

# AUCKLAND COUNCIL STORMWATER NETWORK DISCHARGE CONSENT FRAMEWORK

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## ABSTRACT

The Auckland Council is required to obtain resource consents for stormwater discharges from the region's stormwater networks. These are referred to in the Proposed Auckland Regional Plan: Air, Land and Water (ALW Plan) as network discharge consents (NDCs). In the past NDCs were applied for by the legacy territorial authorities primarily based on drainage catchments although some councils, including Auckland and North Shore Cities, sought to obtain discharge consents on a city-wide, whole-of-network basis. With the establishment of the Auckland Council as a Unitary Authority over the Auckland region, the Council's Stormwater Unit is developing a framework that provides an overarching approach for progressing NDCs under the new Council. Core to this framework is greater focus on regional outcomes and priorities including obtaining NDCs on the basis of 10 "Consolidated Receiving Environments", which are large coastal water bodies (e.g. the Waitemata and Manukau Harbours) and their contributing sub-catchments. This approach assists in managing major water bodies on a holistic basis and enables better prioritisation of stormwater management effort to give effect to some of the benefits enabled by an amalgamated Council. The framework also considers the role of the future Unitary Plan in managing stormwater alongside NDCs and in particular the use of regional (RMA s30) land use provisions to achieve more integrated land use/ stormwater discharge outcomes.

## KEYWORDS

Stormwater management, Unitary Authority, stormwater network discharge consents

## PRESENTER PROFILE

Claudia Hellberg is a resource consents specialist at the Auckland Council and her main focus is on the preparation and lodgment of network discharge consents for the Stormwater Unit at Auckland Council. Before the establishment of the Auckland Council Unitary Authority, Claudia worked on Integrated Catchment Management Plans and water quantity issues for the Stormwater Action Team at the Auckland Regional Council. Originally from Hanover in Germany she holds a master and doctoral degree in civil engineering, specialising in water management, and worked at the University of Hanover in water framework planning.

## 1 INTRODUCTION

In the Auckland region, a resource consent is required for the diversion and discharge of stormwater from public stormwater network in accordance with the provisions of the Proposed Auckland Regional Plan: Air, Land and Water (ALW Plan) (ARC, 2010) and the Auckland Regional Plan: Coastal (Coastal Plan) (ARC, 2008). These consents are referred to as Stormwater Network Discharge Consents (NDCs).

The change in the local government structure in the Auckland region has significant implications for stormwater management in the region. The amalgamation of the previous seven territorial authorities and the regional council into a single unitary authority, the Auckland Council, has resulted in a single Auckland Council Stormwater Unit (Stormwater Unit) managing stormwater across the region. However, at the same time, the establishment of Council Controlled Organisations (CCOs) for both transport (Auckland Transport) and local water/wastewater services (Watercare Services Limited - who was previously a bulk water/wastewater service provider) has separated some functions that were previously integrated into stormwater and drainage management.

The amalgamation provides both a driver and an opportunity to change how NDCs are developed and progressed. Central to this is a regional responsibility and mandate, with the attendant opportunities and challenges that this presents including:

- A Unitary Authority removes the arbitrary (from a stormwater perspective) district boundaries and enables the Stormwater Unit to take a consolidated “whole of receiving environment” approach.
- The bringing together of the regulatory and operational functions associated with stormwater management within the Unitary Authority necessitates a review of the roles and responsibilities for implementing the many elements of stormwater management within the Council.
- The establishment of Auckland Transport and the management of local wastewater and combined network by Watercare Services Limited (Watercare) necessitate consideration of who holds what consents and how these are acquired and managed across the respective organisations.
- The future integration of the Auckland Regional Policy Statement, regional plans, and the legacy district plans into a single Unitary Plan, which will be the primary delivery mechanism for achieving stormwater outcomes during land use development.

The Stormwater Unit is committed to improving the management of stormwater within the region. It has developed a Stormwater Unit Implementation Plan (Mayhew and Green, 2011), which has identified priorities for regionalising stormwater management and advocates a focus on integrating the management of stormwater and land use with an emphasis on avoiding the generation of stormwater effects.

A second major direction setting document is the Stormwater Network Discharge Consent Framework, which will provide the overarching regional context, approach and priorities under which NDCs are sought into the future.

## **2 REGIONAL NDC FRAMEWORK**

### **2.1 PREVIOUS NETWORK CONSENTS**

Historically NDCs and their predecessors, Stormwater Comprehensive Catchment Consents, were obtained by the previous territorial authorities, generally on a sub-catchment by sub-catchment basis although both the former North Shore and Auckland City Councils moved towards obtaining single resource consents for their entire networks.

In many cases the consents also included discharges of wastewater (overflows) from the local reticulated wastewater system (as opposed to the trunk network operated by Watercare), which the territorial authorities generally owned and operated. All NDCs cover the diversion and discharge of stormwater from the territorial authorities road networks, as this too was a council function and integral to stormwater management at a sub-catchment scale.

Despite resource consents being required under the Resource Management Act 1991 (RMA, 1991) to replace the broad existing authorisations for stormwater discharges, which covered most of the Auckland region and expired in October 2001, the progress on obtaining resource consents has been slow. NDC applications were lodged by the territorial authorities for most of the region's urban areas in March 2001, six months before the expiry of the existing authorisation, to take advantage of RMA s 124 that provides on-going authorisation while consent applications are being determined.

However, despite the time that has elapsed, less than half of the region's urban areas are currently covered by granted NDCs and a number of these are resource consents that were granted prior to 2001, including water rights granted under previous legislation. Additionally, the granted consents are significantly different across the region, reflecting the long time period over which they have been granted and the different approaches and priorities of the previous territorial authorities.

In part, the delay in obtaining NDCs reflects the high level of information that has been required to support NDC applications. Under the consenting model used in the Auckland region, NDC applications have traditionally been supported by detailed Integrated Catchment Management Plans (ICMPs) that consider not only the performance and effects of the stormwater and wastewater network, but also detailed assessments of streams and coastal environments and the contribution of other activities to the state of receiving environments. Timely obtaining of NDCs has not been helped by the stormwater provisions in both the Coastal and ALW Plans not being operative, again after more than 10 years since their initial notification.

The relevant regional plans also require a detailed assessment of the best practicable option (BPO) for managing networks that not only considers infrastructure options but also regulatory (planning) options. Plan changes, where required to give effect to elements of the NDCs, are also lengthy processes and have uncertain outcomes due to the public processes that they must go through.

Overlain on this high information requirement and process challenges has been the significant growth and development in the Auckland region, which has necessitated territorial authority stormwater resources to be directed to greenfield development areas ahead of progressing investigations and resource consents for existing areas.

## **2.2 OPPORTUNITIES AND CHALLENGES**

### **2.2.1 OPPORTUNITIES**

As discussed above, the move to a regional unitary authority presents a range of opportunities for a regional consenting framework to improve the way in which consents are acquired and the outcomes they deliver. These include:

**Regional prioritisation:** An ability and mandate to develop a regional BPO for stormwater management across the region to direct effort and expenditure at achieving the best overall benefit for the community and environment.

**Whole of receiving environment view:** The ability to consider the full range of contributions to receiving environments, and direct management effort where the greatest improvements can be obtained. While the previous governance structure did not preclude TAs collaborating across common catchments and coastal receiving environments, the different approaches and priorities of territorial authorities meant that such collaboration was rare.

**Consistent regional management tools:** The opportunity to standardise management approaches, requirements and levels of service across the region and build on the best practice across the legacy councils and to give effect to these through the NDC.

**Consenting consistency and clarity:** Current consents and associated conditions vary significantly across the region, causing complexity for councils, developers and the regulatory agency. A regional NDC framework offers the opportunity to move to a consistent consent model including consent conditions aligned with the regional implementation tools that are currently being prepared. Associated with this, the move to a new governance structure necessitates a review of the relationships with key external parties, and the resource consents they hold, and internal Council sections to ensure that consent obligations and responsibilities are well understood. Furthermore, this will likely lead to efficiency gains for industry and council throughout the consenting process for new developments.

**Process Efficiency:** A regional consenting model progressed by a single organisation, provides the opportunity to aggregate the available information and progress larger NDCs in a more efficient manner. Related to this is the need to move to a more outcome based resource consent, where detailed studies are undertaken over time to give effect to strategic outcomes identified in the resource consent. This enables more flexibility to the Stormwater Unit to change priorities and deliver innovation, without the need to go through repeated consent variations.

**Compliance efficiency:** Current the Stormwater Unit holds more than 2,000 resource consents for discharges, structures and other activities. Regional NDCs will significantly reduce the number of consents held and the number and variability of the consent conditions that need to be complied with.

### 2.2.2 CHALLENGES

To some extent, the challenges of moving to a new consenting framework relate to the ability to deliver on the opportunities identified above. Key challenges include:

**Rationalising levels of service:** While deriving a set of regional development standards and levels of service for future development may be a relatively straightforward task, network consents need to be obtained over existing developed areas where different levels of service and performance standards are in place.

**Outcome based consenting model:** The move to an outcome based, regional consenting model, from the more prescriptive historical consents, requires a change in approach by not only the Stormwater Unit as the applicant, but also Council in its role as regulatory agency. This involves getting a balance between the certainty of outcome required in a resource consent and the need for flexibility to deliver the best outcomes in a continually changing environment.

**Priority setting:** Taking a more strategic approach to NDCs requires across-council input to establish priorities.

**Consolidation and alignment of implementation tools:** The bringing together of a range of stormwater professionals into a single unit inevitably brings a range of different views and philosophies. Harmonising these into a common direction and approach, and preparing the documents and tools to support this, can be a lengthy process.

**Collaborating with external agencies:** While this has always been a facet of stormwater management and sub-catchment planning, the new roles of Watercare and Auckland Transport necessitate the establishment of new relationships and operating practices.

**Internal coordination:** A key element of the Stormwater Unit Implementation Plan is acknowledgement that many sections of Council contribute to achieving stormwater outcomes. Successfully delivering an improved stormwater service requires a clear delineation of responsibilities and buy-in from other departments.

## **2.3 NDC FRAMEWORK**

### **2.3.1 OVERALL APPROACH**

The overall NDC approach Council will be described in the NDC framework, which is currently being prepared. The general approach is summarised as follows.

1. NDCs will be acquired on the basis of Consolidated Receiving Environments (CREs), primarily major coastal water bodies, and their contributing sub-catchments. These will be prioritised using a range of factors.
2. NDCs will be primarily obtained on the basis of the information that exists across the region, which will enable NDCs to be obtained more efficiently than has occurred in the past. However additional work may be required where basic information, necessary for the consent process, is not available.
3. NDCs will be outcome based, consistent with the priorities and approach of the relevant statutory documents and Auckland Plan. The NDCs will establish priorities and processes for more detailed assessments, management options and solutions.
4. The NDCs will include a four-tiered approach to developing the "best practicable option" (BPO) for managing stormwater in the region, with the BPO being developed from a strategic level through to on the ground implementation.
5. There will be a clear delineation between the roles and responsibilities of major stakeholders in stormwater management including internal council departments, CCOs (Watercare and Auckland Transport) and external agencies such as NZTA.
6. The approach and processes will be supported by a range of documents including regional implementation tools, management zone/sub-catchment plans, options assessments and detailed project studies.
7. In the future, the Unitary Plan will be the primary mechanism for managing stormwater management at the land development stage. However, in the interim, there will be a requirement to continue with the current district and regional plan provisions.
8. Transitional processes will be developed to account for the various existing resource consents across the region.

These are discussed in more detail below.

### **2.3.2 CONSOLIDATED RECEIVING ENVIRONMENTS**

The region has been divided into ten Consolidated Receiving Environments (CREs) as shown in Figure 1. These CREs are management units based on large harbours and groupings of sub-catchments draining to coastal water bodies.

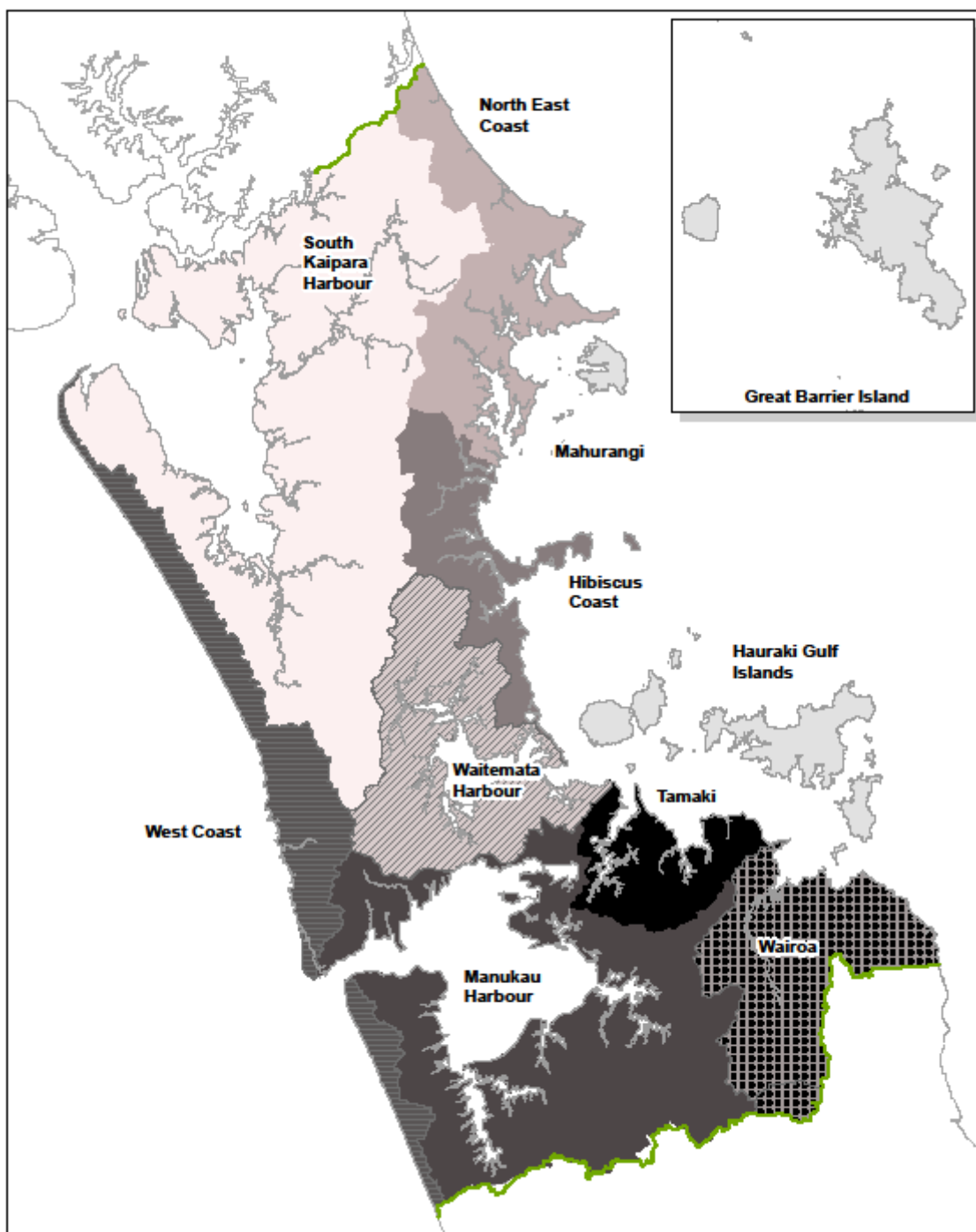


Figure 1: Consolidated Receiving Environments

NDCs will be progressed in a prioritised order, which is currently being established. The initial priority is the Waitemata Harbour catchment due to the level of information available, the extent to which the applications have already been progressed and the opportunity to align assessments with Watercare’s Central Interceptor Project. The Waitemata NDC application and Assessment of Environmental Effects (AEE) is expected to be submitted this year.

The order for the remaining CREs will be determined by a range of factors including environmental issues/priorities, external drivers such as future growth pressures, and information availability and readiness. In respect of this last factor, while there is significant information available on the performance of the stormwater network and its associated adverse effects, some areas may lack the information necessary to progress a NDC despite the period of time that has elapsed since applications were made.

### **2.3.3 OUTCOME BASED NDCS AND BPO**

The ALW and Coastal Plans require network operators to adopt the BPO to prevent or minimise adverse environmental effects of the diversion and discharge of stormwater. Detailed policies within these plans require network operators to have regard to a wide range of matters and undertake an assessment of options to determine the best mix of approaches and projects that make up the BPO.

Unlike a standards based approach, a BPO assessment has no predetermined end point. The BPO at a network-wide level represents the best mixture of a range of techniques to prevent or minimise the adverse effects of discharges from the drainage network. What is determined to be "best" can vary depending on the understanding of the nature of adverse effects and the response to management intervention and the relative weight or priority given to each of the relevant factors (for example available funding, environmental outcomes and priorities, community expectations and levels of service).

It is therefore important to have a well-defined and structured approach to developing the BPO that enables options to be considered in the context of the effects that are being managed, the relevant statutory framework, and desired community and environmental outcomes and priorities.

In the past NDCs were supported by ICMPs that were generally prepared at a significant level of detail, usually down to specific projects and in some instances management devices. Under this approach, options assessments were primarily focused on comparing these specific structural solutions and optimising costs and benefits across the viable solutions. So on one hand while detailed options assessments were undertaken, they were typically focused on the infrastructural aspects of stormwater management rather than other approaches.

The aim of the regional consenting model is to produce outcome-based NDCs – consents that establish the high level outcomes that are being sought, together with milestones against which progress towards the outcomes can be measured. To achieve this, the Stormwater Unit has adopted an "Order of Outcomes" approach, following the work of Olsen (2003). This approach recognises that achieving tangible change in high level outcomes (such as receiving environment response) is a step wise process and may take many years to manifest.

The first step (first order outcome) is to ensure the *enabling conditions* are in place – the tools, processes, planning provisions, funding etc. that are necessary to deliver higher level outcomes. The second order outcome is bringing about an *observable change in uptake or practice* – adoption of regional standards, improved stormwater management etc. The third order outcome is a *measurable change in the social, cultural, environmental and economic state*. In respect of stormwater, this could be reduced flooding, improved water quality and other community and environmental outcomes.

Level	Purpose	Output
<b>Strategic/ Regional</b>	To establish the strategic context for stormwater management This includes stormwater management issues and priorities in accordance with relevant statutory and community drivers, and strategic management options and approaches	A high level understanding of the stormwater management issues facing the region and priorities for management Regional outcomes Regional management options Funding requirements and long term funding plans Process for project/programme implementation
<b>Consolidated Receiving Environment</b>	To identify specific CRE issues and priorities within the strategic context including any specific receiving environment issues, options and opportunities	Understanding of the stormwater management issues in the CRE Priority issues/management zones for detailed assessment Significant non-network contributions to outcomes and possible options Catchment opportunities for integrated solutions
<b>Management zone/sub-catchment</b>	To undertake detailed assessments and options on priority issues	Prioritised capital investment programme to address key CRE stormwater management priority issues Non-network options and initiatives
<b>Project delivery/Programme</b>	Project and programme delivery options and optimisation across network level of service and community considerations	Projects and programmes that have been optimised to provide best local solutions across stormwater and other considerations

*Figure 2: Stormwater Unit's Four Tier Approach to BPO*

In the regional context, the BPO needs to span a range of considerations starting with the understanding of stormwater effects, the regional outcomes being sought and priorities. The BPO must then identify the best mix of management approaches and options available to manage effects and achieve the identified outcomes. To deliver this, the Stormwater Unit has adopted a four-tiered approach to developing the BPO (Figure 2). This approach includes regional scale management approaches and options (Unitary Plan provisions, funding requirements, regional management tools etc); CRE issues and priorities, sub-catchment studies and solutions through to on the ground project delivery.

Unlike the traditional approach to NDCs, the BPO is not the mix of projects that are produced at the management zone and project delivery stages. That is, the process of moving from a strategic level to a detailed project level is not one of filtering out or refining options. Instead the BPO is the combination of outputs from all of the levels, from regional management approaches through to infrastructure options.



The NDC Framework links all four tiers and describes how projects and programmes identified as part of the BPO get into the Asset Management Plan and Capital Works Programme and being implemented. The current Asset Management Plan and Capital Works Programme have been informed by previous detailed sub-catchment studies and assessments carried out between 2001 and 2011. The NDC Framework will further outline the prioritisation process of projects and programmes across the region.

Additionally, the BPO will continue to be refined over time. As the CRE NDCs, detailed management zone/sub-catchment plans and project assessments are undertaken, the information gained from these processes will continue to contribute to the understanding of the strategic issues that need to be addressed.

#### **2.3.4 CONSENT ROLES AND RESPONSIBILITIES**

The primary purpose of a stormwater network is to capture runoff from roads, buildings and paved areas and transport this runoff away from these areas and discharge it in an efficient manner, while at the same time minimising effects on communities and the natural environment.

However, the stormwater network is an “open” network in that a network operator cannot fully control discharges into the network. In some instances the stormwater network is also a convenient conduit for wastewater overflows to be directed away from properties to discharge more safely. Additionally, public stormwater infrastructure is not solely owned and operated by the Auckland Council.

For example both Auckland Transport and NZTA own and operate significant stormwater assets, which in some instances discharge directly to receiving environments but in most instances are directed to the Council stormwater network. Local roads also play an essential role in stormwater management, acting as overland flow paths during high rainfall events.

This complex arrangement of discharges and asset ownership has required some pragmatic decisions regarding who holds what consents for which discharges. One consenting option would be for the Stormwater Unit to hold consents for all discharges from its network assets. However, this “asset-based” approach fragments resource consents across the different agencies and networks. Instead, in consultation with the other agencies, the Stormwater Unit has proposed a “source-based” approach where discharges from other agencies are consented based on where the discharge originates and either included or not in the Stormwater Unit NDC as follows:

- Wastewater overflows: Not included in the Stormwater Unit NDC applications. Consents will be obtained by Watercare for all overflows from their network, irrespective of whether they are directed to the stormwater network or discharge via dedicated Watercare assets.
- Stormwater runoff derived from local roads in urban areas: Included in the Stormwater Unit NDC applications, irrespective of whether the discharge enters the stormwater network or is discharged via dedicated Auckland Transport assets.
- Stormwater runoff derived from local roads in rural areas: Not included in the Stormwater Unit NDC applications, as they are covered by permitted activities in the ALW Plan.
- Stormwater runoff derived from the State Highway network: Discussions are currently being held with NZTA.

A consequence of this approach is that other agencies will play a role in ensuring Council is able to comply with the conditions of its NDC. Accordingly, the Stormwater Unit is

currently preparing service level agreements with its CCOs to ensure that roles and responsibilities are well defined and agreed.

However, clarity of roles and responsibilities is not just required with external agencies. Stormwater management is integrally linked to a number of Council functions and it is equally important that internal roles and responsibilities are understood and accepted. The Stormwater Unit is currently working through internal responsibilities with other parts of Council.

### 2.3.5 REGIONAL DOCUMENTATION

An important element of the regional approach is harmonisation of the processes, standards and associated documentation that is required to support the stormwater management function and NDC applications and achieve consistency across the region.

A "Documentation Hierarchy" has been prepared that shows the critical documents that will support the NDC applications and the assessments at the various levels (Figure 3).

The components of this hierarchy include the Regional Implementation Tools. These are important business tools that direct how the Stormwater Unit undertakes and reports on the implementation of stormwater management across the region.

These tools provide an important input into the NDC applications to demonstrate how stormwater will be managed in accordance with best practice including processes to optimise the management of the existing network and assets, ensuring the development of new assets to a suitable standard, and prioritising service level improvements and other capital investment programmes to achieve the best overall outcome for the community and natural environment. The regional implementation documents also include a consent monitoring plan that will identify the range of operational and environmental monitoring required to demonstrate on-going performance and delivery of elements of the BPO and the various levels

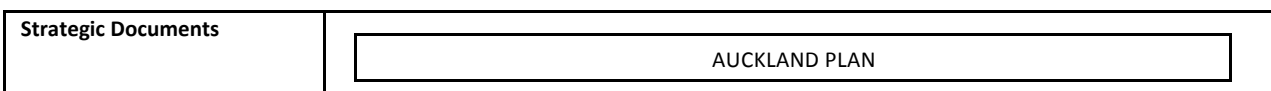
It is anticipated that the maintenance and implementation of these documents, and the processes that they detail, will form core conditions of consents. This will ensure consistency of conditions across the various NDCs and eliminate (or at least minimise) the need for additional management and reporting documents.

### 2.3.6 UNITARY PLAN

Stormwater management in the Auckland region has evolved over the last 20 years. Part of this evolution has been the recognition that managing stormwater at the development stage, rather than focusing on end-of-pipe and infrastructure led solutions, is critical to achieving sustainable long term stormwater management outcomes.

Under the previous consenting model TAs would obtain network discharge consents subject to conditions requiring, in addition to the implementation of infrastructure solutions and improvements, land use management controls to be implemented via controls in district plans. Often stormwater plan provisions were associated with plan changes for new growth areas, rather than applying across the entire district. So currently there is significant variation in respect of district plan requirements both across the region and in some cases within individual district plans.

The Council has chosen to progress the development of a Unitary Plan as a matter of priority. This plan offers the opportunity to standardise and enhance stormwater management provisions across the region, with a focus on preventing effects through design including a greater use of water sensitive design and "green" infrastructure.



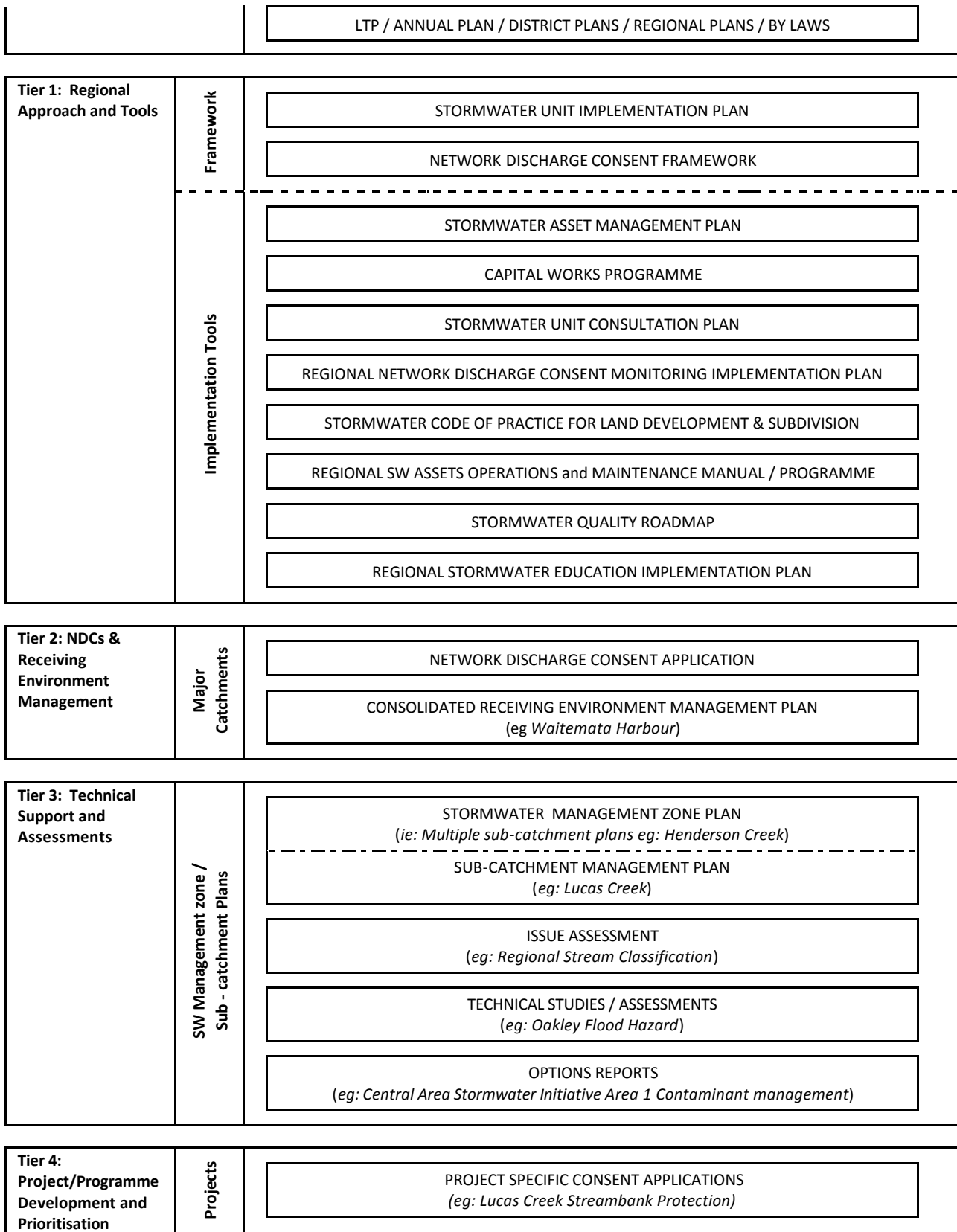


Figure 3: Documentation Hierarchy

Importantly the Unitary Plan offers the opportunity to reduce existing stormwater effects by controlling the redevelopment of existing impervious areas using Regional Council land use controls under s 30 of the RMA. Unlike district plan land use controls, which are

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limited in their applicability by existing use rights, regional land use controls can be applied to address existing adverse effects on water quality and quantity.

The Stormwater Unit is currently assisting the Council's Unitary Plan team in preparing provisions for the Unitary Plan.

### **2.3.7 TRANSITIONAL ISSUES**

One of the more difficult challenges facing the implementation of the NDC Framework is the transition from the existing situation to the future consenting model. As has been discussed above, significant effort is being directed at preparing a regional set of implementation tools and documents to standardise management across the region. While this process is underway, it will take some time to be completed and become institutionalised. Additionally some elements of the future management regime, for example the Unitary Plan, will inevitably take several years to be developed and move through the statutory process. This means that the current regulatory environment, including the existing regional and district plans, will still be valid for some time.

The variability in the age and nature of the existing NDCs and sub-catchment consents across the region are such that the process of transitioning to a new CRE NDC may need to be assessed on a case-by-case basis. While it will clearly be beneficial to replace older sub-catchment consents with a new CRE NDC, and of course obtain consents where none are currently held, some sub-catchment NDCs (for example those progressed by North Shore City) are about to be granted after more than five years of Environment Court appeals and negotiation. Replacing these consents with a new NDC application may simply risk re-litigating old issues.

In these circumstances, a two-step process may be adopted whereby the CRE NDC application does not include the sub-catchments where consents have recently been granted. A subsequent step in the process would be to vary the sub-catchment consents to incorporate them into the CRE NDC.

The Stormwater Unit is currently working through these issues for the Waitemata Harbour Catchment, which has the full spectrum of transitional challenges including: network and sub-catchment consent applications in various stages of readiness, old and new sub-catchment consents and soon to be granted sub-catchment consents.

## **3 CONCLUSIONS**

Stormwater network discharge consents are required for the lawful operation of the region's stormwater network. While consent applications were lodged across the region's urban areas in 2001, these have been progressed to different stages: some have been granted, some have been significantly progressed, and others were not deemed a priority and have not been progressed further.

The amalgamation of the TAs and regional council into a single Unitary Authority has necessitated a review of how these major stormwater discharge consents are formulated and progressed and at the same time offers a significant opportunity to improve the outcomes that are achieved through these consents. Core to this is an approach focused on major consolidated receiving environments and their contributing sub-catchments, the use of regional implementation tools to achieve consistency across the region and the move to a more outcome based consent with detailed studies being undertaken at a later stage in accordance with identified CRE priorities.

There are a number of challenges in developing and implementing the new stormwater consent framework, not the least of which is the level of organisational change that has occurred and the work required to achieve a consistent approach to stormwater management across the region.

## **ACKNOWLEDGEMENTS**

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