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Title of Paper **Implementing Sustainable Water Management in North Shore City**

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IMPLEMENTING SUSTAINABLE WATER MANAGEMENT IN NORTH SHORE CITY

1 ABSTRACT

The North Shore community is very attached to its natural environment and has made it very clear to their Council that they want to protect and where possible enhance its natural environment, including its beaches and streams. There is also a huge pressure on North Shore City to cater for growth. The city needs to accommodate another 100,000 people and some 40,000 jobs in the next 50 years. Greenfields are rapidly running out and most of this growth has to be accommodated by intensification. Many people see this as a threat, but this change could also be seen as an opportunity to improve water management practices.

Figure 1: example of a stream in North Shore City

This paper will focus on a number of themes related to the management of the wastewater, water supply and stormwater systems (3 waters) and the lessons learned. In the context of this report, sustainability means meeting the city's objectives under the four wellbeings: social, cultural, economic and environmental (natural environment). In this context, many water management objectives are aimed at improving the quality of our streams and beaches as well as identifying solutions that will last well into the future.

One of the lessons is, that it has become clear that in order to meet water management objectives, integration with other areas and disciplines within council and its community is essential to these sustainable outcomes.

The paper will also address a number of institutional barriers and difficulties with the legal framework that provide barriers for councils wanting to do the right thing. Because the RMA is an enabling act and effects based, it is not always helpful to assist councils in meeting the four wellbeing-outcomes required by the LGA in an efficient way. Processes are prohibitively expensive and have uncertain outcomes. Leadership and changes in the legal framework are needed to facilitate brown-field redevelopment initiatives.

Keywords

Water management, Low Impact Design, Structure Plan, LGA, RMA, Integrated Planning, Stream Protection, Catchment Planning, Community Based Social Marketing (CBSM).

2 INTRODUCTION

Sustainable water management can mean different things to different people. My interpretation of sustainable water management in the context of this paper is water management that includes one or more of the following outcomes:

- Protecting and improving the natural water environment
- Providing multiple benefits across multiple output areas such as transport, water, parks as well as across the four wellbeing's. This includes looking at asset poor solutions and includes a consideration of long term implications (public participation, operation, maintenance, monitoring and enforcement)
- Being economically sustainable (e.g. looking at life cycle costing)

North Shore City Council has made many attempts to implement a more sustainable approach to water management. Some of these initiatives have been more successful then others.

Problems encountered include:
- Institutional barriers / internal acceptance
- Legal barriers
- Funding
- Knowledge and skills

This paper will cover a number of themes and related initiatives and or observations thought to be worth sharing. The themes are:
- Growth
- Integration
- Beach Water Quality
- Water Demand Management
- Legal and Institutional Barriers

3 GROWTH

3.1 ACCURACY OF GROWTH PREDICTIONS

Ever changing growth predictions provide an ongoing challenge. This year the high growth population predictions for North Shore for 2050 changed from 300,000 to 380,000. We just spend about $100 million dollar of improvement works in the wastewater system to reduce the frequency of wet weather overflows and designing these works for a 300,000 people demand in 2050. So, about 8 years down the track a number of assets, only very recently completed, will be under capacity within 40 years while we hoped we had these designed to last a bit longer than that.

Another phenomenon is that many resource consent applications propose more often then not much higher densities than what was allowed for in the District Plan and also more often then not, getting approved.

Whether North Shore City will ever be willing to accommodate 380,000 people is yet to be decided or proven, but the point is that finding the balance between the risk of being conservative and over invest versus the risk of getting it wrong is difficult to find. What I have seen so far is that in the past, we often under-designed our assets, which necessitated the need to upgrade assets much sooner then planned for.

Catching up and/or fixing assets well before the end of their life, because someone got it wrong, comes at a huge cost. On the other hand being conservative also comes at a significant cost.

Many planning maps, aiming to deliver on ‘smart growth’ objectives, show a number of centers slowly increasing in size as well as an infill allowance in suburban areas across the city. The translation of that in demand for infrastructure is, that growth is happening all over the place and infrastructure upgrades are required scattered over the city and as a consequence are often in a catch-up mode.

It is important to get better at this. Unfortunately the improvement projects (improving environment, public health, meeting sustainability objectives) are generally looked at as a more discretionary (nice to have) than providing basic infrastructure often in growth areas. An example of a solution could be to control growth by planning for, capping and releasing development allocation in a limited number of areas rather then being spread thinly over the city.

3.2 GROWTH AS AN OPPORTUNITY

Although growth is often perceived as a threat it can also be an opportunity. Current water management practices are often inadequate. Certainly in stormwater management practices used in the past in many brown field areas are not meeting many outcomes that would be required now , cause significant adverse effects such as stream deterioration and flooding and do not meet ‘best practice’.

If and when an area gets redeveloped, often as a result of the need to accommodate more growth, there is an opportunity to look for improvement. It is important to recognise these opportunities and explore these in an integrated way and put mechanisms in place to assist in

meeting our objectives. Legal and institutional barriers that limit the use of these opportunities are discussed later in this paper.

4 INTEGRATION

During the last 5 years North Shore City Council has improved in integration during planning and implementation. With integration is meant integration between different disciplines inside and outside council such 3-waters management, urban planning, transport, parks and consenting as well as with the industry and the developers.

Integrated catchment planning and land use planning can not be separated. As clearly shown in the Long Bay case that is presented later in this paper as an example, the most important driver for achieving water management outcomes is the land use. It is important that recommendations to Council are prepared jointly considering all disciplines and all implications, rather then in isolation as was often done in the past.

Section 4 provides some background and actual examples how integration is carried out by North Shore City council.

4.1 INTEGRATED CATCHMENT MANAGEMENT PLANNING PROCESS

A few years ago we started the generation of new detailed stormwater catchment plans. These plans are aimed to:

- Deliver on the 2004 Stormwater Strategy.
  This strategy shifted the focus from a 'pipe-and-forget' to a more sustainable 'prevention and treatment at source' approach.
- Provide scope and justification for improvement works.
  This has proven to be very important. Previously projects often got deferred or rejected because of poor feasibility assessments and planning work had to be repeated to a greater detail as input into consent processes.
- Protect and enhance streams and beaches in the City
- Address flooding including overland flow problems.
- Provide a mechanism too identify integration opportunities
- Provide information required by other parts inside and outside council contributing to better decision making and/or better projects in areas such as land use planning, stormwater operations, wastewater planning and operations, transport and parks as well as assisting our consenting department when processing consent applications and assisting developers in preparing their applications.

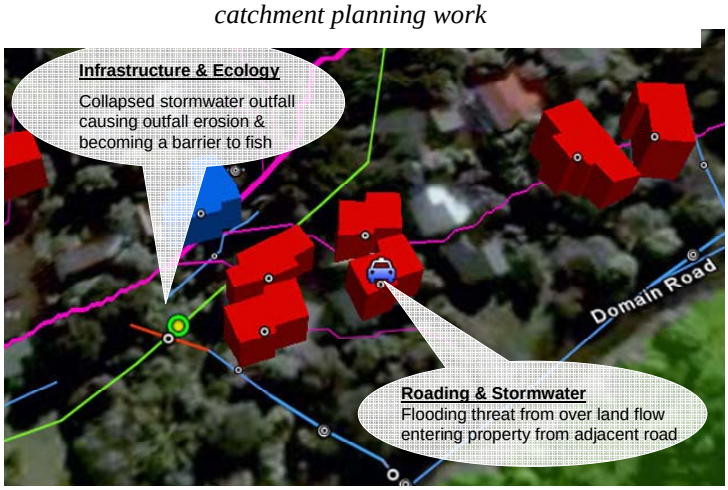
Stormwater can not be seen separate from other council functions such as land-use, parks and transport. Stormwater quality is not solely a regional council concern. Judge Jackson [Environment Court Interim Decision, Long Bay Structure Plan, July 2008] wrote *'land uses have significant effect on water quality and the ecology of streams which pass through land in question; and so comes within the City Council's function'*. This ruling confirms council's overall responsibility for managing stormwater, not just the stormwater department within the council. As a consequence this requires a fully integrated approach to stormwater management.

This ruling confirmed the way we were already carrying out the catchment planning process. At a number of milestones we organise meetings with stakeholders and communities to

confirm issues and discuss options and solutions. Pretty much all information related to catchment planning is spatial based. Google Earth (see Figure 2) has proven to be a very valuable tool to visualize issues, options and produce overlays and share pictures and hydraulic modeling outcomes with other council functions during community presentation and internal workshops. There have been numerous occasions where these workshops have resulted in:

- The identification of more issues that we were aware off
- The identification of further options for consideration
- The identification of solution addressing issues across council with multiple benefits
- Improved in-house knowledge and improved accessibility of related information

Figure 2: use of Google-Earth as communication tool during catchment planning work



4.2 LUCAS CREEK STREAM RESTORATION

Lucas Creek is one of the streams in North Shore City that is prioritised as being worth protecting. When the stream surveys were carried out around 2002, the stream was still in a reasonably healthy condition. However Lucas Creek is in an area that has undergone significant changes over the last 6 years due to developments, many of them have been developed to much higher densities than what was allowed for in the District Plan. Stream erosion and loss of headwater streams are some effects clearly visible.

Figure 3: Lucas Creek eroding due to development pressures

The amount of activities in the catchment is also providing momentum and opportunity to carry out stream restoration. A fully integrated approach has been undertaken to protect the Lucas Creek including:

1. Management of discharges by changes to the District Plan rules specifically for Albany Centre and in other area through a city wide plan change which seeks to better mitigate flows as a result of increased impervious surfaces.
2. Identification of the Lucas Creek stream restoration project (See figure 4). There are many stakeholders involved in this project:
    a. The parks and recreation department has an interest, because there is a large park joining the stream as well as a need to develop a recreation plan for the area North of the Albany centre (close to North Harbour Stadium) and an area for parking that is to be expanded in relation to the 2011 Rugby World Cup.

b. Transport has an interest because it wants to provide walking and cycling links parallel to the Lucas Creek.

c. Stream restoration objectives include the provision of riparian planting and the provision of access to the restored stream for amenity reasons. Walkways and viewing platforms are part of the objectives. Further upstream council is trying to secure esplanade reserves for access and space for connectivity and ecological enhancements.

Figure 4: Example of Lucas Creek restoration plan

Further investigations have started to link the Lucas Creek stream/walking/cycling/green corridor to the Long Bay area.

In other words this is a true project with multiple benefits delivering sustainable outcomes across all 4 wellbeing's. The project is at a design stage and budgets have been allocated to carry out the stream restoration work in phases in future years. (See Figure 8)

At times it has been difficult to align priorities and budgets across the different council divisions. Institutional barriers have been the major reason why this project has been delayed in the past. Looking forward, the Lucas Creek stream restoration project is likely to become one of our flagship projects that many people will enjoy. There are also a number of other stream restoration projects that are currently being detailed that also achieve multiple benefits as shown in figure 5.

Figure 5: other example of a stream restoration plan showing access to the stream.

4.3 LOW IMPACT DESIGN IN THE LONG BAY STRUCTURE PLAN

The Long Bay Structure Plan has gone through a very lengthy process. This Structure Plan is located in the North of North Shore city and has a number of unique features such as the landform, the Vaughans Stream and a Marine Reserve. The Long Bay / Okura Marine Reserve is of national and regional significance and protected under the Marine Reserves act. In an Environmental Court Ruling in 1996, Long Bay was allowed to be urbanised but under strict conditions seeking to protect the local, mainly environmental values. In addition the North Shore City Council, driven by its community, is keen to protect and where possible enhance the existing natural environment. The vision of how Long Bay should be developed and how this should be expressed in the Structure Plan varied widely between the main landowner and the City. This case was presented to the Environment Court in 2007 and an interim decision was provided in July 2008.

Figure 6: The Vaughans Stream

The Long Bay Structure Plan is the first plan where land use planning and catchment planning were developed simultaneously. The steep upper catchment, the valuable existing landform, the healthy Vaughans stream and the Marine reserve provided boundary conditions in the Structure Plan process, recognizing these are all 'worth protecting'. This required careful management of the land development process.

It was recognised that complying with, more general, regional guidelines regarding stormwater management and the District Plan provisions for other parts of the City, was not sufficient to protect and enhance the very sensitive and high quality receiving water environments. A Low Impact Design (LID) was included in the proposed structure plan. This LID was a combination of:

- Avoiding or minimising land modification and urbanisation and related earthworks of those parts of the catchment that have sensitive receiving environments.

- The protection of headwater streams as an important contributor to the health of the stream system.
- Concentrating urbanisation in areas where the effects are minimal or can better be managed.
- 'Fit-for-purpose' stormwater management requirements related to the receiving water environment and land use.
- The use of on-site stormwater management practices such as rain tanks and bio-retention, to minimise changes to stormwater runoff from the site, including roads. The use of rain-tanks also contributed to the reduction of water demand, another sustainability objective.
- The use of a stormwater treatment train approach.

Figure 7 The tidal area

As a result of the above requirements, the urbanisation has concentrated towards the lower part of the catchment to avoid deletion or unwanted deterioration of the headwaters in the upper part of the stream system.

The developer opposed the proposed Structure Plan aiming for a fully reshaped landform allowing for many more dwellings, while sacrificing many of the above values. A comprehensive assessment of existing and proposed development scenarios was undertaken by the council to support an appropriate level of mitigation and to enable a comparison between the proposed Structure plan and the alternative structure plan proposed by the developer.

You cannot half protect a stream. A decision on a branch-by-branch or a consent-by-consent basis, as argued by the developer, will almost certainly lead to an unsatisfactory result as clearly shown elsewhere in the city. Instead, an integrated and precautionary approach using international best practice is warranted to ensure successful protection of the Vaughans stream system and the Marine Reserve

The good part of the court case outcome was that, from a water management point of view, the outcome was very successful. The court accepted the LID and the rationale applied to justify this approach. He clearly rejected the branch-by-branch approach and the 'leave it to the individual consent' approach that was proposed by the developer. One example was that the Court often used the map showing the streams and stormwater sub-catchment as a reference in its decision. Another interesting example was that the judge did not accept the current water quality in the lower catchment, caused by poor land management by the developed as the baseline. Sustainable water management, as an input and major driver to land use planning, was accepted!

The downside of the court case was, in my observation, the process which was, although very interesting, frustratingly long and prohibitively expensive. This raises questions around the legal framework and possible implication for other similar cases in the country that I will address later in this paper.

4.4 ALBANY CENTRE PLAN

The original requirements in the District Plan for Albany Centre were outdated and inadequate to provide certainty to achieve revised land use outcomes that were identified in a centre planning exercise. In my words, there was a risk that Albany City was going to be a second Wairau Valley with low quality, big shed, developments, rather that a real CBD with high quality development.

At the same time our understanding of the Lucas Creek catchment and the effects of urbanisation on the health of the Lucas Creek had improved significantly. It was clear that a development-by-development approach looking at effects and possible mitigation by complying with regional guidelines only (such as TP10) was inadequate to protect the Lucas Creek. The rationale was much the same as was applied for the Long Bay Structure Plan.

So, when new District Plan requirements were drafted for the Albany Centre Plan, this opportunity was taken to improve the stormwater requirements too. The big difference compared to Long Bay is that Albany Centre is targeted to be a new CBD with high levels of impervious areas. The opportunity for Low Impact Design looking at earthworks and footprint of developments was very limited. However, as has been shown in many overseas city's such as Portland and Seattle, mitigation of stormwater runoff can also be achieved by the provision of bio-retention (rain gardens), permeable paving and the requirements for rainwater re-use.

When the proposed stormwater management requirements were presented at the hearings the component that seemed to make an impact was when we presented how the already built District Court development, as an example, could have been easily designed to meet the stormwater requirements, simply by designing any already landscaped area to include bio-retention. The extra space required was nil.

Now, two years later, the results of these changes are becoming visible. Figure 8 shows a local street with permeable paving and bio-retention.

Figure 8: recently completed local street in Albany centre with permeable paving and a rain garden (bio-retention)

Here is an important message. Bio-retention does not need to take additional space. We have (or should have) landscaping in our urban area for many other reasons. If we design these landscaped areas as bio-retention, lots of people wouldn't event notice, but only if these are designed as features that people like. Too often stormwater management devices are designed to fail from a public acceptance point of view. Over-engineered devices are unnecessarily expensive and often don't meet amenity requirements. A multidisciplinary approach is needed to ensure good outcomes.

4.5 CIVIC CRESCENT IN ALBANY

Also in Albany Centre is the Civic Crescent Project. The location of the public space is located between the new Westfield shopping centre and the Albany Lakes. In the review of the stormwater management of the area, it was identified that stormwater needed to be pre-treated where ever possible, to maximise the quality of the lakes that now have an amenity objectives as well as the original stormwater treatment objective.

Bio-retention for the ring road including the Civic Crescent was included in the City Plan and in the project objectives. Initial design proposals were rejected because the rain gardens were very heavily engineered, didn't look natural and opportunities were missed to provide multiple benefits. An example is tree pits that were initially proposed to be isolated from the rain gardens and positioned in 'concrete tubs'. This demonstrates the lack of skills, exposure and experience in implementing LID in for example transport managed projects.

The final result, currently under construction is a less engineered looking design that integrated landscaping and stormwater treatment and with that provides multiple benefits at much lower costs.

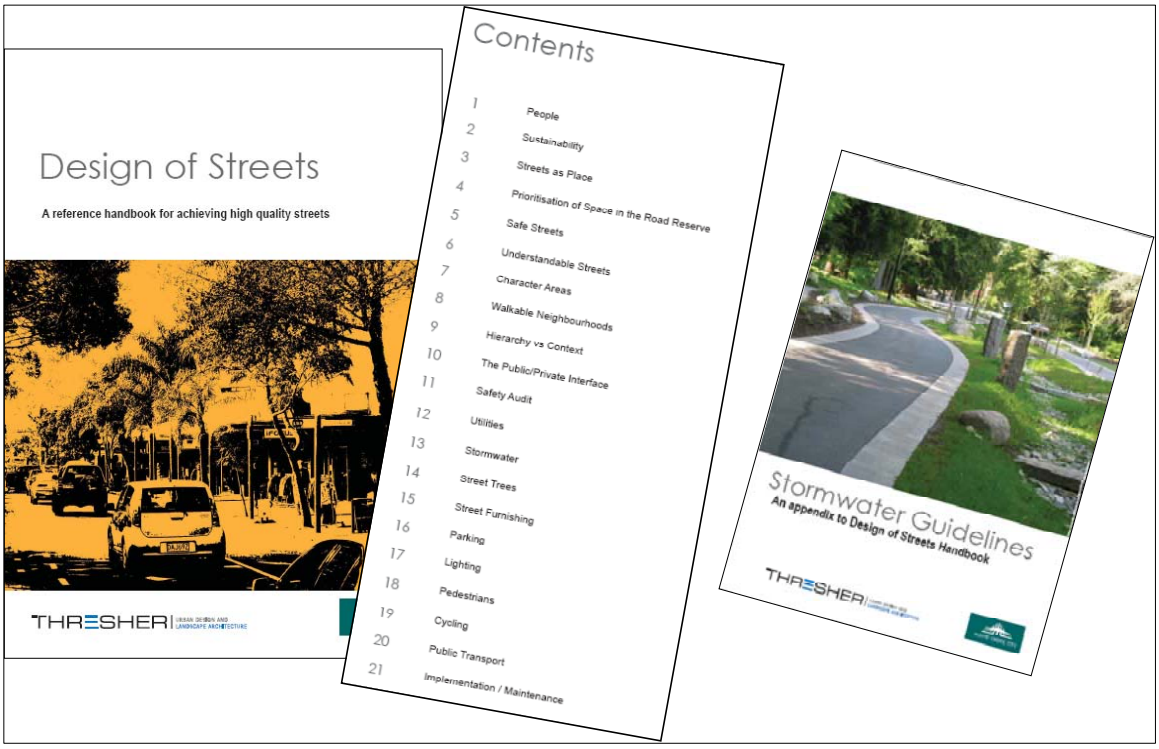
Figure 9: Civic Crescent including rain gardens

4.6 DEVELOPMENT OF THE 'MANUAL FOR STREETS'

Some years ago I started to push for what I called a streetscape manual. The reason for this was that I saw opportunities to include stormwater and related amenity opportunities in the streetscape that were not utilised. So initially I was looking at integration of water management and transport.

This project was finally started in 2007 and managed by our Strategy and Policy department. The most important outcome of the project that I learnt, and I would like to think not only me, was that streets are a public space and that there are many considerations that could and should be taken into account when designing a street. I thought stormwater was very important but looking at the index of the draft manual (see figure 12) it is only one out of twenty chapters. A more detailed 'stormwater guidelines' document is being drafted as an attachment to the manual.

Figure 10: Cover of the draft: Design of Streets manual, the index and the attached 'stormwater Guidelines (draft)



4.7 INTEGRATING WITH THE COMMUNITY

Background to this project

An important part of the change to the 2004 Stormwater Strategy was that NSCC recognised that it needed to look better after its streams. This includes both the management of the discharges as well as the management of the streams themselves. As a result the budgets were increased to allow for stream restoration in a limited number of prioritised streams.

In North Shore City, 70% of the streams are on private land. The total number of residents on the North Shore who have a stream on or bordering their property is approximately 7000. There is little point in undertaking stream restoration works on public land only if private land is not restored at the same time. Thus it is inevitable that the Council must work with private landowners to achieve the restoration outcomes in those areas.

In addition to a District Plan change that seeks to better restore and protect the riparian margins of streams in North Shore (not covered in this paper) when a resource consent is

applied for, we have looked at how we can restore the streams in or bordering private properties.

Research has repeatedly shown that of a total population, there will always be:

- approximately 20% who are 'dormant' and will never be drawn into positive environmental behaviors no matter which techniques are employed;
- approximately 20% who are already engaged; and
- Approximately 60% of the population who have the potential to become engaged in positive environmental behaviors, assuming the appropriate methods are utilised to instigate behavior change.

Community Based Social Marketing (CBSM)

Community Based Social Marketing (CBSM) is a growing field of expertise that is for example used in the health sector and is increasingly being used to facilitate environmental behavior change. CBSM is based upon research in the social sciences that demonstrates that behavior change is most effectively achieved through initiatives delivered at the community level which focus on removing barriers to an activity, while simultaneously enhancing the activities benefits.

There are four key steps involved in CBSM:

1. Identifying individual barriers and benefits to an activity/behavior
2. Developing a strategy that utilises effective behavior change tools
3. Piloting the strategy
4. Evaluating the strategy once it has been implemented across a community

Last year NSCC investigated the barriers to engage in stream restoration mainly through the use of focus groups. Some of the main outcomes were:

- It was recognised that both Council as well as residents are responsible. This showed the potential willingness to enter into a partnership with council.
- There is a very strong perception that council is not 'leading by example'.
- The majority of participants felt positive about having a stream on their land – so there is potential for behavior change there. BUT, for many residents, the stream is currently not fulfilling its potential in terms of playing a part in residents' day-to-day lifestyle and enjoyment of their property.
- Most residents know little about the stream on their property (its name, where it originates and flows through, where it goes, what lives in it). For many, the stream on their property has simply been 'out of site and out of mind'. However, residents responded positively to the fact that they have something unique on their property and also to the idea that their stream may be of some ecological significance in the wider North Shore area.
- Residents could see tangible benefits (lifestyle and financial) if the stream environment, i.e. their backyard, was improved.
- There was very little knowledge about how to undertake stream restoration. Assistance is required both physically as well as through education.
- There is never going to be a quick fix, nor one solution, that will suit all of our residents with a stream on their property. An optimal approach will involve:
    - Council walking the talk and leading by example
    - Council working in partnership with the community

- Providing residents with meaning and context around their streams – educating people not only about why they need to get involved and how to do so, but also about their individual streams – telling the 'story' of the streams
- Working with smaller 'communities' – creating a sense of community, working towards an outcome for that community – this is a shared, not an individual issue.

My own conclusion was that the outcomes of the research showed that what we –engineers- thought what was needed to achieve an objective, wasn't what was actually going on in the minds of the community. So using the traditional consultation and engineering approach would almost certainly not result in the desired outcome.

Implementation.

The first pilot has started early in 2008. An important step was the appointment of a catchment coordinator. This person is the (only) council representative and coordinates all activities for this community around the stream restoration and also around other issues related to council. The main objective was to create a trustworthy single contact.

Figure 11: part of a community newletter


Pine Ridge – a naturally smart community!

June 08

WELL DONE AND A HUGE THANKS TO ALL THOSE WHO TOOK PART IN THE PLANTING BEES.

Well – lots of you got your hands dirty and you made that stream sparkle! Over the past couple of months, there have been a number of weekend activities in and around the stream area involving digging and planting.

We have been impressed with the number of you who have taken part in these sessions. We hope you enjoyed taking part, meeting

Susan Garters (Al) and Holly, one of the contractor staff, clear piles of tradescantia in preparation for the planting.

Many small, face-to-face meetings have been held and physical work such as weeding and replanting has been carried out just before the 2008 winter set in. The next challenge is to ensure that all this work is being looked after by the local community well into the future. We are looking at putting a covenant in place but know it is even more important to ensure ongoing ownership and commitment from the local community. A second pilot has started in August 2008.

Results so far have been that the community is willing to participate. It is also clear that it takes a lot of time and effort to engage with all those involved.

4.8 CONCLUSION ON INTEGRATION

North Shore City is lucky. Responsibilities are concentrated within the same organisation and not scattered around multiple organisations. The size of the council is large enough to be able to provide enough expertise and at the same time small enough to know who to talk to and as a result lots of outcomes are achieved, and achieved more efficiently, by the use of informal communication lines rather then relying on formal processes.

North Shore has set itself a number of very ambitious targets through the LTCCP process. Many of them are related to community outcomes and the protection and enhancement of our natural environment. Integration is the only way forward when we want to meet these targets related to the management of the 3 waters as well as to other output areas in council.

5 BEACH WATER QUALITY AND WET WEATHER OVERFLOWS

The main issues in North Shore related to reducing beach water pollution are the wastewater overflows. These caused significant public concerns in the late 1990's and resulted, after extensive investigations and public consultation all under the name of 'Project CARE', in:

- the adoption of a wet weather overflow target of no more then 2 wet weather overflow events per annum to be met by 2021 and
- A $240 million dollar upgrade programme. These are year 2000 dollars; the current value is now more then $400 million).

Because of the many uncertainties such as costs, growth and the successfulness of the sewer rehabilitation programme to reduce inflow and infiltration, it was decided to review the programme every six years to ensure the project is on target and up to date.

Figure 12: Wet weather overflow in Browns Bay in July 2008

The good news is that the project is about 1/3 underway and already contributed to avoiding many overflows on precious North Shore beaches. Some of the issues we are facing are:

- There is still 2/3 of the programme to be completed with high overflow frequencies at remaining locations (see Figure 12)
- Unit rates have doubled since 2000 and are well above general CPI increases published. This puts the ability to complete the programme by 2021 in doubt. This issue will be addressed in the LTCCP process that is currently underway.
- Growth is happening sometimes faster and at higher densities then anticipated. In one case, in Birkdale, this has resulted in a temporary 'moratorium' on growth pending an $18 million upgrade of the main sewer line in this catchment.

6 WATER DEMAND MANAGEMENT

North Shore City has no real issues with its local drinking water reticulation. We enjoy a very high customer satisfaction. From a sustainability point of view we might be 'over-performing' or raised the bar or Level of Service too high, which comes at a cost. Current initiatives are looking at where we can create efficiencies such as re-zoning of some of the pressure zones.

Another more regional issue is Water Demand management. If regional demand continues as projected, a new regional water source will be required by 2026, such as a 2nd Waikato pipeline. Reducing the demand by 25% could delay the need for a $300 million project by about 20 years. So in addition to a more global sustainability objectives in terms of 'using natural resources wisely' there is also an economic reason to look more closely into a possible justification for water demand management.

From my personal point of view I still find it difficult to accept that our average per capita demand is more then double of what I was used to in the Netherlands. What has also become clear to me is, that if we are serious about reducing water demand, we need to go beyond a softly-softly approach and look at regulatory requirements such the re-use of rainwater or

restrictor valves, the use of pricing mechanisms (volume based wastewater rating and staggered pricing) as well as reducing system leakage. A few years ago, council did consider volume based wastewater charging, but this initiative has been put on hold. Printing more brochures and other education initiatives has only a limited and very temporary effect. If we truly want to adopt this 25% target, it will require political courage at national and local levels to support the implementation of effective tools.

7 LEGAL AND INSTITUTIONAL BARRIERS

7.1 LEGAL: COMMON GOOD VS PRIVATE GOOD; MONEY TALKS

Planning processes are time consuming and expensive. Costs incurred by council have to be funded by the ratepayer. From a developer point of view there is a very low level of risk. Squeezing a few more sites out of a planning process pays for all the legal fees quite comfortably.

As an example, North Shore City spent approximately 1.5 million dollars on the technical work related to the 3-waters management throughout the Long Bay Structure plan process. This excludes legal fees and fees outside stormwater management area such as land use planning, geotechnical advice, transport, archaeology, etc.

At an individual consent level, outside Long Bay, NSCC often backs off from taking a case to the Environment Court, and I suspect many other councils do too, for a variety of reasons such as:

- The 'vagueness' of the current District Plan rules, policies and objectives
- The related uncertainty of likelihood of success, despite clear evidence that the proposal will cause adverse effects and
- The costs and time related to support a lengthy legal process.

NSCC is one of the bigger councils in New Zealand and much better able to financially support lengthy and complicated processes. Imagine a small District Council would have to go through a similar process as the Long Bay Structure plan process, and find funding to do so.

Observations overseas show that land-use planning process can be much more community outcome based (not effects based) and lots more efficient. One example is the way 'speculation' is avoided by valuing the land against 'past land use' in stead of against 'potential land use'. In this case the financial incentive to take cases to court reduces significantly.

I personally question whether the RMA provides a sustainable framework to ensure appropriate land use planning in New Zealand for many reasons including affordability reasons.

7.2 LEGAL: ACHIEVING OUTCOMES THROUGH EFFECT BASED LEGISLATION

The RMA is an 'enabling' act and effects based. The LGA is outcomes based, requiring councils to deliver on community outcomes and look after the four wellbeing's. These two are at odds or at least requiring very innovative approach in writing outcomes into District Plan requirements. The RMA might be in theory a perfect piece of legislation drafted with

good intentions and combining the best of all worlds. On the other had it is very difficult to implement, requires lengthy and expensive processes (Long Bay took in excess of 15 years), prohibitively expensive and not delivering on LGA requirements. Outcomes to date in North Shore have shown that our District Plan and consenting processes have failed to adequately protect our streams and beaches.

Here is an example. The Court decision related to Long Bay ruled that the Awaruku slopes can be developed to a higher density compared to what was proposed both by Council and the developer. I'm guessing that this was done to offset some of the loss of yield in other areas of the Structure Plan for environmental reasons. Although this decision can be justified from an effects based assessment, it does totally ignore the community (LGA) interest that might not aspire to this type of development but is sidelined and has no say in this part of the process.

Community concerns are generally considered in district plan processes, but only at the beginning. As the process moves into hearings and court appeal processes the ability of the community to be considered reduces significantly and community outcomes are often not achieved. Again as argued in the previous section the RMA is a 'rich-mans' act with the result that private good has to much weighting compared to the common good.

7.3 LEGAL: EXISTING (AB)USE RIGHTS PROHIBIT IMPROVING OUR ENVIRONMENT

How can we improve poor environmental outcomes during the redevelopment of our city? Some argue that intensification will worsen environmental outcomes. I argue that:

1. The way environment management was undertaken in the past in not very good. Certainly in stormwater, NSCC used the pipe-and-forget approach with flooding and stream degradation as a consequence, just to name a few.
2. Redevelopment provides opportunities both technically and financially to improve environmental effects.

However there are a few barriers we must overcome to turn these opportunities into a real improvement.

If you look at the building act, when you replace a building, you must comply with the newest legal requirement. In other words you are not allowed to replace a 'crappy' building with a 'crappy' building. The RMA is different. Under existing use rights you can –not easily- require to claw back. As an example, last year we have initiated a plan change requiring the mitigation of stormwater runoff on <u>additional</u> impervious areas. We were advised that it was not possible to require mitigation on the existing impervious area of a site the application was related to; the existing use rights prevented this. I am aware that not everyone is in full agreement to this interpretation but the point is that it is not possible or very difficult to require better environmental outcomes during redevelopment. In other words you can get away with replacing poor stormwater management with poor stormwater management. I call this existing abuse rights.

Other barriers are in more outcome based legislation as discussed elsewhere in this paper and other powers to enforce comprehensive redevelopment over areas that are in multiple ownership.

In other areas of the world improving environmental outcomes during redevelopment is well accepted. In a visit to Portland (Oregon, USA) I saw green roofs popping up all over the

CBD because stormwater mitigation was a requirement during redevelopment and even better developers where in addition of it being a requirement also rewarded in extra floor-space in return for improved stormwater management outcomes. Very recently the UK made a new ruling that all driveways have to be permeable (as permitted) including when replacing existing impermeable driveways.

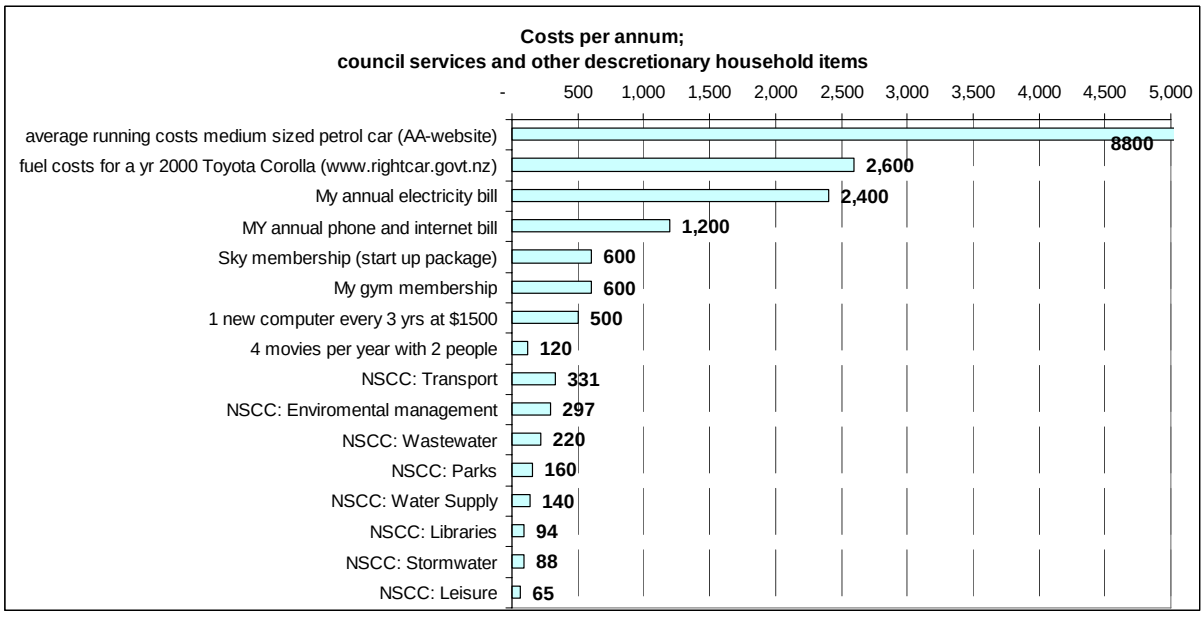
North Shore City has largely run out of Greenfield development areas. Redevelopment will be the name of the game and the receiving environment is crying out for improved stormwater management. Changes in the RMA are required to overcome this problem. If that is not or not quickly possible a change in the Regional Policy Statement, currently under review, might be another method in which case District Plans have to give effect to this requirements without having to go through lengthy and expensive legal processes.

7.4 INSTITUTIONAL: FIRST WORLD RESULTS FOR THIRD WORLD RATES

We like to compare ourselves against successful cities in the world such as Melbourne, Brisbane, Perth, Portland (Oregon), Seattle and many European cities. This happens at all levels, council, staff and community. There is also a lot of pressure on councils to keep the rates low. While painting these success stories we create an expectation which we then are not prepared to deliver.

It is difficult to compare taxes and rates between authorities in different countries with different legal governance and taxing structures. However, based on my European career and visits to councils in Australia and the USA, rates there are much higher compared to NZ rates. (My guess is 2-5 times higher). It would be helpful if a benchmarking-investigation was initiated providing more objective information on this topic.

Figure 13: Some discretionary household spending items compared to costs for council services



If you compare some ‘discretionary household spending items’ such as a second or third car, a Sky-tv or gym membership and other services such as power and phone against essential

services that NSCC provides such as safe drinking water and best practice stormwater management, I feel that many of us have their priorities mixed up.

Why is it that we say that we want to protect and enhance our environment but at the same time reject increases in rates and accept other big ticket items in our household budgets? Is a Sky membership six times more important that protecting our streams? I hope not!

A few years ago North Shore city investigated the possibility to implement a user pays stormwater charging system based on the impervious coverage per property. When comparing NSCC stormwater costs against international costs this showed about $0.28 per m2 in NSCC and $1.10 per m2 in a city in Germany 15 years ago with similar densities. Again this shows that stormwater management is underfunded and possibly even more so in other New Zealand councils. We should not shy away from better selling or marketing our achievements and success stories. In general this approach is not supported because it could be perceived as defensive.

In summary we need leadership that sells a good quality sustainable environment and convince our politicians and ratepayers that this will come at a cost but at the same time returns multiple benefits, including economic benefits.

7.5 INSTITUTIONAL: ORGANISATIONAL BARRIERS

There is a natural reluctance to change. It is difficult, takes people out of their comfort zone and provides an -often perceived- risk. There have been many papers presented on this topic. Professor Rebekah Brown from Monash University has undertaken a lot of research on this topic. Key issues identified by her in her research (Brown and Ball 1999, Brown and Ryan 2001) are:

- Lack of organisational commitment
- Lack of senior management support
- Lack of resources – CASH!
- Unclear guidance from EPA
- Community apathy ('they simply do not care')

In May 2007 she conducted a benchmarking workshop at North Shore City Council comparing the organisational performance against a developed scoring system.

Figure 14 shows in the top distinctions that describe a high performing council and the bottom part shows where NSCC was on the continuum from traditional to best practice. The planning component on this continuum was further advanced compared to the implementation. Some key outcomes of this workshop are shown in figure15

The outcomes where somewhat harsh but clearly identified shortcomings in the organisational performance in North Shore City related to water management. Most of the

Figure 14: Organisational performance; Key Distinctions and benchmarking results for NSCC

findings apply to other areas inside council and very likely in other New Zealand Councils too to various degrees. There is still a long way to go in being a truly sustainable council.

Councils are risk adverse. A typical example is the reluctance of some councils to accept bio-retention because of perceived operation and maintenance costs. Research carried out overseas has shown that:

- These devices last a lot longer that expected
- These devices perform a lot better than expected (volume reduction and treatment efficiency)
- Maintenance costs are very similar to any other landscaped area such as flower beds.
- (Environmental) benefits are often not considered in the rejection of proposals

The only way to learn is trying and looking for continuous improvement. There is always a reason why not to change but that will not bring about changing to a more sustainable future in any significant way

Figure 15: outcome of organisation performance benchmarking for NSCC

1. *Insufficient leadership, advocacy & commitment*
    a. *No vision for a sustainable (water) future*
    b. *Uncertain political commitment*
    c. *Lack of a compelling business case for sustainable stormwater management*
    d. *No WSUD KPI's for project leaders*
    e. *WSUD not a core organisational training competency*
    f. *Risk of burn-out of local champions because pilots do not result in main stream acceptance/applications*
2. *Planning-implementation disconnect (resulting in loss of corporate WSUD memory)*
3. *Insufficient knowledge and skills across whole organisation (strong in pockets) & community*
4. *Developers and consultants lack professional competencies (design & construct) and organisational drivers for progressive WSUD (LIUDD)*
5. *Lack of proactive relationships between council and developers for WSUD*
    a. *Lack of professional competencies with consents staff*
    b. *Lack of experiential knowledge within project teams*
6. *Council not leading by example for its own development projects*
7. *Lack of an enabling external environment*
    a. *ARC WSUD expectations are behind & no longer drive practice*
    b. *No central government legislation and standards for WSUD (e.g. in road*

8 CONCLUSION

North Shore City has gone through a lot of effort to make the water urban management across the 3 waters more sustainable. This is clearly visible in a number of strategic documents, planning initiatives, guidelines and actual projects. Some of these were presented in this paper. The various levels of success can be categorized into institutional barriers, the lack of skills related to the implementation and legal barriers

The RMA might – in theory – be very good (intended) piece of legislation. It seems to me that with developing the RMA, New Zealand has aspired to create a 'best of all worlds' piece of legislation but is going bankrupt in implementing it. Certainly in existing brown field areas where landowner ship is scattered amongst multiple owners, each with their own private interest. I serious question whether councils can deliver on outcomes sought through land-use planning processes and even more so because we are in a transition phase from greenfield developments to brown field redevelopments. Some political parties have promised a review of the RMA. I hope this if for the right reasons as set out above and will not result in a misguided "business-first", "community-second" and "environment-last" policy change.

In any case, a lot of sustainable, integrated solutions are only achieved by a multidisciplinary approach and representatives from all these disciplines being aware and willing to appreciate all needs during the whole life of the project. Although we need a number of high level region wide decisions and bodies that enforce and implement these decisions, most of the work will continue to be needed at a very local level, requiring local expertise and interacting with the local community. The success of projects and related efficiencies are achieved in North Shore because of informal communication lines and people involved representing the council as a whole not just the area they happen to work in. Just imagine that some of these areas will be vertically organised in separated organisations or one big super city. That will make these informal communication lines a lot less efficient, translated in the need for more – formal- meetings and it is questionable whether representatives will look beyond just representing the interest of their organisation. I have my doubts that such an approach would be in the best interest of our communities.

References

Environment Court, "Interim Decision related to Plan Change 6 and Variation 66 to the North Shore City District Plan" (Decision No. A 078/2008) related to the Long Bay Structure Plan, July 2008;

Tresher and North Shore City Council, "Manual for streets", 2008 draft-unpublished

Rebekah Brown and North Shore City Council, "Presentation of Organisation benchmarking workshop outcomes, May 2007. (unpublished)

Many internal North Shore City documents.