

SUBJECT: **APPLICATION BR/8587 BY MANUKAU CITY COUNCIL FOR A RESOURCE CONSENT TO DIVERT AND DISCHARGE STORMWATER FROM NIELD ROAD CATCHMENT MANUREWA**

FROM: Water Resources Engineer,

FILE: 14/10/Br8587
E14KFD3L

TO: Group Manager
Environmental Management

DATE: 20.1.93

1. **APPLICATION**

Applicant: Manukau City Council

Location: Nield Road Catchment, Manurewa; bounded approximately by Hill Road, the Southern Motorway, Rogers and Christmas Roads and Mahia Road.

Proposal: Management Plan including objectives and proposed works for the management of stormwater within the 103 Hectare Nield Road Catchment.

2. **NOTIFICATION**

The application was notified on 21 November 1992. No submissions were received.

3. **REPORT**

3.1 **Introduction**

The Nield Road Catchment occupies an area of 103 hectares of the south-eastern aspect of Manurewa. The Catchment drains hilly residential land between Hill and Alfriston Roads, commercial land adjacent to the Great South Road and the North Island Main Trunk railway line (NIMT) and an area of residential development to the west of the NIMT. The Catchment falls approximately from the north to the south and discharges into the main channel of the Papakura Stream immediately downstream of Great South Road.

3.2 **Background**

The Catchment has a well established drainage network characterised by sections of concrete pipes and open channels. The NIMT embankment creates a significant restriction to flood flows and causes ponding upstream of its 1050 mm diameter culvert. There is also a detention pond located close to the Catchment outlet which ponds water on Beaumont Park at times of heavy rainfall. This detention pond is subject to an existing Resource Consent Br/7135.

The Catchment has been part of the urban area of Manurewa for a considerable length of time. As the Catchment has developed the drainage system has become deficient at a number of locations. Flooding to the floors of residential buildings has occurred in the past and flooding to residential and industrial land has also occurred in the past.

3.3 **Detailed Description of the Proposal**

3.3.1 **Introduction**

The Manukau City Council, as part of its ongoing process of obtaining comprehensive resource consents for the discharge of stormwater, have prepared a catchment management study and plan for the Nield Road Catchment. These reports have formed the basis of this comprehensive resource consent.

3.3.2 Important Issues

The management plan prepared by Manukau City Council has identified the restrictions to drainage in the Nield Road Catchment and has identified where these restrictions will cause flooding to properties or existing floor levels. A brief description of the key problem areas and the proposed solutions to these problems is included in Section 4.3.4.

The Nield Road Catchment is essentially fully urbanised. There are significant areas of residential zoned land that will be subject to infill development. The Management Study estimates that the percentage of pervious area in the Catchment will decrease by 10% when the Catchment is fully developed to the extent allowed by the existing district plan. The hydrological study has concluded that the net effect on the Catchment of infill development, in terms of peak flood flows and flood levels, will be negligible. These conclusion is consistent with other studies and is considered to be a technically sound conclusion.

3.3.3 Land Use Scenarios

The Management Study has analysed the design flows for the Catchment under existing and future catchment development scenarios. The future catchment development scenario allows for the Catchment to be developed up to the extent allowed under the existing District Plan. As mentioned above the effect of the remaining infill development on flood flows will be negligible.

3.3.4 Proposed Works

The Management Plan includes a program of works aimed at reducing the existing drainage deficiencies in the Catchment. The works measures are aimed at providing a 20% AEP capacity in the stormwater pipe system and a 1% AEP capacity on the overland flowpaths and open channel waterways in the Catchment. The principle works that are proposed in the Management Plan are as follows:

Primary System Upgrading

- Upgrade pipe system from Tadmor Park to NIMT. This will reduce the risk of flooding to existing commercial buildings. This is a low priority option. Future redevelopment of the area will have floor level controls.
- Culvert blockage protection on the NIMT embankment culvert to prevent risk of blockage of culvert increasing water levels behind embankment. The existing ponding situation behind the NIMT will remain. A number of commercial buildings are at risk of flooding behind the embankment. This risk will remain to existing buildings but future floor levels will be controlled to prevent flooding.
- Increase capacity of pipe at 258-260 great South Road to prevent flooding of residential buildings.
- Upgrade pipe capacity at Blossom Lane to reduce surface flooding in this area.
- A flood peak detention pond has recently been constructed on Beaumont Park to reduce the risk of flooding to residential and commercial property downstream.
- Extension of the outlet pipe from the Beaumont Road detention pond to below Mahia Road to reduce overland flows and flood risk to factories downstream of Mahia Road.

Secondary (Overland Flow) System Upgrading

- The study has identified the 1% AEP floodplain in the Catchment
- Future buildings in the catchment will be constructed with floor levels at a minimum of 500mm above the 1% AEP flood level.

Ground levels will be reduced or obstructions removed on the overland flowpaths at Halver Road, The Cosmopolitan Club on Alfriston Road, 61 Beaumonts Way and at Blossom Lane to reduce the risk of flooding to existing houses

A formed overland flowpath is proposed from the pipe outlet below Mahia Road to the Papakura Stream

3.3.6 Stormwater Quality Control

The Nield Road Catchment has been fully urbanised and there is therefore limited opportunity for stormwater quality control practices to be implemented. The Management Plan includes a proposal to retrofit the Beaumont Park Detention Pond, which receives runoff from the majority of the Nield Road Catchment area, to incorporate a wetland which will achieve a degree of water quality improvement in low flow conditions. It is proposed that debris screens be installed upstream of the wetland area and at the detention pond outlet. These screens will remove gross pollutants from the stormwater discharge. The current cesspit cleaning and street sweeping program in the Catchment will be maintained and the collected debris will be disposed of in accordance with ARC guide-lines.

3.4 Submissions

No submissions were received with respect to this application.

3.5 Evaluation

3.5.1 Technical Matters

The technical details relating to the floodflow and flood level estimations are acceptable. The full catchment development landuse scenario which has been used as the basis for calculating the flows and levels is a realistic representation of the Catchment fully developed under the District Plan.

3.5.2 Resource Management Act

The matters to be considered by the Regional Council are set out Section 104 of the Resource Management Act. Not all the issues set out are relevant to this application - only those which are relevant have been dealt with here.

Actual and Potential Effects

The effect of not allowing this application would be to retain the status quo in the Catchment in terms of stormwater management and development. The Management Study analysis indicates that the increase in flood flows and levels with further development in the Catchment will be negligible.

Part II

Section 5 - Purpose of the Resource Management Act

The purpose of the Act is to promote sustainable management of natural resources. It is considered that if the consent is granted with the special conditions proposed, the management of stormwater and its impacts on the natural and physical resources will be sustainable.

The Nature and Sensitivity of the Receiving Waters

The receiving waters of this discharge is the Papakura Stream immediately upstream of its discharge point which is the Pahurehure Inlet of the Manukau Harbour. The Pahurehure Inlet is subject to considerable urban and rural runoff and the environment is therefore compromised to an extent. The exercise of this consent with the special conditions as recommended will not have a detrimental effect on the receiving waters.

Any Possible Alternatives

There are no alternatives to this proposal which would allow the further development of the Catchment.

4. CONCLUSIONS

This application is for a Comprehensive Resource Consent for the discharge of stormwater within the Nield Road Catchment. The consent with the recommended conditions will allow future development of the Catchment to proceed to the extent allowed under the existing District Plan without significant impact on the environment.

The proposal is acceptable to EMD staff, and where necessary, conditions have been suggested to ensure that details are carried out. It is recommended that this consent application be granted with the Special Conditions as shown on Appendix A.



Ton Snelder
Water Resources Engineer
LAND RESOURCES

AUCKLAND REGIONAL COUNCIL**RESOURCE CONSENT**

Granted Pursuant to the Resource Management Act 1991

DISCHARGE PERMIT NO. 928587

GRANTEE: MANUKAU CITY COUNCIL

CONDITIONS OF PERMIT:

Date of Expiration of Permit: 31 December 2027
Legal Description of land: Nield Road Catchment
Territorial Authority: Manukau City Council
Purpose of Permit: A catchment wide programme for works required to adequately control the discharge of stormwater from existing and future development in the Nield Road Catchment.

Works: Upgrading of the stormwater pipe system and overland flowpaths including reconstruction or duplication of existing pipe lines, construction of debris screens and barriers at key culvert entrances, recontouring and removal of obstructions from the overland flowpath, construction of a detention pond, and construction of a water quality treatment facility.

Site Location : Nield Road, Manurewa
Map Reference: NZMS 260 R11 798 613
Quantity: The maximum rate of discharge in a design storm of estimated 1 in 100 Annual Exceedance Probability shall be 11.0 cubic metres per second.

SPECIAL CONDITIONS OF PERMIT:

1. That the works for the improvements to the primary and secondary systems be carried out in the order of priority as set out in Figure 3 of the Nield Road Catchment Management Plan.
2. That future buildings in the Catchment in areas which are subject to a flood hazard as indicated on Figures 20 and 21 of the Nield Road Flood Management Plan, be subject to the proposed building floor level controls as set out in Section 8.3 of the Plan.
3. That the recommendations for the control of stormwater from new developments which are presented in Section 8.7 of the Nield Road Flood Management Plan be implemented by Manukau City Council.

Future Development

4. That the 1 in 100 Annual Exceedance Probability event be adopted as the basis for all planning and engineering decisions involving stormwater and flooding issues in the Catchment.
5. That development to the level defined in the current District Plan be adopted as the standard for all planning and engineering decisions.

6. That development in the Catchment beyond the provisions of the current District Plan be subject to further detailed stormwater and flood studies and a variation to this consent.

Flood Hazard Information

7. That the flood hazard information presented in Section 10 of the Nield Road Flood Management Plan, representing the 1 in 100 AEP overland flowpaths and flood hazard areas, be made available to the public and is included in the areas defined as "flood sensitive" in the District Plan.

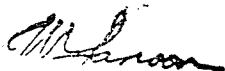
Services

8. That gully traps and other sanitary fittings providing entry to the sewage systems be located at least 200mm above the 1 in 100 AEP flood level.
9. That all culverts and open channels shall be checked by Manukau City Council staff to ensure that they are free from debris and obstructions at least once annually in addition to as soon as possible after the receipt of a heavy rainfall forecast from the Group Manager, Environmental Management Department of the Auckland Regional Council.
10. That "as built" plans of any upgrades to the stormwater system shall be supplied to the Group Manager, Environmental Management Department of the Auckland Regional Council within 6 months of completion of construction of the system.

STANDARD CONDITIONS OF PERMIT:

1. That this resource consent is granted by the Auckland Regional Council, subject to its servants or agents being permitted access to the relevant parts of the property at all reasonable times for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.
2. That the Auckland Regional Council may at any time on the giving of not less than 3 months notice in writing serve notice on the consent holder of its intention to review any of the conditions of this consent for any of the following purposes :
- i. To deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
 - ii. To require a discharge permit holder to adopt the best practicable option to remove or reduce any adverse effect on the environment; or
 - iii. To deal with any other adverse effect on the environment on which the exercise of the Consent may have an influence.
3. The resource consent holder shall pay to the Auckland Regional Council any administrative charge fixed in accordance with s.36(1) of the Resource Management Act 1991, or any additional charge required pursuant to s.36(6) of the Resource Management Act 1991, payable in respect of this resource consent.

SIGNED AT AUCKLAND FOR AND ON BEHALF OF THE AUCKLAND REGIONAL COUNCIL



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 K E Connolly
 Group Manager
ENVIRONMENTAL MANAGEMENT