St Lukes Environmental Protection Society Incorporated (STEPS)

Submission to Auckland City Council **on the application of Winstone Aggregates Ltd to** fill/ infill the Three Kings Quarry pit at 985 Mt. Eden Rd,Three Kings.

Submission by St Lukes Environmental Protection Society (STEPS)
c/- Pat Prescott and Elizabeth Walker
33 Fergusson Ave,
Mt Albert 1025.

OUR ENVIRONMENTAL CONCERNS.

STEPS opposes this resource consent application for the reasons outlined below.

1. We believe that there is inadequate provision or recognition by the applicant in the resource consent or the background information of the need to enhance the Natural Resources in the local area that will be impacted by the proposal. In particular we think that there should be better recognition of :

    a) The large aquifer, the head of which is at Three Kings (Refer Appendix 2)
    b) Meola Creek – is one of only 5 publicly owned creeks in Auckland City.
    c) Oakley Creek – another of the publicly owned creeks in Auckland City
    d) Three Kings volcanic cones – which have been quarried by Winstones for many years.

    All these irreplaceable natural resources must be enhanced, not damaged by development proposals. We submit that the proposal of WInstone Aggregates will have a detrimental impact on the already fragile nature of the upper reaches of Meola Creek, the above resources, and on marine life and the environmental values of Meola Estuary/ Waitemata Harbour.

2. There is inadequate provision or recognition by the applicant in the resource consent or the background information of the need to manage water retention and aquifer recharge in the Meola and Oakley Catchment areas.

    A major problem of Meola Creek is LOW base flow. This is because:
    a) Winstones are depleting the aquifer by pumping large volumes of water out of the quarry away from Waitemata and its natural catchment, over the hill, and into Manukau Harbour.
    b) increasing high density development and impermeable surfaces (such as concrete) prevent natural aquifer recharge.

    We have a major concern about the continued pumping to remove water from the aquifer, which we will refer to as “Three Kings Aquifer”. It is also known as the “Western Springs Aquifer” and the “Meola Catchment Aquifer” (se Appendix 4C4). Its approximate location is shown in the District Plan Annexure attached here in Appendix 4H2. We understand the applicant has an existing resource consent to pump water from the Three Kings Aquifer until

2030 and has indicated the company wishes to continue pumping to maintain low water levels indefinitely. We also understand from a recent public meeting that the dewatering /subsidence zone covers some 10 sq km, affecting more than 10,000 properties. Significantly, the pumping operation diminishes the natural flow to recipient streams, springs and lakes including Meola Creek and Oakley Creek.

3. STEPS is also concerned about the impact on water quality, and contamination of the quarry pit and Three Kings Aquifer. There is no provision to construct an impermeable layer in the pit. This is essential to protect the Three Kings Aquifer from contaminants brought in with fill from numerous and varied sources. Contamination has the potential to irreparably damage the ecological structure of the aquifer and its dependant urban springs, lakes and creeks; and to degrade the quality of water.

   Firstly, leaching from any contaminated fill has the potential to last many, many years eg heavy metals like lead from old house sites where lead based paints were almost universally used; or contaminated industrial sites, It is probable that old records in most cities are not 100% complete – so even with the best intentions, Winstones and Auckland City themselves cannot guarantee that any site (where fill is sourced) is uncontaminated.

   Further, we note that the time periods involved in aquifer recharge and cleansing are extended. The impact of any contamination would potentially last for several years. The aquifer cannot be "flushed clean".

   We note that past STEPS submissions on water quality and Meola Creek overflows relating to various developments adjacent to Meola creek have typically been ignored by RMA Commissioners. For that reason, and because accountability for water quality is complex, we have attached our understanding of the responsibilities for the quality of the water in Meola Creek (and the Aquifer) in "Background" below. Our conclusion has been that in the past, Auckland City RMA Commissioners have not seen that water quality is within their brief. Given that Auckland City has responsibility for water quality, STEPS requests the RMA Commisioners to consider water quality with the utmost seriousness, in accordance with both the spirit and the legal requirements of the RMA.

4. Wildlife Impacts: Local residents are concerned about the environmental effects of the superfine dust emanating from the fill on the surrounding birdlife and its adverse effects on fauna that live around the Three Kings Quarry.

5. Trucking Movements.The main roads concerned are Mt.Eden Rd and Mt Albert Rd, and the related intersection. The applicants' operation estimates there will be up to 745 truck movements a day on an already extremely busy road. This is a 5 fold traffic increase over the existing number of 140 trucks at peak times. It is over 1 truck per minute during a 12 hour day and more than one every 2 minutes over a 24 hour day.

We have appended more information to the submission to provide context for this submission

We request that the risks to future generations of Aucklanders from the likely contamination of the aquifer be realistically assessed. We note that while it may have been acceptable and even desirable to quarry Auckland isthmus volcanic cones when Winstones started doing business 145

years ago, technology, materials and society have changed, and the quality of the Auckland environment and its waters have been seriously degraded since then.

The information in background below shows that even in the past 15 years (since the RMA and the Auckland District Plan) actions by Winstones, Metrowater and ARC relating to the water supply have already been approved then reconsidered and changed. We believe it is necessary to review the operation again.

We ask whether there is a linkage with any other planned infrastructure project – such as Waterview tunnel? If so then the potential damage and long term risks caused from this fill operation should be reviewed in that context also. The challenge is how to gain a benefits for the Three Kings cones, the aquifer and Oakley/ Meola Creeks from the proposed fill operation.

If the council is of a mind to approve the resource consent application then we would like the following conditions to be imposed

a) we believe that a development of this scale should demonstrate efforts to manage storm water, waste water and the aquifer within the Meola Catchment, as part of the integrated Meola Catchment Management plan.
b) Protection of the unique Three Kings Aquifer system.
The applicant should install an impermeable membrane to the pit and pit walls, with a durability life of at least 50 years. Before commencing any infill operation this must be installed to the strictest international standards and best practice.
c) That pumping operations be reviewed. A long term study of pumping and its subsidence effects in the zone of influence, and its consequences downstream over a period of 100 years be commissioned before further pumping is permitted by the applicant. That current pumping operations cease until a satisfactory report is Is given to the territorial authorities.
d) Restitution, restoration, rehabilitation of the damaged slopes of the Big King cone, in violation of the Reserves and Volcanic Act 1915. We submit that the applicant has a duty to rectify this damage before commencing to fill the quarry pit.
e) Wildlife protection. The applicant is to complete an assessment of the environmental effects of the superfine dust emanating from the fill on the surrounding birdlife and its adverse effects on fauna that live in around the Three Kings Quarry. The applicant is to develop a plan that mitigates all harm to the fauna in and around the quarry precincts.
f) Trucking movements. That truck movements be limited to an increase of 50 per day (which is a 70% increase over current daily average), limiting truck movements to a peak of 190 per day. That the new entranceway proposal be refused and alternative access be developed from the existing entranceway by building a private roadway parallel with Mt. Eden Rd.
g) In relation to Financial Contributions/ Development Contributions we are opposed to any confidential discussions. We believe that the contribution from Winstones to the cost of off-site works should be part of the public realm and should reflect the relevant contribution requirements of the Council's Development Contribution policy. We believe the contributions should be in relation to:
    - Enhancement of Three Kings volcanic cones
    - Enhancement of Meola Creek, Oakley Creek and the underlying aquifer.

h) We also recommend that Winstones be required to demonstrate incorporation of low impact design principles in their plans, and recommend that they work with ARC and appropriate local authorities to achieve this. We need to be sure that Winstones has incorporated Low Impact Design principles, as an alternative to mitigating the negative environmental outcome that otherwise will inevitably result. (http://www.arc.govt.nz/auckland/low-impact-design/low-impact-design_home.cfm and http://cs.synergine.com/ has some successful case studies.)

We would look forward to proposals from Winstones as to how they plan to work with the community in enhancing and preserving these special areas – to acknowledge that they are in a very fragile ecological area, and to act responsibly towards the community and the environment.

We ask that the Council decline the resource consent application in its entirety for the reasons outlined above . If the Council chooses to grant the request we ask that the resource consent is amended in the manner specified in our submission.

We wish to be heard in support of our submission at the resource consent hearing.

Elizabeth Walker
STEPS

---------- Date 29 May 2009

St Lukes Environmental Protection Society Incorporated (STEPS)

Background

Situation – Meola Creek Upper Catchment

Meola Creek originates at the foot of Owairaka/ Mt Albert, and is fed by natural springs from the large aquifers which underly the Mt Albert/ Sandringham/ St Lukes/ Three Kings area. It flows from Haverstock Rd Mt Albert to the Waitemata harbour outlet at Meola Rd, Pt Chevalier, a distance of about 6km. Of this 6km, 79% is bounded by reserves.

Meola Catchment is bounded by Mt Eden Rd to the east, Mt Albert Rd to the Southwest, Carrington Rd to the west, and New North Rd to the northeast (Refer to map in Appendix 4H). The catchment has an area of 1576 ha and makes up about 10% of the surface area of Auckland isthmus. It is the largest single catchment in Auckland City. [Refer Integrated Catchment Study Stage 1D Water Quality Monitoring Report (Area 1) (Auckland City, Metrowater, 2004) pp2-3].

Meola Creek is owned by Auckland City Council and managed by Metrowater. The Springs which form the source of the Meola Creek are on DOC and Plant and Food land on the lower slopes of Mt Albert. (Refer to Appendix 4 I1 Upper Meola Creek Survey Map 1842). The springs occur where the underlying aquifer bubbles up to the surface. The head of the aquifer is at Three Kings, where the Winstones' quarrying, pumping and future proposed infill operation takes place.

The State of Meola Creek - 2009

Within the living memories of STEPS members Meola creek has contained fresh watercress which local people gathered and ate. Meola Creek was where local mothers took their children down to collect tadpoles less than 30 years ago. (See Appendix 1 for an outline of STEPS goals and activities).

There are many Auckland City (ACC) reports documenting the stream's decline over several decades, and many reports which promise that within 10 years the sewers will be separated; or the sewerage infrastructure will be fixed. To our knowledge no funded plan to relieve or improve the overflow situation is in place.

STEPS has for several years been mystified by the fact that during summer the flow in Meola Creek is so low that the creek bed itself is often visible (see photos of creek floor). By contrast historical pictures and accounts from the Kerr Taylor family at Alberton show significant water bodies. Local residents know that the area used to have a sizable creek. An historic map of the creek attached shows its original path is close to that of today, except that south of Fergusson Ave, it now disappears into a pipe.

We believe that any large scale change such as Winstones is proposing in the Upper Meola Catchment represents an opportunity to enhance the health and value of both Meola Creek and the underlying aquifer. The existing Roy Clements Treeway represents a very fine example of forward thinking by Mt Albert Grammar School or MAGS with the support of Auckland City, Metrowater, and STEPS.

STEPS invites commercial developers in this area to follow this example by contributing to the prevention or remediation of damage to this creek. Low Impact Design Principles are advocated by ARC and supported by STEPS. In addition STEPS has published the outline of a program of projects to improve Meola Creek. We would be happy to discuss these with Winstones and we invite their involvement and support.
http://www.meolacreek.org.nz/2009/04/09/meola-creek-restoration-projects/

While the existing situation is rooted in the historical combined sewer, and the historic agreements with Winstones which permit them to pump water out of the aquifer and out of the catchment, Auckland City has had many years to start to reverse the situation. It is time to stop removing water from the aquifer (and the creek), and start to take care of it. We look to Winstones, Auckland City Council and Watercare Services to provide some real financial and moral leadership for the benefit of existing and future local residents, the aquifer, Meola creek, Meola Reef, and the wider Meola Catchment.

This means assessing the effects and measuring the impacts that Winstones' "pumping in perpetuity" at the head of the aquifer has on the entire Meola catchment.

Responsibilities for Meola Creek

Resource	**Responsibility**	**Comment**
Meola Creek	Auckland City Council – owner	Contracts Metrowater to manage the creek
Water supply and waste water (including sewage) removal	Metrowater – 'Retail' water supply and sewerage	
	Watercare Services- 'Wholesale' water supply and sewerage	
Storm water	Auckland City Council- owner	
Combined sewers (storm water and waste water)	Auckland City Council- owner	Contracts Metrowater to separate them (but Meola is not funded)
Creek bed	DOC - owns the water course in Meola Creek?	DoC letter says that it is manage d by Auckland City Council
Water Quality in Meola Creek	Auckland City	Overall responsibility
Water levels, discharges, and removal of water	Auckland Regional Council	Issues Resource Consents for Water

It appears to us that nobody takes accountability for the quality of water in Meola Creek, nor in the Waitemata Harbour where runoff and sewage discharges. Despite Te Tokaroa /Meola Reef being the most highly protected natural asset in Auckland City (as noted in the Appendices) large scale intensive development is encouraged by Auckland City planners. Water quality in Meola Creek is not measured even annually – let alone monthly; and is not published.

Some Impacts of Removal of Water from the Aquifer

One of the major reasons for the poor health of Meola Creek is that its natural flow has been so significantly reduced that year round, but especially in summer, the creek is as low as a few centimetres, except when Water Care Services overflows occur and raise the creek level by several meters. Between its source on Plant and Food (ex DSIR) land, adjacent to the Haverstock Rd overflow and the bridge at the top of Kerr-Taylor Reserve where the recently formed pipes end, water now flows at a small trickle, with the (often armoured) creek bed not even being covered during long periods of the year. By contrast, historical pictures show a sizable spring on Plant and Food land.

It is now apparent to STEPS that the water removed from the head of the aquifer by Winstones is probably the primary cause of the significantly reduced natural flow, which has been noticed by residents and members over the past 15-20 years. Refer: Report prepared for Winstone Aggregates by Tonkin and Taylor Ltd 8 July 2008 p1 "At its current depth (quarry base at RL34, with quarry rim at RL60-RL80 approx), resources are being extracted from **below regional groundwater level.** Groundwater within the quarry is depressed to below the quarry floor by pumping from a well within the quarry property."

We understand water extracted by two powerful pumps at a depth of 80 metres in the Three Kings quarry is pumped into the stormwater system, goes down Mt.Albert Rd, then joins Marcellin College stormwater pipe, then into the Pah Rd stormwater system, and down the hill into Onehunga Bay and Manukau Harbour.

The very high variability of depth, velocity, and flows place a great burden on Meola Creek and its surrounding floodplain. Erosion of the creek bank after one flood is shown in photos. Auckland City may have an engineering solution in managing the creek in this way – but the loss of normal flow, plus the addition of raw sewage and heavy metal pollutants means the loss of nearly all native flora and fauna in and around the upper creek, and ongoing damage to the flora and fauna in the Waitemata Harbour. We submit this immeasurable loss is a very high price for all the residents of Auckland to pay – let alone local residents in Mt Albert.

Further STEPS is still assessing and comprehending the implications of the pumping at the quarry. From a recent public meeting attended by Winstones we understand that:

- The quarry is at the head of the aquifer which underlies Meola Creek (and Oakley Creek)
- Winstones are pumping continuously - in order to keep quarrying deeper (Since 2002 they have maintained the same water level and are currently not lowering it further).
- They intend to keep pumping "in perpetuity"

- The pumping since the 1990s has been routed to Onehunga via a pumping and filtering station
- It is a "backup" water supply for Auckland/ Onehunga – but somewhat high in nitrates
- Currently it all goes into the Manukau (since water supplies from Waikato mean this Meola higher nitrate water is emergency only)
- Apparently Winstone's consent will run for another 30-34 years.
- Winstones now want to fill up the hole

It appears that Metrowater became involved in the pumping at a time when there was a risk of water supply running short in Auckland. The water removal may at that time have had a potential community benefit. Three Kings United Group have tracked these events on http://www.3kug.org.nz/waterpoliticalhistory.htm It is difficult now to see the public benefit of pumping water from Meola aquifer out of its catchment and into another catchment – then out to a different harbour.

Further the ARC has also provided water resource consents necessary for Winstones to take vast amounts of water from the Meola aquifer/ catchment, leaving a seriously depleted creek downstream, with insufficient flow in the upper creek to support flora and fauna, or to filter and clean itself naturally.

Our local authorities have in the same recent period "piped" the upper Meola Creek from its source on the Owairaka/ Mt Albert foothills down to the edge of the Kerr Taylor Reserve (refer aerial map). The intention may have been to hide the extent of the huge overflows of raw sewage and pollutants coming from the combined sewers at 96 Haverstock Rd., and to reduce the public health risk.

This in turn has resulted in ARC visiting the "piped" upper Meola Creek and issuing two unnotified consents (35678 and 35679) in July 2008 – based on the fact that the "piped or buried" creek is no longer a creek. (See Appendix for some correspondence relating to this). Now that this redefinition has been achieved, Housing New Zealand are free to build a road on the edge of the creek, and to straighten an inconvenient curve and cut off the fork which led to Pickett Ave. Then the Housing NZ road can be routed (in part) on top of the buried creek.

- Why is it necessary to extract resources from **below regional groundwater level?**
- Why should groundwater within the quarry be depressed to below the quarry floor?

We submit that a reassessment of the Winstones pumping operation, and the significant downstream effects on the health of Meola Creek, its catchment and its people is well overdue. Until this has taken place it is inappropriate and irresponsible for further large scale development to continue being undertaken in the Upper Meola area.

Further, any plan to fill the depleted quarry must not risk any further damage to the ground water on the Auckland isthmus. This means that an impermeable layer lining the pit is essential to protect the Three Kings aquifer from the contaminants which will inevitably be brought in with fill from many and varied sources.

Summary of Reports in Appendices 3 and 4

From the reports attached and other sources published by Auckland City, Metrowater and others, it is indisputable that the protected marine life at Meola Reef is being progressively poisoned by the mix of raw sewage and overflow from increased impermeable areas, roads, galvanised roofs, and runoff from developments during construction.

Meola Creek / Roy Clements Treeway is prone to flooding frequently – almost entirely because of overflows from Watercare Services (See Appendix 4B which also contains number and volumes of overflows). According to the ICS report the volume of overflows including raw sewage flowing through Meola Creek equated to 1528032 cu m/ year [or 611 Olympic swimming pools per year] on average. Nearly half of these come from 96 Haverstock Rd, and emerge adjacent to government owned Housing New Zealand Corporation (HNZC) existing properties at 160-162 Haverstock Rd, approximately 5 meters from the creek. Average figures for large overflow events imply that overflows equivalent to 1-2 Olympic pools at each of Lyon Ave and Haverstock Rd are typical, and that maximum flows are much larger. STEPS has included photos of the creek in flood, and also has videos of the water roaring through the pipes into the creek from both 96 Haverstock Rd and Lyon Ave during a significant downpour. Residents can see sewage in the creek at such times. This occurrence is observable many times a year, often within even 1 hour of rain commencing. Toilet paper and rubbish are commonly seen on the banks following storms.

To the Society's knowledge, no significant upgrades or improvements have been made to reduce the frequency or volume of raw sewage overflows into Meola creek since the ACDSRC Report was written in 2001. In our view it is highly likely they have significantly increased, in part because of the increase of high density development in this area. Development plans and the marginal impacts of these on an already fragile volcanic area and its related water sources, represent another incremental degradation of the environment, specifically on at least five significant listed natural features identified by the Auckland City DP as requiring protection.

Appendix 1 St Lukes Environmental Protection Society

STEPS focuses on the upper reaches of the Meola Creek, the Kerr Taylor Reserve and the green spaces surrounding it. (See Appendix 4 I2 Aerial map Upper Meola Creek)

The Society greatly values the Owairaka/ Mt Albert volcanic field, Meola Creek and other associated natural features, and is working to achieve the following aims:

1. To enhance and improve the Kerr Taylor Reserve as an open space for use by the people of the St Lukes-Sandringham-Mt Albert area, through working with the Community Board, the Auckland City Council, schools and other groups.
2. To see the quality of the water in Meola Creek improved, and the public health, environmental and cultural values increased, through working to ensure that the Auckland City Council, Watercare Services and Metrowater improve the water quality and upgrade inadequate drainage and sewerage systems.
3. To maintain or expand the extent of the existing open spaces and walkways in the St Lukes area, through working with all groups who have an interest in the area.

The Society is hopeful that as environmental awareness grows, Auckland City will "daylight" or restore the Meola Creek, and remove the piping and armouring put in place by engineers over a number of years, obscuring the once attractive natural water course. This course of action has been officially recommended to Auckland City in the Meola Integrated Catchment Management Plan Phase 2 Report – Remedial Options (Sinclair Knight Mertz 2002). See Appendix 4A.

Eden Albert Community Board has recognised STEPS as a stakeholder in the Kerr-Taylor Reserve, and the Society has been working with Metrowater on public education talks and on planting the banks of Meola Creek in 2007, 2008 and 2009. Our plantings will reduce water temperature and enhance both bird life and marine life in the creek.

In 2008 we added Meola Creek to the list of NZ Rivers in wikipedia http://en.wikipedia.org/wiki/Meola_Creek and established a web site and blog for STEPS.

MEOLA CREEK - PROGRESS:

Several practical steps have been taken to start to protect the upper creek

June 2007 – Metrowater planting north of bridge linking MAGS and Kerr Taylor Reserve
May 2008 – Metrowater commission Te Ngahere revegetation plan for Roy Clements Treeway on MAGS land
May 2008 City Development Committee commits to improve Meola Creek (Appendix 4K)
June 2008 – Hort Research plant wetland at the headwaters of the Meola Creek (at "DSIR", Mt Albert Rd)
June 2008 - STEPS Application to EIF for planting another wetland
August 2008 – Eden Albert Community Board notice of motion to approach ARC in relation to management of Meola Creek as a contaminated water way.
August 2008 – Metrowater boardwalk and planting on MAGS land to south west of St Lukes Garden Apartments – more planting planned
March 2009 – Published portfolio of projects to clean up Meola Creek.

May 2009 – Restored a wetland on MAGS land adjacent to northern boundary of Kerr Taylor Reserve.

Appendix 2 PLANNING PROTECTION FOR MEOLA CREEK

We note that the Auckland City (AC) District Plan (DP) Annexure 2, p3 shows the following significant natural features which directly relate to the Meola Creek and its underlying aquifer:

- **Volcanic Landforms - Mt Albert** and **Three Kings** (including the site of this application owned by Winstones)
- **Three Kings Aquifer underlying Winstones , Western Springs, Meola Creek, Oakley Creek** and surrounding district
- **Significant Stream Channels – Meola Creek and Oakley Creek** (two of only five publicly owned water courses in Auckland City)
- **Ecological Area - Western Springs –** part of the Meola Catchment aquifer (See Appendix 4C4)
- **Ecological Area – Te Tokaroa Meola Reef.**

In Part 5A Natural Resources, the DP lays out how important each of these elements is. These and a few other "particular environmental elements… can and must be maintained and where practicable enhanced" (p4). The DP also states the principal goal of the Resource Management Act - sustainable resource management - will be achieved by adopting strategies to address natural environment issues.

Yet within the District Plan itself, it is unclear to us that any consideration has been given to the protection or enhancement of these significant natural features of Auckland City.

The DP also states (Part 5A p 4) that a combined foulwater/ stormwater sewer system serves approximately 16% of Auckland city's area. [We have shown in Appendix 4B that sewers in Meola catchment constitute a large part of this, and that this in turn causes ongoing problems for Meola Creek, Meola Reef and the people of Auckland.]

The DP states (Part 5A p 8) that mechanisms to recognise and enhance the qualities of water resources include:

- "Development is limited in those areas with a significant drainage problem until it is remedied."
- "Consideration of sustainable recharge of aquifers when considering relaxation of the site coverage controls"

Other Planning Frameworks Relating To Meola Creek

Te Tokaroa Meola Reef is the northern end of a 10km lava flow stretching from Three Kings. It extends 2 km north over Waitemata to within 500m of the North Shore. Meola Creek discharges to the west and Motions Creek discharges to the east of the reef.

Te Tokaroa Meola Reef is designated as:

- a Coastal Protection Area 2 under the Auckland Regional Coastal Plan;
- its marine vegetation zoned as Protection Area 1; and
- a conservation zone under the 1987 Waitemata Harbour Maritime planning scheme (p 138 ACDSRC Report)

ARC POLICY

As noted in the MINUTES OF A MEETING OF THE EDEN ALBERT COMMUNITY BOARD HELD ON WEDNESDAY, 27 AUGUST 2008

"The Auckland Regional Council (ARC) has jurisdiction over water bodies in the region. The ARC Regional Policy Statement (RPS), chapter 8, which deals with Water Quality, outlines a range of issues associated with degraded water quality within the region, and identifies a number of methods and actions to undertake with the goal of improving water quality. Meola Creek is classified within chapter 8 as a body of water with significantly degraded water quality (Table 8.2). The following lists the relevant parts of the plan relating to bodies of water such as Meola Creek;

8.4 Policies: Development and Redevelopment

1. Land use intensification in urban areas shall only occur where adequate provision is made for:
(i) control of sediment discharges;
(ii) control of stormwater discharges;
(iii) collection, transport, treatment, purification and disposal of sewage;
(iv) protection of the quality of groundwater recharge especially into aquifers used for water supply purposes;
(v) protection of water quality and riparian margins;

8.4.5 Methods *4.* ***District plans shall not provide for land use intensification in sewered catchments that are at a maximum capacity for sewage disposal and/or have inadequate drainage (which is resulting in hydraulic overloading of the sewers) unless services are upgraded to an adequate capacity, or a commitment made to upgrading, sufficient to handle the demand that will result from the intensification."***

Chapter 9 deals with Water Conservation and Allocation.

The following lists some relevant parts of the plan

9.1 …The management of water use has a strong regulatory focus. Part III of the RM Act establishes different presumptions to govern water use from those applying to the use of land. The taking, damming or diversion of water is prohibited unless allowed by a resource consent or by a rule in a regional plan. Exceptions to this include the taking of water for an individual's reasonable domestic and stock watering needs or for fire-fighting.The taking of geothermal water for use for tikanga Maori is also an exception. The exceptions however are subject to there being no adverse effects on the environment. The Resource Management Act defines water as including fresh water, coastal water (sea water) and geothermal water, but excluding water in any form while in any pipe, tank or cistern. The ARC has the function under section 30(1) of the RM Act of: …
(c) The control of the use of land for the purpose of:
(iii) The maintenance of the quantity of water in water bodies and coastal water
….
(e) The control of the taking, use, damming, and diversion of water, and the control of the quantity, level, and flow of water in any water body, including:
(i) The setting of any maximum or minimum levels or flows of water.
(ii) The control of the range, or rate of change, of levels or flows of water.

Appendix 3 Reports on Meola Creek

We recommend to Winstones, Auckland City Council, their planners and their advisors two key sources of information :

1) Auckland City Drainage System Resource Consents, Assessments of Environmental Effects, March 2001 ["ACDSRC Report" available on line from Metrowater]
2) Meola Integrated Catchment Management Plan Phase 2 Report – Remedial Options (Sinclair Knight Mertz 2002) ["ICS report"] See Appendix 4A

In addition STEPS can provide a copy of a recommended unpublished report:

3) Assessing and mitigating the environmental impacts of stormwater flowing into Meola Creek and its receiving environments. From the School of Geography and Environmental Science, University of Auckland, October 2005. ["UA report"].

These documents convey a picture of neglect of the past, existing and potential future environmental value of Meola Creek which flows into Waitemata Harbour on the South Western side of Meola Reef. Te Tokaroa/ Meola Reef is only a few km downstream from Upper Meola Creek.

STEPS finds it very difficult to reconcile the designations protecting the creek, with the past and present activities which are conducted by Winstones, Auckland City, Watercare Services, and others, in the Meola Creek catchment.

The reason that Auckland City and Metrowater applied for the drainage system resource consents in 2001 was so that we can continue to pour raw sewage and stormwater down Meola Creek and other watercourses into Waitemata Harbour for at least another 35 years. No current funded plan is in place to change this situation – though STEPS has held discussions with Watercare Services, Auckland City and Metrowater on this subject.

Ch 7 of ACDSRC Report above states: "… water flows in some streams are greater than would be predicted from topographical catchment area – especially where waste water overflows originate outside the storm water catchment" and [they] "add significantly to storm water flows". ACDSRC Report also states

- The combined overflows discharge untreated wastewater into Meola Creek during approx **50%** of rain events
- Meola Creek estuary has the highest concentrations of enterococci (18,342 Ec/ 100 ml) and greatest number of days with Ec concentrations above guideline values which would require beach closure.

ICS report states:

- Poor water quality in Meola Creek is a product of both waste water and storm water discharges to the creek. The main source of most bacterial and nutrient contaminants in Meola creek is from waste water discharged to the creek from overflow structures. Heavy metals and suspended solids within the creek originate primarily from storm water runoff that overflows from the combined sewer system.
- Measured bacterial levels were high along the whole length of Meola Creek. Levels in the upper reaches of the creek in the vicinity of MAGS exceeded the NZ

guidelines for recreational body contact activities of 125 faecal coliforms and 33 enterococci.

- **The upper section of Meola Creek is in a far worse state than the lower reaches of the creek** [usually the opposite occurs in most waterways.]
- To a large extent the ecological health of Meola Bay depends on the health of the upstream catchment. Many of the pollutants from stormwater runoff and sewage overflows into Meola Creek ultimately end up in the coastal area.
- Approximately 40% of the Meola Catchment contains combined sewer systems. In addition most of the waste water flows from soakage areas and separated areas contribute to the combined pipes.
- There are 26 overflows within Meola Catchment that discharge combined wastewater and stormwater to the Meola Creek. These are listed on p7 – total 1.5 mill cu m per year; 0.722 million cu m (47%) of which issue from WCS at 96 Haverstock Rd. (See Appendix 4A6 and 4B)
- **Level of service of combined sewer/ stormwater well below design standards of Auckland City and Metrowater – 50% cannot handle 1 in 3 year storm flow** (Section 2 p2)
- Up to 24% of combined wastewater within 1500 Ha catchment discharged to Meola creek in 1992 (Section 2 p3)
- Haverstock Rd and Lyon Ave (WCS overflows) are the worst – they now make up 90% of total flows in upper creek (Section 2 p3)

The UA report documented that

- zinc from roofs and tyres was at very high levels in Meola Creek upper catchment
- the estuarine receiving environment next to Meola Reef has critical levels of zinc and other heavy metals.

The report recommended that mitigation should focus on at source methods of controlling stormwater. These include **minimizing impervious surfaces** when constructing new subdivisions, ie. low impact urban design (LID). Remediation can also include approaches such as siltation or detention ponds and sand filters to remove zinc and other contaminants before they enter the creek.

Appendix 4 References and Attachments

Extracts from Auckland City, Metrowater and Watercare Services Reports on Meola Creek and Western Springs.

A Meola Integrated Catchment Management Project Phase 2 report- Remedial Options (Sinclair Knight Merz 2002)

B Watercare Detailed Annual Sustainable Development Report 2001 and related correspondence

C Meola 1C Management Project Phase 1 May 2000 (Sinclair Knight Merz)

D Integrated Catchment Study Stage 1D Water Quality Monitoring Report (Area 1) (Auckland City, Metrowater, 2004)

E - blank
F - blank
G - blank

H1 Map – Meola Creek Catchment

H2 Auckland City (AC) District Plan (DP) Annexure 2, p3

I1 Upper Meola Creek Survey Map 1842

I2 Aerial map Upper Meola Creek – between Westfield St Lukes Mall and "DSIR" on foothills of Owairaka/ Mt Albert

J Correspondence with Auckland Regional Council regarding classification of Upper Meola Creek behind Haverstock Rd.

K Auckland City Council Media release 9 May 2008 Work planned to ease Meola Creek pollution