

ŌMĀHU ROAD NORTH INDUSTRIAL ZONE STORMWATER LEVEL 2 – SITE DEVELOPMENT PROCESS INFORMATION SHEET FOR DEVELOPERS

Prepared by Stantec for Hastings District Council

Level 2—Site Development Process



CONTENTS

1.	ŌMĀHU ROAD NORTH INDUSTRIAL ZONE STORMWATER STAGES	. 3
2.	STORMWATER DESIGN GUIDANCE FOR ŌMĀHU ROAD NORTH	. 3
3.	STORMWATER DESIGN REQUIREMENT	.4
4.	PRE-APPLICATION STAGE – DESIGN CONSIDERATIONS	. 5
5.	APPLICATION STAGE - STORMWATER DESIGN APPROACH	.7
6.	CONSTRUCTION STAGE	. 8
7.	MONITORING STAGE	. 8
8.	FUTURE USE	. 9
APPENDIX 1 – ŌMĀHU ROAD INDUSTRIAL ZONE – PROCESS FLOW CHART		

List of Tables

Table 1 Development Considerations	. 5
Table 2 Design Factors and Features	.7

List of Figures

Figure 1 A section of Ōmāhu Road North Industrial Zone, for reference	3
Figure 2: Ōmāhu Road North Industrial Zone Stormwater Network Corridor Layout	4
Figure 3 Managing flows in an industrial setting	7

1. ŌMĀHU ROAD NORTH INDUSTRIAL ZONE STORMWATER STAGES

To understand the stormwater requirements for the Ōmāhu Road North Industrial Zone, guidance has been split into 3 levels. These 3 levels are in Appendix 1 and summarised below:

- Level 1 Due Diligence: Covers an overview of the on-site stormwater management and offsite stormwater discharge - covered in the Summary Sheet.
- Level 2 Site Development Process: Outlines the high-level understanding of the four main process stages covered in this document:
 - Pre-Application
 - Application
 - Construction
 - Monitoring
- Level 3 Detailed Guidance: Covers the detailed processes to complete each of the four process stages above – covered in the Principal Stormwater Catchment Management Plan (PSCMP).

2. STORMWATER DESIGN GUIDANCE FOR ŌMĀHU ROAD NORTH

The Ōmāhu Road North Industrial Zone includes the general industrial zone and a network corridor of land along the rear of the industrial strip, for servicing the developments (purchased by Hastings District Council (HDC)), refer to Figure 1 below. The network corridor includes the following:

- Services corridor which includes HDC maintenance access, water and wastewater services to support the development.
- Stormwater corridor where off-site stormwater discharges to and infiltrated to the ground.

All sites within Ōmāhu Road North Industrial Zone must connect to the network corridor for water, wastewater and stormwater services.



Figure 1 A section of Ōmāhu Road North Industrial Zone, for reference

The network corridor will contain the piped water and wastewater services and stormwater infiltration basin that service each site. Where required, service connectors have been allowed for the frontage properties to connect to the rear network corridor (orange lines in *Figure 1* above). For land subject to exceptions refer to the District Plan Section 14.1.6A.6 or the PSCMP for more details. The layout and dimension of the network corridor are detailed in Figure 2.

Each site will convey **treated** stormwater runoff to the stormwater infiltration basin, where flows are managed through storage and infiltration to the Heretaunga Plains aquifer. The construction of the infiltration basin is the responsibility of the owner/occupier, with HDC taking over the basin once fully constructed and approved by HDC.

On-site stormwater management including minimising contamination and treatment of stormwater will be the responsibility of each owner/occupier and they will need to apply for a discharge approval to the infiltration basin from HDC and also apply for connections to the water and wastewater networks. This is outlined in the Summary Sheet that supports Level 1- Due Diligence.



Figure 2: Ōmāhu Road North Industrial Zone Stormwater Network Corridor Layout

3. STORMWATER DESIGN REQUIREMENT

This document is a starting guide for owner/occupier to understand at a high level what is required to progress through the four stages of Pre-Application, Application, Construction and Monitoring. For more detail on the stages refer to Appendix A which includes the full flow chart.



For a full outline on the stormwater requirements for Ōmāhu Road North, refer to the documents below:

• The Hastings District Council (HDC) Principal Stormwater Catchment Management Plan (PSCMP) – Gives an overview of the stormwater network and infiltration basin and management strategy.

Level 2—Site Development Process

- Discharge Consent Divert and Discharge Consent (AUTH-120054-03 & AUTH-120056-03) Confirms the sizing requirements/shape of the basin, acceptable contaminant levels and risk approach for managing activities.
- Water Services Bylaw Requirements by both owner/occupier and HDC to ensure that runoff is being adequately treated prior to discharge to the infiltration basin. Link – <u>https://www.hastingsdc.govt.nz/assets/Document-Library/Bylaws/hdc-bylaws-chapter7-waterservices.pdf</u>
- District Plan Rules How land is used, managed and activities that have significant risks that cannot be adequately mitigated. Link - <u>https://eplan.hdc.govt.nz/eplan/#Rules/0/37/1/22633/0</u>
- Hawke's Bay Waterway Guidelines: Industrial Stormwater Design (Hawke's Bay Regional Council (HBRC) Plan Number 4107) can be used to assist in identifying contaminants for specified land uses, risks of discharge and appropriate treatment methods.
- New Service Connections Fact Sheet and Application Form. Link <u>https://www.hastingsdc.govt.nz/assets/Document-Library/Forms/Other/Water-Services-New-Service-Connection-Fact-Sheet-and-Application.pdf</u>

4. PRE-APPLICATION STAGE – DESIGN CONSIDERATIONS

To help understand what is covered in the pre-application stage, development considerations are covered in **Table 1** below.

Table 1 below provides high level information for owner/occupier regarding what is required to develop a property within the Ōmāhu Road North Industrial Zone, outlining the general considerations around the land, design and stormwater applications.

	Information / Requirements		
Land use activity	 The infiltration basins will be discharging over the Heretaunga Plains Aquifer, which is a sensitive receiving environment. Therefore, there are limitations on permitted land use activities and treatment is required prior to discharging to the basin. 		
	• District Plan rules limit land use/activities that have significant risks and that cannot be adequately mitigated - i.e stock yards, waste management sites, composting plants, pathogen generating operations (bakeries, food processors).		
	• The first check within the Pre-Application Stage is to determine if the land use/activities can align with the consent requirements.		
Stormwater Management	Runoff from the property is to be treated on-site, prior to discharge to the detention/infiltration basin.		
and Pre - Treatment	• Site design and layout considerations are undertaken to minimise the potential for generating contaminants in stormwater, i.e. putting operations or storage areas under cover.		
	 Discharge quality standards are based on the consent parameters – assessed against consent conditions. 		
	• The site-specific risk assessment is to be carried out by suitably experienced/qualified persons on behalf of the site owner/occupier to identify potential contaminant risks, through assessment of site activities and land use.		
	• Pre-treatment devices selected will need to be shown as; fit for purpose, meeting specific design requirements, and operate effectively with minimal fall between inlet and outlet. Note: that type of devices used will be limited by the flat ground topography and hydraulic performance requirements.		

Table 1 Development Considerations

	Information / Requirements		
	 If the quality of the discharge breaches the allowable limits, the owner/occupier will be required to review their set up and provide additional mitigation to reduce the contaminants to an acceptable level. 		
	 Ultimately the owner/occupier will be responsible for the ongoing management of stormwater from their site and the quality of the stormwater discharged into the infiltration basin. 		
Infiltration Basin Design	• The expected shape for the basin has been predetermined, with some dimensions fixed as shown in Figure 2. However, each owner/occupier will need to confirm the size/shape, taking into consideration the site runoff and existing land topography. Greater depths and side slopes may be required for part of the basin, potentially retaining walls may also be needed on some sites.		
	• The basin is to be designed and constructed by the owner/occupier, in accordance with the stormwater requirements.		
	• The interactions between the on-site stormwater management and off-site stormwater discharge to the basin, needs to be well understood through the Pre-Application Stage.		
How to meet the consent requirements?	Engagement with HDC during the Pre-Application Stage, will help ensure the requirements are well understood and the process runs smoothly with less unknown issues occurring along the way.		
	The major consent requirements are as follows:		
	Owner/occupier:		
	• Engage a suitable experienced/qualified person to prepare a Site-Specific Stormwater Management Plan (SSSMP), which includes on-site stormwater treatment/management, monitoring plan and spill management plan. SSSMP will cover all conditions of the consent and requirements in the PSCMP.		
	 Apply for Controlled Stormwater Discharge Approval (CSDA) to HDC. A separate application is needed to connect to the water & wastewater services in the network corridor. 		
	Install all stormwater management devices including the infiltration basin.		
	 Outline monitoring requirements to ensure that runoff is being adequately managed and treated prior to discharge into the infiltration basin. 		
	 Undertake and document the on-going management and maintenance of stormwater from their site discharged into the infiltration basin in accordance with the consent and requirements in the PSCMP. 		
	HDC:		
	 HDC will review all applications for any new connections to the network corridor. Based on the review HDC will approve or provide feedback on what is required to get approval. 		
	• The HBRC consent requires HDC to undertake annual audits and sampling of discharge from each site. HDC will therefore at times inspect private premises and stormwater systems to ensure that the system is functioning as designed and in compliance with the conditions of the HBRC consent.		
	• HDC is subject to the same considerations and constraints on the quality of the site discharge, meaning that both HDC and owner/occupiers have the risk of prosecution by HBRC if contaminants are released into the infiltration basin.		

During the Pre-Application Stage the following stages should be considered to understand the full process.

5. APPLICATION STAGE - STORMWATER DESIGN APPROACH

For guidance as to how the stormwater can be managed on-site, this section outlines how to manage stormwater from distinct areas within the industrial zone. The areas are separated into roofs, hardstands, and landscaped areas. *Figure 3* below show the three areas and connection paths to the infiltration basin.



Figure 3 Managing flows in an industrial setting

Table 2 below outlines the stormwater design factors and features to consider for each of the areas.

Table 2 Design Factors and Features

Areas	Design Factors to Consider	
Roof Area	• To discharge roof runoff directly to the basin, inert (chemically inactive) materials must be used.	
	Remove grit and debris before discharging to the basin.	
	 Need to consider any vents that may discharge contaminants to the roof and address in SSSMP. 	
Hardstand Area	 Hardstand areas are where contaminants such as suspended sediments, hydrocarbons, zinc and copper are likely to be deposited and then washed off with rainfall into the stormwater system. 	
	• Most common risks are hydrocarbon spillage/leakage from vehicles parked in the carpark or from delivery trucks travelling around the site.	
	• Depending on the activities on-site the loading and unloading areas, storage of chemicals/contaminants/hazardous substances will need to be considered at a site-specific level.	

Areas	Design Factors to Consider
	• A site-specific spill management plan is required as part of the SSSMP. The spill plan will outline the hazardous material, scale of the spills and pollution prevention techniques, which must include an emergency shut off valve.
	 Runoff from yards and paved areas will be collected and passed through on-site separation devices, that remove contaminants prior to discharge to the basin.
	• Treatment devices selected will depend on on-site space, treatment requirements, maintenance and operability and any other site constraints. Certain devices are not suitable to the site due to minimal fall across the site, limiting the drop between the inlet and outlet.
Grass / Landscaped Areas	 Rainfall falling onto grassed or landscaped areas can naturally infiltrate but runoff exceeding the grounds infiltration rate will need to discharge to the basin.
	• Any runoff will require grit/sediment removal prior to discharge to the basin.
Contained Area	 Contained areas include closed off spaces, containing material / comtaminants.
	• Storage of hazardous substances including waste materials shall only occur inside of roofed buildings that have impervious floors and are bunded, to provide for the containment of any spilled contaminants. Airborne contaminants must be contained in a sealed system.
Infiltration Basin	• With the risk to groundwater quality from contaminants, there is a need to identify and exclude contaminant sources as far as practicable.
	• The typical consented infiltration basin is 17m wide (Figure 2); this assumes a flat site, groundwater at least 2m below the base of the infiltration basin and no perched ground water layers. However, each owner/occupier will need to confirm the sizing, taking into consideration the site conditions.
	• Greater depths at one end of the basin, with steeper side slopes or retaining walls may be required to achieve the minimum 1m depth and minimum 17m base width for the basin.
	• Basins shall contain all runoff exceeding existing pre-development state in a 24 hour duration 50-year return period event. The basins capacity is based on the infiltration rate and storage volume.

In the Application Stage the stormwater design, on-site stormwater management, monitoring plan and spill management plan, are all included in the SSSMP, which is submitted alongside the CSDA to HDC.

6. CONSTRUCTION STAGE

Once the application is approved construction can commence. Under the construction stage:

- The onsite stormwater devices are installed in accordance with the SSSMP.
- The basin is installed by the owner/occupier, and once approved and commissioned by HDC it is passed over to HDC to manage.

7. MONITORING STAGE

Implementation of monitoring and maintenance plans occurs once the devices are installed. During the monitoring stage:

- The owner/occupier manages onsite stormwater devices and HDC manages the basin.
- Annual audits are completed, any non-compliance is addressed and recorded.
- Annual reports are submitted to HDC.

8. FUTURE USE

If the owner/occupier changes, or the land use / activity changes, then a new application is required with a new SSSMP and CSDA.

Note: The devices and layout for one activity may not operate sufficiently for another activity, and therefore removal and replacement of stormwater devices may be required to meet the consent conditions.

APPENDIX 1 – ŌMĀHU ROAD INDUSTRIAL ZONE – PROCESS FLOW CHART

Ōmāhu Road Industrial Zone — Process Flow Chart



Level 3—Detailed Guidance

Flow charts for Level 3 are detailed on page 2



Supporting Documentation:

Refer to Principal Stormwater Catchment Management Plan (PSCMP) for detailed Information on each stage. Additional supporting material is also referenced in the Guidance Document in Level 2.

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Page 1

Ōmāhu Road Industrial Zone — Process Flow Chart

