

AUCKLAND STORMWATER BYLAW IMPLEMENTATION

Monica Xu - Auckland Council

ABSTRACT

Auckland Council is looking at using a range of tools to implement the National Policy Statement for Freshwater Management (NPS-FM). In addition to the Auckland Unitary Plan, Auckland Council is also using other regulatory tools, capital works, and education and behavior change programmes. The Auckland Stormwater Bylaw 2015(SW Bylaw) is an alternative regulatory tool that can be used to achieve management outcomes.

The SW Bylaw provides a consistent regulatory approach for stormwater management across the Auckland region. It regulates the management of the public stormwater network as well as private stormwater system maintenance. This ensures that the public and natural stormwater systems are protected from stormwater discharges.

A number of departments and units in Auckland Council are involved in the SW Bylaw implementation. To ensure all parties working together collaboratively, Auckland Council sets up an implementation procedure outlining the stormwater network development, connection, vesting approval process, as well as procedures for bylaw compliance and enforcement.

In 2017, the Auckland Council Healthy Waters department carried out a SW Bylaw implementation review. The review investigated how the SW Bylaw is being applied with regard to: public stormwater network management and protection; monitoring and management of private stormwater systems; and bylaw compliance and enforcement.

The review identified that the SW Bylaw is a useful tool to manage and protect the public stormwater system. To ensure the SW Bylaw be effectively used, there are some areas that can be improved. As a result of the review, Auckland Council has started taking improvement actions. Currently we are in the process of setting a consistent record keeping system and developing education programme. We are also considering a monitoring approach in the future to ensure all connections to the public stormwater network are meeting standards and are compliant with regulations.

KEYWORDS

Stormwater, Bylaw, Implementation, Public Network, NPSFM

PRESENTER PROFILE

Monica Xu is a senior Healthy Waters Specialist at Auckland Council. She has over 20 years local government working experience, in areas of data analysis, regulatory compliance and enforcement, and environmental land management. She is currently working on the Wai Ora Healthy Waterways Programme which includes the NPS-FM implementation in Auckland.

1 INTRODUCTION

The Auckland Council is undertaking significant work aimed at improving the region's waterways, including implementation of the National Policy Statement for Freshwater Management (NPS-FM). The focus is to identify, foster and champion collaborative opportunities for delivering improved water outcomes. Stormwater management is an important component of the Auckland healthy waterways programme, in particular due to Auckland's urban character and its rapid growth. The diversion and discharges of stormwater, if not managed well, will raise flooding risks, impacting on the health and safety of the community. Unmanaged stormwater discharges may also cause a range of adverse effects to the natural environment, e.g. increases or reduction of stream flows, reducing groundwater recharge, and discharging contaminants into waterways and receiving environments.

Most of Auckland's urban area and rural, coastal settlements are serviced either by a public stormwater network, which is owned by the Auckland Council, or by private stormwater systems. Prior to the establishment of the Auckland Council in November 2010, there were eight legacy councils in the Auckland region. These legacy authorities had a range of approaches to manage stormwater. The overall management was complex and inconsistent.

In order to provide a consistent regulatory approach for stormwater management across Auckland, The Stormwater Bylaw 2015 (SW Bylaw) was developed and came into effect on 1 November 2015. The SW Bylaw replaced three legacy bylaws: the "Auckland City Council Stormwater Bylaw 2008", the "Papakura District Council Stormwater Bylaw" and "Chapter 21 (Stormwater drainage) of the Rodney District Council General Bylaw".

The main purpose of the SW Bylaw is to regulate land drainage, including the development, maintenance, protection, and use of the public stormwater network. Regulations in the bylaw aim to prevent interference with the public stormwater system to ensure that discharges into the public stormwater network do not damage the network. Apart from the public stormwater protection and management, the SW Bylaw also applies to private stormwater management, which protects the public from nuisance and maintains public health and safety.

This paper will discuss why we need the SW Bylaw, the approach that Auckland Council has taken to implement it, challenges the council has faced, lessons learnt over the past two years, and future plans.

2 A BYLAW WITHIN A WIDER REGULATORY ENVIRONMENT

There are a number of regulatory tools related to stormwater management. Those most relevant are the Resource Management Act 1991 (RMA), the Local Government Act (LGA2002 and LGA1974), the Land Drainage Act 1908 (LDA), the Building Act 2004, and the Auckland Unitary Plan operative in part (AUP-OP). In some circumstances, regulations in these Acts, Plans, or Bylaws appear to be overlapped or duplicated. Consequently some may argue: why do we need so many different pieces of regulation? Is it possible to simplify the process?

The answer is "it depends". Although various legislations address water management, each of them has its own purpose and focus: the RMA legislates how New Zealanders should manage our environment; the LGA2002 provides the general framework and power that local authorities operate, in particular with respect to maintenance and

upgrade of public infrastructure; the Building Act governs the building industry to ensure people's safety. As a result, while they may use similar wording, they focus on different aspects and result in different outcomes when implemented.

Here is an example comparing how the RMA and the SW Bylaw regulate "contaminant discharge".

The RMA S15(1)(a) states:

No person may discharge any contaminant or water into water unless the discharge is expressly allowed by a national environmental standard or other regulations, a rule in a regional plan as well as a rule in a proposed regional plan for the same region (if there is one), or a resource consent.

Similar rule is set in clause 15(1) of the SW Bylaw:

No person may discharge directly or indirectly a contaminant into the public stormwater network if the discharge is likely to cause nuisance or adversely affect the operation of the stormwater network unless the council approves or that person is expressly authorized by an operative resource consent.

Although above rules look similar, they each have a different focus. The RMA considers effects on the "environment" (water) but the bylaw focuses on the management of the "public stormwater network".

In addition, under the RMA, "water" includes "freshwater, coastal water, and geothermal water" but does not include "water in any form while in any pipe, tank, or cistern". Hence the discharge of contaminants to the public stormwater network, which means water in pipes, is not considered as the discharge to "water" under the RMA. Therefore when dealing with discharge contaminants and flows into the public stormwater network, clause 15(1) of the SW Bylaw is more applicable. It enables the council to prevent any damage of the network due to the discharge, and also allows council to control the inflows to the public stormwater network to ensure final discharge from "pipes" to the "environment" comply with the RMA.

Another example is using the SW Bylaw to ensure effective management of private stormwater systems. In the AUP-OP, there are objectives and policies set on water management, those most relevant are in the Regional Policy Statement section "B7 Natural Resources", Auckland-wide section "E1 Water quality and integrated management", "E2 Water quantity, allocation and use", and "E3 Lakes, rivers, streams and wetlands". In addition to objectives and policies, there are rules directly related to stormwater management. These rules are in: "E8 Stormwater discharge and Diversion", "E9 Stormwater quality – high contaminant carpark and high use roads", "E10 Stormwater Management Area Flow", "E33 Industrial and Trade Activities", and "E38 Subdivision (urban)". The diversion and discharge of stormwater is either permitted if meeting standards, or consented with conditions under the AUP-OP.

The Auckland Council Healthy Waters department is responsible for the operation, maintenance and ongoing development of the public stormwater network. The discharge of stormwater from the public stormwater network to the receiving environment is covered by resource consents granted by the legacy Auckland Regional Council to seven legacy district and city Councils. Currently Auckland Council is in the process to obtain a new regional Network Discharge Consent (NDC) which seeks to replace all legacy Council owned consents authorizing the diversion and discharge of stormwater. In other words, Auckland Council will be the consent holder of a region-wide NDC, and therefore must

ensure all consent conditions are met. The proposed NDC adopts an outcome focused approach and conditions of consent are anticipated to require Auckland Council to meet the desired stormwater management and environmental quality outcomes sought. As such, the consent will require Auckland Council to implement best practice processes and procedures to enable maintenance and development of the stormwater network.

Although many private systems discharge stormwater into the public stormwater network, which are permitted activities under the AUP-OP (AUP-OP E8.4.1 (A1)), their operation and maintenance are not controlled by the Auckland Council. There is no distinction between the public and private stormwater systems in the AUP-OP. Same policies, rules, and best practicable options are applied to both the public and private networks. Therefore how to prevent adverse effects from private systems to ensure the public stormwater network remains operational and effective, and comply with discharge consent conditions is a big challenge facing the council.

Clause 9 of the SW Bylaw introduces the need for approval from the Auckland Council for connections and activities that may affect the public stormwater network. The SW Bylaw clearly defines the "Public Stormwater network" is:

- (a) *Any stormwater pipe, drain, land drainage work or treatment facility, vested in or under the control of the council; and*
- (b) *Any stormwater drain, drain, land drainage work or treatment facility declared by the council to be a public drain under section 462 of the LGA 1974*

And the "Private stormwater system" is:

Any component of the stormwater network that drains water from premises on private land to a receiving environment or up to the point of service connection with the public stormwater network and includes pipes, gutters, downpipes, catchpits, swales, subsoil drains, stormwater treatment devices, rain water tanks and any stormwater management device or redundant stormwater system.

Clause 16 clearly states that private stormwater system owners are responsible for the operation and maintenance of their systems and is in place for the purposes of protecting the wider public network. Specifically, clause 16(3) requires private owners to ensure free flow of water in watercourses on their land, which according to section 2 of the Land Drainage Act 1908, including "all rivers, streams, and channels through which water flows". Therefore, in conjunction with the RMA, LDA and the AUP-OP, the SW Bylaw provides the council with a mechanism of controlling and to avoid adverse effects of damage to the public stormwater system as much as possible. The Bylaw also provides Auckland Council with a rationale to better understand how private stormwater devices impact the wider public network, and monitor private stormwater systems.

Key aspects that the SW Bylaw specifically focuses on are: stormwater network development and connections, the management and maintenance of private stormwater systems, and various connection approval processes. As the SW Bylaw covers important aspects that other legislations do not cover, it is a necessary regulatory tool for stormwater management in Auckland.

2.2 THE APPROACHES TO SUCCESSFUL BYLAW IMPLEMENTATION

There are a number of departments and units in the Auckland Council involved in SW Bylaw implementation. The primary parties are Healthy Waters (previously called Stormwater department), Resource Consents, Licencing and Regulatory Compliance

(previously called Resource Consent Compliance, Build Control Compliance, and Bylaw compliance). To ensure all parties working together collaboratively, relevant departments and units developed an internal guidance document "Operating Policy & Procedure Manual – Stormwater Bylaw 2015" (the Manual) to guide the implementation of the SW Bylaw. The Manual outlines the stormwater network development, connection, and vesting approval processes, as well as procedures for bylaw compliance and enforcement.

In 2017, the Healthy Waters department carried out a review on the SW Bylaw implementation procedure. The review investigated how the SW Bylaw has been applied with regard to: public stormwater network management and protection; monitoring and management of private stormwater systems; and bylaw compliance and enforcement. Findings are summarised below:

2.2.1 THE MANAGEMET AND PROTECTION OF THE PUBLIC STORMWATER NETWORK

Under the SW Bylaw, any vested stormwater asset must comply with the latest approved version of the Auckland Council Code of Practice for Stormwater Management. Any new stormwater networks and connections, and the discharge of stormwater to the wastewater network must get approval from Auckland Council. Specific details are in SW Bylaw "Part 3 – Safe and efficient stormwater network" and "Part 4 – Approvals, permits and administrative matters"

Auckland Council has several approval processes, including "Engineering Plan Approval", "Building Consent Approval", "New Connection Application Approval", "Global Works Over Approval", and "Authority for Access to Public Stormwater Network Approval".

Engineering Plan Approvals include major approval where stormwater assets are to be vested to council, and minor approvals for stormwater assets that do not require vesting but are required to meet engineering standard, and utility build-over processes for works in the road corridor affecting stormwater assets.

Building Consent Approvals are for stormwater connections that require building consents, and connection to the wastewater network in combined areas of the city.

New Application Approvals are for connections to the stormwater network not covered by Engineering Plan Approvals or Building Control Approvals. An example of this is new catchpit and connection made in purpose to drain an existing wet point of land and discharge to the public network, which is no Building Consent required or Engineering Plan Approval obtained, under the SW Bylaw, a New Connection Approval is required.

Global Works Over Approvals can cover works and activities in close proximity to the stormwater network in the road corridor. For works and activities in close proximity to the stormwater network, approval by Healthy Waters is also required.

Table one summaries different approval process required under the SW Bylaw.

Table 1: SW Bylaw approval process (source from "the Manual")

Bylaw Clause	Details of Activity	Approval Process 1	Approval Process 2	Approval Process 3
9.2.a&b	Stormwater new networks and	Engineering Plan Approval (EPA) – for	Building Consent Approval	New Connection Application Approval – for

	connections	subdivisions with new stormwater assets to vest and new private stormwater connections.	(BCA)– for connections required to the stormwater as part of a building consent application for new dwelling etc.	connection to the stormwater network not covered by EPA of BCA process.
9.3	Discharge of stormwater to the wastewater network.	Engineering Plan Approval – for stormwater assets to vest and connect to the wastewater network in combined areas of the city.	Building Consent Approval – for a stormwater connection to the wastewater network in combined areas of the city.	New Connection Application Approval – for connection of stormwater to the wastewater network in combined areas, not covered by EPA or BC process.
10.2a.b.c.d	Work and activities in close proximity to the stormwater network in the road corridor.	Global Works Over Approval – see activities covered under the Global Works Over Approval.		
10.2a.b.c.d	Works and activities in close proximity to the stormwater network in private property or parks	Engineering Plan Approval – for activities involving the following activities: Building over or close proximity to stormwater assets. Cut/Fill activities near the stormwater network. Temporary works. Cover inlet/outlet	Building Consent Approval – for a new connection to the stormwater network as part of a building consent application for new dwelling etc.	New Connection Application Approval – for connection to the stormwater network not covered by EPA or BC approvals.
10.2e	Works and activities in close proximity to the stormwater	Authority for Access to Public Stormwater Network		

	network –	Approval - for approval from the Healthy Waters to access the stormwater network. Mainly contractors to include proposed Health and Safety Management Plan (H&SMP).		
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All above approvals are assessed and issued by relevant departments or units across council. Many of them are considered holistically as part of a resource consent or a building consent application. As such, information on how many approvals council has processed since the SW Bylaw has become operative is held in various record systems. Currently the Auckland public stormwater network is still covered by various consents, which makes the management complex. In future providing the region-wide Auckland NDC is granted, it will enable council to manage the approval process more efficiently and in a manner that best utilizes provisions of the SW Bylaw, AUP-OP, EPA and Building Code.

2.2.2 THE MONITORING AND MANAGEMENT OF PRIVATE STORMWATER SYSTEMS

To ensure the public stormwater network is well managed and protected, the SW Bylaw applies to private stormwater system maintenance for the purpose on ensuring the public and natural stormwater systems are not damaged.

Clause 11 of the SW Bylaw “Obstructions and diversions of stormwater” gives Auckland Council powers to ensure all watercourses, flood plains, overland flow paths, drains or wetlands both in public and private land or premises are kept clear of obstructions and are not stopped, diverted, or altered without approval from council. The bylaw also requires land owners, managers, occupiers of premises to take reasonable preventative measures to avoid nuisance during a flood event.

Clause 16 of the Stormwater Bylaw regulates the maintenance and operation of private stormwater systems, including the management of private pipe network, private stormwater devices, or private detention/re-use tanks. It also requires private stormwater device owners to supply information to council on request to demonstrate their device is maintained in a good operational function.

In general, if the infrastructure of a private stormwater system is part of a building consent or a resource consent, its function and compliance may be checked on completion by either building control compliance or resource consent compliance inspectors. The building consent or resource consent compliance inspection on the private system is a one-off activity. However, ensuring good performance of a system requires ongoing monitoring and maintenance rather than a one-off inspection under existing approvals. Currently there is no monitoring on the performance of private stormwater systems. It is anticipated that required maintenance and upkeep of private systems, such as building downpipes, groundwater bores or detention tanks will decrease over time, along with their hydraulic performance and subsequent associated water treatment.

Although council has the right to require private owners to provide information to demonstrate their system is well maintained and operational, there is no mechanism or process currently in place to record such information, or to enable the provision to council on a voluntary and regular basis. To date, SW Bylaw compliance inspections are triggered by complaint response only, or if a significant adverse effect has occurred, e.g. flooding on public land or damage on the public stormwater network. Some of those damages could have been avoided if private systems were well maintained.

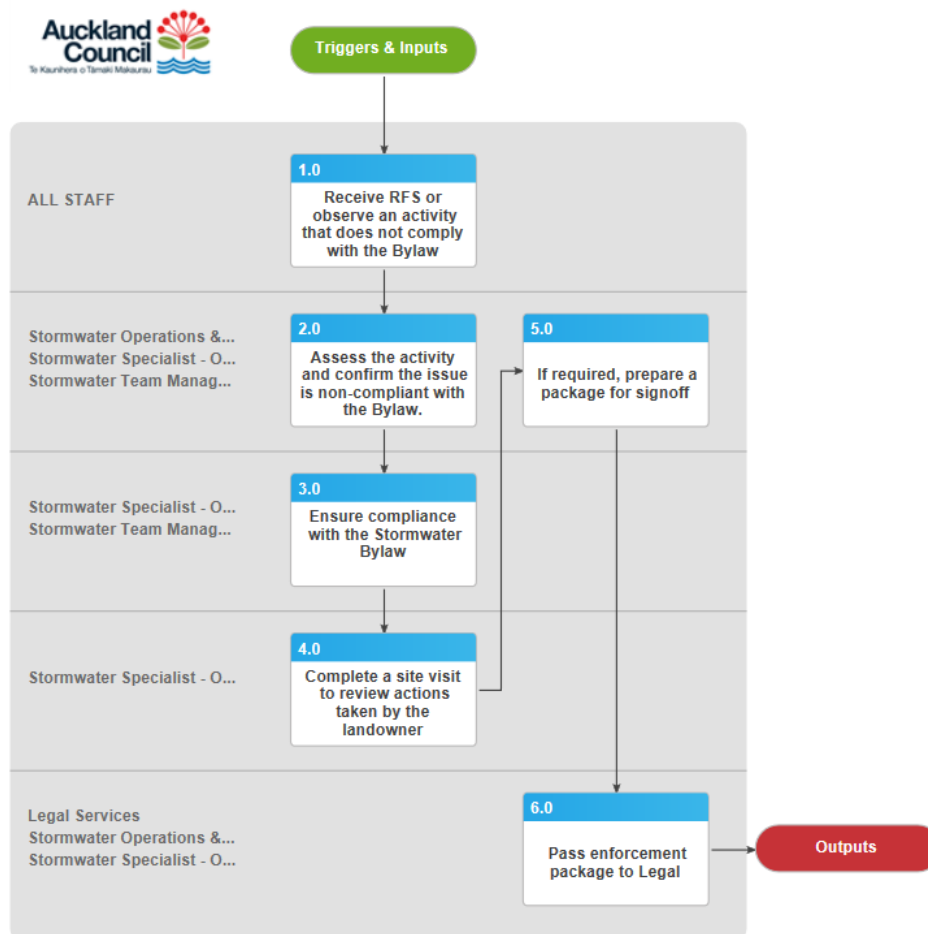
Case examples have indicated that there is a lack of awareness or understanding of the SW Bylaw by the general public, or even within Auckland Council families. Although the SW Bylaw can be viewed on the Auckland Council website, many people are not aware of it. In addition, many Bylaw functions are superseded or otherwise incorporated in existing resource consent and building consent processes. People believe that it is council's responsibility to maintain all stormwater systems, both on public and private land. In fact, council only has jurisdiction to maintain and protect its assets and enforce the Bylaw where it applies to private parties. As a result, council often receives complaints pertaining to the maintenance of watercourses on private land, for example not clearing weeds or litter in streams on or alongside stream banks on private land. Flooding due to the obstruction of watercourses on private land occurs often during heavy storm events and the Bylaw is positioned to manage this flooding. Obstruction of water courses on private land also cause flooding on public land, and damage the public stormwater system from time to time. As a result, Auckland Council is seeking to increase awareness and understanding of the bylaw and various roles and responsibilities of different parties who have duty to comply.

Raising community's awareness on stormwater management good practice and relevant regulation is considered an important finding of the bylaw implementation review.

2.2.3 COMPLIANCE AND ENFORCEMENT

Compliance and enforcement are considered critical to achieve the desired outcomes of the SW Bylaw. Auckland council has a comprehensive approach to achieving compliance. Provisions of the Bylaw permeate resource consenting, building consenting and engineering plan approvals and therefore compliance and enforcement of the Bylaw is achieved under various legislations. Notwithstanding this, the Bylaw can be enforced directly under the Local Government Act 2002. Within this legislative environment there are a range of compliance tools that can be exercised by council, including advice, education, proactive fieldwork and inspections, informal warnings, formal written warnings, statutory notice and/or seizures, and prosecution. In directly enforcing the SW Bylaw Auckland Council utilises a Request for Service (RFS) system. The detailed procedure is shown in Figure one. This system sits within a wider Council Customer Relationship Management System and beside a development related complaints system (resource and building consents). Each step of the procedure is discussed below:

Figure 1: SW Bylaw Compliance Procedure (source from "Operating Policy & Procedure Manual – Stormwater Bylaw 2015")



- Receive request for service

This is the first step of the SW Bylaw compliance process. Healthy Waters is the first point of contact for customers when a stream maintenance, flooding or stormwater nuisance matter is raised. When Auckland Council contact centre receives a customer request related to stormwater management, they will assign the request to the Healthy Waters department for further assessment.

- Assessment of non-compliance

When Healthy Waters receives a RFS, a specialist will assess the request to determine whether the Bylaw is the most appropriate tool to reach the desired outcome. As such, if it is a SW Bylaw compliance issue, the specialist will then check if the breach relates to a building consent or a resource consent before relying on specific Bylaw provisions. If the breach relates to a resource consent or a building consent, then the case will be forwarded to the Licensing and Compliance department. They will manage the outcome utilising provisions in the RMA and the Building Act while liaising with Healthy Waters Specialists and Engineers for technical advice.

If the issue is not related to any building or resource consent, then a Healthy Waters specialist will carry out an assessment to determine a technical breach of the Bylaw and the likelihood of successful enforcement actions. Decisions on whether there is a need to

carry out compliance or enforcement action will be made on the basis of a definitive technical breach, potential adverse effects caused by the breach, willingness to comply, and strategic considerations such as the Auckland wide need to address a particular matter. These effects include flooding risk and loss or damage of stormwater assets as a result of the breach. Figure 2 is the one page tick box sheet designed to ensure consistent assessments.

Figure 2: SW Bylaw Compliance & Enforcement Assessment Table (source from "Operating Policy & Procedure Manual – Stormwater Bylaw 2015")

STORMWATER BYLAW COMPLIANCE & ENFORCEMENT ASSESSMENT TABLE		Auckland Council Te Kaitiaki o Tamaki Makaurau	
Item	Description	Notes	Check
1.0	Is Stormwater Bylaw Compliance required? If the answers to any of the questions below are 'YES', then proceed with the compliance process, subject to approval from a Team Leader or Manager.		
1.1	Is there a risk of a breach of the stormwater bylaw that will cause flood damage to property or public safety? I.e. a major blockage to a watercourse in a known flood prone area.		
1.2	Is there a risk of the breach of the stormwater bylaw that will pose a risk to public health and safety? I.e. Utility operator damaging a brick manhole chamber that is likely to collapse.		
1.3	Has the breach caused damage to the public stormwater network requiring remedial works where the offending party has no approvals? I.e. A pile through a public stormwater network.		
1.4	Is the breach likely to have a major impact on the environment i.e. stockpiling of hazardous substance or material in an overland flow path?		
1.5	Are there a large number of complaints relating to a single bylaw breach and is the issue likely to escalate?		
2.0	What Information is required to commence enforcement action?		
2.1	The offending party's contact details, name, address, phone contacts, and email if possible.		
2.2	Specific details of the offence including date when first found		
2.3	Log of site visits.		
2.4	Log of meetings with the offending party.		
2.5	Log of all correspondence including letters and phone calls.		
2.6	Log of meetings with complainant or other landowners.		
2.7	Any specialist reports obtained by the SW unit in relation to the issue.		
2.8	Record of evidence received from any witnesses i.e. other landowners; specialist witness might include a surveyor.		
3.0	What other Information is required?		
3.1	Dated clear Photographic evidence.		
4.0	Handover to Council's Legal Team Compile all the required information as per the prosecution pack see Section 4.3 Stormwater Bylaw Enforcement - Policy and Procedure Manual and complete a handover meeting with Councils Legal Team.		

Some breaches are outside of any building consent or resource consent process and are therefore better dealt with directly under the Bylaw. For example if a private stormwater system was built and consented prior to 1992, when the current Building Act became operative, non-compliance with current building control standards, the building control compliance team are not lawfully able to address the issue. Examples are solid fences, walls, and other obstructions built on overland flow paths prior any regulations in place

which are now causing issues. Some major adverse effects have been caused by complex issues, such as infrastructure failure or poor design. To deal with these issues, providing advice on good practice and risk management education is considered more appropriate than enforcement.

- Ensure compliance

If a breach of the SW Bylaw is confirmed, council staff will contact the land owner to explain the issue and require fixing of the problem. The initial contact can be made via phone call, email, site visit, or letter.

Successful compliance and enforcement actions rely on robust evidence to prove breaches. Under the LGA2002, enforcement actions cannot be taken unless sufficient evidence proved the offence. Therefore it is important to follow best practice on specialist compliance guidance, and legal advice during the investigation. Important standards include the correct use of a warrant, to obtain offending party's information, recording of information such as date when offence first identified, personal notes on all communications, and specialist reports if required.

Compliance and enforcement officers in Auckland Council's Licensing and Compliance department are well trained and experienced in compliance and enforcement procedures. The stormwater specialists in Healthy Waters have good knowledge on stormwater engineering and system management. However, their modus operandi is dealing with non-regulatory requests such as physical network maintenance.

To ensure compliance investigations are carried consistently, regular trainings have therefore for been provided to Healthy Waters operation staff. All operation staff who are potentially involved in bylaw compliance investigation have been LGA warranted to support and legitimize the compliance and enforcement process. Roles and responsibilities on which party does what when dealing with different breaches are well documented.

Figure 3 is a snapshot of the "Bylaw compliance roles and responsibility sheet" which is shared between Healthy Waters, Licensing and Compliance, Resource Consents, and Regulatory Engineering. The document includes description of the breach, details of the bylaw clause, examples of the breach, enforcement tools that may be used, and primary responsible departments and units in Auckland Council. This spreadsheet is developed and agreed by all parties involved in SW Bylaw compliance. It is a good example on collaborative working approach to clarify duties and to avoid confusion.

Figure 3: Snapshot of the "Roles and Responsibilities spreadsheet for SW Bylaw 2015" (source from "Operating Policy & Procedure Manual – Stormwater Bylaw 2015")

Roles and Responsibilities for Stormwater Bylaw 2015								
	Description	Clause in SW Bylaw Comments where applicab	Details	Example(s)	Enforcem tool	Primary Responsible Department	Unit	Agreed
9	Stormwater network development and connections	9.3	Stormwater into wastewater system	Roof downpipe or driveway catchpit connected to	SLA between Building Control and Watercare	Building Control	Compliance	✓
10	Works and activities in close proximity to the stormwater network	10.2.a - d	Granting approval for Works Over for Private Property and Parks	Retaining walls and other subdivision or development activities	Bylaw or RMA	Resource Consents	Development Engineering	✓
11	Works and activities in close proximity to the stormwater network	10.2.a - d	Granting approval for Works Over in Road Corridor	Utility duct drilled through SW network	Bylaw	SWU	Stormwater Specialist	✓
12	Works and activities in close proximity to the stormwater network	10.2.a	Excavation in breach of District Plan	Excavations that undermine the SW network not included in approved RC plans	RMA	Resource Consents	Compliance	✓
13	Works and activities in close proximity to the stormwater network	10.2.a	Excavation issue but not in breach of District Plan	Replacing a house pile or installing a fence that damages stormwater network. (where no BC is required for the work)	Bylaw	SWU	Stormwater Specialist	✓
14	Works and activities in close proximity to the stormwater network	10.2.a	Excavation relating to a structure under a Building Consent	construction such as a pile constructed over or through the SW pipe causing damage, not included in approved BC plans. Construction still in progress.	Building Act	Building Control with assistance from SWU if required	Inspectors	✓

- Review actions taken by land owners

This is the follow up step to ensure compliance. It is important as it will determine whether further enforcement actions are required.

If a breacher failed to achieve compliance within the timeframe given by council during the initial contact process, council will issue a formal notice warning it that council will potentially take further enforcement action.

- Further enforcement actions

When a non-compliance issue cannot be sorted following the above process, enforcement is the last stage of the process. Enforcement action must be passed to council's Legal team, together with a package prepared by the investigating staff and signed by Healthy Waters manager.

3 FUTURE PLANS

During the review process, we have found some areas can be improved in future, as detailed below:

3.1 RECORD SYSTEM

As outlined earlier, there are various departments and units across council involved in the SW Bylaw implementation; each has their own reporting and record keeping systems. As a result, there is not a single and simple system to obtain information specifically for SW Bylaw implementation. In order to gather sufficient information for future evaluations and

improvement, we are currently working with relevant departments and units on the possibility to track SW Bylaw information through the "NewCore" system, which is Auckland Council's newly launched customer services system aiming to consolidate, simplify, and standardise council's services. Regular communication with internal departments to share information, to identify issues, and to better work collaboratively is also underway.

We are also looking at the development of a Stormwater Private Devices Database, which allows us to better understand devices throughout Auckland, their maintenance needs, capacity, and risks. It also enables better infrastructure planning within Auckland.

3.2 EDUCATION AND MONITORING

The Auckland Council has begun projects to continue educating the general public on stormwater management. Actions have been taken on publishing education sheets, working with communities to raise their awareness on stormwater regulatory requirements, risk assessment, good practice, their responsibilities, and where to seek assistance.

Monitoring on the performance of stormwater systems is also planned, both on public and private systems. As stated earlier, to ensure good performance of a stormwater system requires ongoing maintenance. To carry out a full scale, frequent proactive monitoring may not be realistic due to limited resources, however, a risk based monitoring approach could be considered. A risk based approach could mean: monitoring on high risk flooding areas, investigation on the performance of old systems built prior to the standard code of practice in place, investigations in areas with a high amount of complaints etc. Other options include targeted enforcement or targeted education once more data on private devices is obtained.

4 CONCLUSIONS

The SW Bylaw is a useful regulatory tool to manage water outcomes in the Auckland Region. The bylaw implementation framework has been well set up in Auckland. Although we have limited information to prove the SW Bylaw has been utilised to its full potential, we do believe it will play its important role on the public stormwater system management in future.

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