

I hereby give notice that an ordinary meeting of the Environment and Sustainability Forum will be held on:

Date: Tuesday 19 July 2011
Time: 10.00am
Meeting Room: Reception Lounge
Venue: Level 2
Auckland Town Hall
301-305 Queen Street
Auckland

Environment and Sustainability Forum

OPEN AGENDA

MEMBERSHIP

Chairperson	Cr Wayne Walker
Deputy Chairperson	Cr Sandra Coney, QSO
Councillors	Cr Dr Cathy Casey Cr Ann Hartley, JP Cr Mike Lee Cr Des Morrison Cr Noelene Raffills, JP Cr Sharon Stewart, QSM Mr Glen Tupuhi
Ex-officio	Mayor Len Brown Deputy Mayor Penny Hulse

(Quorum 5 members)

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13 July 2011

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1 Apologies

At the close of the agenda no apologies had been received.

2 Declaration of interest

Members are reminded of the need to be vigilant to stand aside from decision making when a conflict arises between their role as an elected representative and any private or other external interest they might have.

At the close of the agenda no requests for declarations of interest had been received.

3 Confirmation of minutes

3.1 Meeting minutes Environment and Sustainability Forum, 21 Jun 2011

4 Leave of absence

At the close of the agenda no requests for leave of absence had been received.

5 Acknowledgements

At the close of the agenda no requests for acknowledgements had been received.

6 Petitions

At the close of the agenda no requests for petitions had been received.

7 Deputations

Standing Order 3.20 provides for deputations. Those applying for deputations are required to give five working days notice of subject matter and applications are approved by the Chairperson of the Environment & Sustainability Forum. This means that details relating to deputations can be included in the published agenda. Total speaking time per deputation is ten minutes or as resolved by the meeting.

The following requests have been received to address the meeting:

7.1 Michael Taplin - Sandspit SOS Inc

Executive Summary

Michael Taplin on behalf of SOSS Inc. will be in attendance to address the Environment & Sustainability Forum and will give a presentation forum on marina developments across the Auckland region: "Marinas – a private asset but a public liability in the wrong place."

Recommendation

- a) That the deputation to the Environment & Sustainability Forum from Michael Taplin of SOSS Inc. regarding marina development across the Auckland region, be received.

7.2 Long Bay - Okura Great Park Society

Executive Summary

Representatives from the Long Bay – Okura Great Park Society will be in attendance to address the Environment & Sustainability Forum which will provide context for the report which appears under Item 11 of this agenda: "Long Bay Development: Erosion and Sediment Control".

The society was formed in 1996 to advocate for the creation of a 1,000-acre Great Park at Long Bay - Okura in North Auckland.

Recommendation

- a) That the deputation to the Environment & Sustainability Forum from Long Bay - Okura Great Park Society regarding Long Bay Development: Erosion and Sediment Control, be received.

7.3 Conference report back from the Chairman

Executive Summary

The Environment and Sustainability Forum Chairman, Cr Wayne Walker, attended the "Innovative Cities" conference in Curitiba, Brazil in May 2011.

Cr Walker will report his findings from the conference on innovative approaches to sustainability, renewable energy and community led initiatives: the city of Curitiba is case study in sustainability.

Recommendation

- a) That the verbal report be received.

8 Public Forum

Standing Order 3.22 provides for public forums. Advance notice is not required but it is expected that those wishing to speak at the public forum advise the Committee Secretary prior to the meeting. A maximum of **thirty** minutes is allocated to the public forum with **five** minutes speaking time for each speaker.

At the close of the agenda no requests for public forum had been received.

9 Extraordinary business

Section 46A(7) of the Local Government Official Information and Meetings Act 1987 (as amended) states:

“An item that is not on the agenda for a meeting may be dealt with at that meeting if-

- (a) The local authority by resolution so decides; and
- (b) The presiding member explains at the meeting, at a time when it is open to the public,-
 - (i) The reason why the item is not on the agenda; and
 - (ii) The reason why the discussion of the item cannot be delayed until a subsequent meeting.”

Section 46A(7A) of the Local Government Official Information and Meetings Act 1987 (as amended) states:

“Where an item is not on the agenda for a meeting,-

- (a) That item may be discussed at that meeting if-
 - (i) That item is a minor matter relating to the general business of the local authority; and
 - (ii) the presiding member explains at the beginning of the meeting, at a time when it is open to the public, that the item will be discussed at the meeting; but
- (b) no resolution, decision or recommendation may be made in respect of that item except to refer that item to a subsequent meeting of the local authority for further discussion.”

At the close of the agenda no requests for extraordinary business had been received.

10 Notices of Motion

At the close of the agenda no requests for notices of motion had been received.

Long Bay Development: Erosion and Sediment Control

File No.: CP2011/04331

Executive Summary

The purpose of this report is to inform the Forum about the background and status of Proposed Plan Change 6 to the North Shore City District Plan (the Long Bay Structure Plan), discuss the compliance and consents monitoring that is in place, highlight some of the problems that have arisen with sediment discharges in recent high intensity rainfall events, identify the steps that have been taken to mitigate future events of this nature and provide some recommendations for improving erosion and sediment control outcomes in the future.

The Long Bay Structure Plan deals with a block of undeveloped land to the north of Torbay and adjacent to the Long Bay Regional Park and Long Bay-Okura Marine Reserve. The structure plan has had a long history and is currently before the Environment Court awaiting a final decision.

Development of the area is well underway. Stage 1 of the proposed 4 - stage earthworks programme has been completed. The stage 2 earthworks consent and the first "Precinct Plan" consent have been granted. The stage 1 subdivision consent is currently being processed and further precinct plan, earthworks and subdivision consent applications will be lodged within the next year.

Due to the sensitive nature of the catchment and receiving environment, the effective control of erosion and sediment generation featured highly in the Environment Court deliberations and a high level of control is built into the structure plan.

High intensity rainfall events on 19th December 2010 and again on 23rd and 29th January 2011 resulted in sediment discharges to the Awaruku Creek resulting in highly visible plumes out to sea. Investigation of these incidents and routine compliance monitoring prior to these incidents by council's consents and compliance team found the controls to be generally compliant. The December event was primarily the result of a breach in a bund alongside a clean water runoff diversion drain and a displaced culvert joint. The January discharge occurred during a period of unusually high intensity rainfall over a long period resulting in saturated antecedent ground conditions and sediment retention ponds at full capacity at the start of the storm peak, a problem exacerbated by storm surge and king tide.

In general the controls were compliant and the contractor has a solid history of compliance and cooperation on the site. However, recent events have highlighted that current best practice erosion and sediment control practices are not foolproof and the council should use these lessons to review the former Auckland Regional Council's *Technical Publication No. 90, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region* (TP 90) which was published in March 1999. Such a review should consider reflect control practices for different receiving environments.

It is also timely to recommend to the Forum that further emphasis be placed on monitoring the implementation outcomes of the Long Bay Structure Plan to assess the effectiveness of the environmental policies included in the structure plan to ensure that any shortcomings are identified and remedial action taken in a timely and effective manner.

Recommendation/s

- a) That the report be received.
- b) That the report be provided to the local board for information.
- c) That the Forum recommends that provision be made in the forthcoming Long Term Plan to implement a review of the former Auckland Regional Council's Technical Publication No. 90, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region. Such a review should consider different control practices for different receiving environments.
- d) That the Forum recommends that provision be made in the forthcoming Long Term Plan to prepare a monitoring plan to monitor the effectiveness of the Long Bay Structure Plan and to ensure that any shortcomings are identified and remedial action taken in a timely and effective manner.

Background

Context of the Long Bay Structure Plan

Proposed Plan Change 6 to the North Shore City District Plan (the Long Bay Structure Plan) deals with a block of undeveloped land to the north of Torbay, adjacent to the Long Bay Regional Park and the Long Bay-Okura Marine Reserve.

The Long Bay Structure Plan area falls within the Metropolitan Urban Limit as set out in the Auckland Regional Policy Statement (1999). It covers or abuts the following significant natural and physical resources:

- The outstanding landscapes and natural character of the coastline north of Vaughan Stream.
- The Long Bay Regional Park, a regionally important area of high recreational and landscape value.
- An area of national heritage value on the Awaruku headland.
- The high ecological and amenity value of the Vaughan Stream catchment and coastal receiving waters of the Long Bay-Okura Marine Reserve.
- A number of native vegetation areas of ecological value.
- Long Bay schools, Ashley Reserve and the Okura rural and Torbay residential areas.

The structure plan underwent an extensive hearing process through the Environment Court between 2007 and 2009 and the changes requested by the court in the 2nd Interim Decision have been made by the council and were lodged with the court in March 2011 for a final decision which is still pending.

The following resource management issue was among those identified during the structure plan development process as being particularly important:

The need to take a precautionary approach to the quantity of earthworks within the area, given the high value of the receiving environment present and uncertainties associated with how the cumulative effects of earth working to remedy widespread land instability can be mitigated.

Development of the area is well underway. Stage 1 of the proposed 4 - stage earthworks programme has been completed. The stage 2 earthworks consent and the first "Precinct Plan" consent have been granted. The stage 1 subdivision consent is currently being processed and further precinct plan, earthworks and subdivision consent applications will be lodged within the next year.

The Long Bay Monitoring Programme

The Long Bay Monitoring Programme was established in 1998. Monitoring was initiated to determine whether the adverse effects of urban “green-field” development on coastal and freshwater environments were more than minor. Changes in the health of marine and freshwater communities are being monitored before, during, and after catchment development. Included in the programme are the aquatic resources within the freshwater and tidal stream reaches of the Vaughan and Awaruku catchments, and the marine resources along the foreshore of the regional park. Several control sites are also included in the programme to ensure that any changes detected can be attributed to land based activity rather than natural processes. This monitoring is designed to detect long term changes in the environment.

The objectives and results of the programme are discussed in more detail in Annexure A.

Earthworks Policies

Effective control of erosion and sediment generation featured highly in the Environment Court deliberations. Controls were largely based on the former Auckland Regional Council *Technical Publication No. 90, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region* (TP 90) with some enhancements locked into the structure plan as well as tight controls on the maximum extent of earthworks that may be applied for in any one season and the area that may be open at any one time. Typical policies in the structure plan include:

- Control of sediment is to involve a limit on the area exposed at any one time (30 hectares total of bulk earthworks and permitted site works) across the whole of the structure plan area; as well as enhanced sediment control measures. Allocation of the 30 hectare limit between the upper and lower valley is to be on the basis of the proportion of likely total earth working within each area-as follows:
 - small scale site works are expected to amount to no more than two hectares in total across the whole structure plan area; and
 - no more than seven hectares of land may be exposed at any one time in the upper valley with no ability to exceed this limit in an earthworks season; and
 - up to 21 hectares may be exposed at any one time in the lower valley, with this extended to 28 hectares where the 7 hectare allocation for the upper valley has not been taken up in an earthworks season.
- Sediment and erosion control ponds and decanting earth bunds are to be installed prior to the earthworks and shall be sized as follows:
 - 300m³ volume per hectare of contributing catchments (3% volume)
 - 30% permanent water storage and 70% temporary storage.
- All sediment and erosion control ponds shall be flocculated (chemical treatment) in order to achieve greater efficiencies in retaining fine-grained sediment. Chemical treatment shall be applied as follows:
 - Automatic rainfall activated treatment of all sediment retention ponds for contributing catchments greater than 3000m² and decanting earth bunds with contributing catchments between 250m² – 3,000m² in area.
 - Batch application where testing of detention ponds after every rainfall event that has caused run off, indicates clarity of less than 50mm (measured vertically from the water surface).
 - Manual batch application of decanting earth bunds serving contributing catchments less than 250m² in area (2 hours settlement period prior to discharge).

Issues with Stage 1 Earthworks

The structure plan-endorsed, enhanced TP90 standards for sediment control worked well for most of the stage 1 contract and the contractor regularly achieved full compliance scores during routine compliance monitoring. However, sediment retention issues occurred on 19th December and the 23rd and 29th January 2011 following prolonged periods of wet weather.

In the 19th December 2010 event there was a breach of a bund alongside a clean water diversion drain and the displacement of a culvert joint which ultimately caused a sediment release into the Awaruku creek. This left a highly visible plume out to sea although a subsequent inter-tidal survey did not find any damage to the foreshore.

The second sediment release occurred after a prolonged wet period from around the 23rd January 2011 to 29th January 2011. The storm event from 28th to 29th January 2011 ranged in magnitude between a 1:5yr to a 1:10yr event based on rain gauges at Oteha and Awanohi. Saturated antecedent conditions and the fact that sediment retention ponds were already near full capacity at the start of the storm peak, resulted in one of the sediment retention ponds being overwhelmed and again a sediment release occurred. The proper functioning of the pond was further complicated by a storm surge and king tide.

Additional measures were proposed for the stage 2 earthworks to prevent sediment discharging into the aquatic environment during larger rainfall events. These included the provision of a second riser to double the primary spillway length, the installation of silt fence baffles on the floor of the silt ponds, additional flocculation measures and contingency plans in anticipation of forecasted, larger rainfall events.

Council officers acknowledge that the consent holder has invested heavily in ensuring good performance for the Stage 1 earthworks. They have been exemplary in complying with the consent conditions and managing the effects of their development processes to the best of their ability.

However, recent events have highlighted that current best practice erosion and sediment control practices are not foolproof and the council should use these lessons to update the former Auckland Regional Council's *Technical Publication No. 90, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region* (TP 90) which was published in March 1999. Such a review should consider different control practices for different receiving environments.

It is also timely to recommend to the Forum that further emphasis be placed on monitoring the implementation outcomes of the Long Bay Structure Plan to assess the effectiveness of the environmental policies included in the structure plan to ensure that any shortcomings are identified and remedial action taken in a timely and effective manner.

Decision Making

A significant amount of money has been invested in the Long Bay Structure Plan to ensure that this unique and sensitive area is developed in a way that offers adequate protection to the environment both during construction activities and over the long term. There is also significant community interest in, and in some cases opposition to, the development of the structure plan area because of the perceived risks to the environment. The lessons learnt during the process should be capitalised on and, where appropriate, incorporated into best practice region-wide.

The recommendations contained within this report fall within the Forum's delegated authority. Ultimately, funding for recommendations (c) and (d) above will have to be prioritised and approved through the Long Term Plan (LTP) process.

Significance of Decision

That recommended changes to TP 90 will require higher standards of sediment control for developments that can potentially impact on sensitive receiving environments.

Consultation

In preparing this report the following teams have been consulted:

- Resource Consenting and Compliance
- Earthworks and Contaminated Land
- Research, Investigations and Monitoring

Local Board Views

It is proposed that this report be provided to the local board following consideration by the Environment and Sustainability Forum.

Financial and Resourcing Implications

In general, responsibility for the consenting, monitoring and compliance enforcement of earthworks activities rests with the Earthworks and Contaminated Land Team in Natural Resources and Specialist Input supported where necessary by local planning and compliance staff in the Resource Consents Department.

With respect to the specific matters referred to in this report there are no immediate financial or resourcing implications. Recommended enhancements to TP 90 and monitoring programmes will need to be considered as part of the LTP deliberations.

Legal and Legislative Implications

There are no legal and legislative implications arising from this report.

Implementation Issues

Regulatory Services will continue to monitor earthworks as per other development in the region. Subject to the Forum's support for the recommendations contained in this report, the Stormwater Unit will work with Research, Investigations and Monitoring to propose projects and funding for approval through the LTP process.

Attachments

No.	Title	Page
A	The Long Bay Monitoring Programme	14

Signatories

Authors	Ian Wallace, Acting Team Leader Stormwater Development
Authorisers	Matthew Davis, Manager Stormwater Development and Technical Services Grant Ockleston, Manager Stormwater Unit John Dragicevich, Manager Infrastructure and Environmental Services

The Long Bay Monitoring Programme

The Long Bay Monitoring Programme was established in 1998. Monitoring was initiated to determine whether the adverse effects of urban “green-field” development on coastal and freshwater environments were more than minor. Changes in the health of marine and freshwater communities are being monitored before, during, and after catchment development. Included in the programme are the aquatic resources within the freshwater and tidal stream reaches of the Vaughan and Awaruku catchments, and the marine resources along the foreshore of the regional park. Several control sites are also included in the programme to ensure that any changes detected can be attributed to land based activity rather than natural processes.

Overall objectives of the Long Bay monitoring programme are to:

- Measure pre-development physical, ecological and water quality baseline conditions for freshwater and saline receiving environments of Long Bay and comparative catchments.
- Monitor temporal trends in physical, ecological and water quality of freshwater and saline environments in the Long Bay catchment during and after urban development and contrast these with the trends observed at control sites and prior to development commencing.
- Identify opportunities to enhance stream systems and riparian zones as part of the development process.
- Detect changes in the level of sedimentation and in ecological community health associated with urban development in the Long Bay freshwater and marine receiving environments.

Specific objectives for the marine component include:

- Describe the marine communities of Long Bay relative to control sites and determine levels of spatial and temporal variability in species populations and community structure.
- Determine whether urban development affects the ecology of subtidal reefs in Long Bay.
- Determine the effectiveness of policy and land use management practices to protect the health of marine receiving environments.

Specific objectives for the freshwater component include:

- Describe the freshwater communities in streams of the Vaughan and Awaruku streams relative to control sites, and determine levels of spatial and temporal variability in species populations and community structure.
- Determine whether urban development affects the ecology of Vaughan Stream.
- Determine the effectiveness of policy and land use management practices to protect the health of Vaughan stream.

The marine component of the Long Bay programme is reported biannually. Reports include information on biological or physical changes within the reporting period, trend analysis, and descriptions of population and community structures at each site and in each habitat type. Information is disseminated through AC Technical Publications.

Monitoring Plan Results

Freshwater:

Water quality has been monitored in the lower Vaughan stream since 2001. The water quality index (WQI) for this site provides a three year average (2007, 2008 and 2009) of 57.7 (on a scale of 0 to 100). This puts the site 16th out of the 25 sites for which data is available for these 3 years. On the basis of this WQI, the site would be classified as having “fair” water quality.

The ecology of the lower and upper Vaughan stream has been monitored since 2004. The macroinvertebrate community index (MCI) for the upper Vaughn provides a three year average (2007, 2008 and 2009) of 118. This score puts the site 16th out of the 59 sites for which data is available for these three years. On the basis of this MCI, the site would be classified as having “good” ecology. The macroinvertebrate community index for the lower Vaughn provides a 3 year average (2007, 2008 & 2009) of 56. This score puts the site 56th out of the 59 sites for which data is available for these 3 years. On the basis of this MCI, the site would be classified as having “poor” ecology.

Stream flow is monitored in the lower Vaughan stream, as well as continuous measures of dissolved oxygen and temperature to better understand stream ecology.

Sub-tidal reefs:

Auckland Council monitors change over time in the numbers and types of organisms which live on shallow subtidal reefs at Long Bay. Subtidal reefs are also monitored at other Hauraki Gulf east coast locations including Waiwera, Stanmore Bay, Little Manly, Torbay and Campbells Bay. Ecological communities on subtidal reefs have remained relatively stable since monitoring began in 1998. The kelp *Ecklonia radiata* which provides an important source of food and habitat for a variety of other species increased across most sites. The reason for this increase is not currently known.

Sedimentation rates have been highly variable among Long Bay’s monitoring sites and over time. A lot of the sedimentation measured in sediment traps on the reefs is the result of nearby sands and sediments being remobilized during storms and deposited onto the monitored reefs as opposed to new sediment inputs.

This reef monitoring is designed to detect changes in ecological communities and in particular to understand the effects of urban development on ecological communities along this coast now and in the future. Intertidal rocky reef monitoring was initiated in 2011.

Sediment contamination:

One site in each of the estuarine areas of Vaughan and Awaruku streams have been monitored for grain size, a range of metals and Total Petroleum Hydrocarbons (TPHs) since 1999 (annually from 1999-2003, biannually from 2003-2007, resumed 2010). TPH is a term used for any mixture of hydrocarbons found in crude oil.

In general there have been low levels of metals and very low levels of TPH’s recorded in the estuarine area of Vaughan’s. The levels of metals recorded in Awaruku are more elevated, with slightly higher levels of TPH’s recorded in Awaruku on occasion. The Awaruku drains a more urbanised catchment which is a source of contaminants. Data up to 2007 is available on request. 2010 data will be available soon.

As part of Auckland Council’s regional sediment contaminant monitoring programme, one intertidal beach site adjacent to each of the stream outflows is monitored every two years for heavy metals and grain size (1999-2007, 2010). These sites were sampled for Polycyclic Aromatic Hydrocarbons (PAH’s) in 1999, 2001, 2005 and organochlorine pesticides in 2003 and 2007. PAH’s are by products from the burning of fossil fuels. In general there are low levels of metals, organochlorines and PAH’s at both beach sites.

Terrestrial biodiversity:

Several permanent plots designed to monitor changes in biodiversity in wetlands and coastal ecosystems have, or will be, established at Long Bay. These plots are designed to be part of a region wide network, rather than biodiversity changes at the local scale. Plot data is available on request

Air Land Water Coastal (CLAW) Unit Strategy and Workplan 2011/2012

File No.: CP2011/04338

Executive Summary

This report supports the Air Land Water Coastal Unit (CLAW) Strategy and Workplan, provided for information to the Environment and Sustainability Forum (see attached appendix for the full document). The CLAW Unit (within the Council's Environmental Strategy and Policy Department) is responsible for the development of integrated environmental strategy and policy that guide the management of air, land, water and coastal environments. These activities are important for achieving the Mayor's visions, but are also required under the Council's statutory responsibilities related to the Resource Management Act, Hauraki Gulf Marine Park Act, and National Standards and Policy statements.

The CLAW Strategy and Workplan is an internal document that sets a proposed pathway for the longer term aspirations and consequent short-term priorities for the Unit. It was generated through a two day workshop and subsequent consultation with interested internal and external parties across Council and Watercare Services Limited. The Strategy and Workplan will help to inform the Unit's contribution to the Auckland Plan and outlines certain policy initiatives to be taken forward to the Unitary and other Plans.

Recommendation/s

- a) That the report and Air, Land, Water, Coastal (CLAW) Strategy and Workplan be received.

Background

This report summarises the working draft Air, Land, Water, Coastal (CLAW) Strategy and Workplan.

The primary purpose of the document is to outline the CLAW Unit's initial strategy for developing policy for the protection, restoration and use of the natural and physical resources within Auckland. The role of the Unit is to ensure flexible and responsive identification of environmental management issues, analysis of options informed by a robust evidence base, and integrated management responses. The Unit is further responsible for maintaining close relationships across Council and with CCO's to ensure that these goals receive the appropriate implementation (statutory or non-statutory).

The strategic directions outlined in the CLAW Strategy and Workplan account for current and likely future policy initiatives, while acknowledging previous policy documents. They also stem from recent discussions and workshops with key stakeholders across Council and CCO's. The CLAW Unit will continue to take a collaborative attitude as this strategy develops.

Throughout the development of the strategy and policy, the significance of the natural and physical environment has been highlighted in achieving the Mayor's vision of the world's most liveable city.

Policy approaches which provide for social and cultural needs and support the economy and broader development also at the same time need to integrate the value of ecosystem functions, goods and services in order to sustain the natural environment. (Sections 3 and 4)

Important high level trends form a critical set of criteria against which policy should be checked, and include:

- a) **The widely signalled reduction in some resources** – there are opportunities to do more with less by thinking smarter about design, integration and reducing waste.
- b) **Anticipated climate changes** – forecast sea level rises and weather extremes could impact on natural environment and infrastructure and its management.
- c) **The projected increase in population within the Auckland Region to 2.1 million by 2040** – this will increase pressures on infrastructure and the environment.

Environmental strategy and policy is also driven by policy changes in the Resource Management Act (RMA) and the Mayor's initiated projects. The main requirements (Section 5) are summarised below:

- a. Regional integration and approaches
- b. Provision of robust priorities for protection and enhancement
- c. Establishing environmental best practice
- d. Enhanced and expanded policy decision making and approaches
- e. Developing economic and social outcomes which are built off, and sustain our environment

To achieve its goals the CLAW Unit will:

1. Seek a clear political mandate for the high level outcomes, goals and objectives in this document.
2. Develop, through consultation with key stakeholders, more detailed work plans and projects to deliver on approved outcomes.
3. Lead the development and implementation of strategies and policies through cross-Council and CCO collaboration.

The Strategy and Workplan will be used to guide the CLAW Unit workstreams and input to the Long Term Plan (LTP), Auckland Plan, the Unitary Plan and other statutory documents. It includes a strategic intent, overarching goals and major work areas to 2012.

Key Drivers

Ensuring that Auckland has a healthy environment is a fundamental component of achieving the Mayor's vision for Auckland as "the world's most liveable city", a place that has improving quality of life and puts children and young people first. Auckland has a unique and outstanding natural environment, which gives us a competitive advantage and point of difference amongst cities around the world.

We are custodians of our environment. Degraded environmental quality has adverse impacts on human health, ecosystems, productivity and amenity values. There are costs associated with reduced quality and resilience and, therefore, financial benefits to maintaining a healthy environment.

Actions to reduce emissions of contaminants and loss of habitat generally also contribute positively to the achievement of the Mayor's greenhouse gas emission reduction target and in mitigating against climate change.

Additionally, Auckland's economy depends upon it being perceived as a great place to visit, live and work and this is highly influenced by our clean, green image, of which good environmental quality is a key contributor.

Statutory Responsibilities

As a unitary authority the Auckland Council has statutory requirements under the Resource Management Act and needs to fulfill the requirements of both a territorial authority and a regional council. The Council gives effect to its responsibilities under the Act through the Auckland Regional Plan: Air, Land and Water, Regional Policy Statement, Regional Plan Coastal and district plans.

Additionally, the Council is required to meet national standards and regional targets for Auckland. This mandate is contained in the various National Policy Statements and National Environmental Standards.

CLAW Unit Strategic Intent and Overarching Goals

The following goals and major work streams define the Unit's strategic intent. In addition to the shared approaches, methods and tools identified (Section 7.1), further detail specific to the values and goals of the four environmental compartments is provided below and specific links to the major work areas for each team are provided.

Air Quality Management

The Council aims to improve air quality in the region by managing emissions from domestic, industrial and transport activities and reduce exposure to poor air quality. Action needs to be taken to reduce emissions (PM₁₀ and PM_{2.5} in particular) to protect human health. The strategy sets out the Air Quality Policy team's goals and actions towards improving the region's air quality. (Sections 7.2.1 and 7.2.2, pg. 8)

Land Management

Any activity on land has consequences on natural habitats and the state of the environment. Land activities often generate a range of contaminants that may be washed into stormwater networks and freshwater bodies. Therefore, appropriate land management is also important for reducing contamination of our freshwater and coastal environments

The location and frequency of natural hazards can affect where and how we develop. Climate changes are likely to influence weather-related processes and increase impacts from hazards and contaminants in the future. Policy will be developed from an understanding of natural processes and suitable management approaches to maintain the integrity of both the built and natural environments. (Sections 7.3.1 and 7.3.2, pg. 9)

Freshwater Management

Human interactions with water require the maintaining of a balance between development and the required or agreed value of water for environmental, economic, social and cultural outcomes. Hence consideration of the management of water is a substantive and integral component of regional policy and planning, and cost benefit considerations for expenditure on water management need to incorporate wider social and economic connections. (Sections 7.4.1 and 7.4.2, pg. 11)

Coastal Management

The coastal marine area comprises seventy percent of the region and the coast is an integral part of the identity and resource base of the region. Auckland is the only city in the world that sits in a marine park. Maintaining or enhancing the quality and life supporting capacity of the coast, while accommodating the needs of a rapidly growing city, is fundamental to the continued wellbeing of the regional community. In managing the coastal environment it is important that integration occurs between management of activities on the land and the effects these can have upon coastal and marine receiving environments. (Sections 7.4.1 and 7.4.2, pg. 11)

CLAW Unit Preliminary Priority Projects for Year 1 Business Plan

The consolidation under one Council for the region and the development of good working relationships with other units of Council and the CCOs will ensure that we progress the development of the required policy and tools to deliver on the above goals. The first step in every project will be to identify the key stakeholders and contributors and ensure that communication is central to all endeavours.

From a larger list some immediate priority projects have been selected to be started now and completed over the next 12 to 18 months. Major work areas are outlined above (see Section 7 of the CLAW Strategy and Workplan), and those not yet included below will also be progressively detailed as further priorities emerge from discussion with stakeholders and will be added to the business plan for this and the coming financial year. The five current projects below are provided in detail in Section 8.

1. Reduce levels of air contaminants from domestic home heating.
2. Protect water through enhanced land-use management.
3. Enhance and restore a high quality freshwater network.
4. Apply a marine spatial planning approach.
5. Develop Council's strategic direction to water infrastructure.

Decision Making

There is no decision making required for this report.

Significance of Decision

The activities detailed in this report do not trigger the Significance Policy.

Consultation

There has been considerable involvement from units across Council and input from Watercare Services during the development of the Strategy and Workplan.

Local Board Views

The CLAW Unit proposes to distribute the Strategy and Workplan to Local Boards for their information. The Unit presented similar issues and principles at a series of Natural Environment and Heritage Local Board cluster workshops in March and April 2011.

Financial and Resourcing Implications

There are no direct financial and resourcing implications associated with this report. However, the timing for proceeding with many of these projects is dependent upon what is to be included in Unitary Plan work. A decision on this is likely at the end of August 2011. There may be budgetary and resourcing implications following this decision.

Legal and Legislative Implications

There are no legal implications from this report.

Implementation Issues

The Strategy and Workplan will be implemented through the CLAW Unit's activities and development and execution of a CLAW Unit Business Plan.

Attachments

No.	Title	Page
A	Air Land Water Coastal Unit (CLAW) Strategy and Workplan 2011/2012	

Signatories

Authors	Sarah Nutsford, Specialist – Water Management
Authorisers	Janet Peterson, Acting Manager Air Land Water Coastal Ludo Campbell-Reid, Manager Environmental Strategy and Policy Roger Blakeley, Chief Planning Officer

Air Quality Management in Auckland

File No.: CP2011/04339

Executive Summary

This report provides background information and accompanies a presentation to be made to the Environment and Sustainability Forum on air quality management in Auckland. The purpose of the presentation is to set out the main issues in Auckland with regard to air quality and highlight the key concerns. The report and presentation are also intended to be a precursor to a subsequent report which will outline recommended options for reducing air pollution. Additional information is also included in the Air Land Water Coastal (CLAW) Strategy and Workplan 2011/2012, also being presented at this Forum meeting.

For the urban area of Auckland in 2006, the health costs of air pollution from all sources are estimated to be at least \$727 million per annum. This health burden ranges from 1.16 million days being lost due to illness or poor health, through to approximately 730 premature deaths each year. The key sources of air pollution in Auckland are domestic heating, transport and industry. Of these, domestic home heating is the greatest contributor to particulate matter overall, but has received the least attention in terms of emissions reduction measures. It is also a source that the Council can control as part of its functions and duties. Therefore, domestic heating is an area that needs greater targeting by Council in order to improve air quality in the region and ensure the region meets the government's National Environmental Standards for Air Quality. The subsequent report to follow later in 2011 will set out a range of options for reducing emissions from domestic heating and a recommended approach that officers will seek endorsement of.

Recommendation/s

- a) That the report be received.

Background

Key Drivers

Ensuring that Auckland has clean air is a key component of achieving the Mayor's vision of Auckland as "the world's most liveable city", a place that has improving quality of life and puts children and young people first.

Degraded air quality has adverse impacts on human health, ecosystems and amenity values. There are costs associated with poor air quality and, therefore, financial benefits to maintaining clean air. Currently, health impacts from the levels of pollution in Auckland place a significant financial burden on individuals and the government (ultimately funded by taxpayers) in terms of health costs.

Actions to reduce emissions of air quality contaminants generally also have positive benefits in reducing CO₂ emissions and mitigating against climate change. Therefore, working to reduce emissions of air contaminants will have co-benefits in contributing to the achievement of the Mayor's greenhouse gas emission reduction target.

Additionally, Auckland's economy depends upon it being perceived as a great place to visit, live and work and this is highly influenced by our clean, green image, of which good air quality is a key contributor.

Issues and Challenges for Auckland

Air quality is a cross-cutting issue for the Auckland region as air quality is impacted on by many of the activities that Aucklanders do – the products they buy, the way they heat our homes, the way they travel.

The management of air quality is primarily a two-faceted approach that focuses on reducing emissions of air pollution and reducing the exposure of communities to this pollution, both of which can deliver improved outcomes in terms of health and quality of life, and reduced health costs.

Air quality does not only deal with harmful pollutants and health effects, however. People may also experience nuisance problems caused by dust, smoke or odour. This is particularly an issue on the rural/urban and industrial/residential fringe. With infill development, inner city apartments and rural-residential development reverse sensitivity has increasingly become an issue. Reverse sensitivity describes the effect whereby a new activity is established near to an existing activity, and then people associated with the new activity complain about the effect of the existing activity. For example, a house being built near a farm that creates odour with the home occupants subsequently complaining about the smell from the farm.

Many of the issues around air quality in Auckland can be addressed through effective land use and transport planning and the way that our city and homes are designed. Some of the key issues and challenges related to air quality in Auckland are set out below:

- Home Energy Use
A large number of homes in Auckland are cold, damp and energy consumptive. 60% of Auckland homes were built before 1978 (before the first insulation standard was introduced). Older homes are more likely to be cold, damp, mouldy, lack sun and have high emitting heating devices, (e.g. open fires) and poor insulation. For houses with solid fuel burning this leads to more use of those appliances to keep warm, and therefore greater emissions.
- Urban Form and Transport
Auckland has high levels of car ownership, a sprawling urban form and low levels of public transport usage, although this is increasing. Historically there has been insufficient integration between land use and transport, and development has been designed around and dominated by the car.
- Growing Vehicle Numbers and Use
There have been improvements in vehicle and fuel technology, and vehicles now have to meet minimum emission standards that are becoming progressively tighter. These factors will gradually reduce the emissions per vehicle. However, this reduction is being offset by the growth in vehicle numbers, increased number of kilometres driven and the increasing age of the vehicle fleet. In addition, Auckland has the one of the largest per capita ownership rates of private vehicles in the world with approximately 744,000 motor vehicles registered in the Auckland region. Our per capita emissions are also therefore very high.
- Rural Lifestyle
There has been continuing rural fragmentation with larger farms subdivided into lifestyle blocks and rural-residential sites. The urbanisation of the rural environment can impinge on the ability of rural activities to operate through the creation of issues of reverse sensitivity.
- Industrial Land Provision
There is a need to ensure that there is an adequate supply of land in suitable locations provided for industrial activities that will not lead to exposure and reverse sensitivity issues.

- Mixed Use Development

Provision of mixed use development whilst it achieves objectives around integrating transport and land use and minimising the need to travel, has caused problems in some locations with unintended consequences occurring due to incompatible activities being located in proximity to each other (e.g. schools or childcare centres in or near industrial zones).

Statutory Responsibilities

As a unitary authority, the Auckland Council has statutory requirements under the Resource Management Act and needs to fulfil the requirements of both a territorial authority and a regional council. The Council gives effect to its responsibilities under the RMA through the Auckland Regional Plan: Air, Land and Water, Regional Policy Statement, and district plans. Other statutory documents (e.g. the Regional Land Transport Strategy) that take into account effects on air quality are also prepared by the Council.

Additionally, the Council is required to meet national standards and regional targets for air quality in Auckland. In 2004, the government introduced the National Environmental Standards for Air Quality (AQNES). The AQNES prohibits certain activities and sets ambient (outdoor) air quality standards for some pollutants (PM₁₀, NO₂, O₃, SO₂ and CO) that are required to be met in all parts of New Zealand.

The primary purpose of the ambient air quality standards is to provide a guaranteed level of protection for the health of all New Zealanders. In Auckland, the standards for particulate matter of less than ten microns (PM₁₀) are regularly exceeded. This is a concern, as PM₁₀ is associated with adverse health impacts.

The government has recently adopted amendments to the AQNES which was set out in an earlier report to the Environment and Sustainability Forum in March 2011. Through the amendment process, the Ministry for the Environment signaled its intention to investigate adopting a national standard for PM_{2.5}, (particulate matter of 2.5 microns or less) which is likely to be developed in 2012. This is in recognition of the international focus moving towards PM_{2.5} due to the more damaging health effects of these finer particles. The finer particles can lodge deep into the lungs and include a variety of hazardous air pollutants attached to the particles. PM_{2.5} has been identified as an issue in the Auckland region. Regional Air Quality Targets are set out within the Auckland Regional Plan: Air, Land and Water and Auckland regularly fails to meet the target for PM_{2.5}, with 3 – 4 exceedences per year measured from 2005-2010.

What is the Air Quality Like in Auckland?

Air quality in the Auckland region is assessed through ongoing monitoring of pollutants and visibility. There are 15 monitoring sites which have been selected to represent a variety of pollutant sources and exposures. Monitoring sites are located in a mix of locations; urban, rural, industrial and near busy roads.

Levels of particulate matter in Auckland's air regularly exceed standards and guidelines including the government's National Environmental Standards for Air Quality. Nitrogen oxides also exceed standards and guidelines from time to time. In the Auckland urban area, air quality has failed to meet acceptable standards on average 16-17 times per year from 2005-2010. Auckland also suffers from a visible 'smoggy' brown haze on average 30 days a year. Other guidelines and targets are at risk of being exceeded, such as the arsenic, benzene and benzo(a)pyrene guidelines. This means that the air in Auckland is impacting on the health of its residents.

In order to meet these standards and targets and protect the amenity values of the city and the health of Aucklanders, the Council needs to take further action on reducing air pollution in the Auckland region.

Health Impacts of Auckland's Air Quality

Of all the gases and air pollutants in Auckland's air, the fine particle levels are currently of most concern and cause the worst health problems. The relationship between levels of PM₁₀ and excess death rates has been confirmed in 90 USA cities, 37 European cities and 8 Asian cities over the past decade. Hundreds of studies have confirmed links to various health effects and premature death. These studies have been extensively reviewed and the evidence supporting these relationships is overwhelming. Health effects have also been observed below guideline levels. The evidence is widely accepted as irrefutable by medical and air quality professionals around the world.

The presence of fine particles in air is linked to sickness and hospitalisation due to a wide range of health effects, including respiratory symptoms (coughing, wheezing, reduced lung function), bronchitis, chronic obstructive pulmonary disease, lung cancer, heart attacks, arteriosclerosis, strokes, high blood pressure, and asthma.

For the urban area of Auckland in 2006, the health costs of air pollution from all sources are estimated to be at least \$727 million per annum. This health burden results from effects ranging in severity from 1.16 million days being lost due to illness or poor health – especially in the young, the elderly, and people with heart disease, respiratory disease, asthma and bronchitis – through to at least 730 Aucklanders dying prematurely each year. The cost estimates for the entire region (including areas outside of urban centres) are even greater.

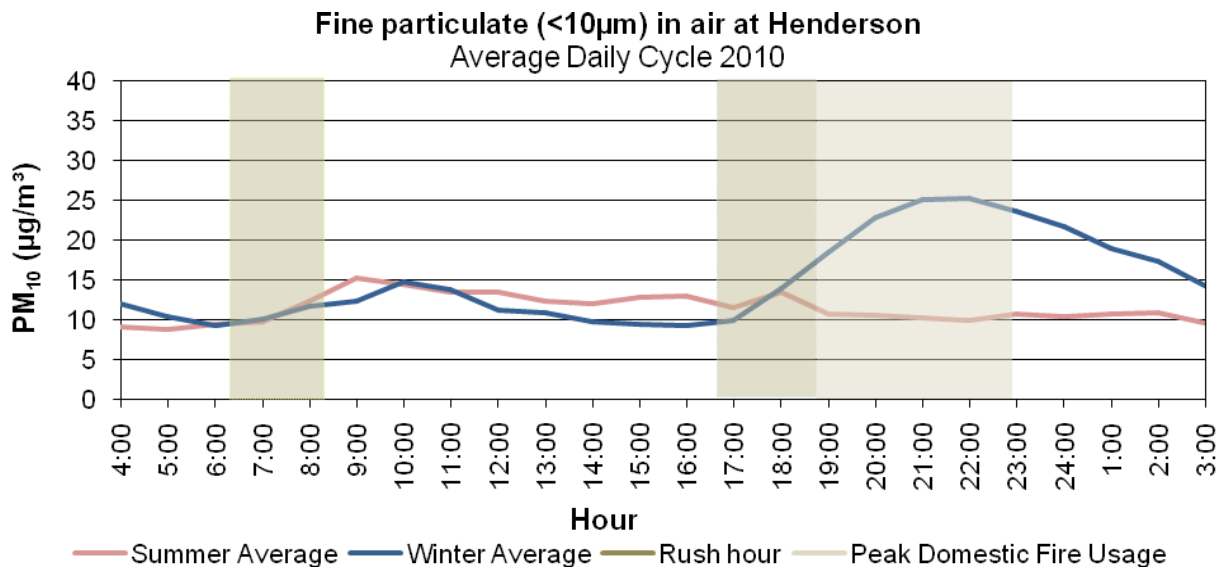
Asthmatics are particularly sensitive to air pollution and Auckland has the second highest rate in the world (behind the UK), with a prevalence of one child in four (25 per cent) and one adult in six (17 per cent). Asthma is the most common cause of hospitalisation in children and rates have more than doubled in the past 30 years. The cost of asthma in New Zealand is conservatively estimated at \$825 million per year, with \$125 million from direct medical expenses and \$700 million due to disability and premature deaths.

Although concentrations of some contaminants in the region are improving, others have levelled off or may even be increasing. Auckland is currently home to more than a third of New Zealand's population. Based on current projections, the region's population is estimated to increase from 1.3 million to 2.3 million people by 2051. One of the principal challenges posed by this expected population growth will be to minimise the effects of chronic air pollution as the number of people potentially exposed increases.

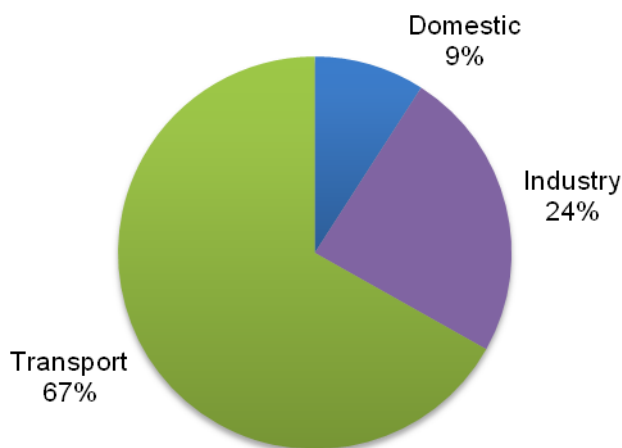
Sources of Emissions

In Auckland there are three main anthropogenic (human made) sources of air pollution - industry, transport and domestic heating. The transport sector is the predominant contributor to air pollution when taking into account all contaminants. However, in relation to particulate matter, which is the main issue for Auckland in terms of risk to health, domestic fires make the largest contribution to particulate matter emissions on an annual basis.

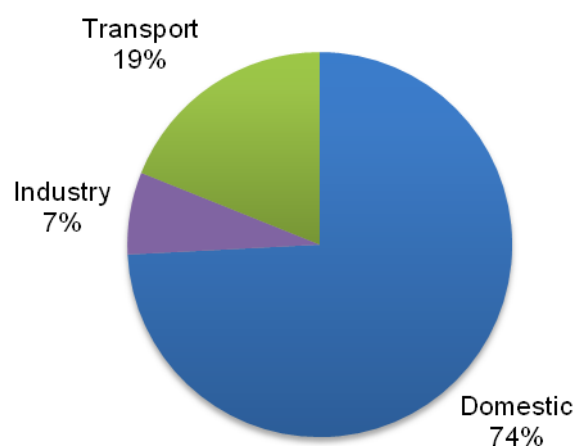
There is a large difference in levels of emissions in summer versus winter, with levels of PM₁₀ almost four times higher in winter than summer due to the emissions from domestic heating, as shown in the graphs below:



PM₁₀ (2006 Summer)
Total = 5.3 tonnes/day

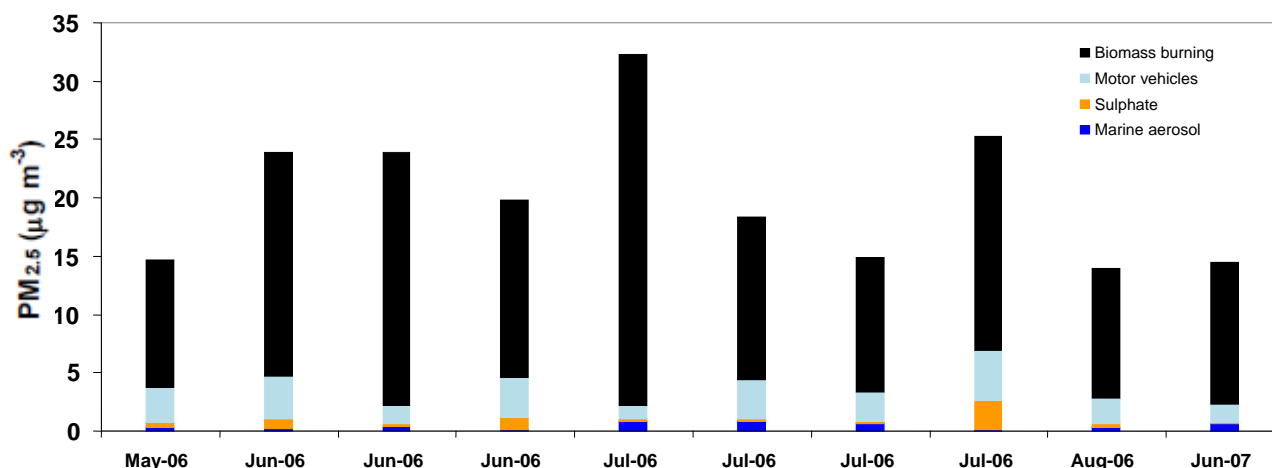


PM₁₀ (2006 Winter)
Total = 18.4 tonnes/day



It should be noted that on an annual basis the contributions of the three sources to PM₁₀ levels are comprised as follows: industry 14%, transport 37%, and domestic heating 49%.

The Council has undertaken monitoring work called “source apportionment” which measures the contribution of different sources of particulate matter, both natural and anthropogenic. This monitoring shows that on higher pollution days the most significant contributor to particulate levels was usually home heating (shown as biomass burning in the figure below).



Source contributions to peak Partisol PM_{2.5} concentrations at Kingsland

Since 2005, industry PM₁₀ emissions are estimated to have reduced by almost 10% and transport and domestic heating emissions are estimated to have reduced by 8% and 22% respectively. The reason that reductions are likely to have occurred without significant policy intervention from the Council is that in the case of transport, the government has continued to tighten fuel specifications, which means that fuel is less polluting over time and more modern (less polluting) vehicles are slowly replacing older vehicles. There is also a trend towards people heating their homes with electricity or gas. In the case of industry, technologies are improving and so some industrial processes are less polluting than in the past, and there have also been some industrial premises that have ceased operations recently.

Fortunately some emissions reductions have been achieved in recent years, however, emissions need to reduce more dramatically in order for the National Environmental Standards to be met and the health of Aucklanders protected, particularly as with increasing population growth, more people will be exposed to poor air quality. This means that further action needs to be taken to reduce air pollution in the Auckland region, particularly emissions of PM₁₀ from home heating.

National Standards for Air Quality

The Auckland urban airshed had an average of 5 exceedences of the standard occurring per year from 2005-2010, but the standard only allows for one exceedence per year. The difference in summer versus winter emissions affects exceedences, with more occurring in winter as seen in the table below:

Season	No. of exceedences of AQNES (2005 – 2010)
Spring	9
Summer	4
Autumn	5
Winter	14

The government has set a timeline whereby Auckland needs to achieve a maximum of one exceedence per year by 1 September 2016, a level that we are currently not on track to deliver.

The Ministry for the Environment is in the process of developing an AQNES compliance strategy for councils. This sets out the obligations that councils have in terms of demonstrating that they are taking steps to meet the standards (if they are in breach of the standards). Though the mechanisms to be used by the Ministry are not yet defined, they have clearly signalled their intention to apply increasing pressure to councils that are not making sufficient efforts to meet the standards. There are likely to be additional reporting requirements for councils that breach the standard and therefore the Auckland Council will need to be able to demonstrate that it is taking steps to improve air quality in the region.

Initiatives Taken

Over the last decade there have been various initiatives taken by both regional and central government to address air quality. The following sets out the initiatives that have been taken to reduce emissions from transport, domestic heating and industry:

1. Transport

Cleaner fuels

- Banning lead in petrol
- Reducing sulphur in petrol and diesel
- Reducing benzene in petrol

Cleaner vehicles

- Restricting the age of used imports
- Requiring all light and heavy duty vehicles to meet emission standards
- 10 second rule
- 5 second WOF visible smoke check
- Vehicle scrappage trial
- Exhaust emissions rule

Awareness raising

- 0800 Smokey campaign
- On road testing

Demand management

- School and workplace sustainable travel initiatives
- New Zealand Transport Strategy
- Regional Land Transport Strategy
- Regional Growth Strategy
- Public and sustainable transport investment:
 - North Shore busway
 - Park and Ride
 - Britomart
 - Train network expansion and upgrades
 - High Occupancy Vehicle lanes
 - Cycle lanes

Other

- Ramp metering on motorways
- Working with Auckland Transport (formerly ARTA) to reduce emissions from buses

2. Domestic Heating

Regulation

- Auckland Regional Plan: Air, Land and Water
 - restricts installation of new appliances to those that meet an emissions limit of 4g/kg (excluding rural areas). This effectively bans new open fires or solid fuel burners that use coal in the urban area
 - banning burning of “treated” wood/waste
 - banning burning of “dirty” fuels, e.g. coal with sulphur content > 0.5wt% or wood with moisture content >25%
- Air Quality National Environmental Standards
 - requiring all new woodburners installed anywhere on properties up to 2 hectares (20,000 m²) in size, to emit no more than 1.5 g PM₁₀ per kg fuel

Education

- Education campaign with information pamphlets distributed with best practice advice on woodburner operation, domestic fire rules and health benefits from insulation
- National list of authorised woodburners

Incentive scheme

- Retrofit Your Home programme
- WarmUp New Zealand programme – government home insulation and clean heat retrofit scheme

3. Industry

Regulation

- Continued application of best practicable option through consenting
- Total site emissions capped through consent condition

Policy

- Preliminary scoping of industrial emissions “cap” methodology
- AQNES offset requirements for new industry (to be implemented in future by Council)

Air Quality Current Work

The following sets out the key work that the Air Quality Policy team is involved with in 2011 to manage air quality in Auckland and meet our statutory obligations. Further detail on other work is set out in the CLAW Strategy and Workplan 2011/2012, which is being presented at this Forum meeting.

Domestic Fire Emissions

In light of the significant contribution that domestic heating plays in particulate emissions, more effort needs to be directed towards reducing these emissions. As set out above, winter emissions of PM₁₀ and PM_{2.5} are almost four times higher than summer levels due to domestic heating, and many of the exceedences of the standard occur in winter. This means that if the Council is going to reduce pollution and health costs and meet standards and guidelines, tackling domestic heating emissions must be a priority.

There are a number of policy options for reducing domestic heating emissions which have been identified through looking at best practice and successful initiatives in other regions. Officers will be testing these options through a cost benefit analysis process in order to establish a preferred course of action.

Auckland Plan

The Auckland Plan will, to a certain extent, lock in the future air quality for Auckland. A key determinant of future air quality in the region will be the way that growth in the region is accommodated. Cleaner fuels and cleaner vehicles are not enough to address transport emissions. It is necessary for the distance travelled in vehicles to decrease (measured as vehicle kilometres travelled (VKT)). Currently, VKT in Auckland continues to rise on an annual basis. This is despite an increasing modal shift from the private car to public transport and active transport modes.

A compact city scenario is likely to reduce the emissions from transport through a reduction in VKT, whereas greenfield growth on the periphery of the urban area would be likely to give rise to increasing transport emissions. Effort is being made by officers through the spatial plan process to highlight the policy direction that will need to be taken to ensure that air quality in Auckland does not deteriorate through a continued increase in emissions.

Unitary Plan

The Air Quality Policy team is analysing the different approaches that have been used to manage air quality through land use planning by the legacy territorial authorities in their District Plans. They will be looking to identify what constitutes best practice and to have this approach incorporated into the Unitary Plan. Particular areas of concern, which will be sought to be addressed through the development of the Unitary Plan, are issues of exposure and reverse sensitivity.

Conclusion

The key sources of air pollution in Auckland are domestic heating, transport and industry. Approximately half of all particulate emissions on an annual basis arise from Auckland residents burning wood to heat their homes. Levels are sufficiently high that Auckland fails to meet the government's national environmental standards for air quality (for PM₁₀) and the Council's own regional targets for PM_{2.5}, both of which were set to protect human health. The health costs of particulate pollution levels in Auckland are estimated to cause over 700 premature deaths per year and over \$700 million dollars in health costs. Therefore, due to the significant part that these emissions play in adverse health effects, smoggy air and exceeding the government's standard, reducing these emissions should be targeted as a priority.

Decision Making

This report does not trigger the Significance Policy and, as the report and presentation are for information purposes, there will not be impacts on the community arising from the report.

Significance of Decision

This report does not trigger the Significance Policy and as the report is for information purposes, there will not be impacts on the community arising from the report.

Consultation

No consultation has been undertaken in relation to this report as it is for information purposes only.

Local Board Views

The Local Boards have been sent a copy of this report and presentation. Their views have not been sought, however, due to the report being for information purposes and no policy decision is required.

Financial and Resourcing Implications

There are no financial implications arising from this report.

Legal and Legislative Implications

There are no legal implications. There are legislative implications, as the Council is required to manage air quality under the government's National Environmental Standards for Air Quality (AQNES). The AQNES requires that certain standards are met for air contaminants. The Auckland urban region exceeds the standard for particulate matter at times. Developing options to reduce emissions of particulate matter with the aim of meeting the AQNES will enable the Council to fulfil its statutory obligations under the AQNES.

Implementation Issues

There are no implementation issues associated with this report.

Attachments

There are no attachments for this report.

Signatories

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Rugby World Cup Sustainability Initiatives

File No.: CP2011/04333

Executive Summary

A presentation will be given in response to a request from Councillor Walker and the Deputy Mayor that Rugby World Cup 2011 (RWC 2011) environmental sustainability initiatives be reported to Auckland Council's July Environment and Sustainability Forum.

Auckland is taking a number of steps to reduce the environmental impact of the Tournament. Auckland's environmental programme was developed from a risk based approach that identified priority areas where Auckland, as a region, has the potential to make a positive contribution to environmental sustainability. As a result of this approach, the four areas of priority focus in Auckland are waste, transport, energy and procurement. This presentation outlines and explains the objectives, measures and actions for each of these priority areas.

Nick Clarke, RWC 2011 Project Officer, Operations and Logistics, ATEED will be in attendance.

Recommendation

- a) That the report be received.

Attachments

There are no attachments for this report.

Signatories

Authors	Warwick McNaughton, Governance Support Manager
Authorisers	

Energy Management

File No.: CP2011/04180

Executive Summary

This report is to provide an update to the Environment and Sustainability Forum on the energy management initiatives council has underway in its own facilities. No decision making is required by the Forum.

Auckland Council has inherited around 1,800 electricity and gas accounts from the legacy councils, excluding Council Controlled Organisations (CCOs). These accounts represent a significant opportunity through good management to identify considerable savings, with reduced operational costs of council facilities, and reduced downstream impacts such as green house gas emissions.

A number of priority work streams have been identified to improve efficiency of energy management use. In summary these are:

- Establishment of an energy and utilities data management service
- Installation of specific metering systems in over 50 council sites where energy spend is high, to provide real time utility use data to site managers to assist them to increase efficiency of utility use (water and energy)
- Staff engagement, education and participation programmes on energy management.

The improved information, as well as expert advice and action by property managers is expected to achieve a minimum of 10% saving in electricity use (Council has set itself a target of 15%).

An Energy Manager will join the Property Department in July, and once the priority work areas outlined above have been established, a key responsibility of this role will be to establish a long-term energy management programme for all of Council, which will provide greater strategic direction on energy management.

Recommendation/s

- a) That the report be received.

Background

Auckland Council holds 1,770 electricity and 52 gas accounts. Efficient energy management can result in significant savings to council, and council has set a target reduction of 15% over the next three years. For the Council, electricity and gas usage are areas where Council can manage use, and accurately report savings, to provide leadership in achieving this target.

In order to achieve this target, a number of energy management initiatives will need to be implemented; these can be broadly categorised as providing improved information about utility use to the people who can significantly influence the management of facilities, and provide improved information to staff about how their activities influence energy use in general. The initiatives are to collect and disseminate information and include a utilities data management service (including bill verification), real time metering equipment, working with site managers to implement efficiency initiatives and encouraging staff participation.

Over 50 sites have been identified and Council will install real-time meters. This will provide instant information to the energy and site managers on electricity consumption, and is supported by KPIs for each facility type as well as expert advice. The Energy Efficiency and Conservation Authority (EECA) will pay up to a 50% subsidy on the capital and installation cost, to assist sites in achieving reductions in energy use.

The real-time monitoring equipment and system will provide the following functions:

- Provide real-time data on utility use, and a specific alert function, immediately alerting building managers to problems (such as plant remaining on over night when it should switch off)
- Provide instant data on the outcome of maintenance activities (i.e. whether they have been effective)
- Identify individual loads in buildings allowing targeted maintenance and identification of where wastage is occurring (e.g. plant, lighting, HVAC, floors, functions)
- Guide spending on maintenance budgets, by providing information which can allocate spending to inefficient facilities
- Provide for automatic on-billing of tenants in Council properties
- Set up alarms around new benchmarks to ensure savings are sustained
- Monitor water and gas use in addition to electricity.

This will assist Council's Energy Manager to identify the most effective opportunities, in terms of location and methodology, for reducing energy, gas and water usage and costs. Addressing these opportunities will reduce electricity usage by an estimated 15% - 25% per site.

The real time meters, and bill verification systems, will also allow improved monitoring and management of water. The potential savings from efficient use of water within Council will be through:

- Identifying opportunities for water efficient management practices (pools, irrigation) and for asset replacement (taps, toilets, showers, irrigation)
- Providing up to date information to site managers about water use.

The Manager Sustainability recently called for 'sustainability champions' within the Council to create a virtual network to support the roll out of internal sustainability initiatives. Over 150 staff have indicated their interest, which exceeded the expectations of the sustainability team. The sustainability champions will play an important role in helping develop a communications programme, and to educate staff on energy efficiency actions that can be undertaken as the energy management programme is launched.

The role of the Energy Manager will be to champion and support the use of the information for efficient building and facility operation and assist council contractors to deliver energy savings.

Energy and water savings will be achieved through staff engagement, interaction between Council and CCOs for energy management and implementation of best practice across the wider Council family.

Decision Making

The report has been provided for information and is not seeking a decision.

Significance of Decision

The report has been provided for information and is not seeking a decision.

Consultation

Consultation was not required in the preparation of this report.

Local Board Views

Consultation was not required in the preparation of this report.

Financial and Resourcing Implications

From 2012, significant reductions in electricity usage are expected, as well as reductions in gas and water use, this will result in the targeted savings of 15% over the next three years.

Legal and Legislative Implications

There are no legal and legislative implications arising from this report.

Implementation Issues

There are no implementation issues arising from this report.

Attachments

There are no attachments for this report.

Signatories

Authors	Paul Chambers, Manager Sustainability, Strategy and Planning, Property Department
Authorisers	Gregory Heap , Manager Strategy and Planning, Property Department Ludo Campbell-Reid: Environmental Strategy and Policy Manager

Report from the Manager Air Land Water Coastal, Environmental Strategy & Policy Department

File No.: CP2011/04289

Executive Summary

This report briefly updates the Forum on a range of issues and progress on existing work programmes. Any matters that the Forum requires further information or action on can be reported to the next meeting.

Recommendation/s

That the report be received.

Background

General Air Land Water Coastal Activities

- Significant workload associated with reviewing submissions to the draft Annual Plan.
- Analysis and input of information into the four growth scenarios being developed for the Auckland Plan.
- Meeting with the Unitary Plan team to discuss policy development that is being flagged in the Auckland Plan and needs to be developed further through the Unitary Plan.

Air Quality

Highlights & Achievements

- Draft reports have been received regarding air quality buffer distances from industry and major transport or freight routes, and for management options in relation to emissions from port activities.

Key Focus for the Month

- Reviewing rules relating to air quality in existing District Plans to consider how to consolidate those rules into the future Unitary Plan. Planning for input into the Unitary Plan.
- Working on a proposed strategy to reduce emissions of PM₁₀ in Auckland.

Land Management

Highlights & Achievements

- The Ministry for the Environment have released a second draft on the Proposed National Environmental Standard for Plantation Forestry and staff have provided informal feedback on the addition of erosion susceptibility areas.
- Presented a paper to the Environment and Sustainability Committee providing background on the issue of the management of the release of genetically modified organisms (GMOs) into the Auckland environment, which sought direction on the Auckland Council's future involvement with the Inter Council Working Party on Genetically Modified Organisms Risk Evaluation and Management Options (ICWP).
- Processed submissions on 'Auckland Unleashed' (Auckland Plan) related to land management, contaminated land, and natural hazards.
- Developing project plans for the development of strategy and policy for: sediment and nutrient management, contaminated land, hazardous substances, genetically modified organisms, restoration of lowland terrestrial ecosystems, flood hazard management, land instability

management, coastal hazard management (inundation, instability and erosion), and infrequent hazards (tsunami, volcanic eruption, earthquake and liquefaction).

Key Focus for the Month

- Finalising input into the Draft Auckland (Spatial) Plan.
- Developing strategy and policy for land and natural hazard management for input into the Auckland Unitary Plan.

Water Management

Highlights & Achievements

- Meeting with the Unitary Plan team to discuss existing policy and plans and how they are incorporated into the Unitary Plan.
- Presented to the Environment and Sustainability Forum on the National Policy Statement on Freshwater and what that could mean for Council policy and plans.
- Development of a framework to develop policy for water management in Auckland. This will be completed in July.
- Hosted Hans Schreier, water expert from Vancouver, who gave a half-day workshop for Council staff, presented at a lunchtime learning, and got a large turnout and very favourable feedback from an Auckland Conversation.
- Contributed to the assessment of the Drury South proposed private plan change through input on hazards through flooding, ecological sensitivity and discussion at a site visit.

Key Focus for the Month

- The Water team has overseen and collated the Unit and Natural Heritage input into the Auckland through developing the People and Environment Chapter, developing the spatial layers relating to ecological sensitivity and natural hazards, and having input into the differentiation of the rural landscape for rural activities.
- Meeting with the Unitary Plan team to discuss policy development that is being flagged in the Auckland Plan and needs to be developed further through the Unitary Plan.

Coastal Management

Highlights & Achievements

- Completed assessment of options for Coastal Plan and Unitary Plan integration, recommendations provided in a report for Unitary Plan steering group and political working party consideration during June/July.
- Continued scoping of possible approaches to marine spatial planning, including reporting to the Environment and Sustainability Forum and working with Waikato Regional Council, Hauraki Gulf Forum, Environmental Defence Society, Integrated Kaipara Harbour Management Group, Department of Conservation, and other parties.
- Contributed coastal elements (text and maps) to the drafting of the Auckland Plan 'people and environment' chapter, attended integration meetings, provided an assessment of possible growth scenarios against potential coastal effects, and processed submissions on 'Auckland Unleashed' related to coastal issues.
- Arranged for the Integrated Kaipara Harbour Management Group presentation to an Auckland Future Vision Committee workshop and attended IKHMG steering group meetings.
- Continued to contribute to the Council's internal revision of its 'Safe Swim' bathing water quality monitoring programme and to the Major Projects Design Review Team assessment of Tamaki Drive roading upgrade.
- Provided ongoing input to the DoC NZCPS (2010) implementation steering group.

- Co-ordinated the Council's policy and planning contribution to the constituent party report in the Hauraki Gulf Forum's agenda; attended the technical officer group meetings and the Forum meeting.

Key Focus for the Month

- Obtaining steering group and political working party resolution of the relationship between Coastal Plan and Unitary Plan and subsequently completing a proposed work programme required to deliver the necessary output.
- Continuing scoping of possible marine spatial planning approaches for reporting back to the Forum.
- Continuing preliminary aquaculture project scoping work.
- Obtaining feedback on mangrove management options paper from the Local Boards (to be reported to the Forum once feedback has been received and taken into account).
- Remain in contact with the government's Aquaculture Unit and continue broad scoping of possible coastal plan policy response options in preparation for the anticipated enactment (spring/summer 2011) of changes to legislation controlling aquaculture. Approval of any recommended work programme will be sought in future reports to the Forum/Committee.

Decision Making

This is not an item for decision.

Significance of Decision

The activities detailed in this report do not trigger the Significance Policy.

Consultation

No consultation was required for the preparation of this report.

Local Board Views

This item is for information only. No Local Board input is required.

Financial and Resourcing Implications

All programmes and activities are within budget / in line with the legacy council annual plans and LTCCP documents.

Legal and Legislative Implications

There are no legal or legislative implications arising from the activities detailed in this report.

Implementation Issues

There are no implementation issues associated with this report.

Attachments

There are no attachments for this report.

Signatories

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Report from the Manager Infrastructure & Environmental Services

File No.: CP2011/04337

Executive Summary

This report has been written to briefly update the Forum on a range of issues and progress on the Forum's work programme. Any matters that the Forum requires further information or action can be reported to the next meeting.

Recommendation

- a) That the report be received.

Background

The Environmental Services Unit (ESU), Stormwater Unit (SWU) and Solid Waste Business Unit (SWBU) all sit within the Infrastructure and Environmental Services Department. These operational units deliver programmes, projects and technical advisory services that contribute to the protection, conservation and enhancement of the region's natural, built and cultural resources, identification and management of contaminated land and coastal erosion risks, the delivery of community engagement and environmental sustainability programmes (ESU); the operation and maintenance of the stormwater system, catchment planning and asset management, and the delivery of the primary capital works program (SWU); and the management of the region's kerbside domestic refuse, recycling, hazardous and inorganic waste, public litter bins and loose litter cleaning, the management of transfer stations and Claris landfill, and the development and delivery of waste minimisation and cleaner production initiatives.

The current work programmes for the activities of these three units which fall within the delegations of the Environment and Sustainability Forum are detailed below.

Environmental Programmes

Highlights and Achievements

Environmental Education Programmes

- 2,764 students, 104 teachers and 301 parents from 41 schools made 55 school visits to regional parks as part of the Learning Through Experience programme this month.
- 96 secondary school students participated in the "Sustainability Challenge" day, an adventure race incorporating sustainability challenges. This innovative event designed by Environmental Education team members with Regional Park Rangers will be repeated in Northern Parks and modified for primary students.
- Ninety two facilitation visits to Enviroschools were undertaken in June and one cluster meeting in Takapuna was held with 14 participants. 28 teachers from 17 schools took part in a Kaitiakitanga workshop. The host school provided a good example of successful integration and respect for Maori traditions and Te Reo. Positive feedback was received.
- The University of Auckland continued its research into how young people have changed as a result of participation in the Make a Difference programme with surveys sent to 100 programme participants. Planning for MAD marine 2012 is underway with DOC and a potential new partner, WWF. "Conscious Consumerism" workshops, initiated by a MAD student, were delivered in one North Shore school.

- 'Trees for Survival' – planting programme underway for this season, 33 school plantings completed to date (approximately 27,000 plants).

Community engagement programmes

- All of the environmental and heritage funding schemes re-opened for applications on 1 June to significant interest - more than 150 phone calls and emails in 3 weeks. Processes supporting local board decision-making on grants are being developed for the first 'decision' meetings in September.
- Work continues in preparation for the regional rollout of the Retrofit Your Home programme with approximately 165 enquiries this month from homeowners wishing to participate.

Sustainable Catchments Programme

- Work in the Hoteo catchment continues to align action projects, strengthen community engagement and increase understanding of the catchment. This includes Conservation Volunteers NZ and Fonterra who are both investigating the development of their "Catchment Care" programmes in the Hoteo. AgResearch and NIWA have both indicated strong interest in strengthening their involvement in Hoteo through their research projects. This includes a project investigating catchment economic modelling – the model aims to provide landowners with cost/benefit information of various land use interventions. The Integrated Kaipara Harbour Management Group has identified a site in the Hoteo as one of its four flagship projects showcasing good practice to be used to educate/motivate other landowners.
- Fifty people attended the first Mahurangi Forum for the year. The meeting included presentations from Mahurangi College, a local landowner and the community presentation prepared for the Council's Environment and Sustainability Forum. A public planting day on a Mahurangi landowner's property resulted in 300 plants in the ground.

Project Twin Streams

- Two significant Maori carvings on the Opanuku Stream were 'opened' and blessed this month. They were carved by local master carver Whare Thompson who worked closely with students from nearby Henderson High School (who have adopted this part of the stream). Their teacher acknowledged that the opportunity for students to engage so directly with traditional values and processes is one many are unlikely to experience again in their lifetimes. One of the carvings *Haumia tike tike* (the god of uncultivated foods), was carved from a totara that had fallen over the stream.

Key Focus for July

- Finalising service planning for all groups, including Activity Management Plans for start of LTP process
- Review of all draft Local Board Plans to align service delivery plans

Stormwater

- The draft Stormwater Unit Implementation Plan was presented to the Environment and Sustainability Forum. Feedback will be collected from the Forum, Local Boards and others for incorporation into a final version scheduled for December.

- A report on a catchment approach and existing priority catchments was presented to the Environment and Sustainability Forum. Officers are to report back in September on priority catchments for the Stormwater Unit and the catchment programmes within the Environmental Services Unit.
- The Stormwater Unit and Watercare held its first governance meeting under the Detailed Partnership Agreement to ensure co-ordination and service provision to the region. It resolved to meet quarterly and to establish three working groups: (1) Planning, (2) Operations and (3) Central Interceptor. The Planning and Central Interceptor working groups held meetings in June.

Highlights and achievements

Catchment and Asset Management Planning Team

- Good progress on Long Term Plan cost estimates for the Stormwater Unit continues.
- Proposed regional levels of service were assessed.
- Regional key asset classes and unit rate costs were developed.

Development and Technical Services

- Two industry training courses were held in June: Plan Preparers and Plan Implementation for sediment management.

Operations

- Responded to 717 requests for service in June, exceeding the KPI of 80% at 97% for urgent requests and 99% for non urgent requests.
- Review of operations and maintenance manuals commenced with the objective of consolidating into a regional operations and maintenance manual in 2011/12.
- \$100,000 savings was achieved in negotiated operations contracts for 2011/2012
- Received five written compliments for customer service.

Focus for July

Catchment and Asset Management Planning Team

- Central city – conceptual stormwater options to be identified and communicated to Watercare for consideration in its Central Interceptor project.
- Aquifer study – complete review of soakage projects in the central city.
- Identify input need to LPT
- Flood hazard mapping development in Meola, CBD, Mission Bay in the South region to continue.
- Watercourse Management Plans to be scoped- (Whau, Newmarket, Khoi, Mission, Cox's and Tamaki North streams).
- ICMP development continues in the Whau and Puhinui areas.
- Complete the first draft of the Stormwater Asset Management Plan.

Development and Technical Services

- Undertake wider stakeholder consultation of the Draft *Stormwater Unit Implementation Plan*.
- Undertake the student Low Impact Design Competition Prize Giving with the University of Auckland. Cr Walker will present the awards, while there is a guest speaker from the Waterfront Development Agency.
- Undertake preparation for the Hold annual Auckland Council stormwater seminar, opened by Mayor Len Brown and Cr Walker.
- The collaboration with NZTA on assessment of three proprietary filter devices was extended for another year.

Projects

- Finalise 2011/12 Stormwater projects programme.
- Improve Health and Safety standards in the field.

Operations

- Award soakhole contract.
- Formalise regional response arrangements with suppliers.

Business Support

- Year-end financial management and reporting.

Solid Waste

Highlights and achievements

Strategic Projects

- Successful regional workshops held with Local Boards to discuss key issues that will inform the content of the draft Waste Management and Minimisation Plan. Separate session undertaken to discuss issues pertaining to geographically remote areas.

Waste Minimisation

- Conscious Consumer, a Waste Minimisation programme won the Green Ribbon Award for the Waste Minimisation Category this month. The launch event was attended by about 80 people (including Deputy Mayor and Local Board Members).
- 34 schools and community groups (a total of 928 visitors) visited the Waste Minimisation Learning Centre and the Visy Recycling Education Centre in June.

Operations

- The Central area's inorganic collection finished on 24 June 2011 after 19 weeks of collections. All areas were completed on time, with key efficiencies gained by using the Waitakere Transfer Station as a disposal point for the first time.

Focus for July

Strategic Projects

- Continue engagement and receive feedback from Local Boards on the key issues that will inform the content of the draft Waste Management and Minimisation Plan.

- Drafting of the draft Waste Management and Minimisation Plan.

Waste Minimisation

- Continued recruitment of businesses in hospitality industry to the Conscious Consumer programme, and raising customer awareness of the programme over the next few months.
- A community based social marketing exercise to be undertaken in the Sandringham area to trial a number of litter reduction strategies with the local community.

Operations

- Finalising the Waste Strategy for the Rugby World Cup 2011 as required as part of the first 100 days initiative programme.
- Continue to work with Parks and Transport to develop the schedules for the procurement plans required for work undertaken in the road corridor.

Decision Making

This is not an item for decision.

Significance of Decision

The activities detailed in this report do not trigger the Significance Policy.

Consultation

No consultation was required for the preparation of this report.

Local Board Views

No consultation with Local Boards was required for the preparation of this report. Individual items that make up the report will be reported directly to the relevant Local Boards as appropriate.

Financial and Resourcing Implications

All programmes and activities are within budget / in line with the legacy council annual plans and LTCCP documents

Legal and Legislative Implications

There are no legal or legislative implications arising from the activities detailed in this report.

Implementation Issues

Attachments

There are no attachments for this report.

Signatories

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