appendix 28 freshwater

AP28.1 NCC aggregate extraction sites for the purpose of maintaining flood capacity

River	Location	Activity
Maitai River	Concrete ford by golf club (access to golf course, between car park and course) for a distance 20m upstream and 20m downstream of ford	Up to 300m^3 after each high flood event. Note: excavation is below river level and required excavator in river bed.
	Almond Tree flats ford for a distance of 75m above and 50m below the ford.	Up to 800m^3 after each high flood event. Note: a) 100m^3 of extracted aggregate redeposited on downstream side of ford each year. b) excavation is below river level and requires excavator in river bed.
	Black Hole for a distance of 100m downstream.	Up to 600m^3 after each high flood event. Note: excavation is at river level and requires excavator in river bed.
Brook Stream	By OK Corral for a distance of 50m upstream	Up to 500m^3 after each high flood event. Note: excavation is to river level and requires excavator and trucks in river bed.
	Behind reserve at 26 Brook St for a distance of 50m also a grit chamber at end of concrete channel.	Up to 500m^3 after each high flood event. Note: excavation is below river level and requires excavator and trucks in river bed
	Manuka Street ford for a distance of 20m above ford and 50m below the ford.	Up to 100m^3 after each high flood event. Note: excavation is below river level and requires excavator in river bed, downstream only
	Downstream of Nile St culvert there is a grit chamber plus a distance of 20m downstream	Up to 600m^3 after each high flood event. Note: excavation is below river level and requires excavator and trucks in river bed

River	Location	Activity
	At Brook Street / Maitai river confluence for a distance of 100m upstream of Dommet St bridge	Up to 500m^3 after each high flood event. Note: excavation is at river level and requires excavator in river bed
Wakapuaka River	Maori Pa Road bridge For a distance of 60m above bridge	As per Resource Consent 985158 and associated Environment Court ruling, up to 600m^3 after each high flood event. Note: excavation is below river level and requires excavator in river bed.
Poorman Stream	Open channel Up to 75m upstream of SH6 culvert and 20m downstream of SH6.	Up to 500m^3 after each high flood event. Note excavation is to river level and requires excavator in river bed.
Orphanage Creek	Detention pond above Main Rd Stoke culvert and for a distance of 100m above pond.	Up to 800m^3 every 2 years. Note: excavation is below river level and requires excavator in river bed.
Jenkins Stream	Two grit traps. (1) by SH6 at end of concrete culvert and (2) below the bridge over SH6	Catch pit structures, up to 400m^3 after each high flood event. Note: excavation is below river level and requires excavator in river bed.
	Upstream of Annesbrook Drive for a distance of 100m	Up to 200m^3 after each high flood event. Note: excavation is to river level.
Arapiki Stream	In ditch upstream of SH6 culvert for a distance of 50m	Up to 60m^3 after each high flood event. Note: excavation is to river level
All intake structures	Council stormwater reticulation system intake structures	Volumes and situations vary as required.

AP28.2 Flow regime for specific rivers

River	Reason for minimum flow	Minimum flow basis	Trigger flow basis	Allocation limit
Whangamoa River and tributaries **Measured at:** Upper reaches (Hippolite site): 027: 4966-0091 Lower reaches (Kokoroa): 027: 554-085	Very good water quality with high ecological values. **Management objective:** ecological values	Mean annual low flow	Mean annual low flow	10% of 1 in 5 year (7 day) mean low flow
Wakapuaka River – headwaters above Teal Confluence	Relatively good water quality. Some abstraction occurring with potential for future abstraction. **Management objectives:** - ecological values - downstream water supply	Mean annual low flow	Mean annual low flow	10% of 1 in 5 year (7 day) mean low flow
Wakapuaka River – main stem **Measured at:** Upper reaches (Hira): 027:431991 Lower reaches (Maori Pa Road): 027: 4539-0202	Relatively good water quality. Some abstraction occurring with potential for future abstraction. **Management objectives:** - enhancement (for ecological, public access and recreation values) - abstraction for irrigation	1 in 5 year (7 day) mean low flow	Mean annual low flow	20% of 1 in 5 year (7 day) mean low flow
Teal **Measured at:** Upper reaches (road end): 027: 435960 Lower reaches (Teal Lud intake): 027: 433971	Relatively high abstraction rates with potential for future abstraction. Good water quality with high ecological values. **Management objectives:** - ecological values - abstraction	1 in 5 year (7 day) mean low flow	Mean annual low flow	33% of 1 in 5 year (7 day) mean low flow
Lud **Measured at:** Upper reaches (Murdochs): 027: 420951 Lower reaches (Omahanui): 027: 4315-9869	Some existing abstraction with potential for future abstraction. **Management objectives:** - enhancement (for ecological and recreation values) - abstraction for irrigation	1 in 5 year (7 day) mean low flow	Mean annual low flow	33% of 1 in 5 year (7 day) mean low flow

River	Reason for minimum flow	Minimum flow basis	Trigger flow basis	Allocation limit
Todds **Measured at:** Upper reaches: 027:386980 Lower reaches (SH6): 027: 3780-9928	High level of existing abstraction and limited capacity for future abstraction. **Management objectives:** - flood control - riparian enhancement (through ecologically sensitive channel works, fencing upstream in the side valleys of Little Todds and the Biggsburn Way area) - rationalisation of the abstraction permits	1 in 5 year (7 day) mean low flow	Mean annual low flow	33% of 1 in 5 year (7 day) mean low flow
Maitai – main stem **Measured at:** Upper reaches (Forks): 027: 407907 Lower reaches (Riverside): 027:3441-9264	Important freshwater resource which provides for a wide range of competing uses and values including ecological values, Tangata Whenua values, recreational values and domestic water supply for Nelson City. **Management objectives:** - public water supply - enhancement (for ecological values) - recreational use	**Upper reaches (Forks) minimum flow:** From 1 November to 30 April (summer): 175 litres per second From 1 May to 31 October (winter): i) when the South Branch instantaneous flow exceeds 140 litres per second, the minimum instantaneous flow at the Forks shall be 300 litres per second, and ii) when the South Branch instantaneous flow is less than or equal to 140 litres per second, the minimum flow at the Forks shall be 225 litres per second. This minimum flow shall remain effective until the south branch mean daily flow exceeds 140 litres per second and the water level in the Maitai reservoir exceeds the level shown in figure 1 of the resource consent (RM025151), and iii) when the South Branch instantaneous flow is less than or equal to 130 litres per second, the minimum instantaneous flow at the forks shall be 190 litres per second. **Minimum flow (lower reaches):** 10% of mean annual low flow as measured at Riverside. **Trigger flow** There is no trigger flow for the Maitai. **Allocation limit:** No additional water permits will be approved to take water from the Maitai River.		

River	Reason for minimum flow	Minimum flow basis	Trigger flow basis	Allocation limit
Hillwood – upper catchment **Measured at:** Unique Creek: 027: 409987	Some abstraction with potential for future abstraction. **Management objectives:** - water supply (domestic and irrigation for horticulture - ecological values - enhancement of mid-stretch (of upper catchment) through revegetation	1 in 5 year (7 day) mean low flow	Mean annual low flow	33% of 1 in 5 year (7 day) mean low flow
Hillwood – lower catchment **Measured at:** Water supply intake: 027: 409987	Some abstraction with potential for future abstraction. **Management objectives:** - flood control - riparian enhancement - potential ecological values (with change in land use and wetland enhancement) - potential for irrigation if change in land use from dairy to cropping	1 in 5 year (7 day) mean low flow	Mean annual low flow	33% of 1 in 5 year (7 day) mean low flow
Poormans Valley Stream **Measured at:** Upper reaches (Barnicoat): 027: 3202-8644 Lower reaches (Seaview Road): N27:2940-8887	Some abstraction with potential for future abstraction. Relatively good water quality and in-stream values. **Management objectives:** - irrigation - ecological values, including threatened native fish species (giant kokopu) - recreational and amenity values - stock drinking water	**For all of the stream above Seaview Road:** Mean annual low flow **Stream below Seaview Road:** 1 in 5 year (7 day) mean low flow	Mean annual low flow	**Upper reaches (Barnicoat):** 10% of 1 in 5 year (7 day) mean low flow **Lower reaches (Seaview Road):** 33% of 1 in 5 year (7 day) mean low flow

River	Reason for minimum flow	Minimum flow basis	Trigger flow basis	Allocation limit
Saxton Creek **Measured at:** N27:273862	Some abstraction with potential for future abstraction. **Management objectives:** - irrigation - future amenity/recreation value - enhancement of ecological values(new freezing works, change of land use from horticulture to extension of Saxton Field)	1 in 5 year (7 day) mean low flow	Mean annual low flow	33% of 1 in 5 year (7 day) mean low flow
Oldham Creek **Measured at:** Upper reaches: 027: 372960 Lower reaches (Corder): 027: 3668-9668	Some abstraction with potential for future abstraction. **Management objectives:** - flood control - domestic water supply - amenity values - enhancement of ecological values	1 in 5 year (7 day) mean low flow	Mean annual low flow	33% of 1 in 5 year (7 day) mean low flow
Roding – main stem **Measured at:** Opposite caretakers house: 027: 318833	Important freshwater resource which provides for a wide range of competing uses and values including ecological values, Tangata Whenua values, recreational values and domestic water supply for Nelson City. **Management objectives:** - public water supply - enhancement (for ecological, amenity and recreation values)	**Minimum flow:** From 1 October 2001: 51 litres per second From 1 July 2008: 100 litres per second **Trigger flow:** There is no trigger flow for the Roding. **Allocation limit:** No additional water permits will be approved to take water from the Roding River.		
Default for unspecified rivers		**Allocation limit:** 10% of 1 in 5 year (7 day) mean low flow.		

In all cases, an advisory flow level will be set at 10% above the trigger flow to give ample warning to abstractors of upcoming restrictions.

AP28.3 Water allocation rules

AP28.3.i Water allocation - general rules

a) Water intake structures

The water intake structures of water takes in the Rural Zone shall be designed and constructed in a way that prevents fish entering the structures. Methods to achieve this include:

i. a maximum water velocity into the structure that is no greater than 0.5l/s, and
ii. screening the intake with mesh spacing that is no larger than 1.5mm in one dimension, and
iii. locating the intake screen at least 0.5m into the water column.

b) Water meters

Water meters shall be installed and maintained on the outlet of the pump for all consented water abstractions in any zone.

Explanation:

All water takes which require resource consent will be metered. Water metering provides the only feasible and practical method of monitoring total abstraction from rivers. Without metering there is no practical way Council can accurately monitor abstraction from rivers and groundwater, or know how much water remains in the river or aquifer for either in-stream uses or for other abstraction. Metering may also provide useful information on hydraulic linkages between rivers, aquifers, wetlands and springs during droughts and high rainfall events.

c) Monitoring fee

A monitoring fee, as established through the annual fees and charges process managed by the Planning & Consents Division, shall be paid to the Council by all water permit holders for the purposes of monitoring water flows, levels and abstractions.

AP28.3.ii Basis and methods for water rationing

Water abstraction during periods of low flow will be restricted using the following criteria:

a) all water takes must cease where any trigger flows in Appendix 28.2 are reached and where:
   i) the take is not for domestic, stock water, or fire fighting purposes, and
   ii) a water conservation plan has not been approved by the Council, and

b) all water takes must cease, except for fire fighting purposes, when the minimum flow is reached, and

c) water shortage directions will be issued as a last resort.

Rationing for all take, use, or abstraction of water which is not a permitted activity will be implemented on a catchment by catchment basis, as follows:

Flow	Basis for rationing/requirement	Methods of monitoring/advising affected parties	Methods of rationing
Trigger flow and above	No rationing	Website	N/a
Between minimum flow and trigger flow	a) For permit holders with a Water Conservation Plan approved by the Council: surplus flow above the minimum flow, apportioned amongst users based on a % equal to the % of cumulative permitted allocation. e.g. if an abstractor holds 25% of the cumulatively allocated water, they may abstract 25% of the available flow above the minimum flow OR as set out in the Water Conservation Plan. b) For permit holders without an approved Water Conservation plan abstraction must cease. c) For domestic water abstractions, no watering of lawns or amenity plantings.	- Notice in paper - Website	- Flow restricters on pump outlets - Pumping roster - Water meter monitoring - Water user groups - Water shortage directions
Minimum flow and below	All takes other than for fire fighting purposes and stock drinking water must cease.	- Phone calls to affected persons - Website	-Water shortage directions - Abstraction ceases
No minimum flow specified	% of residual flow being abstracted.		- Consent conditions - Flow restricters on pump outlets - Pumping roster - Water meter monitoring - Water user groups - Water shortage directions

AP28.3.iii Expiry and duration of water permits

a) In most cases, new water permits granted after 9 October 2004, and existing water permits without expiry dates, will expire as follows:

Catchment	Permit Expiry	Permit Duration
Whangamoa	30 June 2013	10 yrs
Wakapuaka	30 June 2013	10 yrs
Glenduan and Atawhai from Gentle Annie to Atawhai Drive	30 June 2014	10 yrs
Maitai	30 June 2017	20 yrs
Stoke Fan and York Stream	30 June 2014	10 yrs
Roding River	30 June 2017	20 yrs
Groundwater	30 June 2013	10 yrs

Exceptions to this rule will occur where a shorter term is necessary to monitor effects, or where a longer term is considered by the Council to be justified. The following assessment criteria will apply: efficiency of water use, use of good industry practice by the applicant, and the level of investment associated with the use of water.

b) Permits granted within 2 years of an expiry date shall expire on the second common expiry date after the permit is granted (e.g. where the expiry dates are 2010 and 2020, and an application is granted in 2009, the expiry date will be 2020), and the conditions of these existing consents will be reviewed to bring them into line with new consents issued in the same catchment.

Explanation:
A longer permit duration has been set for the Maitai and Roding catchments. This reflects the importance of the water permit for urban water supply, the extensive infrastructure involved, and the need for a greater level of certainty when planning for provision of a water supply for the City.

AP28.4 Classification of Nelson water bodies

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[1]	Priority for improve-ment
Roding River	City boundary to Conservation Zone boundary	Conservation Access	• urban water supply • native fisheries • swimming • amenity and recreation values • iwi values	B	Third
Saxton Creek	all	Conservation (aquatic habitat priority 3) Access Hazard mitigation	• water storage dam (private) • irrigation • stock water • stormwater drainage • sensitivity of Waimea Inlet receiving environment	E	Second
Orphanage Creek	Coast to Main Road Stoke	Hazard mitigation Access	• future industrial use in the lower catchment (Nayland South) • stormwater drainage • Iwi values • native fisheries • high value for amenity and recreation (Saxton Field and nearby residential area) • sensitivity of Waimea Inlet receiving environment	D	Second
	Saxton Road to Suffolk Road	Access Conservation Hazard mitigation			
	Suffolk Road to headwaters	Hazard mitigation Access			
Orchard Creek	Coast to Nayland Road	Access Hazard mitigation	• stormwater drainage • Iwi values • sensitivity of Waimea Inlet receiving environment • high amenity and recreation values in residential area	E	First
	Nayland Road to headwaters	Hazard mitigation Flood capacity			
Poorman Valley Stream Immediate PC24 Legal Effect	Seaview Road to Christian Academy	Access Conservation Hazard mitigation	• Residential Zone • stormwater drainage • Iwi values • native fisheries • high amenity and recreation values • sensitivity of Waimea Inlet receiving environment	D	First

[1] Where a water body is not listed in Appendix 28.4, its water quality classification should be determined by assessing a range of physical, chemical and biotic parameters as described in Cawthron Report No. 774 (October 2002).

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[2]	Priority for improve-ment
	Christian Academy to Marsden Valley Reserve	Access Conservation Hazard mitigation	• rural/ unmodified • stormwater drainage • fords and structures • native fisheries – koura, eels, banded kokopu • domestic abstractions • watercress • trout fisheries • Iwi values • amenity and recreation values • sensitivity of Waimea Inlet receiving environment	C	Second (Maintain C quality or upgrade to B where practicable)
	Marsden Valley reserve to road head	Access			
Arapiki Stream	Jenkins Creek confluence to Quarantine Road second crossing	Conservation Hazard mitigation	**lower reaches – industrial areas** • stormwater drainage • native fisheries • amenity and recreation values • sensitivity of Waimea Inlet receiving environment	E	First
	Quarantine Road to Ridgeway	Hazard mitigation			

[2] Where a water body is not listed in Appendix 28.4, its water quality classification should be determined by assessing a range of physical, chemical and biotic parameters as described in Cawthron Report No. 774 (October 2002).

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[3]	Priority for improve-ment
Jenkins Creek	Confluence with Poorman Valley Stream to Quarantine Road	Access Conservation Hazard mitigation	**lower reaches – industrial areas** • stormwater drainage • native fisheries • amenity and recreation values • sensitivity of Waimea Inlet receiving environment	D	Second
	Quarantine Road to Annesbrook Drive	Conservation Access			
	Annesbrook Drive to Gracefield Street	Access Hazard mitigation	**upper reaches - rural/ unmodified** • stormwater drainage • fords and structures • native fisheries • domestic abstractions • amenity and recreation values • sensitivity of Waimea Inlet receiving environment	D	Second
	Gracefield Street to Beatson Road	Hazard mitigation			
	Beatson Road to Newman Drive	Hazard mitigation			
	Newman Drive to Enner Glynn Road head (grid 027 323885)	Access Conservation Hazard mitigation			
York Stream	St Vincent Street/Totara Street corner to Waimea Road	Hazard mitigation	• intractable upper catchment issues: quarry and two landfills (one private, one public) **mid reaches** – residential/commercial areas **lower reaches** – industrial (but these are culverted) • stormwater drainage • native fisheries	D	Second
	York Dam to headwaters	Hazard mitigation			

[3] Where a water body is not listed in Appendix 28.4, its water quality classification should be determined by assessing a range of physical, chemical and biotic parameters as described in Cawthron Report No. 774 (October 2002).

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[1]	Priority for improve-ment
Brook Stream Immediate PC24 Legal Effect	Maitai confluence to 328 Brook Street		**Lower** (measured at Manuka St ford) • stormwater drainage • recreation and aesthetics • Iwi values • native fisheries	D/E	First
			Mid (measured at Blick Tce) • swimming • stock water • trout spawning • limited trout fishing • watercress gathering • native fishery • stormwater discharges • Iwi values • high recreation and amenity values	C	
	328 Brook St to above Brook Motor Camp	Hazard mitigation Conservation Access	• native fishery • old reservoir • Iwi values • high recreation and amenity values	B	Second Maintain C quality and upgrade to B where practicable.

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[1]	Priority for improve-ment
Maitai River Immediate PC24 Legal Effect	The Haven to Jickells Bridge	Conservation Access Hazard mitigation	**Lower** (Riverside to seaward boundary) • stormwater drainage • swimming (health issue) • trout, whitebait and eel fishing • dog swimming • kayaking • whitebait spawning • Iwi values • high amenity and recreational value • walkway	C	First
			Mid (from Riverside to Almond Tree Ford) • stormwater drainage • swimming (health issue) • dog-swimming • trout and eel fishing • Iwi values • native fisheries • high amenity and recreational value • walkway	C	First
	Jickells Bridge to Conservation Zone boundary	Conservation Access Hazard mitigation	**Mid-Upper** (from Almond Tree ford to Motor camp) • swimming • trout and eel fishing • dog-swimming • native fisheries • trout fisheries • walkway • Iwi values	B	Third Maintain

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[1]	Priority for improve-ment
Maitai River	Sharlands Creek/Maitai confluence to headwaters	Conservation Access Hazard mitigation	**Upper** (from Maitai camp and upstream - South branch) • native fisheries • urban water supply • trout and eel fishery • trout spawning • Iwi values	A (South Branch only) B (other reaches)	Preserve
	Groom Creek/Maitai confluence to Tantragee Saddle	Access Conservation			
Groom Creek Immediate PC24 Legal Effect			• native fisheries • Iwi values • affects Maitai River quality for swimming (health issue)	C	Second
Sharlands Creek			• trout spawning and rearing • native fisheries • Iwi values	C	First Upgrade to B where practicable
Oldham Creek	Corder Pond to Hodgson Place east boundary	Hazard mitigation Conservation	**Lower** • amenity and recreation value • Iwi values • native fisheries • discharges into Nelson Haven (sensitive environment)	D	Second
	Strathhaven Place branch from Naumai Street through Strathhaven Place (both branches)	Hazard mitigation Conservation	**Upper** • amenity and recreation value • Iwi values • native fisheries • discharges into Nelson Haven (sensitive environment)	D	Second
	Werneth Place to forest remnant (grid 027 375965	Access			

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[1]	Priority for improve-ment
Todds Valley Stream	Lower and Central Reaches	Hazard mitigation access conservation	**Lower** • irrigation abstraction • reservoir storage • stock water • channel upgrade and major in-stream works planned • native fisheries • Iwi values • discharge into Wakapuaka wetland (sensitive receiving environment)	D	First
	Upper reaches	Hazard mitigation Conservation	**Upper** • irrigation abstraction • reservoir storage • stock water • channel upgrade and major in-stream works planned • native fisheries • Iwi values	C	Second
Hillwood Valley Stream			• stock water • native fisheries • Iwi values • discharge into Wakapuaka wetland (sensitive receiving environment)	D	Second
Waihi Creek			**Lower reaches** (north from Cable Bay walkway entrance) • significant native fisheries • domestic and stock abstraction • Iwi values	D	Second

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[1]	Priority for improve-ment
Wakapuaka River Immediate PC24 Legal Effect	Delaware Inlet to Hira township	Conservation Access Hazard mitigation	• domestic supply • stock water • fishing – trout and whitebait (fisheries and spawning) • native fisheries • swimming • irrigation • gravel extraction (Maori Pa Road) • Iwi values – particularly Delaware Inlet • high amenity and recreation value	C	Second
	Hira township to Ross Road turnoff	Conservation Access	• domestic abstraction • swimming • trout spawning and rearing • native fisheries • Iwi values	B	Second Maintain
	Ross Road turnoff to last Whangamoa layby	Conservation Access	• domestic abstraction • swimming • trout spawning and rearing • native fisheries • Iwi values	B	Third Maintain
Teal River	SH6 to Small Holdings Area boundary	Hazard mitigation Access Conservation	**Lower** • domestic abstraction • swimming (health issue) • trout spawning and rearing • native fisheries • Iwi values	C	Second
			Upper • domestic abstraction • swimming • trout spawning and rearing • native fisheries	B	Third Maintain

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[1]	Priority for improve-ment
Lud River Immediate PC24 Legal Effect	SH6 to Small Holdings Area boundary	Conservation Access Hazard mitigation	**Lower** • domestic abstraction • swimming • trout spawning and rearing • native fisheries • Iwi values	D	First
			Upper • domestic abstraction • swimming • trout spawning and rearing • native fisheries • Iwi values	D	First
Pitcher's Stream Immediate PC24 Legal Effect			• native fishery • Iwi values	B	Third Maintain
Whangamoa River Immediate PC24 Legal Effect	Whangamoa Main Stem inlet to Graham Stream confluence	Conservation Access	**Lower** • native fisheries • trout fishing • drinking water • vehicles crossings • Iwi values • sensitive coastal receiving environment	C	Third Upgrade to Class B where practicable
			Mid • native fisheries • trout fishing • drinking water • vehicle crossings • Iwi values	C	Third Upgrade to Class B where practicable
	Whangamoa Main Stem above Graham Stream		**Upper** • native fisheries • trout spawning • drinking water • vehicle crossings • Iwi values	B	Third Maintain
Graham Stream Immediate PC24 Legal Effect	-	-	• native fisheries (unknown values) • trout spawning and fishing • drinking water • vehicle crossings • Iwi values • sensitive coastal receiving environment	B	Third Maintain
Collins River Immediate PC24 Legal Effect	-	-	• native fisheries • trout spawning and fishing • Iwi values	C	Third Upgrade to Class B where practicable

River	Reach	Riparian margin management values (from Appendix 6)	Associated land uses and values	Water quality classif-ication (2002)[1]	Priority for improve-ment
Dencker Creek Immediate PC24 Legal Effect			• native fisheries • drinking water • vehicle crossings • Iwi values	C	Third Upgrade to Class B where practicable

AP28.5 Water quality standards - freshwater

Class A Excellent (high conservation / ecological value)	
General Characteristic	Water quality of this class markedly and uniformly exceeds the requirement for all or substantially all uses
Characteristic uses	Characteristic uses include but are not limited to the following: Spiritual and cultural Water supply (untreated domestic, industrial, irrigation, livestock). Human consumption of aquatic biota. Aquaculture Aquatic ecosystem (including migration) Wildlife habitat Recreation and Aesthetics (primary and secondary contact recreation, visual use, fishing, boating, aesthetic enjoyment)
Water Quality Criteria	
Waterborne Disease Risk	Faecal coliforms: at least 98% of samples contain no faecal coliforms or E. coli in 100ml. Viruses: no enteric viruses are detectable in 100l of sample. Protozoa (pathogenic e.g. Giardia and Cryptosporidium): not detectable in 100l of sample. Helminths (pathogenic): not detectable in 100l of sample
Toxic Algae	No toxic algae detectable in 100l of sample.
Dissolved Oxygen	Rivers and streams: median or mean dissolved oxygen measured under low flow conditions in daytime is within the range of 99 – 103% saturation. Lakes and reservoirs: dissolved oxygen is in the range of 90-110% saturation.
Turbidity	Turbidity (mean or median) in rivers and streams does not exceed 1.0 NTU.
Clarity	Clarity (median) – Rivers and streams (black disc) is not less than 6.0m. Lakes and reservoirs (secchi disc) is not less than 7m.
Colour	Colour – hue does not change by more than 5 points on the Munsell scale.
Temperature	Temperature in rivers and streams does not exceed a daily mean of 18^0C or a daily maximum of 20^0C due to human activities.
pH	pH is within the range of 7.2 and 9.0.
Periphyton (rivers and streams)	Maximum cover of diatoms and cyanobacteria: more than 0.3cm thick in gravel/cobble bed streams does not exceed 60% and filamentous algae more than 2cm long does not exceed 30% unless there have been no significant freshes (> 6x baseflow) for a period longer than 50 days.
Nutrients	Phosphorus and nitrogen. Rivers and streams: mean monthly concentrations of soluble inorganic phosphorus (SIP) and soluble inorganic nitrogen (SIN) measured under low flow conditions are less than 5 and 80ug/l respectively. Lakes and reservoirs: mean monthly concentrations of total phosphorus (TP) and total nitrogen (TN) are less than 5 and 80ug/l respectively.
Toxicants	Toxic, radioactive or deleterious material concentrations are below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon these waters and bed sediments, or adversely affect public health, as determined by the 99% level of protection for toxicants in water (AP28.6.i in Appendix 28) and the ISQG-Low Trigger Value for toxicants in sediments (AP28.6.ii in Appendix 28.6)
Objectionable material	Waters are free from: floating debris, oil, grease and other objectionable material, excluding those of natural origin.
Aesthetic	Aesthetic values are not impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, taste or touch.

Macroinvertebrates (rivers and streams)	Species richness of the predominant invertebrate assemblages in gravel/cobble bed rivers and streams, as measured by the macroinvertebrate community index (MCI), are not less than 120, and/or the semi-quantitative MCI (SQMCI) is not less than 6.00.
Aquatic habitat	Aquatic habitat, including riparian habitat, is not impaired by the activities of humans, either directly or indirectly.
Class B Very Good	
General Characteristic	Water quality of this class markedly and uniformly exceeds the requirement for all or substantially all uses
Characteristic uses	Characteristic uses include but are not limited to the following: Spiritual and cultural Water supply (treated domestic, industrial, irrigation, livestock). Human consumption of aquatic biota. Aquaculture Aquatic ecosystem (including migration) Wildlife habitat Recreation and Aesthetics (primary and secondary contact recreation, visual use, fishing, boating, aesthetic enjoyment)
Water Quality Criteria	
Waterborne Pathogens	E.coli.: running median (estimated monthly) of E.coli. is less than 126/100ml. Single sample is not more than 410 E. coli per 100ml. Faecal coliforms:(estimated monthly) no greater than 20% of samples will exceed 400/100ml. Median value does not exceed 100 FC/100ml
Toxic algae	No criteria.
Dissolved oxygen	Rivers and streams: median or mean dissolved oxygen measured under low flow conditions in daytime is within the range of 98 – 105% saturation. Lakes and reservoirs: dissolved oxygen is in the range of 90-110% saturation.
Turbidity	Turbidity (mean or median) in rivers and streams does not exceed 2.0 NTU
Clarity	Clarity (median) in rivers and streams (black disc) shall not be less than 4m. In lakes and reservoirs (secchi disc) clarity shall not be less than 5m.
Colour	Colour: hue does not change by more than 5 points on the Munsell scale.
Temperature	Temperature in rivers and streams: does not exceed a daily mean of 20 degrees C or a daily maximum of 24 degrees C due to human activities.
pH	pH is within the range of 7.2 and 9.0.
Periphyton (rivers and streams)	Maximum cover of diatoms and cyanobacteria: more than 0.3cm thick in gravel/cobble bed streams does not exceed 60%, and for filamentous algae more than 2cm long, cover does not exceed 30% unless there have been no significant freshes (more than 6x baseflow) for a period longer than 30 days.
Nutrients	Phosphorus and nitrogen. Rivers and streams: mean monthly concentrations of soluble inorganic phosphorus (SIP) and soluble inorganic nitrogen (SIN) measured under low flow conditions are less than 9 and 120ug/l respectively. Lakes and reservoirs: mean monthly concentrations of total phosphorus (TP) and total nitrogen (TN) are less than 9.0 and 160ug/l respectively.
Toxicants	Toxicants – toxic, radioactive or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon these waters and bed sediments, or adversely affect public health, as determined by the 95% level of protection for toxicants in water (AP28.6.i in Appendix 28) and the ISQG-Low Trigger Value for toxicants in sediments (AP28.6.ii in Appendix 28).
Objectionable material	Waters are free from: floating debris, oil, grease and other objectionable material, excluding those of natural origin.
Aesthetic	Aesthetic values are not impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, taste or touch.
Macroinvertebrates (rivers and streams)	Species richness of the predominant invertebrate assemblages in gravel/cobble bed rivers and streams, as measured by the macroinvertebrate community index (MCI), are not less than 100, and/or the semi-quantitative MCI (SQMCI) is not less than 5.00.

Aquatic habitat	Aquatic habitat, including riparian habitat, is not impaired by human activities, either directly or indirectly.
Class C Moderate	
General Characteristic	Water quality of this class markedly and uniformly exceeds the requirement for most uses
Characteristic uses	Characteristic uses include but are not limited to the following: Water supply (industrial). Human consumption of aquatic biota. Aquaculture Aquatic ecosystem (including migration) Wildlife habitat Recreation and Aesthetics (secondary contact recreation, visual use, fishing, boating, aesthetic enjoyment)
Water Quality Criteria	
Waterborne Pathogens	E.coli. running median (estimated monthly): less than 500/100ml. Faecal coliforms (estimated monthly): no greater than 20% of samples exceed 400/100ml.
Toxic algae	No criteria.
Dissolved oxygen	Rivers and streams: minimum dissolved oxygen measured under low flow conditions over 24 consecutive hours is not less than 90% saturation. Lakes and reservoirs: dissolved oxygen is in the range of 90-110% saturation..
Turbidity	Turbidity (mean or median) in rivers and streams does not exceed 3.0 NTU.
Clarity	Clarity - Natural visual clarity not reduced by more than 33%. Or Clarity (median) - rivers and streams (black disc) shall not be less than 2.5m. Lakes and reservoirs (secchi disc) shall not be less than 4m.
Colour	Colour – hue is not changed by more than 10 points on the Munsell scale.
Temperature	Temperature in rivers and streams, does not exceed a daily mean of 22^0C or a daily maximum of 27^0C due to human activities.
pH	pH is within the range of 6.5 and 8.5.
Periphyton (rivers and streams)	Maximum cover of diatoms and cyanobacteria: more than 0.3cm thick in gravel/cobble bed streams does not exceed 60% cover and filamentous algae more 2cm long does not exceed 30% cover unless there have been no significant freshes (more than 6x baseflow) for a period longer than 20 days.
Nutrients	Phosphorus and nitrogen. Rivers and streams: mean monthly concentrations of soluble inorganic phosphorus (SIP) and soluble inorganic nitrogen (SIN) measured under low flow conditions are less than 26 and 295ug/l respectively. Lakes and reservoirs: mean monthly concentrations of total phosphorus (TP) and total nitrogen (TN) are less than 20 and 250ug/l respectively.
Toxicants	Toxicants – toxic, radioactive or deleterious material concentrations are below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon these waters and bed sediments, or adversely affect public health, as determined by the 95% level of protection for toxicants in water (AP28.6.i in Appendix 28) and the ISQG-Low Trigger Value for toxicants in sediments (AP28.6.ii in Appendix 28).
Objectionable material	Waters are free from: floating debris, oil, grease and other objectionable material, excluding those of natural origin.
Aesthetic	Aesthetic values are not reduced by dissolved, suspended, floating, or submerged matter not attributed to natural causes, so as to affect water use or taint the flesh of edible species.
Macroinvertebrates (rivers and streams)	Species richness of the predominant invertebrate assemblages in gravel/cobble bed rivers and streams, as measured by the macroinvertebrate community index (MCI), are not less than 80, and/or the semi-quantitative MCI (SQMCI) is not less than 4.00.
Aquatic habitat	No criteria.

Class D Degraded	
General Characteristic	Water quality of this class meets or exceeds the requirements of selected and essential uses.
Characteristic uses	Characteristic uses includes but are not limited to the following: Water supply (industrial). Human consumption of aquatic biota Aquaculture Aquatic ecosystem (including migration) Wildlife habitat Recreation and Aesthetics (secondary contact recreation, visual use, fishing, boating, aesthetic enjoyment) Commerce
Water Quality Criteria	
Waterborne Pathogens	No criteria
Toxic algae	No criteria.
Dissolved oxygen	Rivers and streams: minimum dissolved oxygen measured under low flow conditions over 24 consecutive hours is not less than 80% saturation. Lakes and reservoirs; no measurable decrease from natural conditions.
Turbidity	Turbidity (mean or median) in rivers and streams does not exceed 5.0 NTU.
Clarity	Clarity: natural visual clarity is not reduced by more than 33%. Alternatively, clarity (median) of rivers and streams (black disc) is not less than 0.6m. Lakes and reservoirs (secchi disc) is not less than 3m.
Colour	Colour: hue is not changed by more than 10 points on the Munsell scale.
Temperature	Temperature in rivers and streams does not exceed a daily mean of 25^0C or a daily maximum of 30^0C due to human activities.
pH	pH is within the range of 6.5 and 9.0.
Periphyton	No criteria.
Nutrients	Phosphorus and nitrogen. Rivers and streams; mean monthly concentrations of soluble inorganic phosphorus (SIP) and soluble inorganic nitrogen (SIN) measured under low flow conditions should be less than 30 and 350ug/l respectively. Lakes and reservoirs: mean monthly concentrations of total phosphorus (TP) and total nitrogen (TN) are less than 20 and 337ug/l respectively.
Toxicants	Toxicants – toxic, radioactive or deleterious material concentrations are below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon these waters and bed sediments, or adversely affect public health, as determined by the 90% level of protection for toxicants in water (AP28.6.i in Appendix 28) and the ISQG-Low Trigger Value for toxicants in sediments (AP28.6.ii in Appendix 28).
Objectionable material	Not applicable.
Aesthetic	Aesthetic values are not interfered with by the presence of obnoxious wastes, slimes, aquatic growths, or materials which taint the flesh of edible species.
Macroinvertebrates (rivers and streams)	No criteria.
Aquatic habitat	No criteria.

Class E Very Degraded	
General Characteristic	Water quality of this class meets or exceeds the requirements of selected and essential uses.
Characteristic uses	Characteristic uses include but are not limited to the following: Treated water supply (industrial).
Water Quality Criteria	
Waterborne Pathogens	No criteria.
Toxic algae	No criteria.
Dissolved oxygen	No criteria.
Colour	No criteria.
Temperature	No criteria.
pH	No criteria.
Periphyton	No criteria.
Nutrients	No criteria.
Toxicants	No criteria.
Objectionable material	No criteria.
Aesthetic	No criteria.
Aquatic habitat	No criteria.

AP28.6 Surface water and sediment quality standards for toxicants - freshwater

AP28.6.i **Surface Water Quality Criteria for Toxicants:** Recommended trigger values for toxicants for different classes of water bodies (derived from ANZECC 2000).
These are chronic or long term toxicity criteria (>4 days exposure) which are designed to be met at the edge of a mixing zone.

Chemical	Trigger values for surface freshwater (µgL-1)			
	Level of protection			
	Class A	Class B	Class C	Class D
METALS & METALLOIDS				
Aluminium pH >6.5	27	55	80	150
Arsenic (As III)	1	24	94 C	360 C
Arsenic (AsV)	0.8	13	42	140 C
Boron	90	370 C	680 C	1300 C
Cadmium H	0.06	0.2	0.4	0.8 C
Chromium (CrVI)	0.01	1.0 C	6.0 A	40 A
Copper H	1	1.4	1.8 C	2.5 C
Lead H	1	3.4	5.6	9.4 C
Manganese	1200	1900C	2500C	3600C
Mercury (inorganic) B	0.06	0.6	1.9 C	5.4 A
Nickel H	8	11	13	17 C
Selenium (Total) B	5	11	18	34
Silver	0.02	0.05	0.1	0.2 C
Zinc H	2.4	8.0 C	15 C	31 C
NON-METALLIC INORGANICS				
Ammonia D	320	900 C	1430 C	2300 A
Chlorine E	0.4	3	6.0 A	13 A
Cyanide F	4	7	11	18
Nitrate J	17	700	3400 C	17000 A
Hydrogen sulfide G	0.5	1	1.5	2.6
ORGANIC ALCOHOLS				
Ethanol	400	1400	2400 C	4000 C
CHLORINATED ALKANES				
Chloroethanes				
1,1,2-trichloroethane	5400	6500	7300	8400
Hexachloroethane B	290	360	420	500
ANILINES				
Aniline	8	250 A	1100 A	4800 A
2,4-dichloroaniline	0.6	7	20	60 C
3,4-dichloroaniline	1.3	3	6 C	13 C
AROMATIC HYDROCARBONS				
Benzene	600	950	1300	2000
o-xylene	200	350	470	640
p-xylene	140	200	250	340
Polycyclic Aromatic Hydrocarbons				
Naphthalene	2.5	16	37	85
Nitrobenzenes				
Nitrobenzene	230	550	820	1300
Nitrotoluenes				
2,4-dinitrotoluene	16	65 C	130 C	250 C
2,4,6-trinitrotoluene	100	140	160	210
Chlorobenzenes and Chloronaphthalenes				
1,2-dichlorobenzene	120	160	200	270
1,3-dichlorobenzene	60	260	350	520C

Chemical	Class A	Class B	Class C	Class C
1,4-dichlorobenzene	40	60	75	100
1,2,3-trichlorobenzene B	3	10	16	30 C
1,2,4-trichlorobenzene B	85	170C	220C	300C
Polychlorinated Biphenyls (PCBs) & Dioxins				
Aroclor 1242 B	0.3	0.6	1	1.7
Aroclor 1254 B	0.01	0.03	0.07	0.2
PHENOLS and XYLENOLS				
Phenol	85	320	600	1200 C
2-chlorophenol T	340 C	490 C	630 C	870 C
4-chlorophenol T	160	220	280 C	360 C
2,4-dichlorophenol T	120	160 C	200 C	270 C
2,4,6-trichlorophenol T,B	3	20	40	95
2,3,4,6- tetrachlorophenol T,B	10	20	25	30
Pentachlorophenol T,B	3.6	10	17	27 A
Nitrophenols				
2,4-dinitrophenol	13	45	80	140
PHTHALATES				
Dimethylphthalate	3000	3700	4300	5100
Diethylphthalate	900	1000	1100	1300
Dibutylphthalate B	9.9	26	40.2	64.6
MISCELLANEOUS INDUSTRIAL CHEMICALS				
Poly(acrylonitrile-co-butadiene-costyrene)	200	530	800 C	1200 C
ORGANOCHLORINE PESTICIDES				
Chlordane B	0.03	0.08	0.14	0.27 C
DDT B	0.006	0.01	0.02	0.04
Endosulfan B	0.03	0.2 A	0.6 A	1.8 A
Endrin B	0.01	0.02	0.04 C	0.06 A
Heptachlor B	0.01	0.09	0.25	0.7 A
Lindane	0.07	0.2	0.4	1.0 A
Toxaphene B	0.1	0.2	0.3	0.5
ORGANOPHOSPHORUS PESTICIDES				
Azinphos methyl	0.01	0.02	0.05	0.11 A
Chlorpyrifos B	0.00004	0.01	0.11 A	1.2 A
Diazinon	0.00003	0.01	0.2 A	2.0 A
Dimethoate	0.1	0.15	0.2	0.3
Fenitrothion	0.1	0.2	0.3	0.4
Malathion	0.002	0.05	0.2	1.1 A
Parathion	0.0007	0.004 C	0.01 C	0.04 A
CARBAMATE & OTHER PESTICIDES				
Carbofuran	0.06	1.2 A	4.0 A	15 A
Methomyl	0.5	3.5	9.5	23
PYRETHROIDS				
Esfenvalerate	ID	0.001*	ID	ID
HERBICIDES & FUNGICIDES				
Bypyridilium herbicides				
Diquat	0.01	1.4	10	80 A
Phenoxyacetic acid herbicides				
2,4-D	140	280	450	830
2,4,5-T	3	36	100	290 A
Thiocarbamate herbicides				
Molinate	0.1	3.4	14	57
Thiobencarb	1	2.8	4.6	8 C
Thiram	0.01	0.2	0.8 C	3.0 A
Triazine herbicides				
Atrazine	0.7	13	45 C	150 C
Simazine	0.2	3.2	11	35

Chemical	Class A	Class B	Class C	Class D
Urea herbicides				
Tebuthiuron	0.02	2.2	20	160 C
Miscellaneous herbicides				
Glyphosate	370	1200	2000	3600 A
Trifluralin B	2.6	4.4	6	9.0 A
GENERIC GROUPS OF CHEMICALS				
Surfactants				
Linear alkylbenzene sulfonates (LAS)	65	280	520 C	1000 C
Alcohol ethoxyolated sulfate (AES)	340	650	850 C	1100 C
Alcohol ethoxylated surfactants (AE)	50	140	220	360 C

Notes: Refer to Table 3.4.1 in ANZECC (2000) and sections referred to below for guidance on application of these criteria.

* High reliability figure for esfenvalerate derived from mesocosm NOEC data (no alternative protection levels available).
A = Figure may not protect key test species from acute toxicity (and chronic) — check Section 8.3.7 for spread of data and its significance. 'A' indicates that trigger value > acute toxicity figure; note that trigger value should be <1/3 of acute figure (Section 8.3.4.4).
B = Chemicals for which possible bioaccumulation and secondary poisoning effects should be considered (see Sections 8.3.3.4 and 8.3.5.7).
C = Figure may not protect key test species from chronic toxicity (this refers to experimental chronic figures or geometric mean for species) — check Section 8.3.7 for spread of data and its significance. Where grey shading and 'C' coincide, refer to text in Section 8.3.7.
D = Ammonia as TOTAL ammonia as [NH3-N] at pH 8. For changes in trigger value with pH refer to Section 8.3.7.2.
E = Chlorine as total chlorine, as [Cl]; see Section 8.3.7.2.
F = Cyanide as un-ionised HCN, measured as [CN]; see Section 8.3.7.2.
G = Sulfide as un-ionised H2S, measured as [S]; see Section 8.3.7.2.
H = Chemicals for which algorithms have been provided in table 3.4.3 to account for the effects of hardness. The values have been calculated using a hardness of 30 mg/L CaCO3. These should be adjusted to the site-specific hardness (see Section 3.4.3).
J = Figures protect against toxicity and do not relate to eutrophication issues. Refer to Section 3.3 if eutrophication is the issue of concern.
ID = Insufficient data to derive a reliable trigger value. Users advised to check if a low reliability value or an ECL is given in Section 8.3.7.
T = Tainting or flavour impairment of fish flesh may possibly occur at concentrations below the trigger value. See Sections 4.4.5.3/3 and 8.3.7.

AP28.6.ii **Sediment quality criteria**[a] (for all waterbody classes)

Contaminant	ISQG Low (Trigger value)	(ISQG-High)
METALS (mg/kg dry wt)		
Antimony	2	25
Cadmium	1.5	10
Chromium	80	370
Copper	65	270
Lead	50	220
Mercury	0.15	1
Nickel	21	52
Silver	1	3.7
Zinc	200	410
METALLOIDS (mg/kg dry wt)		
Arsenic	20	70
ORGANOMETALLICS		
Tributyltin (ug Sn/kg dry wt.)	5	70
ORGANICS (ug/kg dry wt)[b]		
Acenaphthene	16	500
Acenaphthalene	44	640
Anthracene	85	1100
Fluorene	19	540
Naphthalene	160	2100
Phenanthrene	240	1500
Low Molecular Weight PAHs[c]	552	3160
Benzo(a)anthracene	261	1600
Benzo(a)pyrene	430	1600
Dibenzo(a,h)anthracene	63	260
Chrysene	384	2800
Fluoranthene	600	5100
Pyrene	665	2600
High Molecular Weight PAHsC	1700	9600
Total PAHs	4000	45000
Total DDT	1.6	46
p.p'-DDE	2.2	27
o,p'- + p,p'-DDD	2	20
Chlordane	0.5	6
Dieldrin	0.02	8
Endrin	0.02	8
Lindane	0.32	1
Total PCBs	23	-

a Primarily adapted from Long et al. (1995);
b Normalised to 1% organic carbon;
c Low molecular weight PAHs are the sum of concentrations of acenaphthene, acenaphthalene, anthracene, fluorene, 2-methylnaphthalene, naphthalene and phenanthrene; high molecular weight PAHs are the sum of concentrations of benzo(a)anthracene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluoranthene and pyrene.

AP28.7 Reasonable mixing zone

AP28.7.i The following apply for permitted, controlled and discretionary activities:
For all discharges excluding stormwater, in determining the size of the zone of reasonable mixing, the following conditions will apply:

a) the maximum size of the mixing zone, singularly or cumulatively in combination with other mixing zones, shall be the most restrictive combination of the following:
- the mixing zone does not extend in a downstream direction from the discharge point(s) for a distance greater than 100m plus the depth of water at the discharge point(s), or extend upstream for a distance of more than 30m, or
- the mixing zone does not utilise more than 25% of the flow, or
- the mixing zone does not occupy more than 25% of the width of the water body.

b) all known, available and reasonable methods of prevention, control and treatment have been applied, and

c) water quality standards as set out in Appendix 28.5 are not exceeded outside of the boundary of the proposed mixing zone as a result of the discharge, and

d) the size of a mixing zone and the concentrations of pollutants present are minimised, and

e) there is no lethal toxicity to biota exposed to the diluted effluent within the mixing zone for periods less than or equal to 1 hour (i.e. they are unlikely to die if moving through the mixing zone).

AP28.7.ii For all stormwater discharges to a watercourse, or sedimentation associated with bed disturbance, the point of reasonable mixing will be considered to be that point which is 30 times the receiving water channel's width at the point of discharge downstream of the discharge.

AP28.8 Obsolete structures - rules

AP28.8.i Removal of obsolete structures in the beds of rivers and lakes:

Rule
Obsolete structures must be removed unless:

a) they are identified as having heritage or cultural values by a suitably qualified and experienced person approved by the Council, and

b) retaining the structure meets the following criteria:

i. fish passage is not obstructed or is provided for, and

ii. gravel movement is not restricted, and

iii. flood capacity is not compromised, and

iv. there are no significant adverse effects on aquatic life.

Retention of obsolete instream structures that contravene the above conditions is non-complying.

Explanation
Obsolete structures are any structures which are not required for their original use, or which have not been used as intended for a continuous period of two years or more, and for which no future use is anticipated. Liability for removal of the structure lies with the last known person, agency, or entity with legal responsibility for the maintenance or upkeep of the structure.

The following district wide policies are relevant to this rule:

DO17.1.8 (obsolete structures in the beds of rivers and lakes)

DO17.2.1 (activities and structures in the beds of rivers and lakes which affect network utility operations)

The following rule is also relevant: FWr.7 (removal of obsolete structures in the beds of rivers and lakes).

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