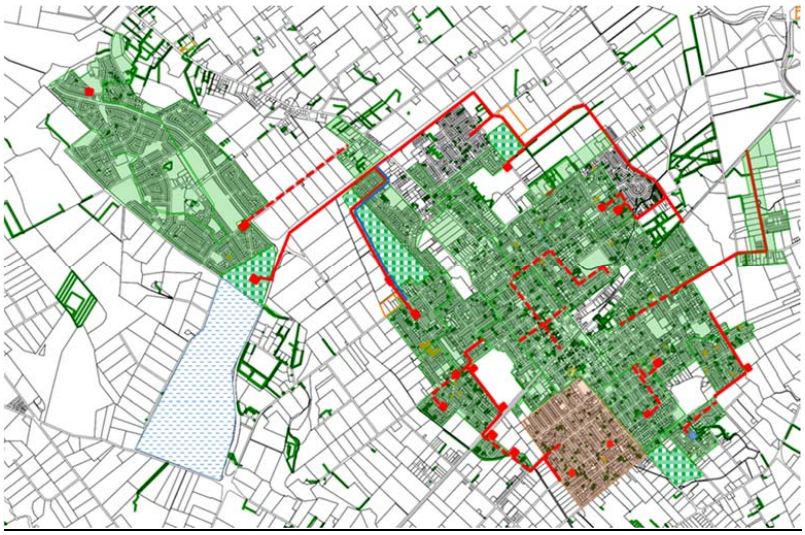
Growth Ready

The map below depicts those areas unlocked for development via the Stage 1 Growth Ready phase (the areas shown as green).



Growth Reactive

The map below depicts those areas further unlocked for development beyond the Stage 1 Growth Ready phase – via the Stage Two Growth Reactive phase.



In Short

Network wide improvements include the upsizing of pump stations and the larger mains that feed into and out of these stations along with network strengthening to optimise capacity at a street level where development is occurring. Investment in new and existing water and wastewater infrastructure to align with growth as it occurs will ensure that we remain responsive to intensification across the urban footprint.

A business case assessment was undertaken on the proposed major trunk main wastewater investment. This looked at whether there were alternative options to the investment proposed. Doing nothing was discounted based on network modelling and the imperative under the HPS-UD to provide at least sufficient network capacity.

The modelling demonstrated that the network was already at capacity at various locations under low scale wet-weather events. It also demonstrated that the current network would not provide the capacity required under the NPS-UD in the context of growth demand for housing being experienced and projected (even at low to moderate growth projections).

The alternate approach to investing in new main trunk infrastructure around the edges of Hastings requires replicating that capacity within the existing network that runs through Hastings. This would involve significant upsizing of pipes and pump stations within Hastings and/or the construction of duplicate mains across the network. The added complexity of trying to implement large scale upgrades on an operational network in built up areas, plus the level of disruption to consumers and the public, would add significant cost and time delays in delivering these projects which are needed now.

A high level cost analysis to deliver the Growth Ready phase was undertaken to evaluate the difference between these options and shows that the brownfield upgrade option could be upwards of $60M or more over the $85M proposed via the greenfield proposal. The advantages of building new infrastructure offline and in areas that are more remote cannot be underestimated and based on these factors, the investment package proposed above is preferred.

6.2 Review Commentary

The LTP Proposal Summary provides a concise overview of the range of work planned as a response to the HDC growth being experienced.

The planned expenditure is $229m sequenced as:

- Growth Ready (Years 1-3), $85m
- Growth Reactive (Years 4-10), $144m

This is summarised in the table below (sourced from the LTP Amendment):

Key Matters	Impact
Cost	
Total Cost	$229m
Expenditure Sequencing	**Stage 1** - $85m Years 1-3 **Stage 2** - $144m Years 4-10

To support this planned growth work programme, Council and the Governments Infrastructure Acceleration Fund have agreed to a significant $18.5m funding assistance grant, which will assist in ensuring the governments housing objectives (4,000 additional houses) are able to be met. Remaining cost is planned to be met by a combination of development contributions over time $128m and by Council debt $83m.

7.0 FINDINGS OF REVIEW

The Findings of the Review are outlined below.

1. Structured approach taken in accordance with good infrastructure management practice.

   The structured approach taken, including substantive modelling is sound and in accordance with good infrastructure management practice.

2. The Infrastructure Constraints Report provides detailed analysis of issues and possible solutions.

   The Infrastructure Constraints Report provides detailed analysis of issues and possible solutions, supported by a range of modelling completed by contracted third parties. The catchment capacity analysis and modelling results provide a sufficient framework of information to design network solutions to provide additional capacity where required.

3. The Strategic Growth Infrastructure Plan examined three broad options, new arterial infrastructure and network wide improvements chosen, supported by IAF funding.

   The Strategic Growth Infrastructure Plan examined three broad options:
   - Do nothing – growth severely restricted, does not meet NPS-US requirements for sufficient network capacity, or government/community housing growth objectives
   - Extend Existing Alternate Approach – requires replicating capacity, significant upsizing of pipes and pump stations, and/or construction of duplicate mains across the network within an existing operational network. Higher complexity and disruption level were assessed to add cost and time delays for infrastructure needed as soon as possible
   - Network wide improvements with Stage One being new main arterial infrastructure, upsizing of pump stations as needed and some of the necessary linking infrastructure to accommodate planned future growth. Stage Two being the balance of local infrastructure required for growth as it develops, and upgrades at the East Clive WWTP to provide additional treatment capacity when required by increased flows. Stage One of this option is currently being consulted on, and developed to design stage
   - IAF approved funding of $18.5m provides good baseline support for the Strategic Growth Infrastructure

4. The adopted Network Wide Improvement Option passes the common sense test for the HDC network, and provides an elegant and relatively low-risk solution to pressing growth demands.

   Option development is always dependant on the characteristics of the existing network, topography and allocated growth areas. The adopted Network Wide Improvement Option passes the common sense test for the HDC network, and provides an elegant and relatively low-risk solution to pressing growth demands:
   - Major arterial infrastructure planned are green fields sites, with route corridors currently available
   - This Stage One arterial infrastructure and associated linking infrastructure immediately provides capacity for growth areas
   - The two stage approach minimises infrastructure overbuilding risks, as Stage Two can be built in phases as growth requires
   - The major arterial infrastructure planned removes the top end of the network flows and opens additional capacity in the central Hastings wastewater sub-catchments

5. Cost estimates have been reviewed. Growth, renewal and level of service costs are adequately separated.

   HDC has examined, modelled and provided cost estimates for alternative, do nothing, and renewal scenarios. The cost spreadsheets for these scenarios have been reviewed. There is no evidence of HDC bundling renewal or level of service costs into the growth planning, rather care has been taken to ensure asset renewal planning integrates well with the planned growth related infrastructure. Several of the Pump Station and Rising Main projects contain reference to capacity improvement and renewal. To assist with confidence in the robustness of HDC processes and capacity improvement budget development it would be prudent to provide a split of the capacity improvement and renewal components of these budget estimates.

6. Wastewater wet weather flow mitigation is being undertaken in accordance with established infrastructure industry good practice.

   Detailed analysis of this Finding is included in Section 4.5 of this report.

7. Wastewater Pump Station and Rising Main expenditure should be shown separately in the project estimates.

   The capacity improvement and renewal components of these budget estimates should be split.

8. The Infrastructure Constraints Report may benefit from more discussion of infrastructure resilience issues and solutions.

   Given the complex interaction between the stormwater system and wastewater network I/I the Infrastructure Constraints Report may benefit from more discussion of infrastructure resilience issues and solutions.

9. The infrastructure investment costs developed for the Strategic Growth Infrastructure have been accepted as accurate and reviewed for logic and reasonableness.

8.0 APPENDIX

8.1 Interviews with HDC Staff

Interviews in preparation for this report supplemented the range of supporting documentation presented by HDC, and were held over a three month period with:

Brett Chapman, Program Manager Growth Infrastructure
Ross McLeod, Director Future Growth
David Mackenzie, Wastewater Manager

8.2 Information References

The following Hastings DC reports and information have been provided for this review:

- Infrastructure Constraints Report, version 1.0, 18 January 2023
- Wastewater Section of Constraints Report
- Infrastructure Acceleration Fund – Drinking Water Upgrades report (Final), 14 December 2021
- Infrastructure Acceleration Fund Business Case, 10 June 2022
- Final – Hastings Developments – P146 Funding Agreement with Kianga Ora
- LTP Amendment text, 21 November 2022
- Draft Wastewater 30 Year Plan (spreadsheet)
- Growth Budget 10 Year Plan BC, 9 November 2022 (spreadsheet)
- Alternative Option – no new infrastructure, 25 October 2022 (spreadsheet)
- HDC Wastewater Growth Project Extract from Capex Version 13 (spreadsheet)
- Key IAF Wastewater Project Cost Estimates Final 12 August Updated 13 September 2022 (spreadsheet)
- Non Funded Infrastructure (spreadsheet)

8.3 Reviewer Biographical Information

Ross Waugh, Director
Waugh Infrastructure Management Limited



Ross is the founder of Waugh Infrastructure Management and is an asset management and systems integration specialist with over 40 years' experience in municipal infrastructure asset management and engineering. Ross has been consulting in infrastructure management for 25 years, in the areas of transportation, utilities, community facilities, buildings and property.

Ross has contributed to a number of New Zealand national data capture, research, advisory, government enquiry, and infrastructure standard setting projects, and is a section author of the International Infrastructure Management Manual 2011 and 2015. Ross is a Teaching Fellow on asset management topics at Auckland University.

Ross has experience of nine cycles of integrating infrastructure asset management planning with long term financial planning within the New Zealand context. He has also completed infrastructure asset management assignments in Australia, Asia, Middle East and the Pacific.

Ross was recipient of the IPWEA NZ Presidents Award in 2016 for leadership in the field of infrastructure asset management and for commitment to IPWEA NZ over many years and is a Life Member of IPWEA NZ.

Ross takes an active interest in on-going International infrastructure asset management trends, is a regular international conference speaker, and is the author of Inframanage Blog, which has an international focus http://inframanage.com/inframanage-blog/.

Ross has broad experience with the Hawkes Bay infrastructure, having worked in multiple roles and investigations over the past 25 years for all of the Hawkes Bay Councils. Waugh Infrastructure Management have a Havelock North based team and office, and in support of this team Ross is regularly in the Hawkes Bay area.

Development Contributions

Review of the economic basis for the revised policy

Hastings District Council

04 April 2023



→ The Power of Commitment

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Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
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Executive summary

Hastings District Council (HDC) commissioned GHD to undertake the following main tasks focused on the review of HDC's Development Contributions Policy (DCP). These tasks were:

1. Provide advice and review of the DCP support analysis, documentation and the actual draft DCP:
    a. Provide advice and assistance in reviewing the DCP support analysis – the rationale for considering different ways to spread the costs of proposed new infrastructure across the development that necessitates it.
    b. Review the DCP support document that sets out the arguments and analysis completed in (1) above.
    c. Review the DCP document when in draft.
2. Comment on the likely impact of proposed changes in DCs on:
    a. fairness and proportionality in terms of the cost of servicing growth in Hastings and the economics of developing within the Hastings District, particularly in the context of council's current 'urban wide' catchment approach
    b. land/section values and house prices
    c. development uptake and housing provision
    d. whether incentives to the developer will have any material effect on development outcomes.

Advice and assistance

GHD assisted through regular meetings with HDC staff, reviews of work to date and draft version of the background document, and a review of the draft DCP. These reviews covered five specific questions related to the DCP review, including balancing administration, efficiency, fairness and equity; the appropriateness of using DCs for achieving other development outcomes; a potential increase in the number of catchments; the option for DC discounts based on dwelling size or number of bedrooms; and an allowance for special assessments.

Our review of work by HDC concluded that the arguments made for the policy approaches in the DCP were reasonable in the context of HDC's particular capital works programme and geography.

Assessment of the policy's economic impacts

The approach HDC has settled upon provides a reasonable balance between accurate pricing (fairness) and the requirements for equity and administrative efficiency.

The revised DCP is unlikely to lead to house price rises as in the long-run, pricing correctly for infrastructure pushes the price of "raw" (un-infrastructured) land down, not house prices up.

In the short and medium term, some developers who have overpaid will need to re-assess the viability of their developments. Some will need to rescope or may sell to others who can make the development work. This reality is no reason for not increasing DCs to accurately reflect the costs of new infrastructure.

Providing support infrastructure and up-zoning is likely to incentivise development in the city centre and Flaxmere. DCs are unlikely to be a major impediment to where development occurs.

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Purpose and scope

HDC commissioned GHD to undertake the following main tasks focused on the review of HDC's DCP. These tasks were:

1. Provide advice and review of the DCP support analysis, documentation and the actual draft DCP:
    a. Provide advice and assistance in reviewing the DCP support analysis – the rationale for considering different ways to spread the costs of proposed new infrastructure across the development that necessitates it.
    b. Review the DCP support document that sets out the arguments and analysis completed in (1) above.
    c. Review the DCP document when in draft.
2. Comment on the likely impact of proposed changes in DCs on:
    a. fairness and proportionality in terms of the cost of servicing growth in Hastings and the economics of developing within the Hastings District, particularly in the context of council's current 'urban wide' catchment approach
    b. land/section values and house prices
    c. development uptake and housing provision
    d. whether incentives to the developer will have any material effect on development outcomes.

Caveats and exclusions

GHD was not asked to interrogate any of HDC's actual calculations, project cost estimation or spreadsheeting. Our focus was on the reasonableness of the arguments being made, comparison of different options, and whether the proposals fitted with the efficiency, administration and fairness elements required by relevant legislation.

Advice and assistance in developing DCP

This section covers the work done in advising and assisting HDC in reviewing its DCP and supporting documentation.

Context

HDC has grown rapidly in the last several years, as New Zealand's population has surged, particularly between 2011 and 2019. Accompanying this growth is a desire to use land more efficiently, by allowing for redevelopment of existing brownfield areas in the District, particularly in the Hastings city centre and in Flaxmere.

Consequently, a review of the investments required to accommodate recent and future growth indicate that significant additional investment will be needed over the next 10 years, particularly in the wastewater capital expenditure programme.

The implication of this investment is that development contributions (DCs) are expected to rise more than 85% in the Medium Density Housing residential area, and more than 55% in Greenfield Residential areas. Hospitality and Accommodation non-residential uses would see DCs rise around 120% per 100m^2 of development. In all three of these instances, the increase in DCs per Household Unit Equivalent (HUE) or 100m2 in the case of non-residential, is over $14,000.

Given the scale of the change, it was prudent for HDC to review alternative ways of splitting these costs, allowing consideration of the positive and negative impacts of different approaches.

Assistance format

GHD assisted HDC in its review in three main ways.

1. **Regular meetings with Ashley Humphrey**, Project Manager Strategy Growth and Development at the time of the review, during development of the support documents and the revised DCP. These meetings (typically weekly) were an opportunity for Mr Humphrey to talk through progress in reviewing the DCs policy, to raise questions about different approaches, and for GHD to provide feedback on approaches used elsewhere that may be useful to consider.
2. **Reviews of work to date and draft version of the background document**. GHD reviewed two progress versions of the support document underpinning the DCP, in particular work that reviewed the approach to setting DCs at HDC (using larger or single catchments rather than multiple smaller catchments for example) and whether alternatives would be better. Work also included the inclusion of a special assessments section for larger developments in the proposed DCP. Detailed written feedback was provided in the form of marked-up copies of the draft work.
3. **Review of the draft DCP**. GHD was asked to review the draft DCP that was predicated on the background analysis completed in the support documentation. Detailed written feedback was provided in the form of marked-up copies of the draft work.

Major topics covered in the review

The review was wide-ranging. However, there were five specific areas of detail where GHD assisted in an economic assessment of the review process.

Balancing administration, efficiency, fairness and equity

An overarching issue constantly in mind in any DCs policy review is the question of balancing administration, efficiency, fairness and equity, as required by the Local Government Act (LGA).[1] Maintaining this balance is a challenge. Each of the four further issues examined below deal with at least one of these four elements.

[1] See for instance LGA Section 197AB (g)

The use of DCs for achieving other development outcomes

HDC has a clear vision for more compact development in the city centre and in Flaxmere that makes more efficient use of existing development areas. It intends to invest heavily there to provide the infrastructure needed to support that intensification. At the same time, HDC wants to ensure uptake of that opportunity for more efficient land use. HDC was keen to explore ways to incentivise development in these areas.

One way to incentivise development would be through lower DCs in the city centre and Flaxmere. However, the LGA is clear that DCs should be used only to cover the cost of infrastructure to service growth in the District, and not for any incentivisation. Specifically, a DC can only be required if the effects or cumulative effects of development will create or have created a requirement for the Council to provide new or additional assets or assets of increased capacity.[2] In other words, reducing DCs for the purpose of encouraging development in a particular area is inappropriate.

As a consequence, GHD's recommendation was that if HDC wished to incentivise development in these areas, a specific grant fund be set apart that was explicitly for funding particular types of development. This would provide elected members with clear visibility over how much money was being allocated to incentivise certain types of development, while keeping the DCs policy clean and in accordance with the LGA.

A potential increase in the number of catchments

Much of the review focused on the question of whether, given the large increase in wastewater DCs anticipated, the number of geographic catchments in the District should be increased. There are arguments on both sides. On the side of increasing the number of catchments is the argument of fairness – that if infrastructure benefits could be shown to accrue to a smaller catchment area, it makes sense that this catchment should contribute more to the costs. But on the other side of the argument, there are questions over whether this multiplication of catchments would increase equity, while it certainly would decrease administrative efficiency. The LGA allows for aggregation provided that it is done in a manner that balances practical and administrative efficiencies with considerations of fairness and equity; and avoids grouping by geographic area avoids grouping across an entire district wherever practical.

HDC evaluated a number of different catchment options, both for the wastewater investment, and for planned investment in other infrastructure types such as transport. This relatively detailed analysis showed that if additional catchments were created for wastewater, then it would have to be argued that additional catchments be created for transport for instance. There is considerable difficulty in establishing the direct beneficiaries of each type of infrastructure, and various scenarios suggested that those who would pay less for wastewater DCs would likely pay more for transport DCs under this larger number of catchments approach. There is also the historical reality of upgrades in some areas (e.g. Havelock North) having been funded by a single catchment where others have effectively subsidised that infrastructure.

Given the administrative difficulty of establishing appropriate catchments, determining who would benefit most and by how much, the "pluses and minuses" reality of where different areas would benefit from different types of investment, and the risk of an ever-growing number of sub-catchments that would become unwieldy, the argument to keep an "urban wide" catchment is a reasonable one.

Discounts for dwelling size or bedrooms

Some councils have evaluated models of charging DCs using different proxies for usage. The argument is that, on average, smaller dwellings, or dwellings with a lower number of bedrooms, tend to have fewer occupants and thus a smaller impact on the network. From an economics perspective, this makes sense as these mechanisms fit with the argument of "user pays".

However, there are challenges to using a "number of bedrooms" approach in particular. Defining a bedroom, or as some do, what everything other than a bedroom is (to isolate the number of bedrooms) is a subjective process and can, if the change in DCs is sufficient, lead to perverse outcomes. One could expect to start seeing many more "second living rooms" that in reality are very much like a bedroom but attract no DCs.

HDC nevertheless considered these approaches in some detail. Various scenarios of how new development may be split across smaller and larger numbers of dwellings (as measured by number of bedrooms) were examined.

[2] See LGA Section 197AB (a)

The scenarios tended to provide a major benefit to smaller dwellings and to have a marginal effect on three-bedroom dwellings or bigger homes as they tended to be the vast majority of new homes.

Rather than get into the complication of trying to determine what a bedroom is, HDC decided on an approach that allowed discounts for smaller sized homes as measured in square metres, only if they are additional dwellings to be added to an existing property. Dwellings under 80 m^2 in size can be charged at a reduced rate, up to a maximum of a 50% reduction from the one Household Unit Equivalent (HUE) DC for a 40m^2 second dwelling. This is, in our view, a reasonable conclusion.

Allowance for special assessments

Because DCs policy has to be set on assumptions of average use, arguments can be made for why a particular development is likely to use infrastructure more or less than the average. HDC needed to protect its right in representing ratepayers to charge developments more than the usual DC if those developments were expected to have a higher impact on infrastructure. At the same time, there needed to be a mechanism to allow developments to demonstrate that they would have a lower impact on the infrastructure network than DCs suggested.

Again, the question of administrative efficiency arises. HDC examined in some detail the question of an appropriate development size to trigger such a special assessment. The costs associated with reviewing DCs due on a small development could well outweigh the actual DCs savings. It was recommended that HDC include a trigger point (in terms of number of dwellings, for instance) for special assessments being allowed that aligned with other policy at a practical level.

HDC chose to align the trigger point (more than three dwellings) with the Medium Density Residential Standards as set out in Schedule 3A Resource Management Act 1991. While these standards do not apply to HDC given it is a Tier 2 Authority, this level was considered to represent an appropriate level beyond which demands on infrastructure might be expected to be lower, justifying a special assessment.

Assessment of the policy's economic impacts

The previous section summarises the specific areas on which GHD's review of the proposed DCs policy changes focused. This section provides economic commentary on the likely impacts of the proposed changes in DCs policy.

Proportionality of the urban wide catchment approach

The approach HDC has settled upon provides a reasonable balance between accurate pricing (fairness) and the requirements for equity and administrative efficiency.

This report has already touched on the question of an "urban wide" catchment approach as opposed to using a larger number of catchments. Work by HDC as part of the policy review demonstrated the "pluses and minuses" reality of infrastructure provision. While it can be argued that the wastewater investment responsible for much of the proposed rise in DCs will primarily benefit the Hastings city centre and Flaxmere, planned transport investment will primarily benefit other areas, and historical upgrades in Havelock North, for instance, have benefitted other areas but been funded by a single catchment. There is a risk of an ever-increasing number of catchments with a commensurate increase in administrative costs and greater amounts of guesswork in trying to identify who benefits from each specific piece of infrastructure.

Economics argues that charging accurately for everything, including for infrastructure, discourages the market from allocating resources inefficiently. This is a technical way of saying that when we undercharge for infrastructure, we get development in the wrong places. But as already highlighted, there is a balance between reflecting the cost of development infrastructure in each location to the dollar and the challenges with estimating who benefits and managing an ever-increasing number of possible catchments.

Because costs of development broadly balance out across urban catchments once beneficiaries of different types of investment (e.g. wastewater versus transport) are considered, the urban wide catchment approach is unlikely to incentivise development in one area relative to another. As already highlighted, the LGA in any event does not allow for DCs to be used explicitly for the purposes of incentivising development in a particular area.

In fact, economics argues that when there are external benefits (costs) to a certain activity, that do not primarily affect the one undertaking the activity, then there is reason to charge less (more) for that activity. There are arguments to incentivise more compact urban redevelopment because of the external benefits it provides (such as lower congestion and emissions than the alternative), but as already highlighted, the LGA does not allow for this. Consequently, any further incentive for development in the city centre or Flaxmere would need to be provided explicitly as a policy separate from DCs policy.

Impacts on land/section values and house prices

In the long-run, pricing correctly for infrastructure pushes the price of "raw" (un-infrastructured) land down, not house prices up.

Signalling early and clearly that growth should pay for itself is good policy. Aligning the price of development with its true cost as much as is practical from an administrative and equity perspective at least helps ensure development happens where it makes economic sense (using resources to maximise societal wellbeing), as well as financial sense (using resources to maximise financial results).

The earlier a signal is made, the more private investors, such as land developers, can incorporate good pricing information into their decision-making. This early information avoids developers overpaying for land on the expectation of their contribution to funding infrastructure (in this case through DCs) being lower than they had anticipated.

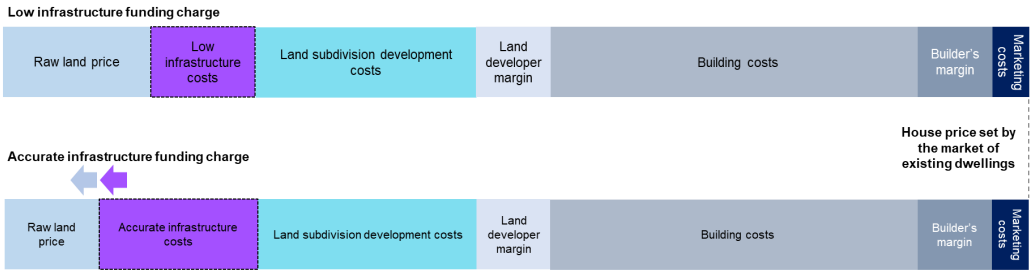
It is a commonly held but inaccurate belief that charging more accurately for infrastructure (such as for wastewater) will significantly raise house prices.

The inaccuracy of this view is demonstrated both by theory and by case studies abroad and in New Zealand. We begin by considering the theory. When a new dwelling is built, it enters a market of thousands of existing homes. New homes delivered into this market have to compete on price with these thousands of existing homes, and especially with other recently constructed homes. As a consequence, developers are what economics calls

"price-takers". No individual developer sets the price of a home. If they charge too much, people will simply buy somewhere else.

In determining development feasibility, therefore, the developer has to consider the price at which the developed homes will sell at the end of the project; a price set by the market. The developer then works ***backwards*** to ensure they make a profit and cover all the other inputs required to go from empty or under-used land to a new completed development. This process requires the developer to calculate infrastructure costs, including DCs or any requirement for extra on-site infrastructure, connector roads and the like. What is left after covering profit and all the inputs, is a ***residual value*** the developer can pay for the undeveloped or under-developed "raw" land. This process of working out the feasibility of the project is demonstrated in the top bar in Figure 1.

Figure 1 How development pricing changes when infrastructure costs rise



If the cost of servicing the land through DCs rises to reflect more accurately the true cost of development, as shown in the second bar in Figure 1, the developer will be very limited in their ability to pass on those costs. Instead, developers will have to pay ***less*** for "raw" land if the development is to maximise its commercial viability. All things being equal, ***house prices are unaffected and raw land prices fall***.

The empirical evidence from overseas and in New Zealand supports this theoretical description. The international evidence on this trend for infrastructure costs to pass up the chain to land prices rather than down to house prices is instructive. Work done by Auckland Council's Chief Economist Unit summarising the findings of international studies shows that in almost all cases, the vast majority of costs were passed up the chain.[3]

In New Zealand, the Auckland experience is invaluable in demonstrating that the true costs of infrastructure are internalised rather than passed on into higher house prices. In its independent role, the Chief Economist Unit at Auckland Council evaluated whether that city's Rural Urban Boundary (RUB) constrained access to developable land and thus artificially inflated land prices inside the boundary, a common accusation against growth boundaries.[4] While growth boundaries can have this effect, they do not by necessity have this impact. The key finding of the RUB study was that Auckland's growth boundary does not currently inflate land prices inside the boundary.

However, a further finding was that once the true cost of infrastructure is factored into land values, it appears that land prices ***outside*** the growth boundary were inflated. This is likely because of speculation on land purchases just outside the boundary, where developers believe that at some point in future, development will be allowed with an ongoing infrastructure subsidy from the general ratepayer. In other words, ***developers are offering a price for raw land based on what they think they will have to pay for infrastructure***. If a clear signal is sent that development will need to pay more for infrastructure, raw land prices will fall, rather than house prices rising.

Impacts on development and housing provision

In the short and medium term, some developers who have overpaid will need to re-assess the viability of their developments.

Still, some developers will have already purchased land on the expectation that DCs will remain at current levels and will in effect have overpaid given the DCs proposed by the policy review. Having to pay more in DCs will

[3] See Harshal Chitale, *Unshackling growth Growth paying for itself.* 2018. https://www.aucklandcouncil.govt.nz/about-auckland-council/business-in-auckland/docsoccasionalpapers/unshackling-growth%20-%20April%202018.pdf
[4] See Shane Martin and David Norman, *An evidence based approach: Does the Rural Urban Boundary impose a price premium on land inside it?* 2020. https://www.aucklandcouncil.govt.nz/about-auckland-council/business-in-auckland/Reports/does-the-rub-impose-a-price-premium-on-land-inside-it-20-Feb-2020.pdf

reduce the profitability of these developments. At the margins, the policy will make some developments infeasible, especially in the current market of falling land values.

As a consequence, in the short to medium term, the more accurate infrastructure charges can marginally reduce development activity while developers who have overpaid rescope or re-specify their developments, or dispose of the land to another purchaser. This is no reason not to implement the revised policy; perpetuating the current state because some developers have overpaid or because of cyclical weakness in the housing market will only exacerbate the infrastructure funding shortfall in future. There will always be some developers who overpay for land and struggle to make the development commercially viable.

Impact on development of incentives to developer

Providing support infrastructure and up-zoning is likely to incentivise development in the Hastings city centre and Flaxmere. DCs are unlikely to be a major impediment to where development occurs.

Using an urban wide catchment approach reduces the likelihood of developers being incentivised to develop in one location over another. Ultimately, where and how quickly development occurs will be driven by developers' determination as to their likelihood of making a profit.

Economic theory suggests that:

- Development is most likely to occur where people most want to be.
- On average, people most want to be where land values are highest, as that is the market's way of showing the attractiveness of an area. Reasons for higher land values are typically dominated by proximity to jobs and transport links, but also include amenities such as views, and access to goods and services.
- Increasing the development potential of any particular piece of land through up-zoning and/or new infrastructure to support development, raises the value of that land, making that area more attractive for development.

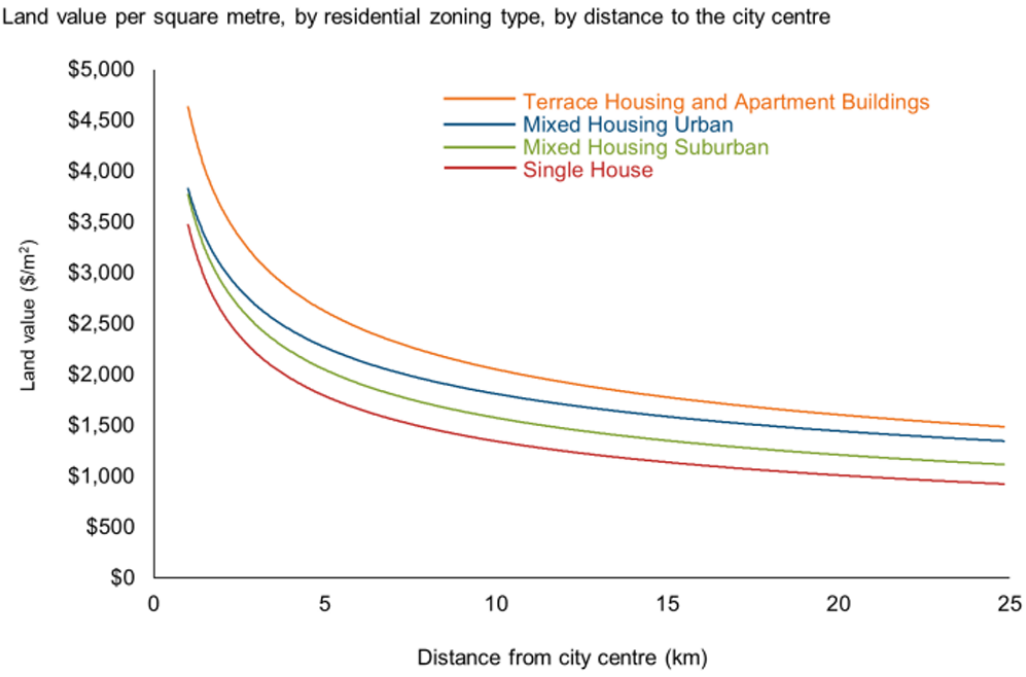
Consequently, development is likely to be stimulated in the Hastings city centre and Flaxmere because of the upzoning and commensurate infrastructure to support that intensification without explicitly reducing DCs in those locations (which would not be allowed under the LGA in any event).

The accuracy of this theory is demonstrated in practically every city in the world, where the city centre tends to have high rise buildings and building height and density declines as one moves outward from that centre. In New Zealand, the accuracy of this theory can be demonstrated using Auckland as an example, where a lot of research has been done on land values. Work by the Chief Economist Unit showed that at any density of residential zoning, properties closest to the best amenities, to jobs and to public transport tended to have the highest values.[5] In the case of Auckland, as in most areas, this focal point is the city centre.

Figure 2 shows that land values rise sharply as one approaches the city centre, and that land values are higher at the same distance from the city centre when the zoning of the land (Terrace housing and apartment buildings being the densest zoning and single house being the least dense) allows for more density. These facts provide a lot of support to the argument that enabling infrastructure, coupled with proximity to jobs and amenities will incentivise development especially in the Hastings city centre.

[5] See David Norman and Shane Martin. *Please, Sir, may I have some more?* 2021. https://www.aucklandcouncil.govt.nz/about-auckland-council/business-in-auckland/docsoccasionalpapers/auckland-economic-quarterly-may-2021.pdf

Figure 2 How up-zoning, and proximity to job and amenities affect land values



Scope and limitations

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The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

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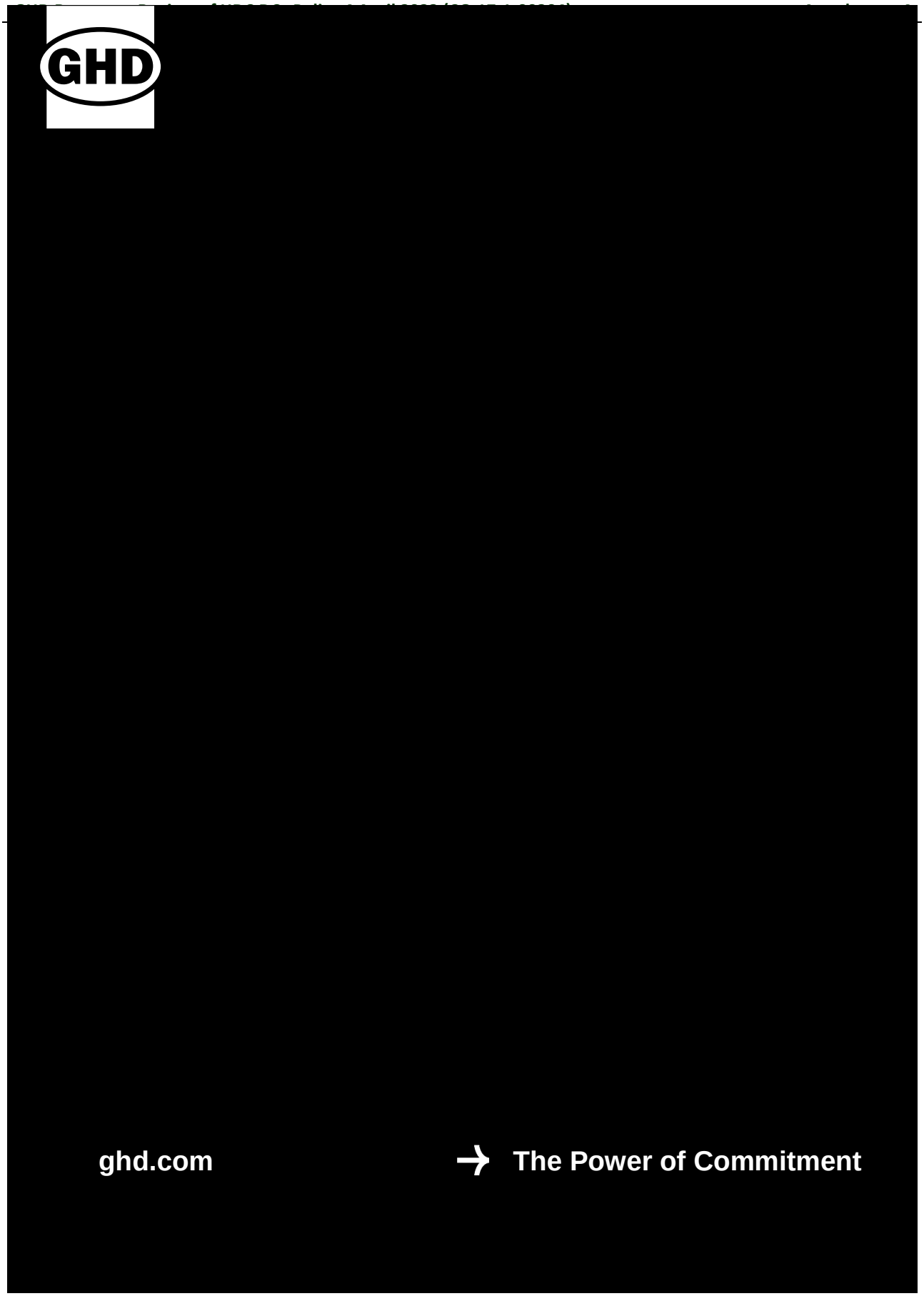
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HASTINGS
HEART OF HAWKE'S BAY
2023/24 DRAFT DEVELOPMENT CONTRIBUTIONS POLICY
HASTINGS
DISTRICT COUNCIL

Summary

Development Contributions are used as a tool to fund capital expenditure required to service growth. Council's Development Contributions Policy (DC Policy), adopted under the provisions of the Local Government Act 2002, provides the policy basis for the Council to charge and collect development contributions in respect of Community Infrastructure, Network Infrastructure and Park & Reserves.

In accordance with the provisions of the Local Government Act 2002, the policy seeks to establish a transparent, consistent and equitable basis for recovering from those persons undertaking development a fair, equitable and proportionate portion of the total cost of capital expenditure necessary to service growth over the long term.

Council first adopted a DC Policy in 2007. The Policy has been regularly reviewed since that time. The last major review occurred in 2016, with minor reviews usually undertaken yearly in the intervening period.

Proposed changes to the 2023/24 Development Contribution Policy:

Hastings District has experienced significant population and urban growth in the last eight years. This growth has occurred at a faster rate than expected and has consumed growth capacity in the urban wastewater network, in particular, faster than anticipated. Hastings District is expected to continue to experience urban growth in the years ahead. These factors necessitate major investment in new wastewater capacity over the next eight years. The proposed investment in wastewater (together with a smaller investment in water supply) is set out in a draft amendment to the Hastings District Council Long-Term Plan (LTP) 2021-2031 which has been adopted for public consultation.

As noted above, Development Contributions are used to ensure that persons undertaking development pay a fair, equitable and proportionate share of the costs of capital expenditure required to service development within the District. The additional growth-related capital expenditure proposed within the LTP Amendment means there are additional costs to be recovered via development contributions. This means that costs per Household Unit Equivalent (HUE) are proposed to be increased, particularly with respect to properties connected to wastewater services. The per $100m^2$ basis for charging for non-residential development is also proposed to increase. These proposed increases are reflected within the proposed 2023/24 Development Contribution Policy. This proposed increase is reflected within the proposed 2023/24 Development Contribution Policy.

The Council is also planning for a significant proportion of future urban growth to occur with existing urban areas, including in the form of medium density housing. While some greenfield development will still occur, urban intensification and brownfield re-development is likely to make up an increasing proportion of urban growth. The DC Policy has been reviewed to ensure it is fit for purpose in this changing context. As a result, special assessments are provided for in relation to Multi-Unit Residential Dwellings (or Comprehensive Residential Development proposals) where they have the potential to create materially lower actual demand on services relative to the HUEs of demand assessed under a standard assessment. Special assessments are also provided for in respect of non-residential circumstances in certain circumstances.

Other than these changes, the fundamentals of the Council's DC Policy are largely retained. The HUE as the base unit for charging for development, the existing approach to catchments for the various services, and the existing ring-fenced catchment areas are retained.

Submissions

Council welcomes submission to its 2023/24 Draft Development Contributions Policy. Submissions open 20 April 2023 and close on 28 May 2023. Submission hearings are anticipated to be heard 08 June 2023.

2023/24 Summary of Schedule of Charges

Type of Development	2022/23 Schedule of Charges	Proposed 2023/24 Schedule of Charges
Greenfields Residential Per HUE **Excludes Howard Street Internal Servicing Contribution*	**$27,302.15**	**$42,724.80**
Howard Street Internal Servicing DC Per HUE	**$23,891.25**	**$22,196.15**
Infill Residential Per HUE	**$16,016.05**	**$31,490.45**
Medium Density Housing Residential Per HUE	**$17,869.85**	**$33,652.45**
Semi Urban Residential (not connecting to council reticulated services) Per HUE	**$6,894.25**	**$5,991.50**
Rural Residential (not connecting to council reticulated services) Per HUE	**$6,894.25**	**$5,991.50**
Office Per 100m2	**$4,875.26**	**$9,509.75**
Commercial & Retail Per 100m2	**$7,587.79**	**$11,868.86**
Industrial Per 100m2	**$5,109.31**	**$11,469.87**
Hospitality & Accommodation Per 100m2	**$12,473.68**	**$27,535.83**
Irongate Industrial Catchment Area Per m2 of Land Area	**$11.85**	**$12.26**
Omahu Industrial Catchment Area Per m2 of Land Area	**$29.01**	**$30.53**

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1.0 Background

1.1 Introduction

Hastings District Council, like many other councils around New Zealand, is experiencing growth pressures from both residential and non-residential development. Council has determined that the funding of new assets or assets of increased capacity to meet demand created by new development should be predominantly recovered by way of development contributions from those benefiting from or necessitating the investment in the infrastructure.

1.2 Enabling Legislation and Supporting Policy Framework

This Policy on development contributions has been prepared in accordance with Sections 102 and 106 of the Local Government Act (LGA) 2002.

The Policy contributes to community outcomes in the Long Term Plan (LTP) by ensuring the provision of appropriate infrastructure to meet the needs of growth and to ensure appropriate levels of service are maintained.

The requirements of section 106 have been specifically considered in formulating this policy. Specifically the following points should be noted:

- Appendix E summarizes and explains the capital expenditure identified in the LTP that the Council expects to incur to meet the increased demand resulting from growth. The total amount of funding to be sought by development contributions and from other sources of funding for each activity has also been identified.
- Appendix D identifies the proportion of the capital expenditure for each project which is attributable to growth and therefore included in the development contribution calculation methodology.
- In relation to each activity to be funded, Appendix H identifies the most appropriate funding mechanism and the community outcomes to which the activity primarily contributes.

1.3 Purpose and Principles of Development Contributions

The purpose of the Development Contributions Policy is to ensure that reserves and infrastructure capital expenditure is predominantly funded by those parts of the community who benefit from or necessitate that expenditure.

Those responsible for creating growth within our district, whether through subdivision, building, new service connections or a change in land use, are being asked to pay a fair share of the resulting additional infrastructure cost incurred by Council.

This policy has been prepared in accordance with the principles and purposes of development contributions under the Local Government Act (2002).

Under Section 197AA, the purpose of the development contribution provisions is to enable territorial authorities to recover from those persons undertaking development a fair, equitable and proportionate portion of the total cost of capital expenditure necessary to service growth over the long term. This policy ensures the cost of infrastructure required by growth is funded in a fair and reasonable manner from those who create, or those who have created, the need for that cost.

Under section 197AB, the key principles that must underpin a development contributions policy are:

- A development contribution will only be required if the effects or cumulative effects of development will create or have created a requirement for the territorial authority to provide or to be provided new or additional assets or assets of increased capacity.
- A development contribution will be determined in a manner that is generally consistent with the capacity life of the assets for which they are intended to be used.
- Cost allocations will be determined to, and be proportionate to, the persons who will benefit from the assets to be provided (including the community as a whole) as well as those who create a need for the assets.

- A development contribution must be used towards the purpose of the activity or group if activities for which it was required, and for the benefit of the district or part of the district identified in the development contributions policy.
- Sufficient information is made available to show what development contributions are being used for and why.
- Development contributions are predictable and consistent with the methodology and schedules of the policy under section 106, 201 and 202 Local Government Act 2002 (LGA 2002).
- When calculating and requiring development contributions, a council may group certain developments by area or land use (averaging) providing it is done in a manner that balances practical and administrative efficiencies with considerations of fairness and equity and grouping across an entire district is avoided where practical.

Under Section 101(3) (a)(i) of the LGA 2002, the following table summarises how Development Contributions contribute towards the achievement of community outcomes as defined in Council's LTP. More detailed analysis can be found in Appendix H.

1.3.1 Long Term Plan Community Outcomes

Group of Activities	Community Outcomes	Level of Service Expected	Parks & Reserves	Network Infrastructure	Community Infrastructure
Water and Roads	***Local Infrastructure which contributes to public health and safety, supports growth, connects communities, activities communities and helps to protect the natural environment.*** *Group of Activity Objectives* - *Maintain and enhance public health and safety* - *Move people and goods around safely and efficiently*	- ***Water Supply*** - *100% compliance with NZ drinking water bacteria standards* - *100% compliance with resource consent conditions (no abatement notices)* - ***Urban Stormwater Drainage*** - *100% compliance with resource consent conditions (no abatement notices)* - *No flooding of inhabitable dwellings in an up to 1 in 50 year event* - ***Sewage Collection, Treatment and Disposal*** - *100% compliance with resource consent conditions (no abatement notices)* - *No wastewater overflow events from routine operation (other than exceptional circumstances)* - ***Roading and Footpaths*** - *Less than 5% of roads exceed national rough ride limits* - *Less than 3% of roads with condition classified poor or worse* - *Less than 1km o footpaths classified poor or worse* - *All property will be accessible by vehicles meeting maximum as of right mass and dimensions, except by special agreement.*		✓	
Safe, Healthy and Liveable Communities	***Local Infrastructure which contributes to public health and safety, supports growth, connects communities, activities communities and helps to protect the natural environment.*** ***Local public services which help meet the needs of young and old, people in need, visitors and locals, businesses and households.*** *Group of Activity Objectives* - *Provide a range of accessible, social, cultural and recreational activity*	- *94% of urban properties within 500m radius (walking distance) of a park* - *56% of urban properties within 500m radius (walking distance) of a playground*	✓		✓

1.4 Financial Contributions

Council introduced its Development Contributions Policy in July 2007. Prior to this, Financial Contributions (in the form of cash, land, works, services, or a combination of these), were charged under the Hastings District Plan. Financial contributions were provided for under the Resource Management Act 1991 (RMA), and were used to offset or mitigate any adverse impacts on the natural and physical environment including utility services, of a new development.

In the unlikely event that Council receives an application for 224c on a resource consent lodged under the Financial Contribution regime, that has not lapsed, Council agrees that the 'financial contribution condition' stipulated on the decision will be payable.

Applications received after 01 July 2007 will be subject to assessment under the Development Contributions Policy.

Council has determined that, to the extent that a Financial Contribution has already been imposed on a development as a condition on a resource consent or otherwise charged, it will not require a Development Contribution in relation to the same development to cover the same service, unless it reflects an increase in scale or intensity of the development since the original Financial Contribution was required.

1.5 Works or Services

Nothing in this policy will prevent the Hastings District Council from requiring as a condition of consent the provision of works or services to directly support the immediate development. These works or services may include frontage works, service connections, private vehicle crossings, service extensions and the like. This will only be the case where the works have not been included in a Development Contribution required under this policy. Furthermore, nothing in this policy will prevent the Hastings District Council from entering into development agreements pursuant to sections 12(2) and 200(2) of the LGA 2002. Any agreement entered into by Council will be prepared in accordance with Section 207A-207F of the LGA 2002.

2.0 Policy

2.1 Adoption, Implementation and Review

The Council originally adopted a Development Contributions Policy in 2007 as an amendment to its 2006-2016 Long Term Council Community Plan. The policy came into force for any application received after 01 July 2007.

Under Section 106(6) of the LGA 2002, it is intended that the Development Contributions Policy will be reviewed at least once every three years using a consultation process that gives effect to the requirements of Section 82 LGA 2002. It may be reviewed at shorter intervals if Council deems necessary, to take account of:

- Any changes to the significant assumptions to the Development Contributions Policy
- Any change in policy as Council continues to develop and implement structure plans for the District.
- Any changes to the Hastings District Plan
- Any changes in the capital works programme for growth
- Any changes in the pattern and distribution of development in the District
- The regular reviews of the LTP
- Any significant changes in cost indices
- Any other matters Council considers relevant.
- It is intended that the Development Contributions Schedule may be updated regularly to ensure charges are in line with the level of growth costs the Council faces. This will also enable Council to factor in inflationary adjustments, improved project information and actual and budgeted project costs.

2.2 Timing of Assessments

Under Section 202 of the LGA 2002, Council can apply a development contribution upon the granting of:

- A resource consent (subdivision or land use)
- A building consent (including Certificate of Acceptances)
- An authorization for a service or infrastructure connection.

In most cases, development contributions will generally be collected at the resource consent stage. Council considers that the resource consent stage is more often the most appropriate stage to take a development contribution for the following reasons:

- Practicality of implementation
- Economies of scale in implementation costs
- Fairness
- Best available knowledge for projections and allocating budgets

Where two applications (Building and Resource Consent) are submitted simultaneously, an assessment may be issued in respect of each application. Payment of the contribution will be required at the earlier of application for Code Compliance Certificate or 224c. Once paid, 'actual credits' will be recognised on the remaining application. This may negate any development contributions requirement on the remaining application. Refer to Invoicing and Payment of Development Contributions under Section 6.0.

2.3 Credits

Credits are recognition of previous contributions (Financial or Development Contributions) that have already been assessed, paid or otherwise met.

For the purposes of this policy a credit is measured as the number of Units of Demand (Household Unit Equivalents – HUE) for each activity applied in determining the development contribution charge.

Credits towards the assessment of development contributions for a consent application include both "Historic Credits" and "Actual Credits".

Information on Historic and Actual Credits will be provided upon application (where necessary the applicant may be required to provide written information about the existing use of the site to enable this assessment).

The management and recording of Historic and Actual Credits against each title is to ensure the Council does not collect contributions twice for the same purpose.

2.3.1 Historic Credits

Credit will be given for the pre-existing status of properties (prior to 19 April 2000) even if no previous financial or development contributions were paid. The date of 19 April 2000 is the date the financial contributions section of the Hastings District Plan became operative. Credits will be associated with the existing title and calculated and assigned on a per activity basis.

For example: A dwelling built before 19 April 2000 will have one credit towards Community Infrastructure, Parks; Reserves Land, Roading, and service connections where it is already connected to council networks.

However, if the property is not in an area of service, or it is not connected to the service, it is not deemed to have any historic credit for that service.

For the calculation of historic credits, there is no historic time limit. Any excess credits existing from amalgamation will remain available to be used to offset any development contribution requirement on that site.

2.3.2 Actual Credits

Where development contributions or financial contributions for a particular property have previously been assessed and paid, HUE credits shall be given for that particular activity. For the calculation of actual credits there is no historical time limit and all previous payments shall be taken into account.

Summary Table of Credits

Residential Development

2.3.3 Residential Development

Type	Activity	Allocation of Credits
Historic Credits ***(relates to the pre-existing subdivision or development that occurred prior to 19 April 2000)***	Community Infrastructure	• Per Existing Dwelling • No credit allocated if vacant
	Parks & Reserves (Local & District Wide)	• Per Existing Dwelling Or • Per title where vacant
	Roading	• Per Existing Dwelling Or • Per title where vacant
	Stormwater Wastewater Water	• Per connected dwelling
Actual Credits ***(relates to any subdivision or development that occurred after 20 April 2000)***	Community Infrastructure Parks & Reserves (Local & District Wide) Roading Stormwater Wastewater Water	• Where a financial contribution (development Levy or Contribution) has previously been assessed and paid.

- Where a site contains a residential building demolished or destroyed by fire or some other cause, no development contributions will be payable provided that the same number of dwelling units are rebuilt. Any additional units will be assessed in terms of this policy.
- Credit HUEs for all activities must be allocated to the same allotment or allotments.

Non-Residential Development

Table 2.3.4 Non-Residential Development
(For developments outside Irongate or Omahu Industrial Catchments)

Type	Activity	Allocation of Credits
Historic Credits ***(relates to the pre-existing subdivision or development that occurred prior to 19 April 2000)***	Roading Stormwater Wastewater Water	• *Occupied:* Where a connection exists, credits will be allocated on a per m2 GFA based on the existing development and activity, and using the current policy equated back to a household unit equivalence (HUE). • *Vacant:* Credits will be allocated per HUE but only where an existing connection exists.
Actual Credits ***(relates to any subdivision or development that occurred prior after 20 April 2000)***	Roading Stormwater Wastewater Water	• *Occupied:* Where a connection exists, credits will be allocated on a per m2 GFA based on the existing development and activity, and using the current policy equated back to a household unit equivalence (HUE). • *Vacant:* Where a financial contribution (Development Levy or Contribution) has previously been assessed and paid.

Table 2.3.5 Non-Residential Development
(For developments within Irongate or Omahu Industrial Catchments)

Type	Activity	Allocation of Credits
Actual Credits	Roading Stormwater Wastewater Water	• Credits will be allocated on a per m2 basis to any portion of land where a development contribution for an

		activity has previously been assessed and paid.
Historic Credits	Roading Stormwater Wastewater Water	• Where a connection exists, credits will be allocated on a per m2 basis to any portion of land which contains an existing Industrial Building.

- Where a site contained non-residential buildings demolished or destroyed by fire or some other cause, no development contribution will be payable unless the building is built to a larger scale, or a change in use results in a greater level of intensity/ impact on Council services.
- Credit HUEs for all activities must be allocated to the same allotment or allotments.

2.4 Definition of Growth

In terms of this Policy, growth means the increase in demand for capacity in the community's network and community infrastructure required to support development within the community. The "community" in this sense is both local and district wide as recognised in section 3.2 where "areas of demand" are described.

2.5 Works within a Development Site

Within the boundaries of the development site, the developer shall provide the following as part of the cost of development as a condition of the consent under the Hastings District Plan:

- Road, transportation and car parking infrastructure
- Water supply network
- Wastewater network
- Stormwater treatment, collection and disposal infrastructure.

Note 1: A reduction in development contributions may be applied if any internal infrastructure includes a proportion of "up-sizing" required by the Council beyond that required to service the subject development.

Note 2: The exception to this is the recovery of those costs associated with the road corridor and servicing within that corridor within the Howard Street Residential Zone. These costs will be recovered directly from those landowners within the zone benefiting from the infrastructure being provided.

2.6 Development Contributions

2.6.1 Requirement For and Use of Development Contributions

Section 197 of the LGA 2002 defines development in accordance with the definition in Appendix F of this policy.

In accordance with section 199 of the Act, the Council will only require development contributions if the effect of development, either by itself or through cumulative effects in combination with other developments, is to require new or additional assets or assets of increased capacity and as a consequence, the Council incurs capital expenditure to provide those assets or increased capacity.

Both the underlying methodology of this policy and its implementation will ensure that each potential development will be assessed to decide whether it constitutes a development in accordance with the Act and creates demand for additional assets of increased capacity. For example section 4 of this policy helps in determining whether a development generates a demand.

Council may require a development contribution from any development for the following:

- Total cost of capital expenditure already incurred in anticipation of growth development
- Total cost of future capital expenditure to meet the growth component of development.

Development contributions will be collected to support the following activities:

Classification	Activity	Description
Community Infrastructure	Community Infrastructure	Providing social and recreational infrastructure such as the provision of public toilets and playgrounds
Parks & Reserves	Local & District Wide Reserves	Providing social and recreational infrastructure through the provision of safe and well located local and district wide parks, sports grounds and reserves.
Network Infrastructure	Roading	Ensuring a safe and efficient transport network. (Road, pathways and cycle ways)
	Water	Ensuring supply of healthy drinking water through the provision of water infrastructure.
	Wastewater	Mitigation of adverse environmental impacts and public health risks through the provision and effective management of wastewater disposal infrastructure.
	Stormwater	Mitigation of adverse environmental impacts through the supply of reliable stormwater service that minimises flooding and risk to life and property in urban areas.

2.6.2 Capital Expenditure Council Expects to Incur as a Result of Growth

The total cost of expenditure related to growth that the Council expects to incur to meet increased demand for transportation, water and wastewater, stormwater and parks, is summarized in the table in Appendix E.

The growth component of the total cost of capital expenditure, net of any funding from other sources or agencies such as Waka Kotahi / New Zealand Transport Agency (NZTA), will be funded by development contributions.

The calculations and documentation supporting the above capital expenditure are available for examination at the offices of Hastings District Council.

Note: Backlog and Renewal portions of capital expenditure will be funded from sources other than development contributions.

2.6.3 Capital Expenditure Council has incurred in Anticipation of Development

Over the next 10 years, Council will embark on a significant capital expenditure programme that will enable significant future development throughout its community. Council will recover the growth component of these projects implemented to support the future community. These projects are included in Appendix D.

Please note that the cost of the growth component is determined from actual total cost to implement these projects less any other funding received or expected to be received (including existing financial contributions paid or required under existing conditions of consent).

2.6.4 Council Use of Development Contributions

Council will use development contributions only for, or to the purpose of, the activity or groups of activities for which the contributions were required. This will be undertaken on an aggregated project basis for each of the activities.

Projects within an activity area may change over the 10 year period. However, despite any amendments, this policy assumes that projects cost no less than the estimates set out in this policy including the projected growth components. Therefore, collected development contributions will still be used for the projected new projects within the relevant activity area notwithstanding amendments that may in future be made to them.

Where Council anticipates funding from a third party or agency such as NZTA for any part of the growth component of the total cost of capital expenditure then this

proportion is excluded from the total estimated growth component to be funded by development contributions under this Policy.

2.7 Limitations to the Application of Development Contributions

Council will not require a development contribution in the following cases:

- Where it has, under Section 108(2)(a) of the Resource Management Act 1991 (RMA), imposed a condition on a resource consent in relation to the same development for the same purpose; or
- Where the territorial authority has already required a development contribution for the same purpose in respect of the same building work, whether on the granting of a building consent or certificate of acceptance, unless a further contribution is required to reflect an increase in the scale or intensity of the development since the original calculation was required.
- Where the developer, with the agreement of the Hastings District Council under sections 12(2) and/or 200(2), LGA 2002, will fund or otherwise provide for the same reserve, network infrastructure, or community infrastructure; or
- Where a third party has funded or provided, or undertaken to fund or provide, the same reserve, network infrastructure or community infrastructure.
- For the avoidance of doubt, this does not in any way limit Council's ability to require that Parks: Reserve land contributions are to be paid in the form of a cash contribution.

3.0 Determination of Development Contribution Charges

3.1 Activities

As per section 2.6.1, six activities have been defined for which development contributions have been calculated. The activities are:

- Community infrastructure (including community facilities such as playgrounds and public toilets)
- Parks and Reserves (local and district wide) acquisition and development of land
- Roading
- Water Supply
- Wastewater
- Stormwater

3.2 Areas of Demand

For each activity a number of Areas of Demand (known as 'catchments') have been determined based on their key characteristics. These characteristics include geography, service delivery, available growth information and the nature and complexity of solutions. Consideration has also been given to practical and administrative efficiencies, and towards fairness and equity.

The Areas of Demand are either local or district wide. Individual capital works projects are allocated to either local or district wide Areas of Demand depending on the nature of the project and the community it is required to serve.

The use of 'catchment areas' can play a role in providing for fairness as Council apportions those growth costs to those who benefit from that the assets provided.

Developments lying within an Area of Demand will assessed against the development contributions for that area. If for any reason a development falls outside the Area of Demand, and is still served by the infrastructure associated with one of the activities for this Area of Demand, then the schedule of contributions for that Area of Demand shall still apply.

The areas of demand are defined in Appendix C.

3.3 Level of Service (LOS)

Council activity management plans for each activity define the relevant LOS for that activity.

From these LOS statements, a capital project list to meet projected growth has been identified and priced, based on sustaining or achieving these levels of service.

In general the development contributions will be calculated based on the existing levels of service across the District.

Any requirement to increase the LOS for existing users will not be funded by development contributions.

3.4 Growth Model and Household Unit Equivalents

The District's growth model has been developed in order to predict growth throughout the District in 'Household Unit Equivalents' (HUE) and this growth information is presented per activity and planning unit (locality). A number of planning units make up each Area of Demand. A HUE is used to refer to residential, non-residential and rural development as explained in Sections 4.1, 4.2 and 4.3.

Growth expectations will inevitably change over time. In recent years, Hastings District has seen rapid growth, and combined with projected growth levels, has led to significant increases in planned wastewater investment to support that growth. Hastings District Council will continually monitor growth and improve its growth model forecasting techniques.

In the growth model, a HUE is defined as being equivalent to one 'average' household unit of demand. It is recognised that household units vary throughout the District and that the demands they generate also cover a broad range. Furthermore, the level of demand generated by any household unit at any one time will vary according to the number of occupants and the nature and extent of allowed activities undertaken on each property.

However, given the relatively large size of the development contribution Areas of Demand and the implied averaging, the approach is considered appropriate as well as being consistent with the level of detail recognised by the growth model itself. Provision for Special Assessments exists for particular non-residential or multi-unit residential developments if it is considered that they will create lesser or greater levels of demand on Council services under 4.12 of this policy.

3.5 Cost Allocation Methodology

The Cost Allocation Methodology used in this Policy is referred to as "Modified Shared Drivers". This methodology is applied to the capital works projects in the LTP. In the preparation of this Development Contributions Schedule, priority has been given to high value projects and those with a high growth component.

The Modified Shared Drivers approach takes the planned costs of a proposed project and assigns them to various drivers. The categories of drivers within the methodology are:

- Renewal
- Backlog
- Growth
- Unallocated.

By analysing each project against these drivers, the distribution of the benefits of the works can be better identified. The benefits to the community as a whole can be identified (generally renewal, backlog and unallocated), while conversely the benefits to the growth community can also be identified (generally growth).

A summary of the Cost Allocation Methodology is as follows:

- The scope and Gross Cost of the project are reviewed. Any non-capital (operations and maintenance costs, feasibility costs) are deducted.
- Third party funding (if any) is identified and deducted.
- Area of demand is established.

- If applicable, a share for Renewal is deducted taking into account the scope of assets being renewed and their remaining life at the time of renewal.
- Capacity and Demand information based on current levels of service is used to allocate shares to Backlog and Growth.
- Any remaining share is defined as Unallocated.
- Capacity and Useful Life information is gathered to help determine the period over which contributions should be collected.

The full and detailed methodology and cost allocation analysis are available for inspection upon request.

3.6 General Funding Model

The purpose of the funding model is to ensure an equitable assessment of funding requirements in compliance with the LGA 2002 to support the Development Contributions regime. The primary output of the funding model is an assessment of the required development contributions charges. These charges are listed in Appendix A.

The model takes account of:

- The funding requirements to support the cost of growth infrastructure.
- Equitable application of those funding requirements to the incoming growth community.
- Recognition that the backlog components of the growth infrastructure are funded by the existing community. The rating charges applied to the existing community will also be applied to the incoming community as there is no differential rating process to exclude the incoming community from those rates charges. Future rating revenue from the increasing community has been estimated and incorporated into the calculation of the contributions in the Funding Model.
- Interest on funds raised to implement growth infrastructure, including interest on infrastructure provided in advance of development occurring.
- Interest on contributions received in advance of provision of growth infrastructure.

3.7 Irongate / Omahu Industrial Funding Models

The costs associated with providing infrastructure for the Irongate and Omahu Industrial Areas have been ring-fenced and will be recovered specifically from those developments occurring within each individual catchment. These charges are listed under Appendix A.

The model takes account of:

- Recognition of any benefit received from the assets by the wider community through the cost allocation process.
- Any funding from other sources (NZTA Subsidies).
- Interest incurred throughout the lifetime of the project on any provision of infrastructure required to service the catchment area.
- Interest received throughout the lifetime of the project on any contributions received in advance of any provision of infrastructure required to service the catchment area.
- A sliding scale inflation adjustment (BERL) to the contribution rate to ensure those developing in earlier years are not disadvantaged, and all development throughout the lifetime of the project are paying a fair share of the total cost of capital expenditure.
- Any portion of land containing an existing industrial building where a development contribution is unlikely to be paid (I.e the development is not required to connect to Council services), or portion of land containing an existing industrial building that is already connected to Council services.

3.8 Howard Street Development Area

The costs associated with land and infrastructure under the Howard Street Designation has been ring-fenced and will be recovered specifically from those developments occurring within the Howard Street Residential Zone. These charges are listed under Appendix A.

The model takes account of:

- Interest incurred throughout the lifetime of the project on any provision of infrastructure required to service the catchment area.
- Any portion of land containing an existing residential dwelling where a development contribution is unlikely to be paid (I.e the development is not required to connect to Council services), or where that existing residential dwelling is already connected to Council services.

4.0 Assessment of Development Contributions

4.1 Defining a Development

Before deciding on whether a development contribution is payable, in accordance with Section 199 of the LGA 2002, the Council must assess whether the development either by itself or via cumulative effects that a development may have in combination with other developments, requires new or additional assets or assets of increased capacity to be provided.

New buildings, a change in land use or subdivision of land to create additional lots, usually results in the potential for additional household units and therefore additional HUEs, which form the base unit for the calculation and charging of development contributions.

In the case of the Roading, Parks & Reserves (Local & District Wide) and Community Infrastructure, any additional HUE being created has access to these activities; therefore, a demand is created.

In most instances, if a connection is made to Water Supply, Wastewater or Stormwater Networks, a demand is created. Where no ability to connect to Water Supply, Wastewater or Stormwater Network Infrastructure exists, no demand is created.

However, if the relevant network services are provided in the future, and a connection occurs, a demand is created and a contribution would be applicable at the time of connection.

Where credits are provided for in accordance with section 2.3 of this policy, it is accepted that no additional demand is created to the value of these credits.

4.2 Residential or Rural Subdivision and General Residential Applications

In most instances the only information that is required to calculate the number of HUEs, and hence the development contribution chargeable, is the additional number of residential allotments or buildings created by the proposal.

In the case of residential buildings, generally, every residential building equals one household unit, which in turn equals one unit of demand. The exception to this will be if the residential building qualifies for a reduction under section 4.3 or it is a retirement village unit as defined under Glossary of terms (Appendix F).

In the case of subdivision, it should be noted that every new residential or rural lot is generally taken as being intended for one household unit so a contribution is applied.

It should be noted that in some instances a development contribution may still be payable even where there is no overall increase in the number of titles or allotments created by the subdivision.

For example:
A subdivision of two vacant existing titles into two new titles with the purpose of creating one lifestyle lot and one balance lot, may still attract development contributions. In this instance, the intention may be to build a dwelling on the new lifestyle lot which creates a demand for Community Infrastructure, Roading and Parks & Reserves (Local and District Wide). However, contributions would only apply where a contribution has not previously been paid or assessed or credits are provided for under 2.3 of this policy.

Where the property created through subdivision or an additional residential building is not planned to be connected to the Water Supply, Wastewater or Stormwater Network Infrastructure no charge will be made for that activity. However, if at a future time the property is to be connected, it will attract a development contribution at building consent or at service connection.

4.3 Additional Residential Buildings

The only exception to every residential building being treated as one household unit is the application of a reduced rate to any additional residential dwelling with a gross floor area under 80m^2. A reduction will be applied on a 'sliding scale' as per Table 4.3.1 based on the size of the building. The maximum reduction that will be applied is 0.5 of a HUE.

Table 4.3.1 Reductions for Additional Residential Buildings

Size of Additional Building	HUE Reduction applied per activity	HUE Charged per activity
80m^2 or over	Nil	1
70m^2	0.125	0.875
60m^2	0.25	0.75
50m^2	0.375	0.625
40m^2 or under	0.5	0.5

Irrespective of size, the first dwelling on any site will always attract a one household unit equivalent (HUE) charge. The reduction will only apply to any additional residential buildings under 80m^2 as this is a reflection of the fact these residential types of buildings are often for the care of extended family and are likely to have less impact on Council infrastructure.

A further contribution may apply if the scale and intensity of that additional residential building is increased.

For example:
If an additional residential building that received a reduction increases its gross floor area (I.e from 50m^2 to 70m^2), a contribution based on the additional 20m2 will apply at the building consent stage using the development contributions policy in force at the time.

4.4 Retirement Villages

Council recognizes that the average occupancy of a retirement village unit is typically lower than an average household and as a result a lesser impact is likely to be placed on Council infrastructure. For the purpose of establishing the number of equivalent household units that apply for retirement villages, the total number of units within the development shall be multiplied by the following factors:

Table 4.4.1 Retirement Village Assessments

Activity	HUE Charged Per Retirement Village Unit	HUE Charged Per Retirement Village Aged Care Room
Community Infrastructure	0.33	0
Parks & Reserves (District Wide & Local where applicable)	0.33	0
Roading	0.33	0.3
Stormwater (where applicable)	0.33	0.3
Wastewater	0.33	0.3
Water	0.33	0.3

4.5 Non-Residential Applications

Contributions for Parks & Reserves (Local & District Wide) and Community Infrastructure are not recovered from non-residential developments. The following activities will be assessed to determine the HUE's associated with the planned development.

Network Infrastructure

- Roading
- Water Supply
- Wastewater
- Stormwater

Non-residential subdivision

The creation of each additional vacant non-residential allotment will be charged 1 HUE per activity connected or additional site created whichever is the greater.

An assessment will also be completed at the time of building consent being submitted when the demand and type of activity is known on the site net of any credits from the subdivision.

Non-residential development

Development Contributions will also apply where a new building is constructed or where an existing building extends its Gross Floor Area (GFA) towards the additional impact upon Council infrastructure. An assessment using the Equivalence Table under 4.5.1 will apply on the additional Gross Floor Area. The equivalences reflect the average demand placed on each Council infrastructure from the each type of commercial or industrial industry.

For non-residential consent applications HUEs may be calculated for each activity as follows:

Table 4.5.1 GFA Conversions for Non-Residential Development *(excluding development within the Irongate & Omahu Industrial Catchments)*

	Stormwater * See Note 1 below.	Water	Wastewater	Roading
Land Use/Activity	**HUES per 100m² of Gross Floor Area (GFA)**			
Commercial & Retail	1 HUE per Lot	0.30	0.30	0.93
Offices	1 HUE Per Lot	0.30	0.30	0.41
Industrial & Warehouse	1 HUE per Lot	0.40	0.40	0.28
Hospitality & Accommodation	1 HUE Per Lot	0.95	0.95	0.73

***Note 1:** If the developments impact on Council infrastructure is significantly greater than envisaged by Council, it reserves the right to carry out a special assessment under 4.12 Extraordinary Circumstances.

4.6 Development within the Irongate & Omahu Industrial Catchment Area

The General Industrial Zone (Irongate and Omahu) has a significant capital expenditure requirement. Council considered the risks of smaller catchments such as greater unpredictability and uncertainty about funding, an increase in the time spent implementing, managing and administrating the policy. However specific catchments for each industrial area was deemed appropriate to fairly allocate the cost of the infrastructure required in each area to those developments who benefit from the new assets.

4.7 Assessment within Irongate Industrial Catchment

An assessment will be applied to any development located within the Irongate Industrial Catchment Area. The assessment will cover development contributions in respect of Roading, Wastewater and Water Infrastructure services and be calculated on the **land area of the site** being developed. No contribution will be required in respect of Stormwater.

The only exception, where an assessment of contributions will not be made:

- Where a resource consent is lodged to subdivide, where the residual land is greater than 4ha in size and is not intended for development and therefore does not create demand for Council infrastructure at this stage. For the purposes of this assessment, vacant shall be taken as any site not containing commercial or industrial buildings.
- Where the site has any actual or historic credits as outlined under Table 2.3.5.

Whilst the District Plan variation confirmed the extent of the area as approximately 118ha, due to existing development, it is envisaged the development contribution will be recovered across a chargeable area of approximately 94ha.

An assessment will be issued at the time the resource or building consent is approved. Payment of the development contribution can be made at any time up to application for 224(c) or Code Compliance Certificate, using the schedule of charges in place at the time of payment.

4.8 Assessment within Omahu Industrial Catchment

An assessment will be applied to any development located within the Omahu Industrial Catchment Area. The assessment will cover development contributions in respect of Roading, Wastewater, Water Infrastructure services and Land Acquisitions for Stormwater Corridor, and be calculated on the **land area of the site** being developed.

The only exception, where an assessment of contributions will not be made:

- Where a resource consent is lodged to subdivide, where the residual land is greater than 2ha in size and is not intended for development and therefore does not create demand for Council infrastructure at this stage. For the purposes of this assessment, vacant shall be taken as any site not containing commercial or industrial buildings.
- Where the site has any actual or historic credits as outlined under Table 2.3.5.

Whilst the District Plan variation confirmed the extent of the area as approximately 62ha excluding the servicing corridor, due to existing development, it is envisaged the development contribution will be recovered across a chargeable area of approximately 52ha.

An assessment will be issued at the time the resource or building consent is approved. Payment of the development contribution can be made at any time up to application for 224(c) or Code Compliance Certificate, using the schedule of charges in place at the time of payment.

4.9 Development within the Howard Street Development Area

The Howard Street Development Area has a significant capital expenditure requirement, costs that the landowner would ordinarily expect to incur as they relate to infrastructure within their land. Council considered the risks of smaller catchments such as greater unpredictability and uncertainty about funding, and an increase in the time spent implementing, managing and administrating the policy. However a specific catchments was deemed appropriate to fairly allocate the cost of the infrastructure required in each area to those developments who benefit from the new assets.

4.10 Assessment within Howard Street Development Area

An assessment will be applied to any development located within the Howard Street Development Catchment Area. The assessment will cover development contributions in respect of Roading, Stormwater, Wastewater and Water Infrastructure services and be calculated on a per Household Unit Equivalent (HUE) basis.
An assessment will be issued at the time the resource or building consent is approved. Payment of the development contribution can be made at any time up to application for 224(c) or Code Compliance Certificate, using the schedule of charges in place at the time of payment.

4.11 Rural Subdivision and Rural Land Uses

Generally, a development contribution will be required on all rural subdivision as each lot created gives rise to an additional set of development rights.

Council may agree to defer the development contribution where any additional lot created is rural zoned, is not intended for development, and does not create a demand for Council infrastructure at the time of subdivision.

All requests for deferral, must be made in writing at the time of lodgment of the resource consent. Any decision to defer the contribution is at the discretion of the Group Manager: Corporate.

Any deferral will be recorded on the title using a consent notice at the applicant's expense. This does not exempt the site from paying a development contribution at all. The development contribution will simply be deferred until the site is further developed (I.e further subdivision or the building / relocation of a residential dwelling to the site).

All lifestyle lots are taken as intended for development and will not be considered for deferral. Deferral will not be considered for applications where a contribution requirement has already been assessed.

Where a contribution is required, the following activities will be assessed as 1 HUE per additional allotment:

- Community Infrastructure
    - Community facilities (I.e Playgrounds and Public Toilets)
- Parks and Reserves
    - Local Reserves; Acquisition and development (only if lies within the Greenfields Catchment)
    - District Wide; Acquisition and development
- Network Infrastructure
    - Roading
    - Water Supply (only if serviced)
    - Wastewater (only if serviced)
    - Stormwater (only if the development lies within a stormwater area of demand)

Non-residential sheds and farm buildings ancillary to land based primary production occurring on the subject site, and which do not place additional demand on infrastructural services, will not incur a development contribution.

Industrial or commercial activities established in the rural area will be assessed for a contribution in accordance with Section 4.4.

Where the property is not planned to be connected to the water supply, wastewater or stormwater network infrastructure no charge will be made for that activity. However if at a future time the property is to be connected it will attract a development contribution at building consent or at service connection.

4.12 Extraordinary Circumstances (Special Assessment)

Special Assessment: Multi-Unit Residential Dwellings (or CRD)

Where an applicant is undertaking Multi-unit Residential development of more than three HUEs, and can demonstrate their development has a reduced demand for Council infrastructure, a special assessment of development contributions may be undertaken at the discretion of Council, to determine the amount of development contributions payable on an activity by activity basis.

A reduced demand means the actual demand generated by the development is materially lower than the HUEs of demand assessed under a standard assessment as set out in this policy resulting in the development in question consuming a smaller share of infrastructure capacity than a standard assessment would imply.

A request for a special assessment must be lodged at the earliest opportunity in writing to the Group Manager; Corporate at Hastings District Council, 207 Lyndon Road East, Hastings, 4122.

The applicant will be expected to provide information in support of the request, including detailed calculations of their development's transport (typically a Traffic Impact Assessment), and water supply, wastewater and stormwater demands in base units. Using the standard residential base unit/HUE conversions (Appendix G) these estimates may then be converted to HUEs and charged accordingly.

Once Council has all the information it requires, Council will notify the applicant of the outcome of any special assessment. The amount of any special assessment will be determined on a case by case basis having regard to the extent to which the special criteria is met. Decisions on individual requests, which are site and development specific, will not alter the basis of the Policy itself.

Special Assessment: Non-Residential Developments

Where an applicant is undertaking non-residential development exceeding 500m^2 GFA, and can demonstrate their development has a reduced demand for Council infrastructure, a special assessment of development contributions may be undertaken at the discretion of Council, to determine the amount of development contributions payable on an activity by activity basis.

A reduced demand means the actual demand generated by the development is materially lower than the HUEs of demand assessed under a standard assessment as set out in this policy resulting in the development in question consuming a smaller share of infrastructure capacity than a standard assessment would imply.

A request for a special assessment must be lodged at the earliest opportunity in writing to the Group Manager; Corporate at Hastings District Council, 207 Lyndon Road East, Hastings, 4122.

The applicant will be expected to provide information in support of the request, including detailed calculations of their development's transport (typically a Traffic Impact Assessment), and water supply, wastewater and stormwater demands in base units. Using the standard non-residential base unit/HUE conversions (Appendix G) these estimates may then be converted to HUEs and charged accordingly.

Once Council has all the information it requires, Council will notify the applicant of the outcome of any special assessment. The amount of any special assessment will be determined on a case-by-case basis having regard to the extent to which the special criteria is met. Decisions on individual requests, which are site and development specific, will not alter the basis of the Policy itself.

Special Assessment: Non-Residential Developments (Increased Demand)

Where Council considers the impact and demand of a non-residential development on Council infrastructure, cannot be readily assessed in terms of Table 4.5.1 (Non-Residential) and/or materially understates the likely demand being placed on Council infrastructure, at its discretion, Council reserves the right to generate a special assessment accordingly to ensure any development contribution required is fair and equitable.

This could include but is not limited to:

- Service stations with or without retail facilities
- Drive through fast food restaurants
- Bulk Floor Retail, Large Format Retail (or 'big box') developments
- Hotels, Motels, or Backpackers
- Seasonal Workers Accommodation (RSE)
- Food processing Industrial Activities
- Churches

In the case of a special assessment being required, the applicant may be requested to provide information and detailed calculations of their development's transport (typically a Traffic Impact Assessment), and water supply, wastewater and stormwater demands in base units. Using the standard non-residential base unit/HUE conversions (Appendix G) these estimates may then be converted to HUEs and charged accordingly.

Council will notify the applicant of the outcome of any special assessment. The amount of any special request will be assessed on a case by case basis having regard to the extent which the special criteria is met. Decisions on individual requests or assessments, will not alter the basis of the Policy itself.

4.13 Summary of HUE Assessments

Table 4.13 Summary of HUE Assessments

	Subdivision	Development	Service Connection (where available)
Residential / Rural	Per additional title: 1 HUE per activity Note: The Parks and Reserve Contribution must not exceed the greater of 7.5% of land value and the value equivalent of 20m^2 of land for each additional household unit created. Note: A contribution may be deferred on some rural subdivision where the subdivision creates additional lots that are not intended for development and does not create a demand for Council infrastructure. Refer to Section 4.8.	Per additional title or household unit incl. strata title type developments: 1 HUE per activity Note: The Parks & Reserve Contribution must not exceed the greater of 7.5% of land value and the value equivalent of 20m^2 of land for each additional household unit created. Note: A contribution of less than 1 HUE may apply to any additional residential dwelling. Please refer to Table 4.3.1 or 4.4.1	Per Additional Connection: 1 HUE per activity
Non-Residential	Per additional title: 1 HUE per activity If the development is located within the Irongate & Omahu Industrial Areas, an assessment will be based on the land area of the site being developed. The only exception would be if the residual land is greater than 4ha (Irongate) or 2ha (Omahu) and is not intended for development.	An assessment will be generated based on the scale of the development using the standard table under 4.5.1. If the development is located within the Irongate & Omahu Industrial Areas, an assessment will be based on the land area of the site being developed.	An assessment will be generated based on the scale of the development using the standard table under 4.5.1. If the development is located within the Irongate & Omahu Industrial Areas, an assessment will be based on the land area of the site being developed (connected).
Special Category	At Council's discretion. Any assessment would be based on specific information provided by the applicant in relation to their developments likely impact. An assessment using the standard base unit / HUE conversions would be calculated and charged accordingly – see section 4.12.		

5.0 Calculation of Development Contributions

Where development contributions are required, the amount payable will be calculated by multiplying the development contributions per HUE by the number of HUE's. Credits (historic and actual as per section 2.3) may reduce any assessment.

Sections 5.1 and 5.2 describe the steps required to undertake the assessment or calculation of development contributions (but the descriptions of those steps are illustrative and the more specific provisions contained elsewhere in this Policy shall take precedence).

5.1 Residential Development

How to calculate your residential development contribution:

Process for calculating development contributions payable

Step 1	Catchment Area	Establish in which catchment area the 'development' lies (Appendix C)
Step 2	Number of HUEs	Establish the 'demand created' by the 'development' (Section 4.2 / 4.3 / 4.4)
Step 3	Number of HUEs Credit	Establish per activity the 'credits' applicable to the parcel of land (Section 2.3)
Step 4	Number of HUEs payable	Calculate the increase in HUEs
Step 5	Charge per HUE	Establish the development contribution per HUE for that particular catchment area as per Schedule of Charges (Appendix A)
Step 6	Amount of DCs payable	Calculate the development contributions payable

5.2 Non-Residential Development (Excluding Irongate & Omahu Road)

How to calculate your non-residential development contribution:

Process for calculating development contributions payable

Step 1	Catchment Area	Establish in which catchment area the 'development' lies (Appendix C)
Step 2	Number of HUEs	Establish the 'demand created' by the 'development' (Section 4.5)
Step 3	Number of HUEs Credit	Establish per activity the 'credits' applicable to the parcel of land (Section 2.3)
Step 4	Number of HUEs payable	Calculate the increase in HUE's
Step 5	Charge per HUE	Establish the development contribution per HUE for that particular catchment area as per Schedule of Charges (Appendix A)
Step 6	Amount of DCs payable	Calculate the development contributions payable

Please refer to 4.5 to 4.7 for establishing contributions for developments located within Irongate or Omahu Industrial Areas.

6.0 Invoicing and Payment of Development Contributions

6.1 Invoicing and Payment of Development Contributions

The following table summarises when a development contribution invoice is generated and required to be paid.

In most instances the invoice will be generated at the time an application for Code Compliance Certificate, Certificate of Acceptance or 224c is made, unless requested earlier.

Table 6.1.2 Summary of Invoicing and Payment

Application Type	Timing of Action
Land Use	An invoice will be issued at the time the Land Use Consent is granted. Payment must be made before the Land Use is given effect to.
Service Connection Request (where a building consent is not lodged/required)	An invoice will be issued at the time the connection request is approved. Payment must be made prior to any connection being made.
Building Consent	An invoice can be requested at any time by the applicant. If no invoices is requested, an invoice will be issued automatically at the time of application for Code Compliance Certificate or Certificate of Acceptance. Payment must be made prior to Issue of the Code Compliance Certificate or Certificate of Acceptance.
Resource Consent (subdivision)	An invoice can be requested at any time by the applicant. If no invoices is requested, an invoice will be issued automatically at the time of application for 224c. Payment must be made prior to issue of the 224c.

Refer to Section 6.2 for Enforcement Powers if the development contribution is not paid.

Staged Subdivisions

- In the event of a staged subdivision, payment shall be required before issue of 224k Certificate for each stage.

Simultaneous Applications

- Where an applicant lodges a building consent and a resource consent where both applications trigger an assessment of development contributions, an assessment will be issued upon the granting of each consent. Payment of the contribution will be required at the earlier of application for Code Compliance Certificate or 224c. Once paid, 'actual credits' will be recognised on the remaining application. This may negate any development contributions requirement on the remaining application.

Determination of Land use

When Council takes a development contribution at subdivision consent stage, the expected principle nature of activities authorized by any existing land use consent for the site and/or, in the underlying Zoning, will determine the type of development contribution payable.

Changes in Land use

If a subsequent land use consent changes the nature of activities previously envisaged in the original calculation of the development contribution (or previous Financial Contribution under the Resource Management Act 1991), and the scale and intensity of the new activity is greater, the development contribution will be recalculated and any demand difference will be charged. In some instances where Council feels it is appropriate, the development contribution will be calculated and invoiced at the next stage in the consent process (i.e. at the building consent stage, or at the service or infrastructure connection stage).

6.2 Enforcement Powers

If payment of development contribution is not received Council will use the powers outlined in Section 208 LGA 2002. Those provisions state that until a development contribution required in relation to a development has been paid or made under Section 198, a territorial authority may:

(a) in the case of a development contribution required under Section 198(1)(a),

Withhold a certificate under Section 224(c) of the Resource Management Act 1991.

Prevent the commencement of a resource consent under the Resource Management Act 1991.

(b) in the case of a development contributions required under Section 198(1)(b), withhold a code compliance certificate under Section 95 of the Building Act 2004.

(c) in the case of a development contribution required under section 198(1)ba or (4a), withhold a certificate of acceptance under section 99 of the Building Act 2004.

(d) in the case of development contribution required under Section 198(1)(c), withhold a service connection to the development.

(e) in each case, register the development contribution under subpart 5 of Part 3 of the Land Transfer Act 2017, as a charge on the title of the land in respect of which the development contribution was required.

6.3 Postponement, Remission, Reduction and Refund of Development Contributions

6.3.1 Postponement of Development Contributions

Council acknowledges that not all subdivision within the rural zone is necessarily intended for development. Council may therefore agree to defer the development contribution where any additional lot created is rural zoned, not intended for development, and does not create a demand for Council infrastructure at the time of subdivision. Please refer to 4.10 for further details.

6.3.2 Remission and Reduction of Development Contributions

In general, the policy does not provide for remissions or reductions to development contributions (outside of those provided for under Extraordinary Circumstances) for the following reasons:

- The greater the number and range of remissions, the less transparent the administration of development contributions becomes. If the Council wishes to advance particular strategic objectives, it is important that it does so transparently and effectively via a means separate from this policy.
- The greater the number and range of remissions, the more complex and uncertain the administration of development contributions becomes.

However, a remission may be approved in the following instances:

- A development contribution may be remitted in respect of any non-residential development undertaken by a private or integrated school. The decision to remit such assessments is taken in lieu of the Crown exemption from payment of development contributions that applies in respect of state schools.
- A development contribution may be remitted in respect of stormwater where Council requires stormwater mitigation that results in any development materially reducing the amount of stormwater discharged to the network. The onus is on the applicant to demonstrate the effect of those measures results in no additional stormwater being discharged from the development. Each application will be considered on its own merits with any remission being determined by Council's Water Services Manager.

6.3.3 Refund of (Wider) Development Contributions

The refund of cash and return of land will occur in accordance with Sections 209 and 210 of the LGA 2002, in the following circumstances:

- If the development does not proceed;
- If a consent lapses or is surrendered;
- If the Council does not provide any reserves, network infrastructure or community infrastructure for which a development contribution was required; or

- If the Council does not apply money, or use land, within 10 years, or any relevant agreed period, of that contribution being received for any specified reserve purpose.

For the avoidance of doubt, and except in relation to any money or land taken for a specified reserves purpose, the Council will not refund a development contribution where any specific project does not proceed, unless the activity for which the development contribution was taken is not provided.

Any refunds will be issued to the payee. The amount of any refund will be the development contribution paid, less any costs already incurred by the Council in relation to the development and its discontinuance, but may include any interest earned depending on the circumstances of the case.

6.3.4 Refund of (Ring-fenced) Development Contributions (Irongate / Omahu Industrial & Howard Street Residential Areas)

Council determined that the costs specifically associated with infrastructure required to support growth within the Irongate and Omahu Industrial catchment areas, and the internal servicing costs associated with Howard Street Residential Area, be ring-fenced, and specifically recovered from those benefiting from those infrastructure within each catchment area. To avoid under or over recovery, Council reviews its assumptions underpinning the calculation and resets the rate each year accordingly.

Should any recalculation result in a total development contribution rate being set that was less than what was previously paid by any landowner, Council agrees it will refund the difference between the new total development contribution rate and what was paid to Council, to the person who paid the development contribution within 10 working days.

6.4 Transitional Arrangements: Resource Consents

Council undertook a thorough review of its Development Contribution Policy in 2015-16. Whilst the changes contributed to a more fair and equitable policy, it has led to a material reduction in the level of contribution required for some forms of development.

Under the policy setting at the time, any application received prior to 30 June 2014 can be automatically revised using the schedule of charges in place at the time of their application for 224c.

However, the policy setting was revised for applications received after 01 July 2014 following a request from the development community to fix the contribution assessment at the outset and provide developers with more certainty over what they would be required to pay.

Council recognises that in most instances, these applicants could choose to surrender or lapse an existing resource consent application and lodge a new resource consent application from 01 July 2016, and thus benefit from the 2016/17 Schedule of Charges.

As a transitional arrangement, Council therefore agrees that any resource consent application received between 01 July 2014 and 30 June 2016 where the development contribution assessed has not been paid, can be reassessed against the schedule of charges in place at the time of making their application for 224c.

All applications (excluding applications lodged in relation to land located within Irongate and Omahu Industrial Catchments) received after 01 July 2016 will continue to be fixed based on the schedule of charges in place at the time of the application being lodged.

7.0 Reconsideration and Objection Processes

Where a person has concerns over the development contribution required on their development, they have two avenues for which they can have their concerns addressed:

1) A reconsideration process, whereby the person can formally request Council to reassess a development contribution,
2) An objection to a development contribution, whereby a person, regardless of whether they have sought a reconsideration, can formally object to a

development contribution required and have their objection considered by an independent development contribution commissioner.

The following sections outline the processes for requesting either a reconsideration or making an objection.

7.1 Reconsideration of a development contribution

In accordance with section 199A and 199B of the LGA 2002, a person can request a reconsideration of any development contribution required on a development if they believe:

a) the development contribution was incorrectly calculated or assessed against the Development Contributions Policy in force at the time of assessment,

b) Council has incorrectly applied its Development Contribution Policy, or

c) information used to assess the development contribution required was incomplete or contained errors.

Application Process

A request for reconsideration must be lodged in writing to the Group Manager; Corporate at Hastings District Council at 207 Lyndon Road East Hastings, within 10 working days of the notice advising of a requirement for a development contribution being received by the person lodging the request.

The request must outline specifically which part of the assessment should be reconsidered, and contain any appropriate supporting information which supports the request.

Council will notify the person in writing that the application for reconsideration has been received once it is satisfied it has all the relevant information needed to make a decision on the reconsideration.

The request will be reviewed by the Group Manager; Corporate against the development contributions policy in force at the time of the application being lodged and consideration will be given to any new information supplied to Council.

Council will then give written notice of the outcome of that reconsideration within 15 workings days to the person requesting the reconsideration. A person may lodge an objection under section 199C, if they are dissatisfied with the outcome of any reconsideration.

A person may not apply for a reconsideration of a requirement for a development contribution if the person has already lodged an objection to that requirement under section 199C and Schedule 13A.

7.2 Objection to a development contribution

In accordance with section 199C and 199D of the LGA 2002, a person may object to any development contribution requirement. Whilst the right to object does not apply to challenges to the content of a Development Contribution Policy prepared in accordance with section 102 LGA 2002, it can apply if the objector believes:

a) Council has failed to properly take into account features of the objectors development that on their own or cumulatively with other developments, would substantially reduce the impact of the development upon the requirement for Council to provide infrastructure,

b) Council required a development contribution for infrastructure not required by, or related to, the objectors development,

c) Council has required a development contribution that is not in accordance with section 200 LGA 2002,

d) Council has incorrectly applied its Development Contributions Policy to the objectors development

Application Process

Any objection must be lodged in writing to the Group Manager; Corporate at Hastings District Council at 207 Lyndon Road East Hastings, within 15 working days of the notice advising of a requirement for a development contribution being received by the person lodging the objection.

The objection must set out the grounds and reasons for the objection, the relief sought and state whether the objector wishes to be heard on the objection. Council

may, at its discretion, permit an objection to be received after the 15 working day period has expired, if it is satisfied exceptional circumstances exist.

Once received, Council must then as soon as practicable select no more than 3 independent development contribution commissioners from a register of commissioners appointed by the Minister to decide the objection. A hearing may or may not be required to be held to determine the outcome of the objection.

Council may still require a development contribution to be made pending the outcome of any objection.

Commissioner Consideration

In making a decision, the development contribution commissioner will give due consideration to:

a) the grounds on which the development contribution objection was made,

b) the purpose and principles of development contributions under sections 197AA and 197AB LGA 2002,

c) the provisions of the development contributions policy under which the development contribution that is subject of the objection was, or is, required,

d) the cumulative effects of the objectors development on infrastructure demand and provision, in combination with other developments in a district or parts of the district, that the development contribution is to be used for or toward,

e) any other relevant facto associated with the relationship between the objectors development and the development contribution to which the objection relates.

Commissioner Decision

The development contribution commissioners' decision to uphold all or part of the objection, or dismiss the objection, will be provided to both parties in writing within 15 working days of the end of any hearing held, or in the event of no hearing being held, the last day of the commissioners' deliberations. It will outline the reasons for the decision, a summary of the issues that were in contention, the relevant provisions of the development contributions policy, and a summary of the evidence provided.

The objectors right to apply for judicial review remains unaffected by any decisions made by the commissioners.

Recovery of Actual or Reasonable Costs associated with the Objection:

Under section 150 LGA 2002, Council may recover any actual or reasonable costs in respect of the objection from the person making the objection. This may include costs related to the selection, engagement and employment of the development contribution commissioner, administrative support of the objection hearing, and for preparing for, organising and holding the hearing.

Withdrawal of Objection:

A person who has served a notice of an objection may at any time withdraw the objection by serving notice on Council and any development commissioner appointed to decide the objection. This does not affect the right of the person to lodge another objection, whether on the same grounds or different grounds provided it is within the 15 working day timeframe specified above.

Detailed procedures relating to development contributions objections can found under Schedule 13A of the LGA 2002.

8.0 Other Matters

8.1 Capital Contributions; Scheme Extensions

Capital Contributions will continue to be collected in accordance with the Annual Plan / LTP. They may be charged as part of the Contributions assessment as a lump sum contribution and will be paid prior to issue of the 224c, Code Compliance Certificate or service connection.

8.2 Development Contribution – Money or Land

The LGA 2002 provides that a Development Contribution may be money or land, or both. Under this policy the contribution shall in every case be money unless, at the sole discretion of the Council, land offered by the developer would adequately suit the purposes for which the contribution is sought.

8.3 Esplanade Reserves

Esplanade Reserves do not fall within the scope of Parks & Reserve (Local & District Wide) for development contributions. Esplanade Reserves will continue to be dealt with under the RMA as they are at present and will not be offset against development contributions due for Parks & Reserve (Local & District Wide) in any way. There may be rare circumstances where Council desires a wider Esplanade Reserve, for example, and where the additional land may be offered as partial or total payment of the development contribution liability for Parks & Reserve (Local & District Wide). This would have to be agreed at the discretion of the Council and recorded in a suitable agreement.

8.4 Basis of Land Valuation

Land Valuations for the purposes of Development Contributions shall be a free market valuation. The valuation shall be on the basis of:

- The rights and configuration given to the land under the consent application which gives rise to the Development Contribution assessment, and including any rights or configuration given by consents already granted
- The free market value at the time the Development Contribution is paid
- The Council may seek a separate independent valuation

NOTE: It is anticipated that the Council will only require a revised valuation after 6 months where there is reason to believe that market values have altered significantly.

8.5 Private Development Agreements

Where it is in the best interests of all parties, the Council may enter into a Private Development Agreement with a Developer pursuant to section 12(2), section 200(2) and sections 207A – 207F. Any request from the developer to enter into an agreement with Council must be made in writing to the Group Manager; Corporate at Hastings District Council at 207 Lyndon Road East Hastings. Council can choose to accept, partially accept or decline the request. Any decision made by Council will be made in writing without unnecessary delay outlining the reasons for the decision. Any agreement that is entered into by Council will be prepared in accordance with section 207C of the LGA 2002.

8.6 Council Developments and Development Contributions

The Council is exempt from paying any development contributions on any development or project that contains capital expenditure for which development contributions are required. This avoids the possibility of collecting contributions for one activity in order to pay for the contributions of another activity. Any development undertaken by Hastings District Property Limited (HDPL) will be subject to contributions for fairness and transparency.

8.7 The Crown and Development Contributions

The Crown is exempt from paying development contributions by statute. However, where an application consumes infrastructural capacity, it may be required to enter into a service level agreement at the discretion of Council.

8.8 Goods and Services Tax (GST)

The total end-to-end process for calculation of Development Contributions is exclusive of GST. Once all the calculations are complete, GST shall be added to the final invoice as required by the legislation and/or regulation in force at the date of the invoice.

8.9 Applications to Vary Consents or the Conditions of a Consent

Where applications are granted to vary consents or the conditions of consents, the application shall be treated as a new application for the purpose of applying a development contribution.

8.10 Certificate of Acceptance Applications

Development Contributions will be payable on any Certificate of Acceptance applications If a development contribution would have been required had a building consent been granted for the building work in respect of which the certificate is granted.

8.11 Service Connections

Council will continue to collect service connection fees in accordance with current practice and the LGA 2002 for the following assets:

- Water supply connections
- Stormwater connections
- Wastewater connections
- Vehicle Crossings.

9.0 Significant Assumptions

9.1 Assumptions Used

Throughout the entire process of determining Development Contributions the Council has used the best available information. As more accurate or up-to-date information becomes available, it will be used. Any significant updates that would cause a maximum contribution to be increased will be held over until the next review of the Development Contributions Policy or Schedule. If the effect of the update would be to reduce the maximum contribution, it may be introduced by way of the special consultative process under the LGA 2002.

Planning Horizons

The Council uses a 10 year timeframe as a basis for forecasting growth expenditure and applying a development contribution, although a longer timeframe can be used if considered appropriate. The 10 year timeframe used is consistent with Council's activity management planning horizons and the requirements of the LGA 2002.

Growth

Council has had to make the best assumptions it can regarding the anticipated growth of the District. Despite the recent high growth rates these are still within the tolerance expected by the growth model at the current level of available growth data.

Capital Works

In order to support the projected growth, Council has proposed a significant capital investment programme over the next ten years. If the growth rates alter, it is most likely that the capital works programme will be re-sequenced or accelerated or slowed as appropriate to the circumstances.

Third Party Funding

While these are subject to change over time, Council has assumed that the funding policies of third party agencies will remain the same for the period of the LTP.

Interest Rates

Council has used a 4.5% interest rate assumption within its calculation. Interest rates will continue to be monitored and reviewed annually as required. Council has the ability to review this policy annually and adjust this assumption if necessary.

Key Risks/Effects

There is a risk that the growth and uptake predictions in the growth model will not eventuate, resulting in a change to the assumed rate of development. However, modeling suggests that the impact of change to the growth projections on the total development contribution charge for each HUE is minor. Council will continue to monitor growth on a regular basis and will update assumptions in the growth and funding models as required.

There is also a risk that the lag between expenditure incurred by Council and contributions received from those undertaking developments is different from that assumed in the funding model, and that the costs of capital are greater than expected. This would result in an increased debt servicing cost and could also result in increased depreciation costs for future ratepayers. Council will continue to monitor the rate of growth and will update assumptions in the growth and funding models as required.

Appendix A
Development Contributions Schedule of Fees and Charges

Table A-1 BASE CHARGE PER HUE

Activity	Area of Demand	DC per HUE (Excluding GST)	DC per HUE (Including GST)
Community Infrastructure	Community Wide	**$128.00**	**$147.20**
Parks & Reserves *	Local Reserves Contributing Area	**$3,954.00**	**$4,547.10**
	District Wide Reserves Contributing Area	**$1,137.00**	**$1,307.55**
Roading	Community Wide	**$3,945.00**	**$4,536.75**
Stormwater	Greenfield Contributing Area	**$5,815.00**	**$6,687.25**
	Medium Density Contributing Area	**$1,880.00**	**$2,162.00**
Wastewater	Urban Contributing Area	**$17,756.00**	**$20,419.40**
Water Supply **	Urban Contributing Area	**$4,417.00**	**$5,079.55**
	Haumoana / Te Awanga Area	**$2,854.00**	**$3,282.10**

NOTES:

*** The Parks & Reserves contribution must not exceed the greater of 7.5% of land value and the value equivalent of 20m2 for each additional unit created.**

**** No new water service connections are provided for in Clive, Waimarama, Waipatiki, Whakatu and Whirinaki. At the discretion of the Water Supply Manager where capacity becomes available, Council will permit a new service connection but under a Service Level Agreement where a financial contribution may be required.**

Non-Residential Development and Subdivision (Outside Irongate and Omahu Industrial Catchments): Section 4.5 and Table 4.5.1 need to be applied in conjunction with the above table.

Table A-2 HOWARD STREET DEVELOPMENT AREA PER HOUSEHOLD

Activity	Area of Demand	DC per HUE (Excluding GST)	DC per HUE (Including GST)
Internal Servicing DC (Roading, Stormwater, Wastewater & Water)	Howard Street Development Area	**$19,301.00**	**$22,196.15**

Table A-3 IRONGATE INDUSTRIAL DEVELOPMENT CHARGE PER M2 OF LAND

Activity	Area of Demand	DC per m2 Of Land (Excluding GST)	DC per m2 of Land (Including GST)
Roading	Irongate Catchment	**$7.14**	**$8.21**
Wastewater	Irongate Catchment	**$1.37**	**$1.58**
Water Supply	Irongate Catchment	**$2.15**	**$2.47**

Table A-4 OMAHU INDUSTRIAL DEVELOPMENT CHARGE PER M2 OF LAND

Activity	Area of Demand	DC per m2 Of Land (Excluding GST)	DC per m2 of Land (Including GST)
Roading	Omahu Catchment	**$5.42**	**$6.23**
Stormwater Corridor Land Acquisition	Omahu Catchment	**$2.57**	**$2.96**
Wastewater	Omahu Catchment	**$9.42**	**$10.83**
Water Supply	Omahu Catchment	**$9.14**	**$10.51**

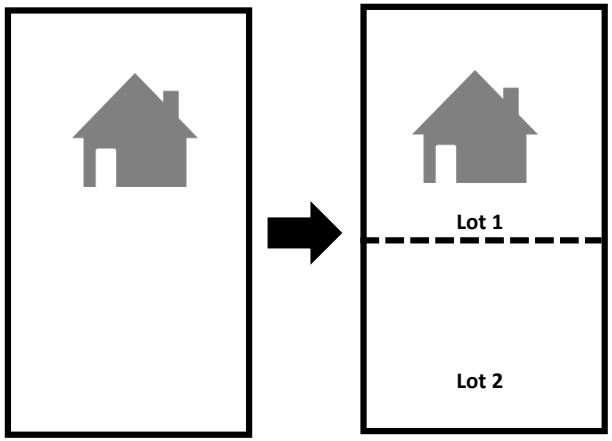
Appendix B
Development Contributions Calculations - Examples

Example 1 – Residential Subdivision (Greenfields)

Proposal: Subdividing to create an additional lot (Lot 2) located within a Greenfields Area (as located on Maps 4 & 5). The new site is connecting to Council services.

Assessment: One set of contributions for the additional lot created.

Activity	Number of HUEs being created by Proposal	Number of HUEs 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (Including GST)
Community Infrastructure	1	-	$128.00	**$147.20**
Roading	1	-	$3,945.00	**$4,536.75**
Parks & Reserves (Local Reserves)	1	-	$3,954.00	**$4,547.10**
Parks & Reserves (District Wide Reserves)	1	-	$1,137.00	**$1,307.55**
Water	1	-	$4,417.00	**$5,079.55**
Wastewater	1	-	$17,756.00	**$20,419.40**
Stormwater	1	-	$5,815.00	**$6,687.25**
			Total	**$42,724.80**

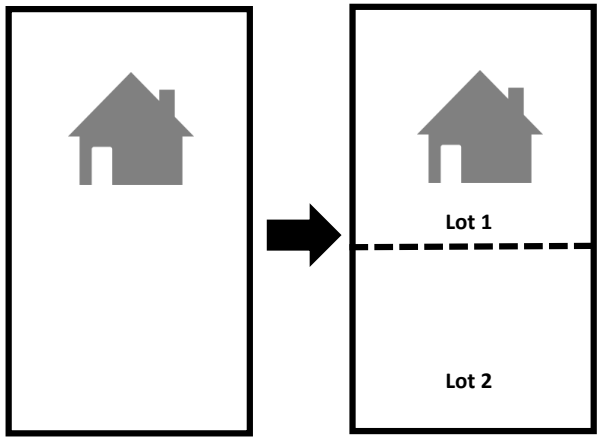


Example 2 – Residential Subdivision (Infill)

Proposal: Subdividing to create an additional Infill lot. The new site is connecting to council services.

Assessment: One set of contributions for the additional lot created.

Activity	Number of HUEs being created by Proposal	Number of HUEs 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (Including GST)
Community Infrastructure	1	-	$128.00	**$147.20**
Roading	1	-	$3,945.00	**$4,536.75**
Parks & Reserves (Local Reserves)	N/A	-	$-	**$-**
Parks & Reserves (District Wide Reserves)	1	-	$1,137.00	**$1,307.55**
Water	1	-	$4,417.00	**$5,079.55**
Wastewater	1	-	$17,756.00	**$20,419.40**
Stormwater	N/A	-	$-	**$-**
			Total	**$31,490.45**

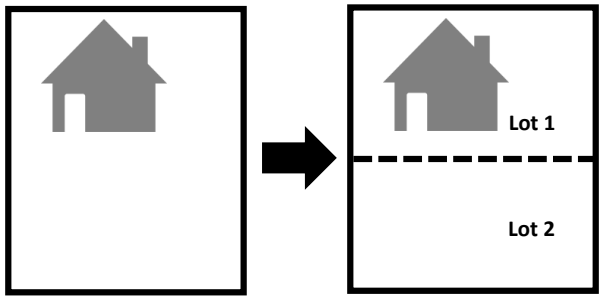


Example 3 – Residential Subdivision (Medium Density Area)

Proposal: Subdividing to create an additional lot located within a Medium Density Area (as located on Map 6). The new site is connecting to Council services.

Assessment: One set of contributions for the additional lot created.

Activity	Number of HUEs being created by Proposal	Number of HUEs 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (Including GST)
Community Infrastructure	1	-	$128.00	**$147.20**
Roading	1	-	$3,945.00	**$4,536.75**
Parks & Reserves (Local Reserves)	N/A	-	$-	**$-**
Parks & Reserves (District Wide Reserves)	1	-	$1,137.00	**$1,307.55**
Water	1	-	$4,417.00	**$5,079.55**
Wastewater	1	-	$17,756.00	**$20,419.40**
Stormwater	1	-	$1,880.00	**$2,162.00**
			Total	**$33,652.45**

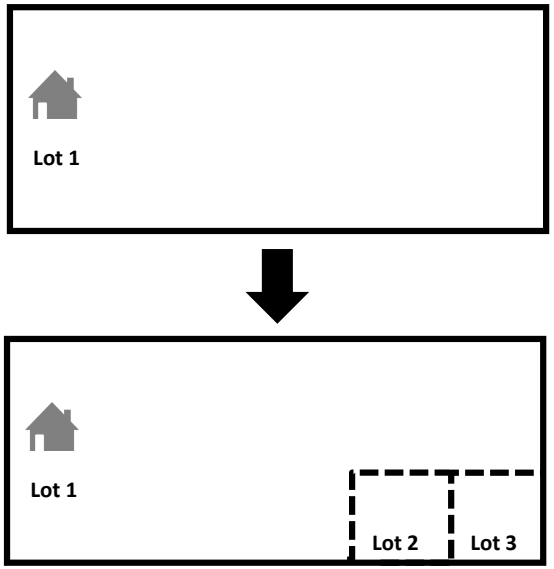


Example 4 – Rural Subdivision

Proposal: Subdividing to create two additional lifestyle lots. The balance site contains a residential dwelling. The new sites are not serviced by Council reticulated services.

Assessment: One set of contributions for each additional lot created.

Activity	Number of HUE's being created by Proposal	Number of HUE's 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (Including GST)
Community Infrastructure	3	1	$128.00	**$147.20**
Roading	3	1	$3,945.00	**$4,436.75**
Parks & Reserves (Local Reserves)	N/A	-	$-	-
Parks & Reserves (District Wide Reserves)	3	1	$1,137.00	**$1,307.55**
Water	N/A	-	-	-
Wastewater	N/A	-	-	-
Stormwater	N/A	-	-	-
			Total	**$5,991.50**

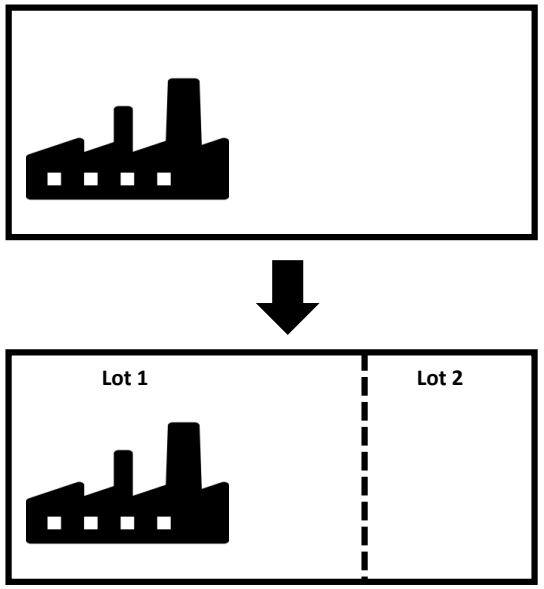


Example 5 – Non-Residential Subdivision

Proposal: Subdividing to create one additional vacant lot outside the Irongate and Omahu Industrial catchments. The new site will be serviced by Council services.

Assessment: One set of contributions for the additional vacant lot created.

Activity	Number of HUEs being created by Proposal	Number of HUEs 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (including GST)
Roading	1	-	$3,945.00	**$4,536.75**
Water	1	-	$4,417.00	**$5,079.55**
Wastewater	1	-	$17,756.00	**$20,419.40**
Stormwater	N/A	-	-	-
			Total	**$30,035.70**



NOTE: No contributions in respect of Community Infrastructure and Parks & Reserve (Local or District) are required on Non-Residential applications.

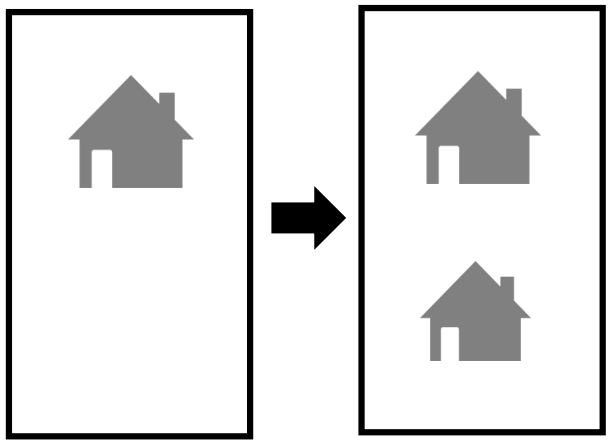
A further assessment would be undertaken at the time of building consent being submitted less any credit allocation.

Example 6 – Erect an additional residential dwelling (>80m2)

Proposal: Erect an 'additional residential dwelling' of 80m2 located outside the Greenfields and Medium Density catchments.

Assessment: Dwelling does not 'qualify' for a reduced contribution rate as it has a gross floor area in excess of 80m2. One set of contributions applicable for the additional residential dwelling.

Activity	Number of HUEs being created by Proposal	Number of HUEs 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (Including GST)
Community Infrastructure	1	-	$128.00	**$147.20**
Roading	1	-	$3,945.00	**$4,536.75**
Parks & Reserves (Local Reserves)	N/A	-	$-	**$-**
Parks & Reserves (District Wide Reserves)	1	-	$1,137.00	**$1,307.55**
Water	1	-	$4,417.00	**$5,079.55**
Wastewater	1	-	$17,756.00	**$20,419.40**
Stormwater	N/A	-	$-	**$-**
			Total	**$31,490.45**



Example 7 – Erect an additional residential dwelling of 60m2

Proposal: Erect an 'additional residential dwelling' of 60m2 located outside the Greenfields and Medium Density catchments.

Assessment: Dwelling 'qualifies' for a reduced contribution rate (as per 4.3 of this policy) as it has a gross floor area of less than 80m2.

60m2 / 80m2 = 0.75 HUE charge

Activity	Number of HUEs being created by Proposal	Number of HUEs 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (Including GST)
Community Infrastructure	0.75	-	$128.00	**$110.40**
Roading	0.75	-	$3,945.00	**$3,402.56**
Parks & Reserves (Local Reserves)	N/A	-	$-	**$-**
Parks & Reserves (District Wide Reserves)	0.75	-	$1,137.00	**$980.66**
Water	0.75	-	$4,417.00	**3,809.66**
Wastewater	0.75	-	$17,756.00	**$15,314.55**
Stormwater	N/A	-	$-	**$-**
			Total	**$23,617.84**

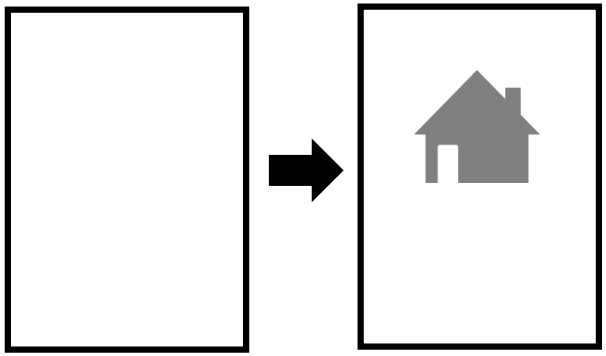


Example 8 – Erect a New Dwelling

Proposal: Erect a New Dwelling on a vacant lot outside the Greenfield, Medium Density and Howard Street Development Area catchments. The site was created prior to the Development Contributions Policy coming into force in 2007. A development levy was paid by the developer at the time of subdivision.

Assessment: One set of contributions ***Less*** Credits as per 2.3 Development Contributions Policy. No credit would be provided for Community Infrastructure as these were previously charged upon Building Consent.

Activity	Number of HUEs being created by Proposal	Number of HUEs 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (Including GST)
Community Infrastructure	1	-	$128.00	**$147.20**
Roading	1	(1)	$-	**$-**
Parks & Reserves (Local Reserves)	N/A	-	$-	**$-**
Parks & Reserves (District Wide Reserves)	1	(1)	$-	**$-**
Water	1	(1)	$-	**$-**
Wastewater	1	(1)	$-	**$-**
Stormwater	N/A	-	$-	**$-**
			Total	**$147.20**

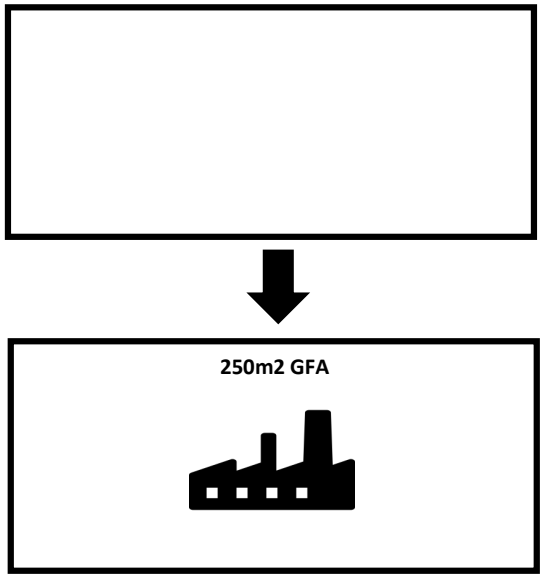


Example 9 – Erect an Industrial Building

Proposal: Erect a 250m2 Industrial Building located outside the Greenfield, Medium Density, Irongate and Omahu catchments. The building is in addition to existing buildings on site and is connected to Council services.

Assessment: As assessment based on the additional 250m2 GFA would be required.

Activity	HUEs per 100m2 GFA (as per Table 4.4.1)	Number of HUEs 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (including GST)
Roading	0.28	x(250/100) = 0.70 HUE's	$3,945.00	**$3,175.72**
Water	0.4	x(250/100) = 1.00 HUE's	$4,417.00	**$5,079.55**
Wastewater	0.4	x(250/100) = 1.00 HUE's	$17,756.00	**$20,419.40**
Stormwater	N/A	-	-	**-**
			Total	**$28,674.68**



NOTE: No contributions in respect of Community Infrastructure and Parks & Reserve (Local or District Wide) are required on Non-Residential applications.

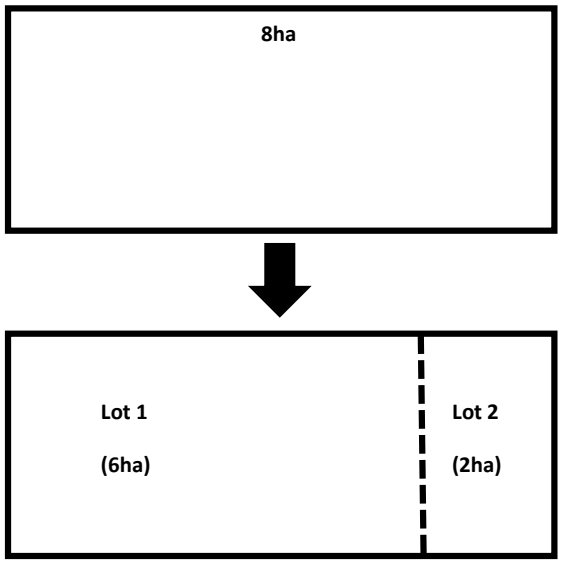
Example 10 – Subdivision of Land in Irongate Industrial Catchment

Proposal: Subdivide 8ha of vacant land within the Irongate Industrial catchment (as located on Map 10) into two sites; one of 2ha (to be developed) and a balance lot of 6ha (not intended for development). The 2ha site will be serviced for all Council services.

Assessment: An assessment will be based on 2ha of land being developed.

No assessment would be made at this stage on the 6ha balance lot as it is not intended for development.

Activity	Land Area being Developed (m2)	Cost per m2 (Excluding GST)	Total Cost (Including GST)
Roading	20,000	$7.14	**$164,220.00**
Water	20,000	$2.15	**$49,450.00**
Wastewater	20,000	$1.37	**$31,410.00**
		Total	**$245,180.00**

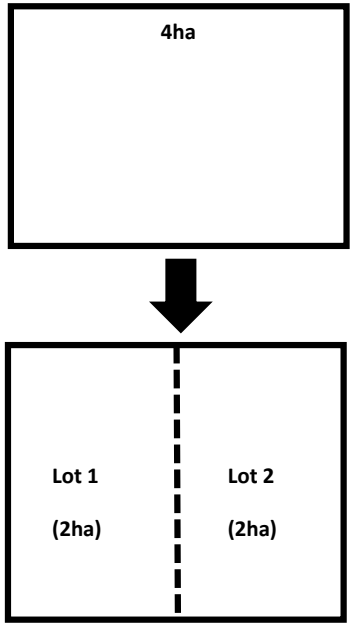


Example 11 – Subdivision of Land in Irongate Industrial Catchment

Proposal: Subdivide 4ha of vacant land within the Irongate Industrial catchment (as located on Map 10) into two developable sites of 2ha each. Each 2ha site will be serviced for all Council services.

Assessment: An assessment will be based on 4ha of land being developed.

Activity	Land Area being Developed (m2)	Cost per m2 (Excluding GST)	Total Cost (Including GST)
Roading	40,000	$7.14	**$328,440.00**
Water	40,000	$2.15	**$98,900.00**
Wastewater	40,000	$1.37	**$63,020.00**
		Total	**$490,360.00**

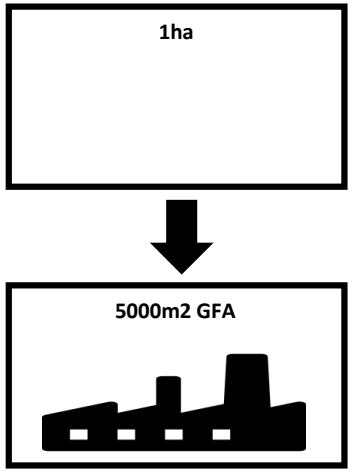


Example 12 – Erect an Industrial Building in Irongate Industrial Catchment

Proposal: Erect a 5,000m^2 Industrial Building on a 1ha located within the Irongate Industrial catchment (as located on Map 10). The building is connected to Council services.

Assessment: An assessment will be based on 1ha of land being developed.

Activity	Land Area being Developed (m2)	Cost per m2 (Excluding GST)	Total Cost (Including GST)
Roading	10,000	$7.14	**$82,110.00**
Water	10,000	$2.15	**$24,725.00**
Wastewater	10,000	$1.37	**$15,755.00**
		Total	**$122,590.00**



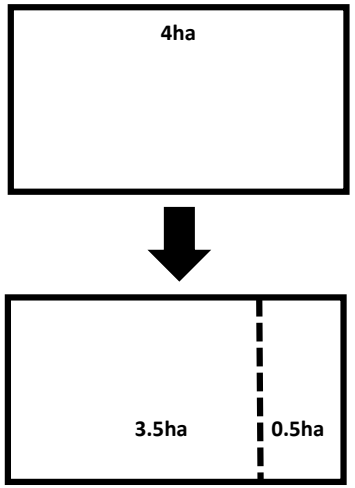
Example 13 – Subdivision of Land in Omahu Industrial Catchment

Proposal: Subdivide 4ha of vacant land within the Omahu Industrial catchment (as located on Map 11) into two sites; one of 0.5ha (to be developed) and a balance lot of 3.5ha (not intended for development). The 0.5ha site will be serviced for all Council services.

Assessment: An assessment will be based on 0.5ha of land being developed.

No assessment would be made at this stage on the 3.5ha balance lot as it is not intended for development.

Activity	Land Area being Developed (m2)	Cost per m2 (Excluding GST)	Total Cost (Including GST)
Roading	5,000	$5.42	**$31,165.00**
Stormwater Corridor Land Acquisition	5,000	$2.57	**$14,777.00**
Water	5,000	$9.14	**$52,555.00**
Wastewater	5,000	$9.42	**$54,165.00**
		Total	**$152,662.50**

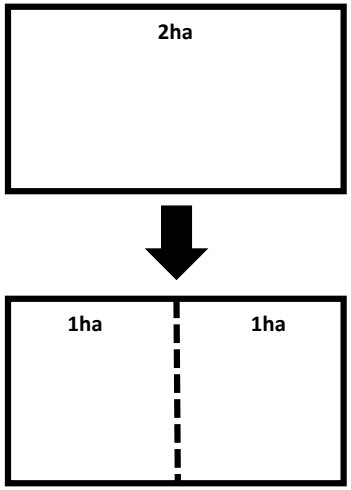


Example 14 – Subdivision of Land in Omahu Industrial Catchment

Proposal: Subdivide 2ha of vacant land within the Omahu Industrial catchment (as located on Map 11) into two developable sites of 1ha each. Each 1ha site will be serviced for all Council services.

Assessment: An assessment will be based on 2ha of land being developed.

Activity	Land Area being Developed (m2)	Cost per m2 (Excluding GST)	Total Cost (Including GST)
Roading	20,000	$5.42	**$124,660.00**
Stormwater Corridor Land Acquisition	20,000	$2.57	**$59,110.00**
Water	20,000	$9.14	**$210,660.00**
Wastewater	20,000	$9.42	**$216,660.00**
		Total	**$610,650.00**

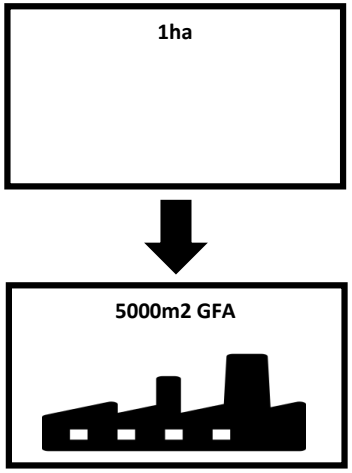


Example 15 – Erect an Industrial Building in Omahu Industrial Catchment

Proposal: Erect a 5,000m2 Industrial Building on a vacant 1ha located within the Omahu Industrial catchment (as located on Map 11). The building is connected to Council services.

Assessment: An assessment will be based on 1ha of land being developed.

Activity	Land Area being Developed (m2)	Cost per m2 (Excluding GST)	Total Cost (Including GST)
Roading	10,000	$5.42	**$62,330.00**
Stormwater Corridor Land Acquisition	10,000	$2.57	**$29,555.00**
Water	10,000	$9.14	**$105,110.00**
Wastewater	10,000	$9.42	**$108,330.00**
		Total	**$305,325.00**

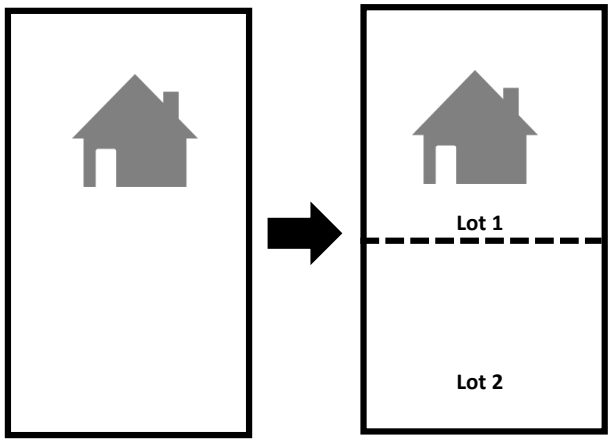


Example 16 – Residential Subdivision (Greenfields) Howard Street

Proposal: *Subdividing to create an additional lot (Lot 2) located within the Howard Street Development Area (as located on Map 12) & Greenfields Area (as located on Maps 4 & 5). The new site is connecting to Council services, whilst no changes are required to the servicing of Lot 1.*

Assessment: *One set of contributions for the additional lot created.*

Activity	Number of HUEs being created by Proposal	Number of HUEs 'credits' (as per section 2.3)	Cost per HUE (Excluding GST)	Total Cost (Including GST)
Community Infrastructure	1	-	$128.00	**$147.20**
Roading	1	-	$3,909.00	**$4,495.35**
Parks & Reserves (Local Reserves)	1	-	$3,945.00	**$4,536.75**
Parks & Reserves (District Wide Reserves)	1	-	$1,137.00	**$1,307.55**
Water	1	-	$4,417.00	**$5,079.55**
Wastewater	1	-	$17,756.00	**$20,419.40**
Stormwater	1	-	$5,815.00	**$6,687.25**
Internal Servicing DC (Howard Street Development Area)	1	-	$19,301.00	**$22,196.15**
			Total	**$64,920.95**



Appendix C

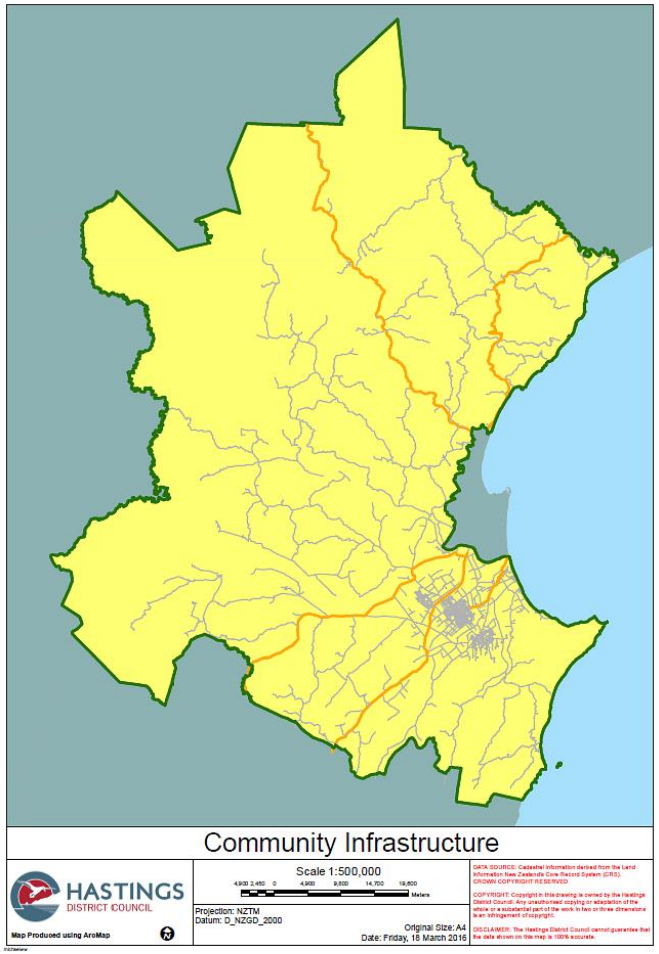
Areas of Demand

Map 1	**Community Infrastructure**
Map 2	**Roading**
Map 3- 4	**Parks and Reserves Catchments- District Wide & Local Reserves Catchments**
Map 5 - 6	**Stormwater Catchments- Greenfields & Medium Density Catchments**
Map 7	**Wastewater**
Map 8-9	**Water Supply Catchments – Urban Contributing Area & Haumoana / Te Awanga Catchments**
Map 10	**Irongate Industrial Catchment**
Map 11	**Omahu Industrial Catchment**
Map 12	**Howard Street Development Area**

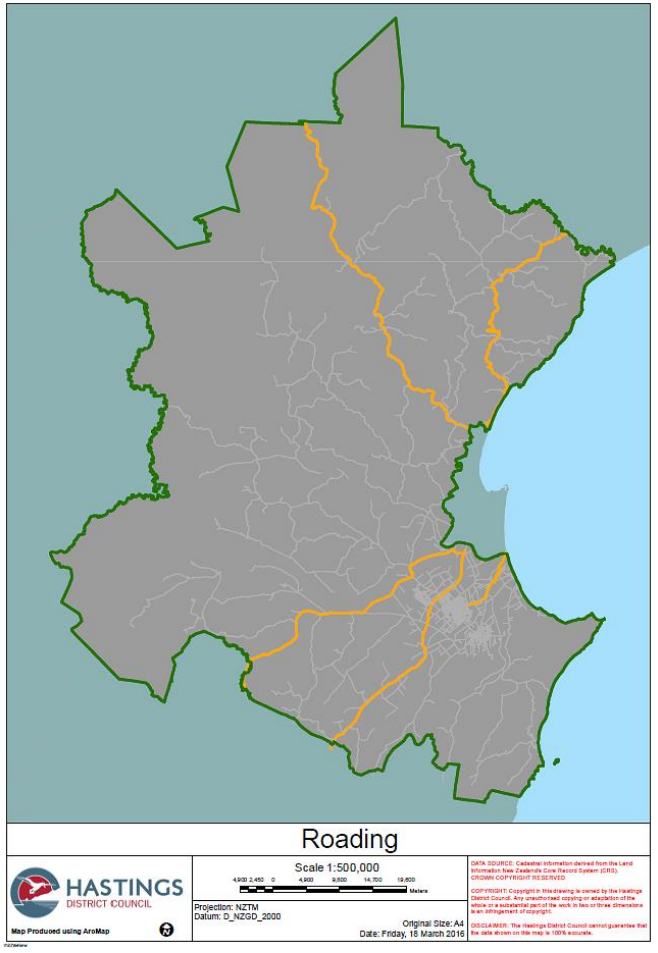
Notes:

The Maps in this Appendix are held in the Hastings District Council Geographical Information System. More detail on these maps can be obtained from the Council.

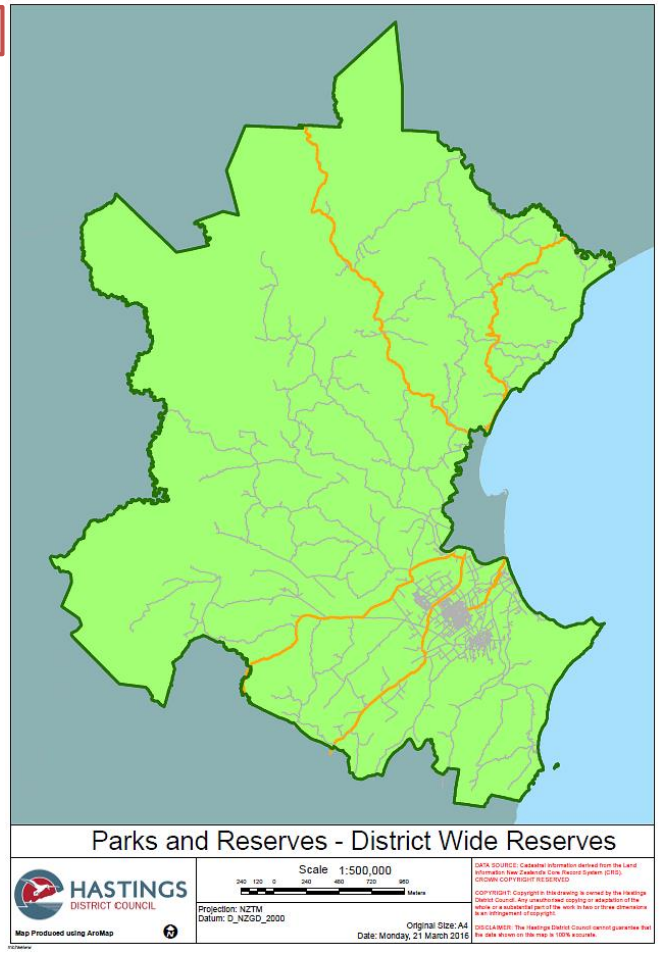
Map 1)


Community Infrastructure
HASTINGS
DISTRICT COUNCIL
Scale 1:500,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Friday, 18 March 2016
Map Produced using AroMap

Map 2)


Roading
HASTINGS
DISTRICT COUNCIL
Scale 1:500,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Friday, 18 March 2016
Map Produced using AroMap

Map 3)


Parks and Reserves - District Wide Reserves
HASTINGS
DISTRICT COUNCIL
Map Produced using ArcMap
Scale 1:500,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Monday, 21 March 2016

Map 4)


Parks and Reserves - Local Reserves
HASTINGS
DISTRICT COUNCIL
Map Produced using ArcMap
Scale 1:32,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4

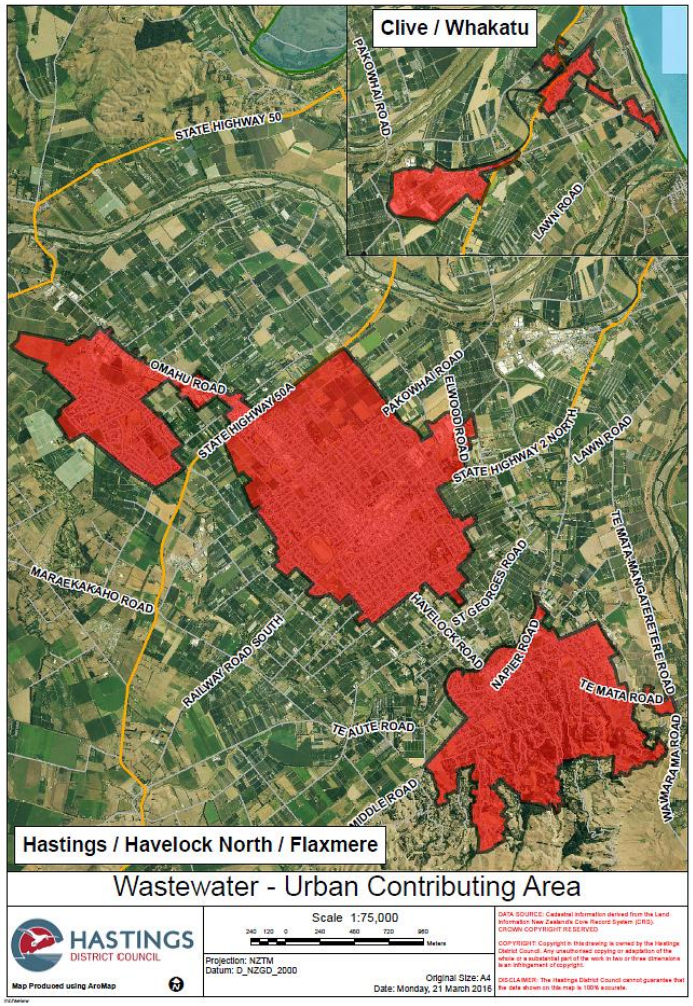
Map 5)


Stormwater - Greenfields
HASTINGS DISTRICT COUNCIL
Scale 1:28,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Wednesday, 1 July 2020
Map Produced using ArcMap
DISCLAIMER: The Hastings District Council cannot guarantee that the data shown on this map is 100% accurate.

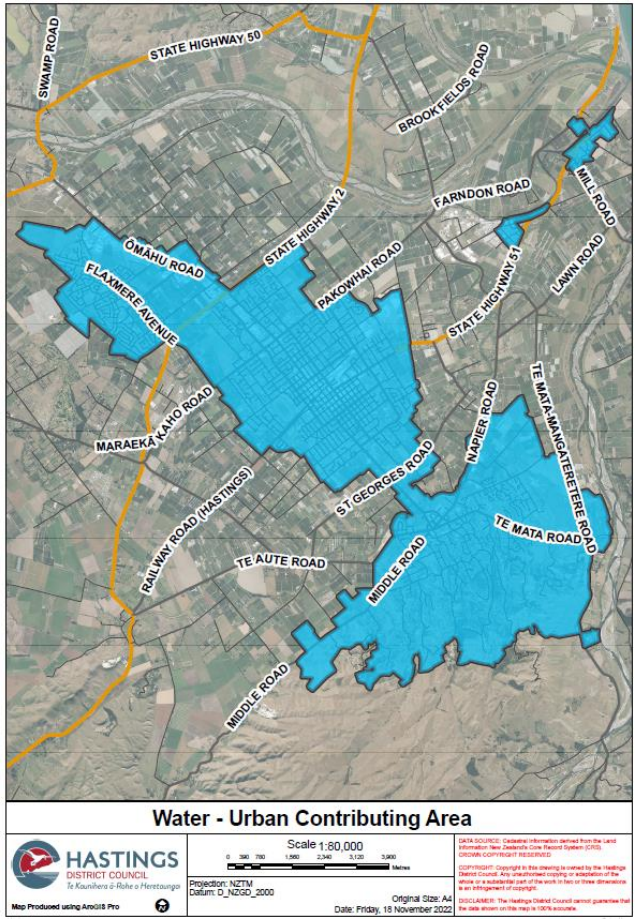
Map 6)


Raureka
Parkvale
Heretaunga Street East
Mahora
Havelock North
Stormwater - Medium Density
HASTINGS DISTRICT COUNCIL
Scale 1:15,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Monday, 21 March 2016
Map Produced using ArcMap
DISCLAIMER: The Hastings District Council cannot guarantee that the data shown on this map is 100% accurate.

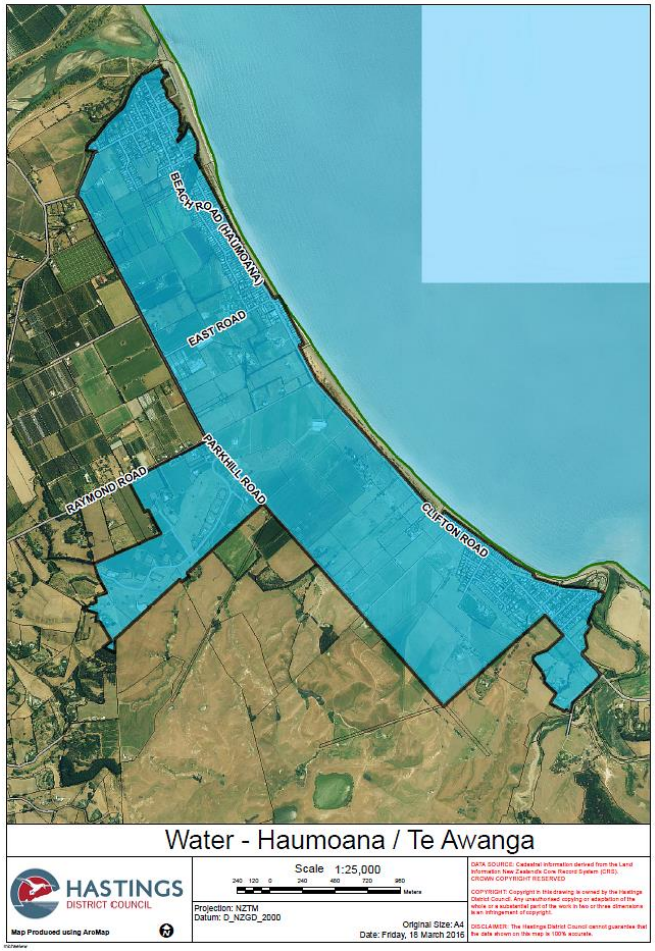
Map 7)


Clive / Whakatu
PAKOWHAI ROAD
STATE HIGHWAY 50
LAWN ROAD
OMAHU ROAD
STATE HIGHWAY 50A
PAKOWHAI ROAD
ELWOOD ROAD
STATE HIGHWAY 2 NORTH
LAWN ROAD
TE MATA-MANGATERERE ROAD
MARAEKAKAHO ROAD
ST GEORGES ROAD
HAVELOCK ROAD
NAPIER ROAD
TE MATA ROAD
RAILWAY ROAD SOUTH
TS AUTE ROAD
WAIMARAMA ROAD
MIDDLE ROAD
Hastings / Havelock North / Flaxmere
Wastewater - Urban Contributing Area
HASTINGS DISTRICT COUNCIL
Map Produced using AroMap
Scale 1:75,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Monday, 21 March 2016

Map 8)


STATE HIGHWAY 50
SWAMP ROAD
BROOKFIELDS ROAD
FARNDON ROAD
MILL ROAD
STATE HIGHWAY 2
ŌMĀHU ROAD
FLAXMERE AVENUE
PAKOWHAI ROAD
LAWN ROAD
STATE HIGHWAY 51
TE MATA-MANGATERETERE ROAD
NAPIER ROAD
MARAEKĀ KĀHO ROAD
ST GEORGES ROAD
RAILWAY ROAD (HASTINGS)
TE MATA ROAD
TE AUTE ROAD
MIDDLE ROAD
MIDDLE ROAD
Water - Urban Contributing Area
HASTINGS DISTRICT COUNCIL
Te Kaunihera ā-Rohe o Heretaunga
Scale 1:60,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Friday, 18 November 2022
Map Produced using ArcGIS Pro

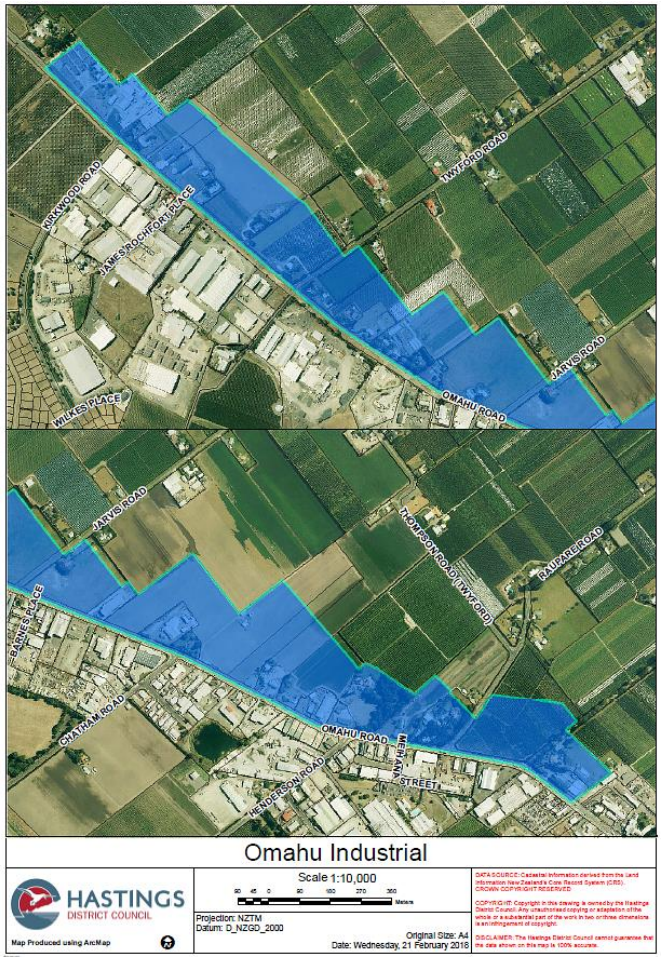
Map 9)


BEACH ROAD (HAUMOANA)
EAST ROAD
PARKHILL ROAD
RAYMOND ROAD
CLIFTON ROAD
Water - Haumoana / Te Awanga
HASTINGS DISTRICT COUNCIL
Scale 1:25,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Friday, 18 March 2016
Map Produced using AroMap

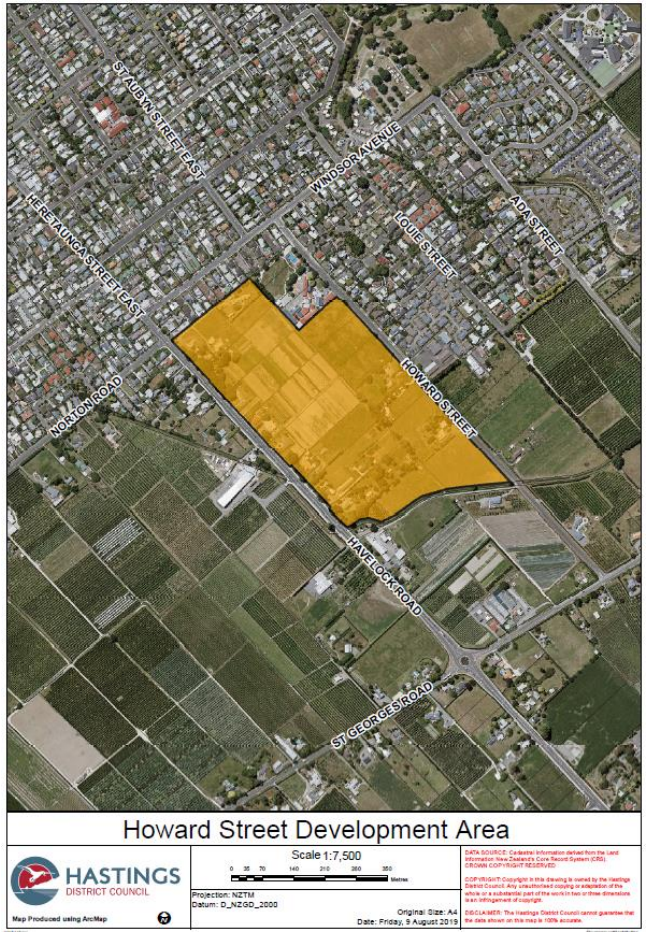
Map 10)


STOCK ROAD (FLAXMERE)
IRONGATE ROAD WEST
IRONGATE ROAD EAST
STATE HIGHWAY 50A
HEATHCOTE ROAD
MARAEKAKAHO ROAD
WELLWOOD ROAD
SOUTHLAND ROAD
Irongate Industrial
HASTINGS DISTRICT COUNCIL
Scale 1:10,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Monday, 27 June 2016
Map Produced using ArcMap

Map 11)


DARKWOOD ROAD
JAMES ROCHFORT PLACE
TAWFORD ROAD
JARVIS ROAD
OMAHU ROAD
WILKES PLACE
JARVIS ROAD
THOMPSON ROAD (TAWFORD)
RAUPARE ROAD
HAINES PLACE
CHATHAM ROAD
OMAHU ROAD
NEW KIWI STREET
HENDERSON ROAD
Omahu Industrial
HASTINGS DISTRICT COUNCIL
Scale 1:10,000
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Wednesday, 21 February 2016
Map Produced using ArcMap

Map 12)


ST AUBYN STREET EAST
WINDSOR AVENUE
ADA STREET
LOUIE STREET
HERETAUNGA STREET EAST
HOWARD STREET
NORTON ROAD
HAVELOCK ROAD
ST GEORGES ROAD
Howard Street Development Area
HASTINGS
DISTRICT COUNCIL
Scale 1:7,500
Projection: NZTM
Datum: D_NZGD_2000
Original Size: A4
Date: Friday, 9 August 2019
Map Produced using ArcMap

Appendix D

Schedule of Assets for which Development Contributions Will Be Used

The following is a summary of those projects (past and future) with a 'growth component', which is being recovered through the Development Contribution calculation. Figures are exclusive of GST.

Community Infrastructure

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
Community Wide	New Playground Facilities-Brookvale	2027, 2029	$260,000	$247,000	$13,000	95%	5%
Community Wide	New Playground Facilities- Howard Street	2023	$100,000	$95,000	$5,000	95%	5%
Community Wide	New Playground Facilities- Lyndhurst Stage II	2019-2022	$204,748	$194,511	$10,237	95%	5%
Community Wide	New Playground Facilities- Lyndhurst Extension	2029	$75,000	$71,250	$2,500	95%	5%
Community Wide	New Playground Facilities -Middle / Iona Road	2023	$100,000	$95,000	$5,000	95%	5%
Community Wide	Playground Additions / Upgrades to support Medium Density development; Havelock North, Hastings, Parkvale, Mahora, Raureka	2024	$45,950	$43,653	$2,298	95%	5%
Community Wide	New Playground Facilities – Te Awanga Downs	2022	$120,000	$15,600	$104,400	13%	87%
			$905,698	**$762,013**	**$143,685**		

Parks & Reserves

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
District Wide Reserves	Sports Park Reserve Land Purchase	2007-2008	$2,696,087	$2,696,087	$-	100%	0%
District Wide Reserves	Sports Park Reserve Land Development	2006-2008	$3,810,718	$3,810,718	$-	100%	0%
			$6,506,805	**$6,506,805**	**$-**		
Local Reserves	Brookvale Road Reserve Land Development	2026, 2029	$100,000	$95,000	$5,000	95%	5%
Local Reserves	Brookvale Road Reserve Land Purchase	2027, 2029	$2,250,000	$2,137,500	$112,500	95%	5%
Local Reserves	Howard Street Reserve Land Development	2023	$70,000	$66,500	$3,500	95%	5%
Local Reserves	Howard Street Reserve Land Purchase	2023	$1,000,000	$950,000	$50,000	95%	5%
Local Reserves	Iona / Middle Road Reserve Land Development	2023, 2026-2029	$230,000	$218,500	$11,500	95%	5%

Local Reserves	Iona / Middle Road Land Purchase	2023	$700,000	$665,000	$35,000	95%	5%
Local Reserves	Lyndhurst Stage 2 Reserve Land Purchase	2016-2023	$1,319,507	$1,253,532	$65,975	95%	5%
Local Reserves	Lyndhurst Stage 2 Reserve Land Development	2016-2022	$177,828	$168,937	$8,891	95%	5%
Local Reserves	Lyndhurst Extension Reserve Land Purchase & Development	2029-30	$920,000	$874,000	$46,000	95%	5%
			$6,767,335	**$6,428,968**	**$338,367**		

Roading

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
District Wide	Brookvale Subdivision Support- New Road, Roundabout Improvements, Thompson Rd Intersection, Davidson / Brookvale Rd Intersection, and Thompson / Napier Rd Intersection	2020-2023, 2026-27	$6,205,735	$5,895,448	$310,287	95%	5%
District Wide	Omahu / Chatham Road- Roundabout, Safety and Improvements	2021-22	$2,029,401	$1,927,931	$101,470	95%	5%
District Wide	Howard Street Subdivision Support- (External) Pavement Upgrade, Kerb & Channel Footpath Construction, Kea Crossing, Intersection to Development Area	2018-2022	$1,485,438	$1,411,166	$74,272	**95%**	5%
District Wide	Breadalbane Avenue Urbanisation- Kerb & Channel, Footpath	2018-21	$503,308	$478,143	$25,165	95%	5%
District Wide	Iona / Middle Rd -Subdivision Support - Kerb & Channel, Footpath Construction, Iona to Breadalbane Rd / Middle to Lane Rd, Roundabout Iona / Middle Rd Intersection	2018-24	$7,854,953	$7,462,205	$392,748	95%	5%
District Wide	Havelock Hills – Land Road Subdivision Support	2026	$551,700	$524,115	$27,585	95%	5%
District Wide	Irongate / York Subdivision Support; Roundabout Construction. Land Purchase & Lighting	2021-22	$658,293	$625,378	$32,915	95%	5%
District Wide	Lyndhurst / Pakowhai Rd Roundabout	2022-2023	$2,700,000	$2,160,000	$540,000	80%	20%
District Wide	Lyndhurst / Nottingley Rd Roundabout	2021-2023	$2,720,304	$2,584,289	$136,015	95%	5%
District Wide	Lyndhurst Development Stage II -Expressway to Nottingley Rd Upgrade Intersection, Kerbing, Footpath Construction & Street Lighting	2015-2020	$983,605	$934,425	$49,180	95%	5%
District Wide	Lyndhurst Development Stage II -Arbuckle Road Street Lighting	2020	$19,122	$18,166	$956	95%	5%
District Wide	Lyndhurst Development Stage II -Arbuckle Rd Extension	2016-2022	$685,694	$651,409	$34,285	95%	5%

District Wide	Lyndhurst Extension -Lyndhurst to Pakowhai Rd, Roading Widening, Kerb & Channel, Footpath & Street lighting	2025-2026	$1,000,000	$950,000	$50,000	95%	5%
District Wide	Martin Place Cul de Sac Improvements	2021-22	$413,820	$206,910	$206,910	50%	50%
District Wide	Medium Density New Works (Public Transport Infrastructure- Various Bus Shelters)	2022	$11,500	$10,925	$575	95%	5%
District Wide	Medium Density New Works (Footpath Construction)- Norton/Heretaunga Street East, Duart to Karanema Dr, Havelock Rd & Donnelly St, Norrie St)	2024-2026	$287,000	$272,650	$14,350	95%	5%
District Wide	Medium Density New Works (Minor Safety Improvements- Various Pedestrian Crossings)	2022	$28,750	$27,313	$1,438	95%	5%
District Wide	Medium Density New Works (Major Safety Improvements- Various Intersections Improvements)	2021-2030	$272,500	$258,875	$13,625	95%	5%
District Wide	Medium Density New Works (Kerb & Channel Renewals Growth Share – Mahora, Havelock North)	2024-2026	$354,000	$177,000	$177,000	50%	50%
District Wide	Omahu Rd Pavement Smoothing, Street Lighting, Underground Support, Footpaths, Pavement Rehabilitation	2008	$2,724,526	$672,958	$2,051,568	25%	75%
District Wide	Omahu / Henderson Road- Roundabout, Safety and Improvements	2020-2022	$1,617,313	$808,657	$808,657	50%	50%
District Wide	Subdivision Support Footpaths, Kerb & Channel, Pavements, Street Lighting	2010-2032	$1,207,604	$1,147,224	$60,380	95%	5%
District Wide	Tomoana Industrial Subdivision Support-Hanui Extension	2023	$605,000	$574,750	$30,250	95%	5%
District Wide	Whakatu Arterial New Rd	2011-2016	$25,024,157	$2,033,539	$22,990,618	8%	92%
District Wide	Subdivision Support- Kohupatiki, York and Irongate Road	2023	$300,000	$285,000	$15,000	95%	5%
			$60,243,723	**$32,098,475**	**$28,145,248**		

Stormwater

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
Greenfields	Brookvale Road Development	2020-22, 2026-2027	$2,118,065	$2,012,162	$105,903	95%	5%
Greenfields	Howard Street New Works (External) – Attenuation Pond Purchase and Development Land	2017-2022	$2,517,559	$2,391,681	$125,878	95%	5%
Greenfields	Lyndhurst Development Stage II - Mahora Drain	2017, 2022	$1,218,649	$1,157,717	$60,932	95%	5%
Greenfields	Lyndhurst Development Stage II –Bulk Services Portions 1,2,3	2015-2023	$2,427,718	$2,306,342	$121,386	95%	5%
Greenfields	Lyndhurst Development Stage II -Cooke Stormwater Detention Pond	2018-2023	$744,988	$707,739	$37,249	95%	5%

Greenfields	Lyndhurst Development Stage II -Legal Costs Land Purchase	2014-2017	$1,529,072	$1,452,618	$76,454	95%	5%
Greenfields	Lyndhurst Development Stage II -Contamination/Testing	2019	$2,494	$2,369	$125	95%	5%
Greenfields	Lyndhurst Extension SW Corridor to convey to Mahora Drain	2028-2029	$900,000	$855,000	$45,000	95%	5%
Greenfields	Mahora Drain - Widening drain	2006-2009	$1,438,229	$1,366,318	$71,911	50%	50%
Greenfields	Orbell Drain - NAR to Williams St Stage 1 (50%)	2006, 2008	$25,590	$12,795	$12,795	50%	50%
Greenfields	Orbell Drain NAR to Williams St Stage 2 (50%)	2014-2015	$114,434	$57,217	$57,217	50%	50%
Greenfields	Pipe Orbell Drain - Watt Blk/NAR to Richmond (50%)	2007, 2009	$270,132	$135,066	$135,066	50%	50%
Greenfields	Richmond Rd - Orbell drain to Mallory Drain (50%)	2007-2008	$317,970	$158,985	$158,985	50%	50%
			$13,624,910	**$12,616,008**	**$1,008,902**		
Medium Density	Medium Density New Works (Parkvale, Mahora, Havelock North)	2022-2026	$848,000	$848,000	$ -	100%	0%
Medium Density	Medium Density Renewal Growth Share (Parkvale, Mahora, Havelock North)	2021-2029	$1,159,000	$579,500	$579,500	50%	50%
Medium Density	Orbell Drain - NAR to Williams St Stage 1(50%)	2006-2008	$25,590	$12,795	$12,795	50%	50%
Medium Density	Orbell Drain NAR to Williams St Stage 2 (50%)	2014-2015	$114,442	$57,221	$57,221	50%	50%
Medium Density	Pipe Orbell Drain - Watt Blk/NAR to Richmond (50%)	2007-2009	$270,132	$135,066	$135,066	50%	50%
			$2,417,156	**$1,632,578**	**$1,793,480**		

Wastewater

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
Urban Contributing Area	Brookvale Rd Development	2022-2024	$2,014,491	$1,913,766	$100,725	95%	5%
Urban Contributing Area	Flaxmere Urban Development	2021-2023	$5,500,000	$5,225,000	$275,000	95%	5%
Urban Contributing Area	Frimley Interceptor Evenden to Elwood, Hapuka to Inland	2007-2014	$549,895	$171,567	$378,328	31%	69%
Urban Contributing Area	Frimley Interceptor Lyndhurst to Evenden Rd	2010-2014	$229,535	$71,615	$157,920	31%	69%
Urban Contributing Area	Frimley Interceptor	2015-2018	$23,601	$7,364	$16,237	31%	69%
Urban Contributing Area	Howard Street (External) New Works- Upgrade Capacity- Pump Station and rising main to East	2017-2022	$1,978,271	$1,879,357	$98,914	95%	5%
Urban Contributing Area	Breadalbane Avenue Urbanisation New Works	2018-2020	$205,034	$194,782	$10,252	95%	5%
Urban Contributing Area	Iona / Middle Road New Works	2017-2022	$3,173,052	$3,014,399	$158,653	95%	5%
Urban Contributing Area	Lyndhurst Development Stage II –Bulk Services Portions 1,2 3	2015-2023	$1,582,461	$1,503,338	$79,123	95%	5%

Urban Contributing Area	Middle Road Sewer Main & Pump Station – Havelock North South Here Here Pumpstation & Rising Main, Porter to Tanner, Lucknow Rd, Palmerston Rd, Busby Hill, Trunk Main Extension	2008-2011	$3,823,943	$2,676,760	$1,147,183	70%	30%
Urban Contributing Area	Middle Rd - Mangarau interceptor to Tanner	2008	$485,387	$339,771	$145,616	70%	30%
Urban Contributing Area	Middle Rd - Mangarau interceptor to Here Here	2007-2011	$347,346	$243,142	$104,204	70%	30%
Urban Contributing Area	Middle Rd - Porter Drive to Mangarau interceptor	2006-2007	$236,682	$165,677	$71,005	70%	30%
Urban Contributing Area	Milliscreen Revamp	2006-2007	$490,145	$152,925	$337,220	31%	69%
Urban Contributing Area	Milliscreen Overhaul	2006-2008	$201,939	$63,005	$138,934	31%	69%
Urban Contributing Area	No.1 Graham Drain x-ing	2009-2010	$18,110	$5,650	$12,460	31%	69%
Urban Contributing Area	No.1 Karamu Stream x-ing	2007	$27,476	$8,573	$18,903	31%	69%
Urban Contributing Area	No.1 Muddy Creek x-ing	2006-2007	$90,390	$28,202	$62,188	31%	69%
Urban Contributing Area	No.2 Graham Drain x-ing	2009	$16,145	$5,037	$11,108	31%	69%
Urban Contributing Area	No.2 Muddy Creek x-ing	2008-2009	$67,888	$21,181	$46,707	31%	69%
Urban Contributing Area	Trunk Sewers Railway Road State Highway 2	2009-2011	$930,274	$290,245	$640,029	31%	69%
Urban Contributing Area	VSD and pump recondition	2006, 2008	$133,694	$41,713	$91,891	31%	69%
Urban Contributing Area	Ventilation, Channels, Wet Well and Grit	2006-2008	$387,555	$120,917	$266,638	31%	69%
Urban Contributing Area	WWTP Resource Consent	2011-2013	$995,970	$310,743	$685,227	31%	69%
Urban Contributing Area	Wastewater Treatment Plant	2009-2011	$3,679,088	$1,147,875	$2,531,213	31%	69%
Urban Contributing Area	WWTP Domestic and TW	2006-2008	$24,907,610	$7.771.174	$17,136,436	31%	69%
Urban Contributing Area	Copeland / Murdoch Upgrade & Division	2032	$2,800,000	$2,800,000	$-	100%	0%
Urban Contributing Area	Kaiapo Development Wastewater	2025-2028	$15,300,000	$12,240,000	$3,060,000	80%	20%
Urban Contributing Area	Louie/Ada/Hood Wastewater Upgrades	2025-2028	$9,600,000	$7,680,000	$1,920,000	80%	20%
Urban Contributing Area	Raureka to Pepper Upgrades	2027-2030, 2032	$14,800,000	$13,320,000	$1,480,000	90%	10%
Urban Contributing Area	Akina Capacity Upgrade Storage & Pump	2023-2025	$5,100,000	$2,550,000	$2,550,000	50%	50%
Urban Contributing Area	Hastings Medium Density Upgrades	2023-2025, 2030-2032	$14,200,000	$14,200,000	$-	100%	0%
Urban Contributing Area	Park North Pump Station Capacity Improvements & Renewal	2023	$3,000,000	$600,000	$2,400,000	20%	80%
Urban Contributing Area	Flaxmere Pump Station Capacity Improvements & Renewal	2023	$6,300,000	$1,260,000	$5,040,000	20%	80%
Urban Contributing Area	Pumpstation Accelerated Capacity Improvement & Renewal	2023-2030	$16,200,000	$6,480,000	$9,720,000	40%	60%
Urban Contributing Area	Pump Station Renewals Growth Share	2027-2032	$12.330,168	$4,932,067	$7,398,101	40%	60%
Urban Contributing Area	Rising Main Renewals Growth Share	2026-2032	$26,100,000	$10,440,000	$15,660,000	40%	60%
Urban Contributing Area	Flaxmere Rising Main Renewal Growth Share	2023-24	$3,300,000	$660,000	$2,640,000	20%	80%
Urban Contributing Area	Secondary Screening & Grit Removal	2023-2028	$8,050,000	$2,415,000	$5,635,000	30%	70%

Urban Contributing Area	Construct 3rd BTF and Refurb	2026-2030	$21,000,000	$6,300,000	$14,700,000	30%	70%
Urban Contributing Area	Paharekeke Wastewater Main (Omahu Road	2022-2024	$14,694,616	$7,739,125	$6,955,491	53%	47%
Urban Contributing Area	Karamu/Waipatu/Otene Pump Station & Wastewater Trunk Sewer	2022-23	$12,233,389	$6,445,277	$5,788,112	53%	47%
Urban Contributing Area	Irongate / York Pump Station & Rising Main	2022-23	$4,554,663	$679,663	$3,875,000	85%	15%
Urban Contributing Area	Kohupatiki Pump Station & Rising Main	2022-23	$1,181,856	$310,856	$871,000	74%	26%
			$242,840,674	**$128,425,769**	**$114,414,905**		

Water

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
Urban Contributing Area	Brookvale Road Development	2021-2022	$399,604	$379,624	$19,980	95%	5%
Urban Contributing Area	Demand Management Pressure Reduction & Modeling	2012-2016	$34,264	$8,566	$25,968	25%	75%
Urban Contributing Area	Demand Management Investigations	2012-2020, 2022	$198,913	$49,728	$149,185	25%	75%
Urban Contributing Area	Demand Management Meter Installation	2012-2019	$41,441	$10,360	$31,081	25%	75%
Urban Contributing Area	Demand Management- Flow and Pressure monitoring equipment	2006-2022	$402,753	$116,396	$286,357	25%	75%
Urban Contributing Area	Havelock North Alternative Source Investigations	2006-2013	$92,696	$32,258	$60,438	35%	65%
Urban Contributing Area	Havelock Hills H.L Zone	2006-2016	$1,433,422	$1,132,403	$301,019	79%	21%
Urban Contributing Area	Havelock Hills -Tauroa Rd- Tanner to Tainui Rd New Works	2012-2017	$12,932	$12,285	$647	95%	5%
Urban Contributing Area	Havelock Hills Booster Pumpstation & PRV	2013-2017	$2,888	$2,744	$144	95%	5%
Urban Contributing Area	Havelock Hills -Margaret Av to Aintree Rd	2013-2015	$78,817	$74,876	$3,941	95%	5%
Urban Contributing Area	Havelock Hills New Reservoir & Pump Station- High Level Zone - Valving & PRV's, Pump Decommissioning, Endsleigh Reservoir, Reservoir Land Use Consent, Land Acquisition	2015, 2022-2026	$4,919,888	$4,673,894	$245,994	95%	5%
Urban Contributing Area	Howard Street (External) New Works	2018-2022	$318,812	$302,871	$15,941	95%	5%
Urban Contributing Area	Iona / Middle Road New Works- Trunk, Pumpstation Upgrade, Reservoir	2018-2023	$2,777,299	$2,638,434	$138,865	95%	5%
Urban Contributing Area	Breadalbane Avenue Urbanisation New Works	2019-21	$220,280	$209,266	$11,014	95%	5%
Urban Contributing Area	Lyndhurst Pump Station	2006-07	$175,371	$146,259	$29,112	83%	17%
Urban Contributing Area	Lyndhurst Development Stage II – Bulk Services Portions 1,2,3	2015-2022	$1,168,507	$1,110,082	$58,425	95%	5%
Urban Contributing Area	Lyndhurst Extension New Works	2026	$200,000	$190,000	$10,000	95%	5%
Urban Contributing Area	New Bore and Pump - Frimley	2013-2016	$653,132	$376,857	$276,275	58%	42%
Urban Contributing Area	New Source Investigations	2009-2016	$124,668	$62,334	$62,334	50%	50%

Urban Contributing Area	Omahu Rd - Ring main increase capacity	2007-2008	$89,003	$26,701	$62,302	30%	70%
Urban Contributing Area	Omahu Road Wilson to Pakowhai Rd	2008-2009	$1,242,382	$711,885	$530,497	57%	43%
Urban Contributing Area	Omahu Road Nottingley to Wilson Rd	2008	$563,614	$535,433	$28,181	95%	5%
Urban Contributing Area	Waipatu Water Main Growth Share	2022	$752,500	$752,500	$-	100%	0%
Urban Contributing Area	Network Wide Pressure, Expressway Loop Main, Omahu/Chatham Upgrade, Maraekakaho Rd to Mangaroa, Irongate / Prison BPS	2022-2024, 2028, 2031	$25,416,173	$17,791,321	$7,624,852	70%	30%
			$41,319,359	**$31,347,078**	**$9,972,281**		

Water

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
Haumoana / Te Awanga Area	Haumoana Te Awanga Infill Increase Capacity	2008-2011	$248,322	$26,570	$221,752	11%	89%
Haumoana / Te Awanga Area	Haumoana Te Awanga New Source	2008-2022	$1,988,766	$212,798	$1,775,968	11%	89%
			$2,237,088	**$239,368**	**$1,997,720**		

Howard Street Development Area

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
Internal Servicing DC	Acquisition of Land required for Road Service Corridor, Earthworks, construction of Road, Footpath, and Street lighting, Supply and construct water, wastewater and Stormwater services located within road service corridor.	2020-2022	$5,663,538	$5,663,538	$-	100%	0%
			$5,372,198	**$5,372,198**	**$-**		

Irongate Industrial Area

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
Roading	Irongate Rd Upgrade including Cul De Sac, Irongate / Maraekakaho Intersection Upgrade, York / Maraekakaho Rd Intersection Upgrade	2017-2022	$9,106,038	$5,506,038	$3,600,000	60%	40%
Wastewater	Pressure Sewer Main- Irongate Rd, Northern Service Lane, Francis Hicks to Oliphant to Irongate Rd, Irongate to Maraekakaho Rd (South)	2017-2018	$1,056,635	$1,056,635	$-	100%	0%

Water	Wilson Rd Trunk Water Main, Irongate Rd Main, Ringmain (North), Ringmain (South), Maraekakaho Rd Main (Irongate Rd to South -Growth, Irongate Rd to Pakowhai - Non-Growth)	2017-2022	$2,534,755	$1,657,362	$886,393	65%	35%
			$12,706,428	**$8,220,035**	**$4,486,393**		

Omahu Industrial Area

Catchment	*Project*	*Expenditure Period*	*Total CAPEX*	*Funded by DC's*	*Funded by Other Sources*	*% Growth*	*% Non-Growth*
Roading	Omahu Rd Subdivision Support- Raupare Intersection,, Pavement, Sealing, Footpath Construction, Kerb & Channel, and Street lighting	2017-2025	$3,485,579*	$3,485,579	$-	100%	0%
Stormwater Corridor Land Acquisition	Service Corridor Land Acquisition	2017-2021	$800,635	$800,635	$-	100%	0%
Wastewater	Gravity & Pressure Sewer Main Construction, Pump Station, Service Corridor Land Acquisition	2017-2022	$3,726,000	$3,726,000	$-	100%	0%
Water	Water Main Construction, Service Corridor Land Acquisition	2017-2022	$3,083,525	$3,083,525	$-	100%	0%
			$11,095,739*	**$11,095,739**	**$-**		

Notes:

- The growth portion of capital expenditure to support the growth population from 1 July 2007 will be funded from development contributions.
- Backlog and renewal portions of capital expenditure budgets will not be funded from development contributions.
- The detailed calculations and documentation supporting the above projects are available for examination at the offices of Hastings District Council.
- *Excludes Henderson Rd Roundabout

Appendix E

Capital Expenditure Related to Growth

Summary of Estimated Capital Expenditure and funding for growth 2023-2032

Activity	Catchment or Location	Capital Expenditure of projects with a growth component (2005-2022)	Capital Expenditure of projects with a growth component in the LTP (2023-2032)	$ to be collected over the next 10 years from development contributions	$ funded over the next 10 years from other sources - including loans & Subsidies
Community Facilities	**District Wide**	**$324,748**	**$580,950**	**$537,600**	**$43,350**
Parks & Reserves	**All Catchments**	**$8,264,140**	**$5,010,000**	**$8,254,920**	**-$3,244,920**
Roading	**All Catchments**	**$53,884,553**	**$18,189,236**	**$25,701,051**	**-$7,511,815**
Stormwater	**All Catchments**	**$14,118,245**	**$3,868,000**	**$7,090,985**	**-$3,222,985**
Wastewater	**All Catchments**	**$52,890,227**	**$195,710,241**	**$81,414,614**	**$114,295,627**
Water	**All Catchments**	**$18,390,547**	**$30,611,173**	**$23,210,411**	**$7,400,762**
		$147,872,460	**$253,969,600**	**$146,209,581**	**$107,760,019**

The expenditure figures in the table exclude inflation and interest.

Appendix F

Glossary of Terms

Accommodation	Means units, apartments, rooms in 1 or more buildings, or cabins or sites in camping grounds and holiday parks, for the purpose of providing overnight, temporary, or rental accommodation. It also includes RSE or Worker Accommodation.
Activity	Means goods or service provided by the Council (as defined by section 5 of the LGA 2002) and the headings under which development contributions are collected. These currently include: Community Infrastructure, Roading, Parks; Reserves, Water, Wastewater and Stormwater.
Area of demand	Separate development contribution areas exist for each asset category. For some assets, e.g. Roading- the development contribution area is District wide, for asset categories such as stormwater, water and wastewater development contribution areas are based upon existing service catchment areas as identified on the maps appended.
Backlog	The portion of a planned (or completed) capital project that is required to rectify a shortfall in service capacity to meet existing community demand at the current agreed level of service.
Base Units	The demand of an average household unit for each service.
CCI	Construction Cost Index
CBD	Central Business District (as defined in the Proposed District Plan – Definitions/Glossary).
Commercial Activity	The use of land or buildings for the display, offering, provision, sale, repair or hire of goods, equipment or services and includes education facilities, health care centres, home occupations, printing and publishing but excludes helicopter depots and those activities listed under accommodation and hospitality.
Community Facilities	Reserves, network infrastructure, or community infrastructure for which development contributions may be required.
Community Infrastructure	Means the following assets when owned, operated, or controlled by a territorial authority: a) Play equipment that is located on a neighborhood reserve b) Toilets for use by the public. Under section 197 of the LGA 2002, Community Infrastructure can also include community centres or halls for the use of a local community or neighborhood, and the land on which they are or will be situated. However, under the current policy, no contribution will be collected in respect of these this.
Connection	Means in the case of: Roads: the creation of a site that has physical or legal access to a public road or the approval of vehicle access from a property to a public road. Water, Wastewater and Stormwater: a connection to a reticulated system owned or maintained by the Hastings District Council, and/or to draw from, or discharge into a public or private system that is directly or indirectly serviced by a network owned or maintained by the Hastings District Council.

Cost Allocation	The allocation of the capital costs of a project to the various drivers for the project, such as renewal, catch-up (backlog), and additional capacity to meet growth.
CPI	Consumer Price Index (for avoidance of doubt this excludes credit)
Credits	Where development contributions or financial contributions for a particular property have previously been assessed and paid, credit to that amount will be given for the particular activity.
DC	Development Contribution
Development	As defined by section 197 of the LGA Act 2002: any subdivision, building (as defined in section 8 of the Building Act 2004), land use, or work that generates a demand for reserves, network infrastructure, or community infrastructure but does not include the pipes or lines of a network utility operator.
Development Agreement	A voluntary contracted agreement made under section 207A to 207F between 1 or more developers and 1 or more territorial authorities for the provision, supply, or exchange of infrastructure, land or money to provide network infrastructure, community infrastructure or reserves in 1 or more district or part of a district.
Development Contribution Commissioner	A person appointed under 199F of the LGA 2002.
Development Contribution Objection	An objection lodge under Clause 1 of Schedule 13A of the LGA 2002 against a requirement to make a development contribution.
Financial Contributions	Financial contributions are provided for by the Resource Management Act (RMA) and Council's policy is set out in the District Plan. A financial contribution is a contribution from developers of cash, land, works, services or a combination of these. Financial contributions are used to offset or mitigate the adverse impacts on the natural and physical environment including utility services, of a new development.
Funding Model	The funding model ensures an equitable assessment of the funding requirements to support the development contributions regime. The primary output of the funding model is an accurate assessment of the required development contribution charges.
Funding Period	Not less than 10 years. Otherwise lesser of asset capacity life, asset useful life, or 30 years.
Granny Flat (also referred to as a Sleep Out)	A building which is ancillary to the main residence is not independently utilised and is not considered a residential building. Typically this would exclude any kitchen facilities (I.e kitchen sink / bench) (Refer to Residential Building definition)
Greenfield Development	Any development that lies within Catchment Map 4 & 5.
Gross Floor Area (GFA)	The sum of the gross area of all floors of a building measured from the exterior faces of the exterior walls, or from the centre lines of walls separating two buildings but excludes any area used for basement or rooftop parking areas, stairwells, lift wells and life towers, machinery rooms, boiler, heating and air conditioning plant rooms.
Growth	The portion of a planned (or completed) capital project providing capacity in excess of existing community demand at the agreed level of service.
Growth Model	For each development contribution area the Council has determined the population changes anticipated as the

	District expands. These are reported as 'Household Unit Equivalents' (HUEs).
GST	Goods and Services Tax
Hospitality	The use of land for a café, restaurant and Bar.
Household Unit Equivalent (also HUE)	A type of 'unit of demand' that relates to the typical demand for infrastructure by an average household.
Industrial Activity	The use of land or buildings for the manufacturing, fabricating, processing, packing or storage of substances, into new products and the servicing and repair of goods and vehicles, whether by machinery or hand and includes transport depots and the production of energy but excludes helicopter depots.
Industrial Primary Productions	Means the processing, storage and packaging of crops and agricultural produce.
Infill Development	Any development within the urban area that lies outside Catchment Maps 4, 5 & 6.
ISA	Area of impervious surfaces to be drained to the reticulated stormwater network.
Land Based Primary Production	means: (a) livestock rearing which is primarily reliant on the underlying land; and (b) horticulture (including, viticulture, orcharding, cropping, market gardening, berry fruit growing, nurseries and glasshouses accessory to any of the foregoing activities, but not garden centres); and (c) trees, plants and crops grown in the ground but under cover; (d) forestry; and (e) associated accessory buildings
Level of Service (LOS)	The standard of service provision for each asset.
LGA 2002	Local Government Act 2002
Lot	Lot is deemed to have the same meaning as 'Allotment' under both the Local Government Act 2002, and the Resource Management Act 1991.
LTP	Long Term Plan (replaced LTCCP)
Medium Density Development	Any development that lies within catchment Map 6.
Multi-Unit Residential Development *(Or Comprehensive Residential Development (CRD)*	Means one of more household units on a site over and above any existing household unit and includes two or more comprehensively planned and designed residential dwelling units, a residential activity that is not a household unit or visitor accommodation units.
New Growth / New Expenditure	Relates to the growth demand and planned costs in the ten years from the current year.
Objector	A person who lodges a development contribution objection.
Office	A room, group of rooms, or building where the business of a commercial or industrial organization or a professional person is conducted. This excludes home based offices.
Past Growth / Past Expenditure	Relates to growth capacity and cost that has been provided by past expenditure. In terms of cost it relates to actual costs incurred in past years – including the current year. In terms of demand it relates to the provided capacity for the period between implementation and the current year.
Parks & Reserves	This refers to the cost of purchasing land and providing additional improvements necessary to enable the land to be usable reserves such as:

	Local (Neighborhoods) reserves – Small to medium sized areas of recreation reserve that are intended to provide for informal local passive and active recreation
	District Wide Parks/domains – Larger scenic or recreation reserves intended primarily to provide for passive recreation with a feeling of remoteness from urbanity and more formal active recreation and events , and Sports-grounds – larger recreation reserves intended primarily to provide for formal sporting activities and events
Reductions	A reduction is an adjustment to the HUEs assessed for a consent application. A reduction will only be considered as part of a review requested by an applicant.
RMA	Resource Management Act 1991
Remissions	A remission is an adjustment to the scheduled charged for a particular activity and catchment as a percentage or in dollar terms.
Renewal	The gross cost of replacing an existing asset with a modern equivalent asset to the same function and capacity at the end of its life.
Residential	The use of land and buildings by people for accommodation purposes, including unit/strata title developments and commercial accommodation.
Residential Building	A building, a room, or a group of rooms, that is designed or capable of being used or occupied exclusively by one or more persons as a single, independent and separate household unit (including secondary residential buildings). Where a building is used for residential purposes and contains kitchen and bathroom facilities, generally it will be considered a residential building and DC's will apply.
Retail	The use of land or premises for the retail sale or hire of goods to the public.
Retirement Village	As specified under Section 6 of The Retirement Villages Act 2003
Retirement Village Unit	Any residential unit / building (other than an aged care room) located within a retirement village.
Retirement Village Aged Care Room	Any residential unit (typically not self-contained) in a 'rest home' or hospital care institution as defined in section 58(4) of the Health and Disability Services (Safety) Act 2001.
Service Connection	A physical connection to a service provided by, or on behalf of Hastings District Council.
Site	Means either: (a) An area of land permitted by the District Plan to be used as a separate unit for one or more specified or ascertainable uses, and held in one single Certificate of Title, and includes all related buildings and cartilages. (b) An area of land which is held in two or more Certificate of Title where such titles are subject to a condition imposed under Section 36 of the Building Act or Section 643 of the Local Government Act 1974, are held together in such a way that they cannot be dealt with separately without the prior approval of Council, or the title(s) consist of more than one allotment and such allotments are held together in such a way that they cannot be dealt without separately without the prior approval of the Council. (c) In the case of a cross lease- each area shown on the certificate of title as an exclusive use area.

Subdivision	Subdivision is deemed to have the same meaning as 'subdivision' under the Resource Management Act 1991.
VPD	Vehicles Per Day (NOTE: A trip to / from the site is counted as 2 vehicle movements)

Warehousing	Land or buildings used for the receipt, storage and disposal of material, articles or goods destined for a retail outlet, trader or manufacturer and includes stock and station firm operations.

Appendix G

Non-Residential & Residential Base Units

Non-Residential Base Units

Activity	Base Unit	Demand per HUE
Transport	*Vehicle trips per day (VPD)*	**10.4 light vehicles and 2 heavy vehicles (Class II or higher)** **Note: A trip to / from the site is counted as 2 vehicle movements / trips**
Stormwater	*Additional vacant Lots Created*	**1 HUE**
Wastewater	*m^3 per day*	**800 litres per day**
Water Supply	*m^3 per day*	**1000 litres per day**

Residential Base Units (1 HUE)

Activity	Base Unit	Demand per HUE
Community Infrastructure	*Persons Per Household*	**2.7 persons**
Parks & Reserves (Local & District Wide)	*Persons Per Household*	**2.7 persons**
Transport	*Vehicle trips per day (VPD)*	**10.4 light vehicles** **Note: A trip to / from the site is counted as 2 vehicle movements / trips**
Stormwater	*Additional vacant Lots Created*	**1 HUE**
Wastewater	*m^3 per day*	**800 litres per day**
Water Supply	*m^3 per day*	**1000 litres per day**

Appendix H

Funding Sources for the Cost of Growth

Section 106 of the Local Government Act 2002 requires Council to explain why it has determined to use development contributions to fund the capital expenditure identified in its LTP resulting from growth. Section 101 of the Act requires consideration of the following matters in relation to each activity to be funded.

(i) the community outcomes to which the activity primarily contributes; and
(ii) the distribution of benefits between the community as a whole, and identifiable part of the community, and individuals; and
(iii) the period in or over which those benefits are expected to occur; and
(iv) the extent to which the actions or inaction of particular individuals or a group contribute to the need to undertake the activity; and
(v) the costs and benefits, including consequences for transparency and accountability, of funding the activity distinctly from other activities: and
(vi) the overall impact of any allocation of liability for revenue needs on the current and future social, economic, environmental and cultural well-being of the community

Consideration of these matters for each activity that Council intends to collect Development Contributions for is set out below. These are fundamentally in line with the Revenue and Financing Policy adopted by Council through its LTP. **The analysis below focuses on capital expenditure funding and the cost of growth only.**

Water Supply

Contribution to Community Outcomes

Community Outcome	How the Activity Contributes
Local Infrastructure which contributes to public health and safety, supports growth, connects communities, activities communities and helps to protect the natural environment.	• By ensuring that we have a healthy public water supply that meets 100% compliance with NZ drinking water bacteria standards, at an affordable cost. • By ensuring that all water supply assets are well maintained and operated efficiently. • By ensuring people are water wise, conserve water and minimise the impact on water sources and the environment.

Distribution of Benefits
Community Benefits

- Contributes to community health and fire safety
- Assists the local economy
- Improves amenity value of the city.

Identifiable Beneficiaries

- The users of the Council's water supply (or potential users as in properties able to be connected).

Overall the benefit has been assessed as being 100% identifiable as users in water reticulated areas also receive the maximum proportion of the community benefit. Accordingly Council has determined that the cost of growth should be paid for by those that require and benefit from the need to undertake the capital expenditure.

Period in which the benefits are expected to occur

Assets purchased from capital expenditure are treated as providing long term benefits to the community for the duration of their useful lives.

The actions or inaction of particular individuals or a group contribute to the need to undertake the activity

New development that has a requirement for Council services must be planned for to enable the infrastructure to cater for this additional demand and to ensure existing levels of service can be maintained. In designing capital infrastructure projects, a competent Council must evaluate future growth and provide for this growth in managing its assets. This must also be done to achieve the purpose of the Local Government Act 2002, and to meet its obligations under the National Policy Statement on Urban Development 2020.

Therefore, to support development the required increase in demand for capacity in the community's water infrastructure must be planned for and funded.

Costs and Benefits of Distinct Funding

Funding this account on a user pays basis targets the beneficiaries of the activity directly and is a transparent funding mechanism. Water infrastructure has its own distinct catchment and characteristics. No costs have been identified for distinct funding of this activity.

Overall Impact of Funding on Community Outcomes

A good quality water supply enhances public health and safety. It is equitable that those who connect to the water supply network should contribute their proportion of any cost of providing for that growth.

Sewage Disposal Services

Contribution to Community Outcomes

Outcome	How the Activity Contributes
Local Infrastructure which contributes to public health and safety, supports growth, connects communities, activities communities and helps to protect the natural environment.	• By ensuring that adequate public sewage disposal systems are available at an affordable cost and all sewage disposal services assets are well maintained and operated efficiently. • By ensuring the community wastes less to minimize the impact on the environment.

Distribution of Benefits

Community Benefits

- Community health and safety
- Assists the local economy
- Land is protected from the effects of sewage seepage
- Meets the community's increasing environmental standards.

Identifiable Beneficiaries

- Identified as properties connected to the Districts sewage system (and properties able to be connected).

Overall the benefit has been assessed as being 100% identifiable as users in sewage reticulated areas, who also receive the maximum proportion of the community benefit. Accordingly Council has determined that the cost of growth should be paid for by those that require and benefit from the need to undertake the capital expenditure on the system as a whole.

Period in which the benefits are expected to occur

Assets purchased from capital expenditure are treated as providing long term benefits to the community for the duration of their useful lives.

The actions or inaction of particular individuals or a group contribute to the need to undertake the activity

New development that has a requirement for Council services must be planned for to enable the infrastructure to cater for this additional demand and to ensure existing levels of service can be maintained. In designing capital infrastructure projects, a competent Council must evaluate future growth and provide for this growth in managing its assets. This must also be done to achieve the purpose of the Local Government Act 2002 and to meet its obligations under the National Policy Statement on Urban Development 2020.

Therefore, to support development the required increase in demand for capacity in the community's wastewater infrastructure must be planned for and funded.

Costs and Benefits of Distinct Funding

Funding this account on a user pays basis targets the beneficiaries of the activity directly and is a transparent funding mechanism. Wastewater infrastructure has its own distinct catchment and characteristics. No costs have been identified for distinct funding of this activity.

Overall Impact of Funding on Community Outcomes

An effective sewage disposal system that meets current and future need enhances public health and safety. It is equitable that those who connect to the sewage disposal network should contribute their proportion of any cost of providing for that growth.

Stormwater Disposal Services

Contribution to Community Outcomes

Outcome	How the Activity Contributes
Local Infrastructure which contributes to public health and safety, supports growth, connects communities, activities communities and helps to protect the natural environment.	• By ensuring that adequate public stormwater disposal systems are available at an affordable cost, and by ensuring that all stormwater disposal services assets are well maintained, operated efficiently. • By ensuring the community minimizes the negatives impact on the environment.

Distribution of Benefits

Community Benefits

- Public health and safety
- Environmental benefits of flood control
- Enhances amenity and property values.

Identifiable Beneficiaries

- Properties serviced by a stormwater system

The overriding benefits of Council's stormwater activity apply to all those who are located in the areas where Council provides a reticulated system. Accordingly Council has determined that the cost of growth should be paid for by those that require and benefit from the need to undertake the capital expenditure.

Period in which the benefits are expected to occur

Assets purchased from capital expenditure are treated as providing long term benefits to the community for the duration of their useful lives.

The actions or inaction of particular individuals or a group contribute to the need to undertake the activity

New development that has a requirement for Council services must be planned for to enable the infrastructure to cater for this additional demand and to ensure existing levels of service can be maintained. In designing capital infrastructure projects, a competent Council must evaluate future growth and provide for this growth in managing its assets. This must also be done to achieve the purpose of the Local Government Act 2002.

Therefore, to support development the required increase in demand for capacity in the community's stormwater infrastructure must be planned for and funded.

Costs and Benefits of Distinct Funding

Funding capital expenditure related to growth from development contributions targets the beneficiaries of the activity directly and is a transparent funding mechanism. Stormwater infrastructure has its own distinct catchment and characteristics. No costs have been identified for distinct funding of this activity.

Overall Impact of Funding on Community Outcomes

An effective stormwater disposal system that meets current and future needs enhances public safety. It is equitable that the development community should fund their proportion of any new capital expenditure requirements for this activity.

Roading

Contribution to Community Outcomes

Outcome	How the Activity Contributes
Local Infrastructure which contributes to public health and safety, supports growth, connects communities, activities communities and helps to protect the natural environment.	• By providing and maintaining an environment where people can move around safely. • By providing an attractive and safe walking and cycling environment. • By providing accessible transport options to support an efficient movement of goods.

Distribution of Benefits

Community Benefits

- Safe transportation network
- Easy access
- Assists economic growth.

Identifiable Beneficiaries

- All road users (motorists, pedestrians, cyclists, transport operators and businesses)
- Utility service providers using the road reserve for their services

The benefits of Council's roading network accrue to both District residents and businesses and outside users. Council has determined that the cost of growth should be paid for by those that require and benefit from the need to undertake the capital expenditure.

Period in which the benefits are expected to occur

Assets purchased from capital expenditure are treated as providing long term benefits to the community for the duration of their useful lives.

The actions or inaction of particular individuals or a group contribute to the need to undertake the activity

New development that has a requirement for Council services must be planned for to enable the infrastructure to cater for this additional demand and to ensure existing levels of service can be maintained. In designing capital infrastructure projects, a competent Council must evaluate future growth and provide for this growth in managing its assets. This must also be done to achieve the purpose of the Local Government Act 2002.

Therefore, to support development the required increase in demand for capacity in the community's roading infrastructure must be planned for and funded.

Costs and Benefits of Distinct Funding

Funding capital expenditure related to growth from development contributions targets the beneficiaries of the activity directly and is a transparent funding mechanism. Roading infrastructure has its own distinct characteristics in that all persons have access to the network. No costs have been identified for distinct funding of this activity.

Overall Impact of Funding on Community Outcomes

An effective roading network ensures people can move around safely and accessible transport options are available to transport goods efficient. In order for the roading network to be maintained with the present level of service in the long term, and to accommodate anticipated growth, the Council considers that additions and upgrades are necessary.

It is equitable that the development community should fund their proportion of any new capital expenditure requirements for this activity.

Community Infrastructure and Parks and Reserves (Local and District Wide)

Contribution to Community Outcomes

Outcome	How the Activity Contributes
Local Infrastructure which contributes to public health and safety, supports growth, connects communities, activities communities and helps to protect the natural environment. **Local public services which help meet the needs of young and old, people in need, visitors and locals, businesses and households.**	• By ensuring our district is an attractive location to live, and we have adequate places and spaces for recreation and fun. • By ensuring we have attractive and usable open spaces that are safe for people to enjoy.

Distribution of Benefits

Community Benefits

- Community pride
- Amenity value
- General recreational accessibility.

Identifiable Beneficiaries

- Park users and non-users.

The benefits of Council's parks & sportsgrounds activity accrue to those who choose to use and enjoy them in numerous ways. Council has determined that the cost of growth should be paid for by those that require and benefit from the need to undertake the capital expenditure.

Period in which the benefits are expected to occur

Assets purchased from capital expenditure are treated as providing long term benefits to the community for the duration of their useful lives.

The actions or inaction of particular individuals or a group contribute to the need to undertake the activity

New development that has a requirement for Council services must be planned for to enable the infrastructure to cater for this additional demand and to ensure existing levels of service can be maintained. In designing capital projects, a competent Council must evaluate future growth and provide for this growth in managing its assets. This must also be done to achieve the purpose of the Local Government Act 2002.

Therefore, to support development the required increase in demand for capacity in the community's parks, reserves and associated facilities must be planed for and funded.

Costs and Benefits of Distinct Funding

Funding capital expenditure related to growth from development contributions targets the beneficiaries of the activity directly and is a transparent funding mechanism. Parks and facilities on parks and reserves infrastructure have their own distinct characteristics in that all persons have access to them. However it is acknowledged that some areas will not have the same ready access to this infrastructure. Therefore two catchments have been identified that have different capital expenditure within each. No costs have been identified for distinct funding of this activity.

Overall Impact of Funding on Community Outcomes

The provision of parks and sportsgrounds and the amenities located on them (such as toilets and playgrounds) that meets current and future needs ensures we contribute to safe, healthy and liveable communities. In order for the present levels of service to continue in the long term, and to accommodate anticipated growth, the Council considers that addition reserve acquisition and development is necessary; as are additional toilets and playgrounds.

It is equitable that the development community should fund their proportion of any new capital expenditure requirements for this activity.

SCHEDULE OF FEES AND CHARGES – SET UNDER THE RESOURCE MANAGEMENT ACT 1991

Planning

All fees and charges are inclusive of GST (except as noted *).

	Current Fee	Proposed Fee 23/24
Planning		
Lodgement fee (unless otherwise stated) Current incl GST		
A lodgement fee shall by payable at the time of lodging, Resource Consent and Certificates of Acceptance, or other applications as listed in the following tables for Planning fees and charges:		
For applications and other approvals under the Resource Management Act 1991 the following lodgement fees represent a fixed charge in terms of Section 36(1) of the Resource Management Act 1991.		
All lodgement fees unless otherwise stated shall be subject to standard Clause 10 (Hourly Charges) where the costs exceed the lodgement fee		
A vehicle rate of $0.81/km (including GST) return journey or portion thereof will be charged for all necessary inspections or site visits.		
In respect of any charges under the Resource Management Act 1991, hourly rates, vehicle rates and payment of balance/refund and penalties set out in this schedule shall be applicable to any additional charge payable in terms of Section 36(5) of the Act, where the actual and reasonable costs incurred exceed the fixed charge paid.		
Provided that for resource consents, private plan changes and any other application requiring notification, advertising, photocopying and postage costs incurred in public notification, agenda preparation and agenda distribution shall be charged at cost as disbursements.		
Where inspections or site visits are necessary in addition to the normal requirements, these will be charged at the applicable hourly rate. Any costs incurred through the engagement of external expertise will be charged to the applicant at cost.		
Resource Consents - Land Use		
Controlled Activity	$1,000.00	$1,200.00
Restricted Discretionary Activity	$1,200.00	$1,400.00

	Current Fee	Proposed Fee 23/24
Discretionary Activity	$1,500.00	$1,800.00
Non Complying Activity	$1,800.00	$2,000.00
Permitted Boundary Activity	$400.00	$500.00
Resource Consents and Designation		
Fully Notified	$16,000.00	$16,000.00
Limited Notified	$7,000.00	$8,000.00
Hearing only	$3,000.00	$3,000.00
Alteration of Designation/Variation of Conditions	$1,500.00	$1,800.00
Resource Consent Extension of Lapse Date (s.125)	$1,000.00	$1,400.00
Resource Management Act Certificate of Compliance, Existing Use Right Certificate and Overseas Investment Certificate	$1,200.00	$1,200.00
Outline Plan Processing	$1,000.00	$1,200.00
Outline Plan Waiver	$400.00	$500.00
Pre-application Meeting	$300.00	$300.00
Resource Consents - Subdivisions		
Freehold and Leasehold	$1,500.00	$1,800.00
Amendment to Existing Leasehold Titles	$800.00	$1,000.00
Right of Way Survey Plans	$800.00	$1,000.00
Consent Notice (section 221 of RMA)(per document)	$180.00	$180.00
Section 223 Certification only	Hourly Rates	Hourly Rates
Section 224 Certification (this will also apply when 223 and 224 certification are applied for together)	Hourly Rates	Hourly Rates
Engineer Check for Section 224	Hourly Rates	Hourly Rates
Resource Management Act Section 226 Certificate	$800.00	$1,200.00
Certificate of Transfer and other legal documents	$220.00	$300.00
Hearings and associated Site Visit and Deliberations (both HDC Hearings Committee and HDC Hearings Commissioner(s) Hearings). The fee is per hour	$400.00	$400.00
Review of Delegated Decisions (Lodgement Fee)	$800.00	$1,000.00
Bond Administration Fee	$700.00	$1,400.00
Resource Consents - Policy		
Private Plan Change	$40,000.00	$40,000.00

	Current Fee	Proposed Fee 23/24
Gambling Act 2003		
Class 4 Gambling Venue Consent	$1,200.00	$1,800.00
District Plan		
Reserves, Facilities, Roading and Development Contributions	DC Policy	DC Policy
Hourly Rates (per hour)		
Team Leader Environmental Planning	$230.00	$242.00
Senior Environmental Planner	$215.00	$225.00
Environmental Planning Officer	$190.00	$200.00
EP (Grad)	$150.00	$158.00
Environmental Planning Assistant	$140.00	$147.00
Development Engineer	$230.00	$242.00



CONSULTATION DOCUMENT: LONG TERM PLAN 2021-2031 AMENDMENT

(Amendment to 2023/24 year of Long Term Plan)

INCORPORATING AMENDMENT TO DEVELOPMENT CONTRIBUTIONS POLICY

Dealing with growth



Our district is growing, and we need to invest in our wastewater infrastructure to support this.

This summary consultation document should be read in conjunction with the attached full proposed amendment to the 2021–31 Long Term Plan and Development Contributions Policy.

DESCRIPTION OF THE AMENDMENT

Hastings District is reaching a point where new wastewater infrastructure is required to be put in place to ensure we can:

- Service the forecast housing and commercial/ industrial growth for our district;
- To meet our legal obligations as determined by various government policy directions.

The preferred option would see new infrastructure redirect wastewater from existing urban areas, which will in-turn free up capacity in the Hastings City network to enable the district's housing objectives (in relation to higher density developments) to be achieved, whilst continuing to support other planned developments.



Note: This additional expenditure will impact on the charging of Development Contributions (the main way Council pays for growth infrastructure). The Development Contribution Policy is open for consultation. See details on back page.

REASONS FOR PROPOSED AMENDMENT

We are growing

- Hastings District is currently experiencing significant and rapid growth.
- Building consent volumes have grown significantly.
- The estimated value of commercial building consents has increased by in excess of 150% (from $95M to more than $250M).
- Resource consent volumes have increased year on year from 428 in 2015 to 673 in 2021.
- We need more houses – there is an estimated shortage of between 1,000 and 1,600 houses overall.

New legislative responsibilities

- New statutory requirements have been placed on Council to provide development capacity via the National Policy Statement on Urban Development 2020 (NPS-UD).



OVERVIEW OF THE TOTAL PROJECT

OPTION 1 - THE PREFERRED OPTION

The total project which spans 10+ years has a total cost of $230M.

Wastewater components

Whilst some associated water and roading investment is required the key reason for this proposal relates to necessary wastewater infrastructure investment.

The key investments include:

- Stage 1 Wastewater Pump Station and Rising Main (Irongate Development)
- Stage 2 Wastewater Gravity Main (Ōmahū Rd to No.3 Trunk Sewer)
- Karamū/Waipatu/Ōtene Rd Pump Station and Trunk Sewer Main

Together the three components ($31.5M) are vital to enabling over 4,000 additional homes to be serviced over the next 15 years, with further additional housing beyond that. Note: The government funding of $18.5M is funding these projects. They also provide domestic sewer capacity for commercial and industrial growth.

In addition to these major new pipes, further wastewater investment is required to connect new development areas and areas of the existing urban wastewater network to the new capacity. This investment is made up of the following broad components:

		23/24 PORTION
Wastewater components (as above)	$31.5M	$26.6M
Southern wastewater link	$36.4M	
Medium density wastewater capacity upgrades	$78.0M	$9.6M
Inner City Living capacity upgrades	$14.2M	
Hood Street Wastewater upgrade	$9.6M	
Havelock North capacity investigations	$1.0M	
East Clive WWTP capacity upgrades	$29.0M	$0.3M
Kohupatiki community based solution	$1.2M	
Various water supply and roading works	$29.0M	$6.9M
TOTAL 2023/2024		**$43.4M**

How would it be funded?



The total project has a mix of funding including government ($18.5M), with the balance paid by a mix of loan funding and Development Contributions.

Development Contributions – (the main way Council pays for growth infrastructure) are paid by a developer based on the size of their development. They are a funding tool to enable Council's to recover a fair and equitable portion of the costs associated with the provisions of infrastructure to support and service growth development. Please refer to the Development Contributions Policy.



IMPLICATIONS OF THE AMENDMENT – FOR THE 2023/24 FINANCIAL YEAR



Why the focus on the 2023/24 year?

This amendment has been put together on the basis of its impact on the Council's current Long Term Plan. The impacts shown are given to illustrate how the Council would fund the proposal via development contributions, debt funded from rates and some external funding.

The New Zealand Government is currently in the process of reforming how the Three Waters are managed. The proposal is to transfer the assets and debt associated with those assets to a new entity covering the Hawke's Bay and Tairāwhiti (Gisborne) area. The date for final implementation is 2026, but entities are able to progress earlier if all councils are in agreement.

This will mean the new water entity would take over responsibility for the rollout of the infrastructure programme identified within this amendment and also be responsible for charging customers the future costs of delivering Three Waters services. The assets associated with Three Waters would also transfer to the new entity.

For these reasons the impacts of this amendment are focused on the immediate 2023/24 year (which could be the final year for Council responsibility for delivery of these activities - this totals $43.4M). Should Council retain responsibility beyond that date the 2024-34 Long Term Plan will outline the impacts on following years if required.

Impact of Cyclone Gabrielle

Whilst the cyclone has had a significant impact on the Hastings District community it does not impact the work outlined in this proposal. The underground construction pathway remains a viable route (although the construction completion may experience some delay). The need to service housing growth remains.

KEY MATTERS	IMPACT ON 2023/24	
COST		
Total capital expenditure	Increase of $43.4M	
FUNDING		
Impact on external grant revenue	Increase of $18.5M	
Impact on total debt	Increase of $24.9M	
Impact on finance costs	Increase of $291,000	
Impact on Development Contribution Revenue	Increase of $9.3M	
Impact on rates	Little impact on rates 0.2%	
IMPACT ON COUNCIL FINANCIAL STRATEGY LIMITS	**2023/2024**	**CURRENT LTP**
Net debt as a % of income – less than 175%	148.46%	155.68%
Net interest as a % of income – less than 15%	4.66%	5.00%
Net interest as a % of annual rates income – less than 20%	8.78%	8.16%
Liquidity Range (110% - 170%)	115%	119%
Balanced Budget Benchmark >100% *(Annual operating revenue set at a level to fund annual operating expenses)*	105% *(Yes Benchmark met)*	106%

Note: These ratios are not materially different to those forecast in the 2021-31 Long Term Plan for the 2023/24 year.

Impact of the proposal on Development Contributions

The Development Contributions Policy is open for consultation. See the consultation details on the back page.

RESIDENTIAL			
TYPE	CURRENT	PROPOSED	% CHANGE
Infill	$16,016	$31,490	97%
Medium Density	$17,870	$33,652	88%
Greenfield	$27,302	$42,725	56%
Rural	$6,894	$5,992	-13%



OTHER			
TYPE	CURRENT	PROPOSED	% CHANGE
Commercial/Retail	$7,588	$11,869	56%
Industrial/Warehousing	$5,109	$11,470	124%
Office	$4,875	$ 9,510	95%
Hospitality/Restaurant	$12,474	$27,536	121%

Note: Other than changes to the charging schedule above, no other material policy changes are being proposed.

ALTERNATIVE OPTIONS CONSIDERED



A business case assessment was undertaken on the proposed major trunk main wastewater investment. This looked at whether there were alternative options to the investment being proposed in this amendment.

OPTION 2 - DOING NOTHING

This option has not been recommended based on network modelling and the government directives to provide sufficient network capacity for growth.

Disadvantages

The modelling demonstrated that the network was already at capacity at various locations under low scale wet-weather events. It also demonstrated that the current network would not provide the capacity required to meet growth demand for housing being experienced and projected. In other words the Council would be saying NO to future development.

OPTION 3 - AN ALTERNATIVE APPROACH

An alternative approach to investing in new main trunk infrastructure around the edges of Hastings would be to replicate that capacity within the existing network that runs through Hastings. This would involve significant upsizing of pipes and pump stations within Hastings and/ or the construction of duplicate mains across the network.

Whilst this is a feasible option for the community to consider, the analysis shows that it comes with a number of disadvantages when compared with the preferred option with no obvious advantages to taking this approach.

Disadvantages

A high level cost comparison undertaken to evaluate the difference between this option and the preferred option which showed the project would cost $60M more for the first phase (Years 1-3), with the outer years of the programme being similar to the preferred option. This is due to the comparative rates for excavation, construction and reinstatement in the already developed urban areas and roading networks being substantially higher than in the undeveloped areas proposed in the perferred option.

The impact of this option would broadly be as follows:

KEY IMPACTS - TOTAL	IMPACT ON 2023/2024
COST	
Total capital expenditure	Increase of $63.4M
FUNDING	
Impact on total debt	Increase of $27.9M
Impact on finance costs	Increase of $326,000
Impact on development contribution revenue	Increase of $12.3M
Impact on rates	Little impact on rates 0.2%
Impact on Development Contributions	20%-30% increase compared to those proposed under option 1

There would also be considerably more disruption to our community and time delays in delivering the necessary infrastructure. Digging up existing busy streets for lengthy period of time on major roads, in our residential streets and commercial centres will impact those living, doing business or simply traveling through our community.



HAVE YOUR SAY

This proposal along with the Draft Development Contributions Policy can be found at: **www.myvoicemychoice.co.nz**, District public libraries, Council Central Offices, Lyndon Road or call us on **06 871 5000** and we can send you the information.

The full impact on the Long Term Plan of the Amendment can be found at **www.myvoicemychoice.co.nz**

Finding out more

A development community information evening will be held TBC.

Submissions

Submissions on this proposal and the Draft Development Contributions Policy may be made to the Council up until 28 May 2023.

Submissions can be made:

- Electronically at **www.myvoicemychoice.co.nz**
- Or in any other written form to the attention of Lex Verhoeven, Strategy Manager Hastings District Council, Private Bag 9002, Hastings 4156 or by email to **lexfv@hdc.govt.nz**

Any person who makes a submission will have the opportunity to be heard by the Council if this is requested. Hearings will be held at a Council meeting commencing 8 June 2023.

AUDITORS REPORT