



## STAFF REPORT

**TO:** Environment & Planning Committee

**FROM:** Sonya Leusink Policy Planner on behalf of Stormwater Focus Team<sup>1</sup>

**REFERENCE:** S750

**SUBJECT:** **STORMWATER MANAGEMENT - PROPOSED VARIATION 53 -**  
Report Prepared for 28 March 2007 Meeting

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### 1. PURPOSE OF REPORT

The purpose of this report is to gain approval from the Committee to notify the proposed Variation 53 – Stormwater, the Tasman Resource Management Plan.

A copy of the Variation for approval to notify is attached to this report as *Appendix 1*.

### 2. BACKGROUND

Stormwater is that portion of rainfall which runs off the land and hard surfaces during and for a short time after a rain event. In the Tasman District issues such as surface water flooding and property damage have arisen. These issues must be addressed

The proposed Variation is one of many action outcomes of the Stormwater Management project, undertaken by the Stormwater Focus Team<sup>1</sup>. This project was aimed at investigating all issues relating to stormwater management, not just those affecting land use planning in the TRMP.

A summary of all of the actions that were identified, needing to be addressed to ensure stormwater is managed effectively, is attached (see Appendix 2)

The particular issues that are the focus of the proposed Variation are those that arise from building development and subdivision. The draft provisions also introduce aspects of low impact design (or LID) into the plan, as the preferred method of stormwater management where appropriate.

### 3. RECENT BACKGROUND

The draft Variation was made available for community comment in October 2006.

A letter of invitation to submit was set to all development consultants, and advertisements were placed in Council's newslines. All people were invited to respond in writing, via telephone or attend a meeting with Council staff.

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<sup>1</sup> The Stormwater Focus Team consists of Dugald Ley (Engineering), Eric Verstappen (Environmental Scientist), Mark Morris (Subdivision Consents), Donna Hills (Discharge Consents).

Feedback from submissions was reported to the Committee at the December 6 meeting.

Changes made in response to those submissions include clarifying the requirement that a discharge consent will be required where any proposed stormwater reticulation or drainage network, to be vested in Council, is to be designed and constructed as part of a subdivision.

The Committee will also recall that one of the key streams of feedback to the proposed draft was the need for Council to address stormwater comprehensively and in an integrated fashion.

This has meant a close working relationship between Engineering and Policy Planning staff to ensure alignment between the proposed Variation and the Engineering Standards. The proposed Variation must therefore be taken in context of the current Engineering Standards review.

A report to the 29 March Engineering Services Committee canvasses issues relating to better alignment between the departments, the Engineering Standards and the TRMP.

#### **4. RECOMMENDATION**

That proposed Stormwater Variation 53 be adopted by the Committee for public notification

Sonya Leusink-Sladen  
**Policy Planner.**

**Tasman District Council**

**Proposed Tasman Resource Management Plan**

**Draft Proposed Variation**

**EXPLANATORY STATEMENT**

The Council proposes to amend stormwater provisions in the Proposed Tasman Resource Management Plan.

The proposed stormwater provisions will particularly encourage a much greater level of consideration of stormwater management within land use and subdivision activities. This approach recognises the link between changes in land uses and the flow, quality and sedimentation effects that they can have on stormwater.

The proposed changes also introduce the concept of low impact stormwater design (LID) for the effective management of stormwater. LID is all about using management methods and solutions which protect, incorporate or mimic natural drainage conditions of the site in the management of stormwater. The retention of vegetation, protection of streams or wetlands, and the on-site detention of stormwater are examples of how LID might be used in the management of stormwater within a subdivision or building development.

In accordance with Section 32 of the RMA, the Council has considered the various options and alternatives for the effective management of stormwater, including maintaining the status quo. The costs, benefits and risks of each were discussed in reports EP 05/05/18; Stormwater Management – Section 32 Report 06/-1/17; EP 06/02/02; EP 06/03/29. These reports are available on request.

**AMENDMENTS**

The Proposed Tasman Resource Management Plan will be amended as set out below. They have been organised into the following sections:

- New Definitions – pg 2 (affecting Chapter 2)
- Policies and Objectives – pg 3 (affecting Chapters 5, 6, 7 & 14)
- Rules – pg 9 (affecting Chapters 16, 17 & 34)
- Information Requirements for Resource Consents – pg 20 (affecting Chapters 19 & 37)

**NEW DEFINITIONS**

**2. Definitions**

**Add the following definitions to Chapter 2**

**Low Impact Design or LID** - means the use of subdivision design solutions and stormwater management methods, including roading and allotment layouts which reduce the impact of that development on natural resources and processes.

In particular, LID approaches to stormwater management can be used to protect, incorporate or mimic natural drainage conditions of any site or area in the management of stormwater.

This includes the retention and use of existing catchment drainage characteristics, minimisation of impervious surface cover, the enhancement of natural eco-systems, and maintenance of vegetation in the planning and management of development within catchments.

**Impervious surface** – means any man-made or modified land surface that inhibits the infiltration of water into the soil or any naturally occurring ground surface during a rainfall event, and includes buildings, concrete, asphalt, and sealed pavers.

**Pervious surface** – means any natural or modified land surface that allows for the infiltration of water into the ground.

**Flowpath** – means the path that is taken by water during a rainfall event.

**Primary flowpath** - means the path taken by water during a rainfall event that can be accommodated within the drainage network, which may include pipes and open drains.

**Secondary flowpath** – means the path taken by water during a rainfall event that is beyond the extent of the primary flowpath, when the capacity of the drainage network forming the primary flowpath is exceeded.

## **POLICIES AND OBJECTIVES**

### **5.0 Site Amenity Effects**

#### **Add to Introduction 5.0 after 2<sup>nd</sup> paragraph:**

Amenity values may also be affected by increased stormwater run-off from development.

#### **Add new policy 5.1.3D**

To ensure that the effects of land-use or subdivision activities on stormwater flows and contamination risks are appropriately managed such that the adverse environmental effects are no more than minor

#### **Add new method of implementation, bullet point to 5.1.20 (a) (i)**

stormwater discharges

#### **Add (iii) to 5.1.20 (b)**

(iii) Investigations and research into the natural drainage characteristics of land for the purpose of determining appropriate catchment-based stormwater management

#### **Add (iv) to 5.1.20 (c)**

(iv) Advice and information relating to the effective management of stormwater, including the use of LID solutions.

### **Add to 5.1.30 after 2<sup>nd</sup> paragraph**

Land activities and development can be affected by, or have an effect on stormwater flows, sedimentation and water quality.

## **6.0 Urban Environment Effects**

### **Add to introduction 6.0, new bullet-point to 'key locational and urban form issues'**

- (i) The cumulative effect of more dense development on stormwater quality and flood risk

### **Add new policy 6.1.6**

To avoid, remedy, or mitigate the adverse effects of urban growth on natural stormwater drainage processes within catchments.

### **Add to 6.1.30 after 2<sup>nd</sup> paragraph**

Urban expansion needs to be sensitive to natural drainage processes within catchments. Areas that have significant drainage issues, such as high groundwater, areas that are low lying, and areas that may be flood prone, are generally not suitable for urban expansion and intensification. Inappropriate residential development can result in downstream stormwater effects such as flooding and a reduction in water quality for ecosystem, human health and recreational values and uses.

### **Add new policy bullet point to 6.2.3**

- (g) the use of LID solutions, unless it can be shown that the site is unsuitable

### **Add to 6.2.20 (a)**

- (v) Rules that encourage the use of LID solutions in the management of stormwater

### **Add to 6.2.30 after 2<sup>nd</sup> paragraph**

Where new development is proposed, an integrated, catchment-based approach to the management of stormwater is to be used.

The use of LID solutions is encouraged. LID principles are concerned with minimising the adverse effects of development by protecting, incorporating, or mimicking natural drainage features to manage the flow and quality of stormwater run-off unless it can be shown that the site is unsuitable

## **7.0 Rural Environment Effects**

### **Add to 7.0 after 5<sup>th</sup> paragraph**

Changes in the use of rural land can also have an effect on natural drainage patterns within catchments, especially where there is a change in vegetation cover. This leads to

changes in the flow and quality of stormwater particularly within lower reaches of water catchments.

Key rural activities that may have a significant adverse effect on downstream stormwater management include plantation forestry removal and rural-residential development in areas previously used for pastoral farming, forestry or horticulture.

An integrated approach to land and water management is required for the management of stormwater in rural areas. This is particularly because of the cumulative nature of stormwater effects as water flows towards the sea.

#### **Add new policy 7.2.1B**

To use a whole-catchment approach to the management of stormwater, and apply low impact stormwater design to address the stormwater effects of rural land development.

#### **Add to 7.2.30 add after 2<sup>nd</sup> paragraph**

Where a land use is proposed that may significantly change the existing land cover, particular attention to the effects of stormwater flows and quality may be required.

A whole-catchment approach to addressing stormwater effects is encouraged to ensure that activities occurring both above and below the proposed land use are taken into account when considering the potential adverse effects of an activity on drainage patterns, stormwater flows and surface water quality.

Where there is potential for adverse stormwater effects, a LID approach to managing those effects should be taken. This approach requires that natural drainage features of the site are maintained or enhanced where the site and conditions are suitable, to avoid, remedy or mitigate the potential adverse effects of stormwater run-off.

#### **Add new policy 7.3.10**

To ensure the maintenance or enhancement of natural drainage features within rural catchments, and to avoid, remedy, or mitigate any adverse effects of stormwater run-off.

### **14.0 Reserves and Open Space**

#### **Add at the end of this section**

Reserves and open space play a role in the management of stormwater, particularly within more dense urban areas. Reserves can be multi functional, offering recreation, amenity values, ecological values as well as performing stormwater management functions such as detention and flow management.

Using a whole-catchment approach to stormwater management, open space and reserve areas can help to temper upstream stormwater contributions, reducing flow volumes into downstream parts of natural and man-made stormwater networks. .

Open space and reserve areas can also contribute to a LID approach to managing stormwater within urban catchments. Urban streams can be retained as features of

subdivisions, riparian margins planted to enhance stormwater and ecological values and storm detention basins can be grassed and planted for amenity or recreational use.

#### **Add policy 14.1.6**

To promote and support the integration of reserves and open space areas, within a whole-catchment approach to drainage and the management of stormwater.

#### **Add bullet point to 14.1.20 (a)**

(v) Rules requiring the use of LID solutions.

#### **Add bullet point to 14.1.20 (d)**

(ii) Land acquisition for stormwater management

#### **Add to 14.1.30 after 2<sup>nd</sup> paragraph:**

Open space areas, parks, and reserves can play an important role in the management of urban stormwater. They contribute to a whole-catchment approach to stormwater management and can be consistent with LID.

Open space may be used for short term detention of water during heavy rain events in built-up urban areas. Reserve areas may be created around existing natural or open-reticulation drainage networks, such as streams, grassy swales and ponds.

These areas of grass and vegetation slow down the rate of stormwater run-off from hard surfaces and can improve stormwater quality by acting as filters. It is particularly important to recognise and accept the role of un-built open space in managing stormwater in urban areas.

### **33.0 Discharges to Land and Freshwater**

#### **Delete Objective 33.3**

#### **Replace with new objective 33.3**

Stormwater discharges that avoid, remedy or mitigate the actual and potential adverse environmental effects of downstream stormwater inundation, erosion, and water contamination.

#### **Delete Policy 33.3.3 (a) – (c)**

#### **Add new set of policies 33.3**

33.3.1 To avoid, remedy, or mitigate the adverse effects of stormwater flow, sedimentation and contamination, including flooding and inundation, water quality degradation, loss of groundwater re-charge opportunity, coastal marine contamination or sedimentation, and effects on aquatic habitats of plants and animals.

33.3.2 To require all owners of all or part of any stormwater drainage network to avoid, remedy, or mitigate the adverse effects of stormwater discharges.

33.3.3 To encourage an integrated whole-catchment approach to the management and discharge of stormwater.

33.3.4 To require the use of low impact design in the management of stormwater discharges in any new development where the site and conditions are suitable.

33.3.5 To encourage the restoration and rehabilitation of stormwater drainage networks where natural drainage networks have been significantly modified.

33.3.6 To take into account the long-term management of stormwater drainage in consideration of land development, including subdivision and land-use changes.

**Add new bullet point to 33.3.20 (d)**

Investigation into the natural drainage characteristics of catchments for the purpose of determining appropriate whole-catchment stormwater management

**Add to end of 3<sup>rd</sup> paragraph in 33.3.30**

Managing stormwater discharges can be a complex issue, and this affects both land and water management and infrastructure services functions and responsibilities of Council. Both water flow management - to avoid flooding, and contaminant discharge management - to avoid water contamination, are important environmental issues to be addressed.

Where the site and surrounding environmental conditions are suitable, a low impact stormwater design approach to management is considered to be the best approach to managing stormwater run-off. This approach minimises modification to the natural environment, or makes use of management approaches that mimic natural drainage networks. The retention of vegetation, natural drainage contours and existing waterways (including riparian buffer strips), within catchments will reduce the rate of stormwater run-off, increase infiltration and groundwater recharge, encourage healthy aquatic ecosystems and improve water quality.

## **RULES**

### **16.2 Transport**

**Add to 16.2.2**

(l) The effects of stormwater from all impervious surfaces on flow volumes and water quality must be managed such that they are no more than minor; and,

Stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge has obtained consent under Rule 36.4 of the Plan



### **Add to 16.2.3**

- (m) The effects of stormwater from all impervious surfaces on flow volumes and water quality must be managed such that they are no more than minor; and,

Stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge has obtained consent under Rule 36.4 of the Plan

### **.16.3 Subdivision**

#### **Add new subdivision standards within 16.3.3**

##### Stormwater management

- (q) Stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge has obtained consent under Rule 36.4 of the Plan; and
- (r) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network

#### **Add new matters of control within 16.3.3**

- (8) Effective stormwater management including the use of LID solutions.
- (9) The appropriate setback of allotment boundaries from the top of the bank of any open drain or natural watercourse.

#### **Add new subdivision standard within 16.3.5**

##### Stormwater management

- (q) Stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge has obtained consent under Rule 36.4 of the Plan; and
- (r) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network

#### **Add new matters of control within 16.3.5**

- (8) Effective stormwater management including the use of LID solutions.

#### **Add new matter of control within 16.3.7**

- (11) Effective stormwater management including the use of LID solutions.

### **Add new assessment matter to 16.3.8**

- (11) Effective stormwater management including the use of LID solutions

### **Add new standard 16.3.10**

#### Stormwater Management

- (h) Stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge has obtained consent under Rule 36.4 of the Plan; and
- (i) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network

### **Add new matters of control within 16.3.10**

- (11) Effective stormwater management including the use of LID solutions.
- (12) The appropriate setback of allotment boundaries from the top of the bank of any open drain or natural watercourse.

### **Add new set of assessment criteria to Schedule 16.3A**

#### Stormwater Management

- (56) The actual and potential adverse effects of the subdivision in terms of existing catchment drainage characteristics, stormwater flow, erosion and sedimentation, and stormwater quality, including the following:
  - (i) The extent to which all stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.
  - (ii) The extent to which the subdivision design has taken into account changes in land cover; and the proposed measures to avoid, remedy or mitigate the effects of those changes on stormwater flows and water quality.
  - (iii) The degree to which the subdivision has used LID solutions in the management of stormwater.
  - (iv) The degree of maintenance or enhancement of natural drainage characteristics in the overall subdivision design and allotment layout.
  - (v) The regard had for existing and reasonably expected future land-use changes within the catchment of the subdivision.

(vi) The degree to which the design of the stormwater management network accounts for any possible future changes in development that may have an effect on, or be affected by, the development.

(vii) The degree to which water conservation principles, such as rainwater collection and stormwater detention, have been applied to the subdivision design.

## **17.0 Land use activities**

### **Delete existing 17.1.2 (m) (i) – (iii)**

### **Replace with new 17.1.2 (m)**

#### **Stormwater**

(m) All stormwater from buildings and impervious surfaces is managed to meet the following standards:

(i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.

(ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.

### **Add new 17.1.4 (y)**

#### **Stormwater**

(y) All stormwater from buildings and impervious surfaces is managed to meet the following standards:

(i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.

(ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.

### **Add to 17.1.4B**

#### **Stormwater Management**

(k) All stormwater from buildings and impervious surfaces is managed to meet the following standards:

- (i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.
- (ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.

#### **Add to matters of control 17.1.4B (6)**

- (6) Stormwater management, including the use of low impact stormwater design solutions for the management of stormwater from all buildings and impervious surfaces.

#### **Add new standard to 17.1.5**

##### Stormwater Management

- (j) All stormwater from buildings and impervious surfaces is managed to meet the following standards:
  - (i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.
  - (ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.

#### **Add new assessment matters to 17.1.5**

- (42) Stormwater management, including the use of low impact stormwater design solutions for the management of stormwater from all buildings and impervious surfaces.

#### **Add new reasons to 17.1.8**

##### **Stormwater**

Building work and land development which involves the use of hard (impervious) surfaces, affects stormwater flows and quality from land. Rules require the effective management of stormwater, and control of the effects of stormwater run-off in residential areas to be managed effectively.

#### **Delete Rule 17.2.2 (n) (i) – (iii)**

#### **Replace with 17.2.2**

##### Stormwater Management

- (n) All stormwater from buildings and impervious surfaces is managed to meet the following standards:
  - (i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.
  - (ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.

### **Add new standard to 17.2.6**

#### Stormwater Management

- (u) All stormwater from buildings and impervious surfaces is managed to meet the following standards:
  - (i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.
  - (ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.

### **Add new assessment matters to 17.2.7**

#### Stormwater

- (38) The ability of the Council maintained stormwater drainage network to accommodate additional stormwater.
- (39) The extent to which the stormwater run-off generated by additional development has been managed.
- (40) The extent to which the activity has employed LID solutions to the management of stormwater flow and quality.

### **Delete 17.3.2 (o) (i) – (iii)**

### **Add new stormwater standard 17.3.2 (o)**

#### Stormwater

- (o) All stormwater from buildings and impervious surfaces is managed to meet the following standards:

- (i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.
- (ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.

#### **Add new stormwater standard 17.3.4 (n)**

##### **Stormwater**

- (n) All stormwater from buildings and impervious surfaces is managed to meet the following standards:
  - (i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.
  - (ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.
  - (iii) If the site uses or stores any hazardous substances, the applicant can show that all permitted activity conditions for the use and storage of hazardous substances can be met.

#### **Add new assessment matters to 17.3.5**

##### **Stormwater**

- (34) The ability of the Council provided stormwater drainage network to accommodate additional stormwater.
- (35) The extent to which the stormwater run-off generated by additional development has been managed.
- (36) The extent to which the activity has employed LID solutions to the management of stormwater flow and quality
- (37) The extent to which permitted activity standards and conditions for the use and storage of hazardous substances can be met.

#### **Add after last paragraph to 17.3.6**

##### **Stormwater**

The effective management of stormwater within industrial developments is an important issue that must be addressed. The risk of stormwater contamination is generally higher than in other zones. Industrial sites can have large areas of sealed or compact surfaces

for heavy machinery. Industrial businesses often also use and store hazardous substances and potentially contaminating substances.

**Add activity standard to 17.4.4**

- (j) Stormwater is managed and disposed of on-site, and in accordance with permitted activity standards for stormwater discharges, Rule 36.4,

**Add activity standard to 17.4.5**

- (h) Stormwater is managed and disposed of on-site, and in accordance with permitted activity standards for stormwater discharges, Rule 36.4,

**Add matter of control to 17.4.5**

- (7) The on-site management of stormwater in accordance with LID solutions.

**Add activity standard to 17.4.6**

- (c) Stormwater is managed and disposed on-site and in accordance with permitted activity standards for stormwater discharges, Rule 36.4

**Add assessment matter 17.4.6**

- (24) The on-site management of stormwater in accordance with LID solutions.

**Add activity standard to 17.5.4**

- (l) Stormwater is managed and disposed of on-site, and in accordance with permitted activity standards for stormwater discharges, Rule 36.4.

**Add activity standard to 17.5.5**

- (e) Stormwater is managed and disposed of on-site, and in accordance with permitted activity standards for stormwater discharges, Rule 36.4,

**Add matter of control 17.5.5**

- (7) The on-site management of stormwater in accordance with LID solutions.

**Add activity standard to 17.5.6**

- (d) Stormwater is managed and disposed of on-site, and in accordance with permitted activity standards for stormwater discharges, Rule 36.4,

**Add assessment matter 17.5.6**

- (23) The on-site management of stormwater in accordance with LID solutions.

#### **Add additional activity standard 17.6.4**

- (j) All stormwater from buildings and impervious surfaces is managed to meet the following standards:
  - (i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.
  - (ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.

#### **Add new standards to 17.6.5**

- (e) All stormwater from buildings and impervious surfaces is managed to meet the following standards:
  - (i) All stormwater is discharged to a Council maintained stormwater drainage network that has the capacity to receive the additional stormwater; or the discharge complies with Rule 36.4 of the Plan.
  - (ii) All stormwater drainage features – including LID solutions, detention or retention structures, piped reticulation, open drains, existing natural drainage characteristics and secondary flow-paths – are protected from development that may adversely affect the efficient functioning of the stormwater drainage network.

#### **Add to matters of control 17.6.5**

- (10B) Stormwater management including the use of LID solutions for the management of stormwater from all buildings and impervious surfaces.

#### **Add to 36.4.2 (2)**

After 'Rural Residential Zone' add 'Rural 3 Zone'

#### **Delete 36.4.2 (3)**

#### **Replace 36.4.2 (3) with the following**

- (3) The point of discharge or diversion is to any part of a Council-maintained stormwater drainage network that has the capacity to receive the additional stormwater; or, where the activity is a building, the site was created before [date of Variation] and the point of discharge or diversion is within the Residential Zone, Rural Residential Zone or Rural 3 Zone.

#### **Add to the conditions 36.4.2**

- (ab) If the site uses or stores any hazardous substance, the applicant can show that all permitted activity conditions for the use or storage of hazardous substances can be met.



- (ha) Where disposal to ground or a ground soakage method of disposal is to be used in the management of stormwater, all or any part of that stormwater management system is not located on land:
- a. that is located within the Slope Instability Risk Area;
  - b. where the ground infiltration rate is less than the disposal rate at the point of discharge;
  - c. where the groundwater level is less than 2 metres below natural ground level;
  - d. where the predominant slope of the site is greater than 15 degrees from horizontal
  - e. where the site is located within proximity to a cliff face, embankment or terrace and the point of discharge is closer than 20 metres to the top of the plane created by the instability risk area.

**Delete the word 'open' from the reference 'open sinkhole' from 36.4.2 (e)**

**Delete existing 36.4.3A (a) and replace with:**

- (a) If the site uses or stores any hazardous substance, the applicant can show that all permitted activity conditions for the use and storage of hazardous substances can be met.

**Delete 36.4.3A (b), and replace with:**

- (b) Conditions (a), (d) – (ha) of Rule 36.4.2

**Add to standards 36.4.3A:**

- (c) The stormwater is not generated by a subdivision in a Residential, Rural Residential or Rural 3 Zone;

**Add matters of control 36.4.3A**

- (10) The use of LID solutions, where the site and conditions are suitable;
- (11) The degree of land cover change or change in land use that is anticipated, and the potential effect of that on the flow and quality of stormwater run-off;
- (12) Any methods or management solutions that might be necessary to ensure effective integration of the proposed stormwater system with existing systems;
- (13) Any methods or management solutions to reduce any risk of slope instability issues arising from stormwater disposal to the ground;
- (14) Any methods or solutions to enhance ground soakage where the method of disposal is disposal to the ground;
- (15) Any matter necessary to meet the requirements of the Tasman District Council Engineering Standards current at the time of consent application;

#### **Add to the matters of assessment 36.4.4**

- (13) The degree to which any measures attenuate flood flows, for a range of rainfall durations and intensities, and the effectiveness of these measures to mimic pre-development flows within and downstream of the activity;
- (14) The use of LID solutions, where practicable;
- (16) The degree of land cover change or change in land use that is anticipated, and the potential effect of that on the flow and quality of stormwater run-off;
- (17) Any methods or management solutions that might be necessary to ensure effective integration of the proposed stormwater system with existing systems;
- (18) Any methods or management solutions to reduce any risk of slope instability issues arising from stormwater disposal to the ground;
- (19) Any methods or solutions to enhance ground soakage where the method of disposal is disposal to the ground;
- (20) Any matter necessary to meet the requirements of the Tasman District Council Engineering Standards current at the time of consent application;

#### **INFORMATION REQUIREMENTS**

##### **19.0 Information requirements for resource consents**

###### **Add new set of information requirements 19.2.1 (landuse activities)**

- (k) An assessment the effects of the development on stormwater and natural drainage characteristics of the land, including:
  - (i) Changes to natural and/or existing drainage patterns
  - (ii) Changes in land cover, such as vegetation removal
  - (iii) Areas of proposed impervious surface cover, including buildings and sealed surfaces
  - (iv) Proposed stormwater management methods, including the application of LID solutions for the control of stormwater run-off and water quality
  - (v) Primary stormwater flow management
  - (iv) Secondary flow-paths.

###### **New information requirements 19.2.2 (subdivision activities)**

- (gg) An assessment of natural and/or existing drainage and stormwater features, detailing:
  - (i) Natural drainage features such as drainage gullies, streams, ponds and wetlands
  - (ii) Primary flowpaths, including natural drainage features and modified features such as pipe-work, open drains and stormwater detention structures

- (iii) Secondary flow paths.
- (hh) An assessment of the effects of the development on the natural drainage and stormwater flow characteristics of the land, including:
  - (i) Changes to natural and/or existing drainage patterns
  - (ii) Changes in land cover, such as vegetation removal, temporary or permanent earthworks, and existing and proposed areas of impervious surface cover, including buildings and all sealed surfaces
  - (iii) Impact of the proposed development on downstream drainage systems, including natural and Council maintained stormwater drainage networks.
- (ii) Detail of the proposed management of stormwater, including
  - (i) Management of risk from inundation and flooding
  - (ii) Proposed application of LID solutions for the control of stormwater run-off and water quality.
  - (iii) Proposed management of temporary and permanent earthworks, including methods for managing potential sedimentation
  - (iii) Proposed primary stormwater flow path management
  - (iv) Proposed secondary stormwater flow path management
  - (v) Proposed protection of all stormwater flow paths.

**Add new requirements to 37.2.1**

- (k) Information to show compliance with performance standards and conditions relating to the use and storage of hazardous substances.
- (l) Detail of low impact design solutions in the management of stormwater.
- (m) Detail of the degree of land cover change or change to land use that may be associated with the subject site and discharge activity.
- (n) Information to demonstrate that the proposed method of disposal will not result in an increased risk of slope instability or raised groundwater levels that result in an increased risk of slope failure or loss of amenity.
- (o) Detail regarding the methods and solutions used to avoid, remedy or mitigate actual and potential effects on stormwater flow, water quality and sedimentation effects.

## Stormwater

### Actions following cross-departmental meeting

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#### Engineering (Dugald and Jeff)

1. Develop a matrix or user-friendly table (for circulation to staff involved in stormwater management):
  - a. Stormwater systems,
  - b. Condition and capacity, and
  - c. Time-table for up-grades.

*Urban systems are being mapped – information is being updated over the next 9 months. This will include secondary flow-paths.*

*Information can be mapped and made available via GIS and Explore*

*Work in conjunction with Eric*

*Upgrade information is available through LTCCP documentation*

2. Clearly identify 'problem areas' for stormwater services. Map if possible. Circulate to consents staff

*Identify problem areas through emergency response and complaints data*

*Look to align two complaints registering systems (compliance and engineering) and use information to locate problem areas – affected properties*

3. Set up and maintain an on-going stormwater liaison group. Meet regularly and ensure communication and x-departmental issues are fully discussed

*Use Stormwater Manual group, and Plan Change liaison group in this function until the manual has been developed and Plan Changes implemented.*

*Once these two Policy actions have been completed, set up liaison group for on-going coordination of stormwater issues*

4. Consider setting up a rural catchment-based stormwater DC for all development.

*This has already started through the LTCCP review.*

*Ensure cross-departmental involvement in discussion of stormwater issues*

*Dugald to email Sonya about this*

5. All new development to be fitted with quality-control technology. Retrofit old systems with quality control technology

*Use current Plan standards and Engineering provisions to require quality control in practise (subdivisions)*

*Ensure that quality control methods are specifically required in Engineering Standards Review Plan to make it a more explicit requirement (16.3A)*

6. Review Engineering Standards in respect of the new Stormwater Manual, as necessary

*The Engineering Standards are due to be reviewed by mid 2006. The development of the stormwater manual will be very timely.*

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### **Policy (Sonya and Mary-Anne)**

1. Coordinate the development of a cross-departmental Stormwater Manual to guide staff. Cover all issues affecting and affected by stormwater including:
  - a. Land disturbance
  - b. Catchment based planning
  - c. Integrated catchment-based recreation and reserves management
  - d. Stormwater quality
  - e. Temporary stormwater effects
  - f. Erosion and siltation – including temporary effects
  - g. Engineering matters
  - h. Subdivision and landuse matters

*Group field trip and Councillor workshops – look at and discuss issues in the field as they arise and in respect of Council’s various functions.*

*General objectives in respect of the various Council functions, departmental responsibilities, and .*

*Use this as a basis for any necessary Plan Changes and changes to Engineering Standards.*

*The stormwater manual will be used as a guide document for various Council functions and responsibilities.*

### 2. Plan change investigations:

- a. To raise the standard necessary for compliance in problem areas.
- b. To require more information to be submitted with all consent applications, and, in particular, for permitted and controlled activities
- c. To introduce *pervious* surface minimums for urban areas
- d. To consider new standards in Plan to address known contaminants
- e. Introduce new policies, objectives, rules and standards to encourage ‘low-impact’ soft engineering solutions for stormwater management throughout plan.
- f. To ensure that secondary flow paths and natural drainage features are accounted for and, as appropriate, protected through subdivision and development.
- g. Review land disturbance sections in respect of stormwater management.
- h. Review of rural subdivision rules in respect of ‘out of zone’ development and stormwater

*Policy to review Plan with consent planners to determine ‘instant fix’ actions in regards to additional assessment matters and Section 19 information (i.e. no changes to standards or rules). Vary Plan.*

*Following completion of Stormwater Manual, consider any other rule-based plan changes and new policies and objectives that may be necessary.*

3. Coordinate staff training, in conjunction with the development of the Stormwater Manual. Promote, awareness, communication and knowledge-based improvements

*Use the Plan Change and Manual development process to improve awareness and understanding amongst staff and elected members*

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### **Compliance Monitoring (Carl)**

1. Clarify monitoring responsibilities in respect of temporary and permanent stormwater management matters through consents (with Mark and Donna).

Develop an engineering inspections compliance monitoring protocol  
Align 'NCS service requests' and 'Confirm' databases

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### **Environmental Information (Eric and Rob Smith)**

1. Gather and compile information in relation to:
  - a. soil type
  - b. slope
  - c. vegetation cover
  - d. surface water bodies
  - e. other important drainage features

*Create a stormwater information layer – slope, soils and vegetation information (incl. Andrew Burton) – GIS and Explore Hazards*

2. Identify drainage 'problems areas'. Map and make this accessible for all staff.

*Align 'Confirm' and NCS service requests information for complaints-based info. Map Explore layer available in Explore Hazards for staff*

3. Map known flow-paths.
  - a. Develop an information gathering system to ensure that any new information gained through consents and/or other EI investigations, is collected and collated.

*As per Engineering – map known paths and make available  
Set up hard-copy file system for collection of all stormwater assessment reports required through the consents process*

4. Identify 'infiltration sensitive' or vulnerable ground water environments. Map and make this accessible for all staff.

*Aquifer protection areas already defined on GIS and area overlays – consider amending Plan in respect of stormwater discharges in recharge areas? (Like SWADIs)*

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### **Consents – Mark and Donna (with Rob and Jean)**

1. Produce clear and concise guide documents, checklists and application forms regarding stormwater discharges (where a discharge consent is required) for use by staff and applicants/general public (In conjunction with Mark and Jean):
  - a. Rural subdivision (where a discharge consent is required)
  - b. Urban subdivision
  - c. Land disturbance – catchment-based planning
  - d. Discharge consents
  - e. Building consent checks

*This will follow development of Stormwater Manual and any Plan changes*

2. Clarify legal responsibilities in respect of discharge consent responsibilities.
  - a. Tabulate the possible public/private situations and responsibilities
  - b. Note any need to review Plan in respect of management
  - c. Circulate to staff and include in Stormwater Manual

*Issue is best addressed through consent process. Can currently be done – matter of staff awareness. However, review Plan and consider if it is adequate in respect of flagging the need to clarify responsibilities. If not, consider amending Plan to ensure that it is covered. Plan needs ‘teeth’ in respect of the requirement to assign responsibilities.*

3. Develop protocol for determining and protecting flow-paths at various consents stages. Include Phil and Jack

*Ensure that known flowpaths are mapped, picked up, and protected through easements at time of subdivision. Ensure that inhouse protocol exists to make sure that they get picked up and dealt with appropriately.*

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## **Environmental Education (Claire)**

1. Develop a stormwater education programme

*Involved in Stormwater Manual development.  
Use Manual as basis for any EE initiatives*

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## **Reserves management (Beryl)**

1. Review relevant Parks and Rec documents in respect of Stormwater management and integrated planning approaches

*Update Reserves Management Plans as required  
Involved in Stormwater Manual development*