Rotokauri Greenway and Arterial application for referral to fast track Maven draft memo

Introduction & Project Description

The proposed project for which a fast-track application under the **COVID-19 Recovery (Fast-track Consenting) Act 2020** is being applied for is the consenting and construction of:

- the Rotokauri Greenway;
- the Minor Arterial;
- the bulk watermain under the Minor Arterial and other roads;
- the wastewater rising main, and
- strategic wastewater pipeline and pump station.

The purpose of this project is to provide the necessary infrastructure pertaining to stormwater management and discharge along with critical roading connectivity to enable the residential development of the Rotokauri, a 'live' zoned residential growth cell in Hamilton north. The Rotokauri growth cell has a planned capacity of approximately 7,000 homes for approximately 20,000 people (noting this could increase with the recent proposed changed under HCC's Plan Change 12). Appropriate and necessary infrastructure is required to enable the balance of this growth cell. The key objective of this project is to design, consent and enable high-quality infrastructure that supports well-functioning urban development that can provide for the social, cultural and economic well-being of the community and wider Waikato region

As highlighted above, there are two key components to this proposal, the Greenway and the Minor Arterial, which integrate and need to be designed and consented in parallel. Both pieces of infrastructure are critical features of the existing Rotokauri Structure Plan contained in the Hamilton City District Plan and certified Rotokauri Integrated Catchment Management Plan (ICMP).

The Greenway is a multi-functioning ecological corridor that will provide for stormwater management, open space and an active transport network, traverses a range of adjacent land use and offering a range of opportunities including ecological restoration, water runoff treatment recreational activities and cultural re-instatement. The Greenway will include a fluvial system of swales, artificial wetlands and ponds, with extensive planting of indigenous species along the length of the corridor. The approximately 4.7km length corridor will run between Lake Waiwhakareke (high point) and Lake Rotokauri (low point) to effectively manage and attenuate stormwater within the area, treating stormwater prior to discharge to enhance the water quality and surrounding natural environments and ecosystems. The overarching purpose of the Greenway is to provide treatment, conveyance and storage of flows from Lake Waiwhakareke at the upper extent of the catchment) to Lake Rotokauri approximately 4km north. Construction of the Greenway includes major re-alignment and re-contouring of the existing Rotokauri Drain, as well as an upgrade to the culvert below Exelby Road and the construction of check dams in the lower reaches to assist in managing

flows. The Greenway includes a 5 metre wide shared path on the southern side and a 3 metre wide secondary path on the north side.

The Minor Arterial is a key piece of enabling infrastructure that promotes a housing development within Rotokauri. The Minor Arterial extends 3.8km in length from Te Wetini Drive to the northern boundary of Hounsell Holdings land, including the collector road to the Chalmers Road underpass and the northern boundary of Hounsell Holdings land to the underpass that links to Te Kowhai East Road. Supporting three water infrastructure which is sized to cater for the wider catchment is also proposed which includes:

- the bulk watermain under the Minor Arterial;
- wastewater rising main;
- strategic wastewater pipeline, and
- pump station will also be included in the project.

The Minor Arterial will prioritise and enable active transportation with wide footpaths and separated cycleways, supported by planted medians to improve safety. There will be public transport connections provided, which will connect to the Rotokauri Transport Hub (1 kilometre east of Rotokauri), with bus stops along the length of the corridor.

Maven Associates have been appointed by the developer, Hounsell Holdings Limited (HHL), as the Civil Engineering Design Consultant and Project Lead.

The detailed design will be based upon the agreed concept design as specified within the Private Development Agreement (PDA) signed between Hamilton City Council (HCC) and HHL.

The design is split into two portions:

1. The Greenway (outlined in blue in Figure 1) is a 4.7km Stormwater conveyance swale designed to carry the 1 in 100 year rainfall for the catchment and disperse it within 2 days without altering the ecology of the wetlands, Lake Waiwhakareke or Lake Rotokauri. The design of the greenway includes the detailed design of new wetland areas based on stormwater modeling for the whole catchment area and a complete stormwater treatment train for the Minor Arterial and future development.
2. The new Minor Arterial route which runs parallel to the north / south axis of the Greenway shown in red and orange in Figure 1.

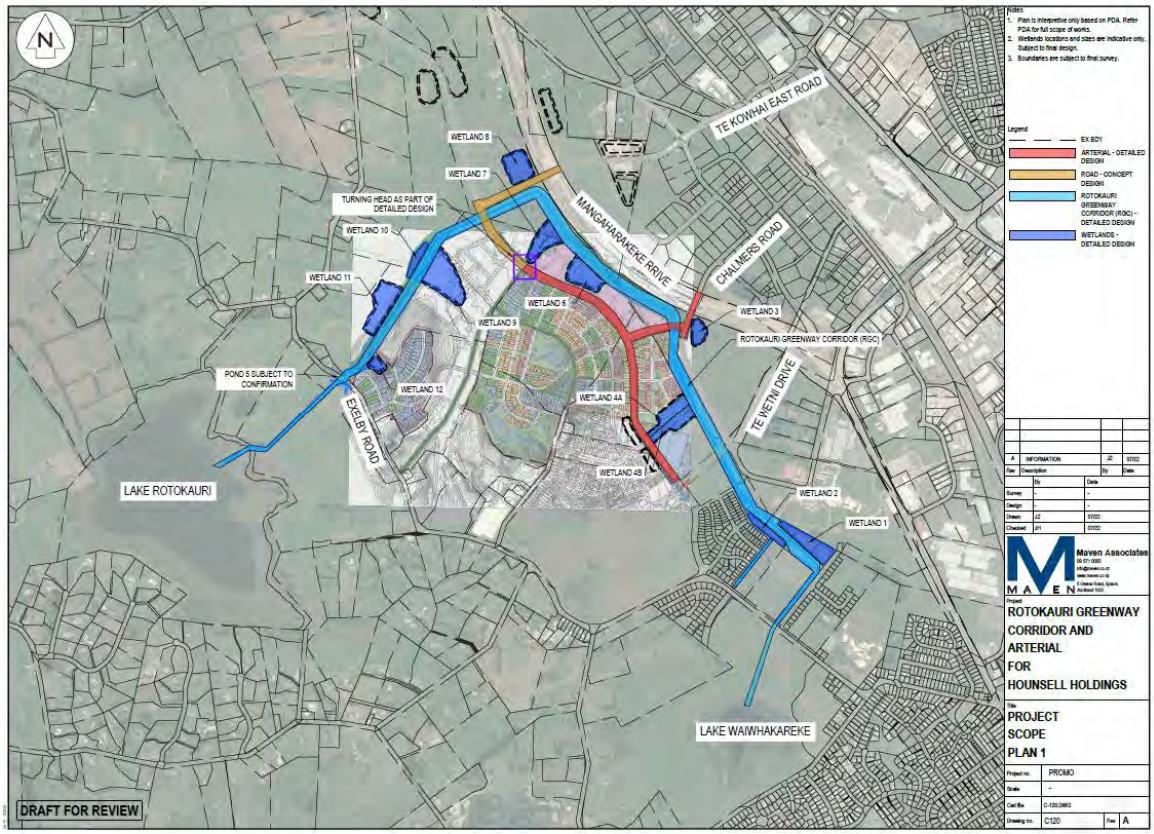

Figure 1. Site Plan.

Methodology for the Project Management

Overarching the Rotokauri Greenway and Minor Arterial is a high-quality urban design and landscape package providing not only a backbone to the roading network but also critical active mode connections and the link between people and the environment. Our intent is to deliver a new benchmark in well-functioning urban environments and raise resident and visitor awareness of freshwater management and the conservation of the rare black mudfish species. This will be done in close consultation and with oversight from Iwi and our well-respected Ecologists and Hydrogeologists.

The design will also detail the construction methodology where works are undertaken in parallel with the excavated material from the Greenway being used to re-contour the land within the catchment to mitigate flooding and create superior artificial wetlands and new land for the Minor Arterial and wider development.

It is envisioned that the cut to fill exercise is neutral meaning we do not ship fill off site and instead we use it all within the site – this is a huge reduction in the projects carbon footprint relative to the concept design and is only achievable because we are undertaking subdivision earthworks in parallel on the HHL land.

The design will meet all relevant requirements of the Greenway Designation and any new requirements or conditions that may come out of the Notice of Requirement for the Minor Arterial.

Maven have a team of dedicated Engineers already working on the project full time for the next year in order to lodge the required consents under a fast track approach quickly followed by the EPA consent application. Our brief is to get the project to the point construction may begin with all consents in place and a contractor ready to go

Aside from the Greenway and Minor Arterial, Maven have been working with the developer, planners, ecologists and Council to generate a cohesive masterplan for the wider Rotokauri subdivision, because Maven is driving the civil design for the wider area it allows the Project Team to integrate a complete end to end urban design philosophy and a blue print for growth that will ultimately effect the quality of living for an estimated 20,000 people whilst creating an enviable destination for tourists and Kiwis in the form of the new Twin Lakes Discovery Pathway which joins the Lake Waiwhakareke Heritage National Park in the south west to the picturesque Lake Rotokauri in the north while providing links to the Hamilton Zoo and Polytech this pathway is going to be a valuable tourism amenity for council which we expect will attract many thousands of tourists a year, we will soon be working with HCC visitor destination to ensure the city benefits from this amenity

There is already a consent in place for a portion of enabling works and the start of stage 1 subdivision works. The detailed design and construction of the Greenway and Minor Arterial is now required to enable any further development in the wider Rotokauri growth cell.

Maven provided the governance structure for the delivery of the detailed design which supports the Detailed Design Group (DDG) set up under the PDA by HCC which meets once a month and adds the day to day working arrangements via a larger Internal Design Group (IDG) which meets formally every 2 weeks while maintaining open lines of communication between the consultants on a daily basis.

The IDG includes a dedicated resource from HCC with appropriate delegated authority and the experience and maturity to add real value to the design workstream.

Outside the IDG there are subject matter experts engaged by HCC to peer review the design as it progresses, it's an open partnership that takes all the legacy strategic elements behind the Greenway and Arterial then injects some serious resourcing into the completion of the design and henceforth the actual construction of the project – there are some huge advantages to this approach.

1. We have peer reviewers and SMEs appointed by HCC to peer review the design as it develops, rather than take the traditional approach where the design is all but complete then goes through peer review and an iterative change feedback loop this project does the two activities in parallel with the SMEs taking an active role on day one. We also point out that this process is not one we aspire to, it is one we are already well underway with and the ethos is already embedded in the wider team. The stormwater treatment train has its roots in the Integrated Catchment Management Plan (ICMP) which has been ratified by Waikato Regional Council. This document underpins every aspect of stormwater management in the wider catchment area. It literally touches every aspect of the project.
2. Although HHL only owns approximately130 hectares of the catchment at present and have an accelerated development pipeline for that, the completion of the Greenway and Arterial will enable the full development of close to 788 hectares of land which will house an estimated 20,000 people alongside an employment precinct, school (which is already in negotiation with MoE), a super market (also in negotiation), a multitude of food and beverage opportunities and the new council sports fields the developer HHL is also an experienced retirement village operator and is underway with a project plan for an new village on the edge of the greenway. Ultimately the work we are doing now to establish the Greenway and Minor Arterial forms the backbone of a new and dynamic township that will be a template for urban design and quality of living for generations to come.
3. There is vast knowledge that lives within the ICMP and the SMEs who guide it, it is timely that this project will be the catalyst spreading that knowledge, understanding and kaitiakitanga through the next generation of professionals who will in term lead the wider development

over the coming years. As part of our deliverables we will provide the design guidelines and ecological ethos which will anchor the land developments outside our own holdings

4. Ecological and freshwater considerations have been given the highest weighting within the design workstream and those in turn support the iwi requirements.
5. Because we have the support of both the Waikato Regional Council and HCC there is a rare opportunity to combine forces and work together to deliver something really challenging and unique. This tripartite agreement with HHL ensures we are able to face challenges as one team rather than the traditional approach of working in silos.

The design ethos

The first principles of the design are already in place, not only via the greenway designation and Minor Arterial NOR but also through the Rotokauri ICMP and open inputs from the SMEs. We have a strong implementation plan, the project team is established, we have completed our investigations and we are well advanced on all our design workstreams. We have an approved concept plan and HCC are actively involved in the developed design, with full access and input at all levels. We hold 2 weekly internal design meetings with HCC in attendance and we run a “transparent, one single version of the truth” approach to each and every aspect of the project. The delivery of housing, employment and public amenity on this scale can and should only be done by adopting a partnership approach with all the stakeholders. Of note we also have a set rule established during the procurement of the team – that only directors and associates (people with a stake in the business they work for) have a place in the team. 5We do this is to ensure that we de-risk the possibility of losing resource in a tight labor market and therefore maintain momentum on an accelerated timeline.

The construction ethos

Some earthworks have already started on the wider subdivision and once the fast-track consent is granted the contractor is already on site and will commence further earthworks immediately – the funding is in place and no time will be lost.

As the developer owns the adjoining land to the works we have a huge advantage in not having to cart excavated fill off site and we can stock pile, condition and reuse the fill as and where required including being able to offer it to HCC (to raise the playing fields) or adjoining developers. the adjoining land also means we have room outside the area of the Greenway and Minor Arterial scope of works to set up sheds and store materials to the extent we are also able to consider activities like the establishment of our own precast concrete yard or steel fabrication area, this sort of approach not only saves transportation time and money it also reduces carbon foot print and provides employment and training opportunities such that we will be able to engage with the Hamilton Polytechnic (Wintec) and iwi with a view to establishing internships and train to work pathways over the duration of the construction of the project. The opportunities on this front are huge and cover far more than construction and engineering.

Conclusion

Based on Maven's experience and the information which has been received and known to date, Maven see no reason why the following development could not proceed under a fast track application process with referral.

We have the experience across an established team ready already moving the project through the design phase and consenting phase who will stay with the project to construction completion and a dedicated Lead Consultant to drive programme and strategy alongside the developer and HCC, there is a wealth of depth within the wider business to ensure we can drop in additional manpower as and when required.

Qualifications and Experience

Maven (meaning trusteed expert) is a multi-disciplinary consultancy specializing in civil engineering, surveying and land development

Lead by 4 directors together they have built an expert team of over 150 people across a number of offices including Hamilton. These people share the same passion for the industry and a dedication to quality engineering solutions and land development.

Maven have the capability, experience and national coverage to deliver all types of projects and have been successful in some of the largest and complex residential, commercial and industrial projects in New Zealand.

At Maven relationships come first – we build strong partnerships from day one and tailor our project management approach to suit each individual project selecting the right team to complement our clients vision. We bring collaboration, vision, integrity and dependability to the table every day.

The Maven Rotokauri Senior Leadership Team

Taking overall responsibility for the project delivery is Director Brendon Verhoeff - CMEngNZ, CPEng, IntPE(NZ), BE(Civil) NZCE

Brendon has well over twenty years experience in civil engineering and is the founding director of Maven, he will guide the high level detailed design direction. His expertise is wide ranging having completed well over 100 commercial, residential and industrial projects including large scale sub divisions and Storm water projects

Taking responsibility for the day to day delivery of the project and acting as Lead Consultant is Joe Holden - NZCB

Joe has 36 years experience including 12 years in client-side development roles including the end to end delivery of significant green field and brown field subdivisions and critical public facing infrastructure projects where he has also written policy and strategy for the likes of Auckland Transport and Greater Wellington Regional council. As the Lead Consultant Joe will oversee the programme, chair the design meetings and coordinate the sub consultant deliverables, he understand the project pathway from both the private sector commercial side and also from the

local body perspective and will manage the relationship between the project design team and HCC representatives.

Driving the delivery of the detailed design engineering team is Joseph Zhu BE(Hons)

Joseph is one of our most respected Senior Engineers at Maven who will provide the single point of contact between the dedicated civil design and drafting team and the consultant team, he has worked side by side with Joe on other significant land developments and they are a formidable team.

Joseph is a solutions orientated professional who works tirelessly to deliver excellence in design outcomes

Team at a leadership level

Dean Morris CPEng, MIPENZ (Civil), IntPE(NZ)
Hamilton Director who will be running the associated subdivision design workstream which is happening in parallel with the Greenway and Minor Arterial project

Avinesh Nand DipEng, MEngNZ
Avinesh has 23 years experience is a critical part of the Civil delivery leading the Design / drafting and Civil 3D workstream

Kong Zong Design Engineer BE(Civil)

Kong specializes in civil infrastructure design including structural design and stormwater management he is a valued member of the Maven team and respected internally as a practical problem solver with a wealth of technical knowledge.

Chris Dawson NZDE (Civil)

Chris has over 25 years of civil design and management experience. Chris has expertise in AutoCAD and 3D modelling using both Civil 3D and 12d Model software packages.