Proposed Central Interceptor Project
Concerns and Background Information

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Summary

We believe there are significant procedural, strategic, practical and cost reasons and environmental and ecological risks, that require the Central Interceptor (CI) project and the strategies behind, it be reviewed prior to final approval.

Elected representatives must take the lead now by initiating the review of all aspects of these plans which to date have had little public scrutiny or support.

The environmental effects of the current system and discharges should be incorporated into future wastewater project plans, such as the CI, as called for in the conditions of the existing Resource Consent governing discharges into the Manukau Harbour.

As an initial step, we are specifically requesting Auckland Council indicate to Watercare in October 2014 its intention to conduct the review of the current system and discharges under Section 128 of the RMA, as provided for in Resource Consent 9610853. As described in this resource consent, this review must include a comprehensive assessment of the effects of the plant and its discharge on the Manukau Harbour environment and assess progress towards achievement of outcomes contained in Wastewater 2000. To be credible it must be conducted by a third party independent of Watercare, in a process open to the public and overseen by elected officials.

Background To Our Concerns

The concerns listed are best understood in the context of a brief history of wastewater treatment in the region:

1. The Manukau Wastewater Treatment Plant was planned in the 1950's and opened in 1960.

2. With hindsight the plans were deeply flawed. The catchment area was far too large; sewage arriving at the plant had frequently turned septic making it more difficult to treat, increasing odours and creating corrosive acids which attacked pipes and equipment. The type of treatment (oxidation ponds) was

unsuited to Auckland's climate and its size (it was the biggest plant of its type in the World) added to the problems of managing it.

3. Throughout its life, and despite a number of 'improvements', the plant caused extreme nuisances - particularly for areas downwind of the plant and, at times, for huge areas of Auckland.

   (When it was replaced at the turn of the century, the plant left a costly imbalance between reticulation and treatment facilities (reticulation facilities valued at $2.4 billion and a treatment plant with negative value). It also left an unjustifiable but very understandable NIMBY (not in my backyard) syndrome relative to wastewater treatment across the whole Auckland region.)

4. In 1992, The Auckland Regional Council (ARC) set up a series of meetings with stakeholders to determine and plan the action required to correct the situation and meet future needs. With the transfer of responsibility for water and wastewater passing from ARC to Watercare (jointly owned by local bodies served by the plant), this initiative expanded into the 'Wastewater 2000 Workshop'.

5. Over three years the Wastewater 2000 Workshop undertook a thorough examination of all aspects of the region's needs and possible solutions. Co-ordinated by Watercare, participants included specialists from Watercare, ARC, TLA's, Auckland Health, environmental, business and ratepayer groups, tangata whenua as well as experts and consultants in many fields.

6. Despite the state of the plant and the risks to both the ecology and to neighbours of the plant, it took an injunction served on Watercare by Manukau City Council to get the company and some of its shareholders (local TLA's) to address the situation and to fund the rectification.

7. In 1995 extensive public consultation was undertaken to identify public support for a preferred option of alternatives presented. Several hundred submissions were received. The most significant outcomes were: Watercare would replace the existing treatment plant at Mangere with a new, land based, activated sludge plant and that it would follow the strategy developed in the Wastewater 2000 Workshop of building satellite plants (the first in West Auckland) to meet future requirements.

8. Between 1998 and 2003, Watercare did a good job overall, in getting the new plant operational. Completed ahead of schedule and under budget, the plant itself, has operated without serious nuisance.

9. Auckland has an unenviable history of major failures in its planning of wastewater and stormwater systems. The main successfully implemented plans arose from this ARC initiated and Watercare co-ordinated Wastewater 2000 Workshop which was transparent and open to all stakeholders and elected representatives.

10. In 2004, Watercare's Shareholder' Representative Group initiated what became known as 'The Three Waters Study' (embracing water, wastewater and stormwater). Watercare sponsored this study which included participants from: Manukau Water, Metrowater and United Water; the cities of Auckland, Manukau, North Shore and Waitakere, and the district councils of Franklin, Papakura and Rodney.

11. In contrast to the Wastewater 2000 Workshop, this group worked without publicity or public consultation. Neither a draft nor the final copy of the 'Three Waters Final 2008 Strategic Plan – 2008" (TWFSP) was released for public consultation; nor was it made readily available to the public. Anecdotal information is that very few elected representatives have read the document.

12. Despite inaccuracies and contradictions, of presenting strategies diametrically opposite to the Wastewater 2000 Outcomes, and not being a 'plan' in the accepted meaning of the word, the TWFSP is stated to be the basis for Auckland's Long Term Plan (ALTP) and the justification for the proposed CI (which states that Auckland's future wastewater requirements will be met by two main plants – Mangere and North Shore).

    (Whilst Watercare has some twenty treatment plants, Mangere is five times the size of North Shore and these two plants together are twenty times the size of the rest put together.)

13. It must be stated that despite its generally acceptable standards for operation of the treatment plants, Watercare's compliance with the conditions attached to its Resource Consents is not. Similarly, Auckland Council (AC), the body responsible for enforcing compliance, is perceived in the community as equally non-active in its role.

Our Concerns

It is disconcerting that projects and strategies of this magnitude and cost, with no clear provenance or public support, that contravene the conditions of existing resource consents, that are contrary to generally recommended practice, that present significant risks, and which incorporate plans with unresolved problems in their execution, can be approved without proper review and consideration of alternatives*.*

Lack of Public Scrutiny

- There is no evidence to show that the TWFSP 2008 and the strategies proposed therein have ever been subject to presentation to or proper consultation with either the public or their elected representatives.
- In its own documents, Auckland Council states it will provide 'strategic direction' to Watercare, but no record has been presented to show the CI strategies emanate from Auckland Council.
- Auckland Council's elected representatives appear to have had no input to the plans.
- The Auckland Council appointed Commissioners at the Resource Consents Hearing were advised That '…they should consider only the application before them…' And, that '… the applicant [Watercare] did not have to show that '… the proposal offers the best possible option, only that it had considered other options…'. We believe the consideration of alternatives has been insufficient.

Contravening Current Resource Consents and Risking the Health of the Harbour

- The CI proposal ignores the conditions of existing resource consents established to protect the ecology of the Manukau Harbour. Increasing the hydraulic capacity to the plant is forbidden in the consent conditions specifically to limit the volume of fresh water discharged into the harbour. In the TWFSP it acknowledges that increasing the throughput at the MWTP would require a different discharge system. It goes on to examine options and selects a 40km pipe out to the Tasman Sea. A little further on, pipe solutions are dismissed as having 'unacceptable, foreseeable risks'. The CI proposal offers no solution to the problem but merely expresses a view that the harbour could cope with extra volume.

  (Calculations presented to support this view are of little value: Watercare presents a calculation based on tidal prism of 900million M3.: the Officers' Report uses 450-690 million M3. (depending on tide). Neither use a figure for the North Eastern arm of the harbour where the discharge occurs. Neither use a figure for discharge volumes likely beyond 2027.)

It is not good ecological practice to transfer large volumes of freshwater from one catchment area to another – particularly one emptying into a 'closed' harbour.

- The calculations used to establish the odds of an overflow from the CI into the Manukau Harbour (given as one in fifty years) have no valid statistical basis. The figure was created by multiplying the power outages experienced (one in five years) by the 'estimate' that it would have to coincide with a one in ten year rain event to cause an overflow.

  Given that power outages frequently coincide, indeed, are sometimes caused by severe weather events, it is illogical to multiply the two factors.

- Wastewater and stormwater already bypass the MWTP between 6 and 8 times a year during heavy rain events and are discharged directly to the harbour after minimal treatment. Despite the storage capacity of the CI, the flows during storm events are so much larger than the capacity of the MWTP that such discharges will continue to occur, posing ongoing public health risks in the harbour.

Design Flaws

- One of the access hatches is planned to be located on the Mangere Bridge waterfront reserve – to the serious detriment of an important recreational and bird roosting site. In its explanation for not being able to relocate this, Watercare stated:
  - That this is the distance from the terminal at which, under certain circumstances, a serious pressure could build-up requiring an emergency relief valve and that it is not possible to move it for this reason. Whilst we do not have the resources (or the information) to commission a full examination of this, appropriate expert advice is that modifications can alter the point at which pressure builds up.
  - That 1500 to 1600 metres is the preferred maximum distance between shafts and that this, too, prevents relocating the hatch further south. This leaves the last planned leg of the interceptor more than 2800 metres long (the section that carries the greatest load, that accumulates the most detritus and, by its length alone, requires to be open longest for maintenance). Again Watercare has rejected the idea of an additional access hatch that could be located on Watercare land because it could cost a further 5 to 10 million dollars. In the context of a billion dollar project, five to ten million dollars spent on safety, facilitating maintenance and reducing nuisance to the public is not exorbitant.
  - Could the Emergency Pressure Release (EPR) site also be advantageously modified?

- The question has been asked, but not answered, as to whether the CI with the planned air flow, through the tunnel, handle the low level sewer flows that occur during prolonged dry periods, or whether evaporation might affect the flow velocity. (the planned air flow is to avoid discharges of foul air along the route by maintain negative pressure and filtering the foul air at the terminal)
  The United States Environmental Protection Agency (US EPA) also cautions against using over large diameter pipes (tunnels) with less than 3% fall to transport sewage because it does not provide the necessary velocity for the efficient transport of this material.

  We believe that the questions must be thoroughly investigated before planning and work is undertaken.

Questionable Cost Estimates

- In the CI application for Resource Consent, it is stated that the CI will save $500 million, this figure based on a largely unsuccessful separation program, the 'Motions South' works, completed in 2008 at a cost of $55,000 per property.

  Without doubt, the situation in respect of the small area of Auckland served by a 'combined' system is difficult. There are areas that have been separated but 'act like combined systems' because after separation, no path was found for the stormwater, so it was put back into sewer pipes. The quality of detailed information; the spread of responsibility (involving New Zealand Transport Authority, Auckland Transport and other public and private bodies) further confuse the situation.

  Notwithstanding past failures and the complexity, the area of Auckland served by combined sewers is small. Separation is possible. (Indeed, current technology and techniques greatly facilitate the work). Separation has been carried out successfully by other bodies at a fraction of the cost used to justify the CI Project.

  All of these points call for the CI project and the strategies behind it to be realistically reviewed from a cost effectiveness viewpoint.

Best Practice is Separation of Wastewater and Stormwater

- The fundamental advantages of 'separated' wastewater systems are clear. Wastewater flows are relatively consistent and can be efficiently treated by biological means. Stormwater volumes vary from nothing to ' the sky's the limit'. In a 'combined' system as will be required by the CI, both reticulation and treatment facilities have to be large enough to cope with the highest flow - something that is virtually impossible, with the result that overflows occur.

Combined systems were common when little treatment was attempted. Conversion to separated existing systems began in earnest in the latter half of the last century. The latest reports of both the US EPA and the European Commission Environment state that most sewage treatment systems are now 'separated' and separation is considered best practice and required in newly developing areas.

There are, it is acknowledged, cities with extensive combined systems that it would be exceedingly difficult to separate. Auckland is not in that category.

Both Watercare and Auckland Council's Stormwater Management have given Boston. Mass. as an example of successful use of a large interceptor to correct sewer 'overflows' and, some websites make the achievements look attractive. Other web sites, however, state that:

- Two thirds of the system is separated; the balance combined;
- Overflows are still a problem and solutions being studied;
- Boston is undertaking more separation;
- A major problem is the cost of servicing a $6 billion debt.

Boston's 'example' is not something that should be followed lightly

- The CI has been presented as a fix for sewage overflows occurring in parts of Auckland. In fact, the CI delays fixing the overflow problem, it is not cost effective and it raises serious ecological risks.

Restricting Future Options

- The strategies in the TWFSP and the CI project represent strategies diametrically opposed to those developed in the Wastewater 2000 process. Further, the path being taken by Watercare restricts the region's ability to utilise more recent developments such as local treatment of wastewater, recycling and reticulation of water which facilitate significant cost savings, reduce ecological risks and which can, if required, fit well with Council's PPP philosophy.

Not Linked to the Unitary Plan

- The CI project appears not to be linked to strategies in the Unitary Plan. Redevelopment and intensification of the central isthmus, much of which will be served by the CI, provide an opportunity to separate remaining areas where wastewater and stormwater are combined. Many pipes are reaching the end of their life and will need to be replaced in the near future. These are opportunities for Auckland to employ new techniques which reduce the flow and improve the quality of stormwater and pursue further separation. But these must be required in the Unitary Plan.

Review Needed for Credibility

The strategies and plans of Watercare must be clearly established and studied -not just from the information given to the Resource Consent Hearing but from other documents and actions as well. The TWFSP talks of huge increases in throughput at

MWTP; other documents purport that these volumes are sustainable, but without the supporting analysis and modelling.

- Watercare has stated that it will need to amend the volume limits of MWTP from 2027. There is no guarantee that this consent would be granted.
- Watercare has made application to take a further 200,000 Mx3.pd. of water from the Waikato River. Given the posture that Watercare has adopted in respect of recycling water, this is a huge volume to be fed into the 'two main plant' wastewater treatment system planned.
- Watercare stated in the CI application and other documents that a Northern Interceptor is planned to divert some wastewater flows to the Rosedale plant. However, plans for this interceptor are vague; it could be comprised of smaller pipes with limited capacity and, again, there is no guarantee that a Resource Consent will be granted. But the CI project is predicated on the Northern Interceptor moving forward.

Review of the current Resource Consent Scheduled for 2014

The current resource consent granting permission for discharges from the MWTP calls for regular review of the effect of the consent under Section 128 of the Resource Management Act. The specific intent of the review is to reduce the volumes of discharge, increase the standards of the quality of effluent discharged, reduce the size of the noncompliance zone and impose additional conditions as necessary to reduce any adverse effects on the environment. All these objectives appear to be counter to the effects of the CI.

- The next review is scheduled for this year and Auckland Council must indicate its intent to do so in October 2014.
- The review specifically calls for evaluating the broad environmental effects of the discharge on the harbour and the environment generally, incorporating new technologies and best practices, evaluating alternative options including financial aspects and evaluating progress towards achievement of the outcomes of Wastewater 2000.
- As stated above, all of this is to be conducted with the express purpose of reducing discharge flows, reducing contaminants and any adverse effects on the environment, particularly the Manukau Harbour. Such a comprehensive review would provide information that is seriously lacking in the proposal for the CI project.

However to have credibility, the review must be conducted by a third party independent of Watercare and Auckland Council and must be guided by the involvement and input of both the public and elected officials.

We request Auckland Council initiate this review and incorporate the findings into a review of the Central Interceptor project.

Our organisations

Mangere Bridge Residents and Ratepayer Association Inc. (MBRR) is an incorporated society that has been in continual existence for 53 years. Established with the purpose of representing residents suffering nuisances from the then new treatment plant, the Association has been at the forefront in protecting the health and wellbeing of both residents and the Manukau Harbour ever since. Through negotiations with the ARC, Manukau City Council, and Watercare, attending all meetings of the Wastewater 2000 workshop, pursuing matters with the Environment Court and being represented at all meetings of the MWTP Community Liaison Group (CLG), the Association has acquired considerable knowledge and understanding of the issues.

Manukau Harbour Restoration Society Inc. (MHRS) is a community, membership-based incorporated society. It was formed in 2011 by concerned residents from around the Manukau Harbour with the purpose of encouraging restoration of the harbour to the environmental and recreational quality it once had. We have as our goal, water quality in the harbour that allows us to safely swim and eat the shellfish and fish in every part of the harbour. The organization is funded entirely by membership dues, grants for projects and donations of cash, time and expertise. We are currently engaged with NIWA and AUT on harbour research projects.

The Onehunga Enhancement Society Inc. (TOES) was formed in 2008 to represent the Onehunga community concerning Onehunga Bay (resulting in the foreshore restoration under progress at the moment), State Highway 20, public transportation, utilities and the betterment of the greater Onehunga environment.