

COASTAL PERMIT

Pursuant to Section 105 of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Dunedin City Council

Address: 50 The Octagon, Dunedin

To discharge contaminants to the coastal marine area for the purpose of disposing of stormwater

For a term expiring 35 years from the commencement of this consent.

Location of consent activity:

South Dunedin Catchment, Otago Harbour Dunedin, outfall location: approximately 45 metres north east of the intersection of Portobello Road and Portsmouth Drive

Legal description of consent location: Common Marine and Coastal Area, Otago Harbour

GPS References: Outfall location NZTM 2000: 1407365 E 4914818 N

Conditions

1. The discharge of stormwater shall not after reasonable mixing;
 - (a) cause a conspicuous change in the colour in the receiving environment; and
 - (b) cause the production of any conspicuous oil, grease, films, scums or floatable material.

2. (a) The consent holder shall investigate and determine the source of all human sewage entering through lateral connections to the stormwater network within the South Dunedin catchment, known at the time this consent was granted, within two years of the granting of this consent. The investigation shall be undertaken in accordance with the sampling regime attached in Appendix 1 to this consent, from the outfall at the following location:

Outfall location NZTM 2000: 1407365 E 4914818 N

- (b) All samples shall be analysed for Escherichia coli (E.coli) Units (No/100 millilitres) and shall be collected at the end of pipe or as near as practicable thereto prior to the discharge mixing with seawater.

- (c) Dry weather is defined as a period of at least 72 hours with no more than 1 millimetre of measurable rainfall. If no dry weather conditions occur within a calendar month, no sample shall be taken for that month.
 - (d) If E.coli contamination greater than 550 units per 100 millilitres is identified, an investigation shall be initiated into the cause of the contamination within 7 days of the monitoring results being received.
 - (e) Should this investigation identify that enforcement and/or remedial action is required, this shall be undertaken as soon as is practicable.
 - (f) A record shall be kept of all confirmed human sewage contaminant sources. The record shall be provided to the Consent authority within one month of being completed and annually thereafter as part of the annual reporting required by Condition 11. For annual monitoring, the annual median value, as recorded for each outfall, shall be clearly identified within the monitoring results.
 - (g) The consent holder shall give high priority to the removal of any further human sewage entering through lateral connections to the stormwater system identified within the relevant ICMP and action plan. All human sewage discharges to the stormwater system, as identified following the two year investigation period required by (a), shall be removed as soon as is practicable but within not more than 5 years of granting of this consent. Following the date of expiration of the two year investigation period, any further connections identified shall be removed within 3 months of their first discovery.
3. (a) From the third anniversary date of the consent being granted, the discharge of stormwater shall not contain waste from an industrial or trade process from a source known to the consent holder at the time this resource consent was granted.
- (b) Where further trade waste contaminants are identified in stormwater or the environment after the date this resource consent was granted, the consent holder shall implement measures to have the contaminant source removed within 6 months of its first discovery.
- (c) If any enforcement and/or remedial action is required, this shall be undertaken as soon as is practicable.
- (d) Subject to the required statutory processes, the consent holder shall as soon as practicable implement its proposal to enact a "Stormwater Discharge Bylaw" to enable it to assume better control of inputs to its stormwater systems particularly from industrial and trade premises and from new development.
4. If the consent holder identifies any public health risk to recreational users of Otago Harbour caused by all or any of the stormwater discharges, the consent holder shall undertake suitable measures to advise the users that there is a risk to public health from recreating and or bathing within the vicinity of the relevant discharge outfall following rainfall. Such suitable measures shall include, but not be limited to, public notices of the risk in newspapers circulating within the environs, radio announcements and signage maintained until such time as the risk is eliminated.
5. The consent holder shall prepare and implement an Integrated Catchment Management Plan (ICMP) for the management of stormwater within the South Dunedin catchment.
- (a) The ICMP shall be amended as may be required. The consent authority shall be provided with the latest version of the ICMP, within one month of adoption.

- (b) The consent holder shall, at all times have in place and implement an Action Plan to implement management actions to achieve ICMP targets. The purpose of the Action Plan is to improve stormwater quality and address any adverse environmental effects.

The actions must include:

- (i) The development and implementation of regulatory controls and or enforcement programmes to control discharges to the stormwater network.
 - (ii) The prioritisation of good management practice for the treatment of stormwater on any new development or complete site redevelopment within the catchment.
 - (iii) The adoption of best practice stormwater network maintenance; and
 - (iv) The development and implementation of an education program, within 1 year of the granting of this consent; and
 - (v) The identification and targeting of contaminants of concern as identified within monitoring and analysis required by condition 7. Specific targets are to be developed and included within the action plan. These targets shall be to reduce or eliminate problem contamination sources within 6 years of the granting of this consent. Should any investigation work identify a discharge source of a problem contaminant(s) to a specific property and or location, steps shall be taken to remove this contaminant source as soon as practicable.
- (c) Details of the on-going implementation of the ICMP for each 12 month period, including an update on the progress towards achieving the relevant targets outlined in the ICMP and implementation of the Action Plan, shall be provided to the Consent authority in accordance with the annual report required by condition 11.
6. (a) The consent holder shall facilitate the establishment of a Stormwater Stakeholder Group (SSG) within one year of the granting of this consent.
- (b) The consent holder shall invite members of the SSG to a consultative meeting at least once annually.
- (c) As a minimum, the following organisations shall be invited to nominate a representative on the SSG: the Department of Conservation, Otago Regional Council, Southern District Health Board, Port Otago, Te Runanga o Otakou, Save the Otago Peninsula Incorporated Society and any other relevant community/interest groups as deemed appropriate by the consent holder.
- (d) The purpose of the meetings shall be to report on and discuss progress with the implementation of each ICMP and action plan, discuss any monitoring results, compliance with the conditions of this consent, and stormwater management options that have been implemented.
- (e) Minutes of the annual meeting shall be provided as part of the annual reporting required in condition 11.



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Performance Monitoring

7. The following monitoring shall be undertaken as specified in Appendix 2 and as shown in the plan in Appendix 3 to this consent.

- (a) Stormwater quality monitoring
 - (b) Harbour receiving water quality
 - (c) Harbour sediment monitoring.
 - (d) Biological monitoring including cockles
8. All sampling techniques, including sample preservation and despatch to the analysing laboratory, employed in respect of the conditions of this consent shall be carried out by suitably trained and experienced persons in accordance with best practice and in accordance with the requirements of the analysing laboratory. All water and sediment analyses undertaken in connection with this consent shall be performed by an International Accreditation (IANZ) registered laboratory.
9. (a) If sampling and subsequent analysis undertaken in accordance with 7 (b), or (c) show no exceedance of the trigger values for harbour water or sediment quality specified in Appendix 1 for a sequential three year period, the sampling frequency or number of sites specified in Appendix 2 may be reduced with the agreement of the ORC.
- (b) If sampling and subsequent analysis undertaken in accordance with Conditions 7(d) show no change over three consecutive sampling rounds then the frequency of monitoring specified in Appendix 2 can be reduced with the agreement of the ORC
10. The protocol set out below is to be implemented should the harbour water quality or sediment quality trigger values identified in Appendix 2 be confirmed as exceeded utilising the method described in Sections B or C of Appendix 2. This stormwater management protocol is as follows:
- (a) An investigation will be undertaken by the consent holder as to the likely source of the contaminant(s) that caused the exceedance of the harbour water quality or sediment quality trigger values identified in Appendix 2. A report will be prepared by the consent holder within 3 months of the trigger(s) being exceeded, and provided to the Otago Regional Council outlining the likely source of the contaminants and describing the stormwater contamination issue.
 - (b) If the report referred to in Condition (a) above concludes that contaminants present in the samples are attributable to the stormwater discharge authorised by this consent, then the consent holder shall implement clauses c) and d) of this protocol. If the report referred to in Condition (a) above concludes that contaminants identified in the samples are not attributable to the stormwater discharge authorised by this consent then no further action is required by the consent holder in relation to the identified exceedance of the trigger values outlined in Appendix 2.
 - (c) The stormwater contamination issue identified in accordance with Condition (a) above shall be given a priority rating and included within the relevant ICMP under the section titled 'Issues Prioritisation';
 - (d) The relevant ICMP will be revised to prioritise the stormwater issue and include stormwater management options relevant to the contaminant(s) present. Management option(s) will be implemented as prioritised and may include but not be limited to: the installation of stormwater treatment measures; planning and education initiatives; or operations and maintenance tasks.
11. The consent holder shall prepare and submit an annual report to the Consent authority by 1 August each year. The consent holder may provide annual reporting information for each of the catchments as a single document provided any results,

summaries, or detailed explanations are clearly identified for each catchment. The report shall include but not be limited to:

- (a) The results of any environmental monitoring required by this consent (e.g. harbour sediment, harbour water quality and ecological health monitoring);
 - (b) An assessment of the environmental monitoring results provided by an appropriately qualified and experienced person. This assessment shall include an analysis of any differences or trends from previous results;
 - (c) Progress on the development of any regulatory controls for stormwater;
 - (d) Details of any stormwater issues included within an ICMP or action plan that year including the relative priority ranking of that issue;
 - (e) Details of any stormwater management options implemented;
 - (f) The results of any monitoring undertaken to measure the performance of any stormwater management options implemented;
 - (g) Details of any enforcement action taken within the previous 12 months;
 - (h) An up to date copy of the record of human sewage contamination in stormwater as required in condition 2;
 - (i) Minutes of meetings held with the Stormwater Stakeholder Group;
12. The stormwater discharge shall be managed so that erosion and scour of the coastal marine area is minimised as far as is practicable
13. The consent holder shall as soon as is practicable, advise the Consent authority and Te Runanga o Otakau of any incident(s) involving spillages or discharges of chemicals, fuels, hazardous substances or other contaminant sources into the stormwater network which may result in a significant adverse environmental effect within the receiving environment. The consent holder shall immediately upon confirmation of the incident(s) undertake an investigation into the cause. A written report shall be submitted to the Consent authority within 7 working days of the incident occurring, advising of the cause and any remedial steps taken to avoid any similar events in the future.
14. The Consent authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within 3 months after the 5th anniversary of the commencement of this consent and within 3 months after each 5th anniversary thereafter, for the purpose of:
- (a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
 - (b) ensuring the ICMP, any regulatory controls and any monitoring are adequately being completed, implemented and providing the appropriate environmental outcomes anticipated; or
 - (c) ensuring that the best practicable option to remove or reduce any adverse effect on the environment is adopted; this could include specific treatment options.

Issued at Dunedin this 8th day of August 2013



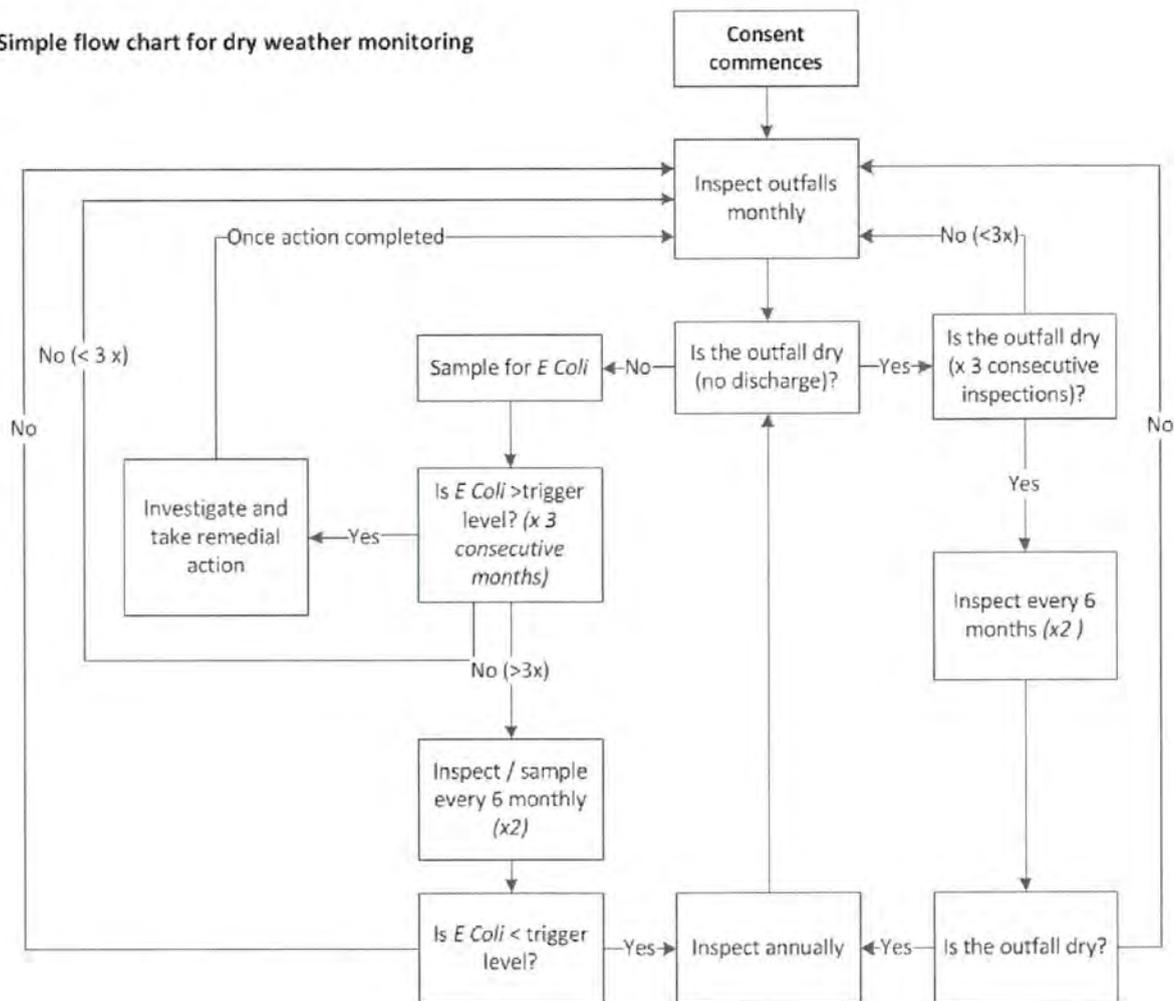
Christopher P Shaw
Manager Consents

APPENDIX 1

To Discharge Permits RM11.313.01, RM11.313.02, RM11.313.03, RM11.313.04, RM11.313.05, RM11.313.06, RM11.313.07, RM11.313.08, RM11.313.09, RM11.313.10 (10 permits)

Dry weather monitoring sample regime

Simple flow chart for dry weather monitoring



APPENDIX 2 To Discharge Permits RM11.313.01, RM11.313.02, RM11.313.03, RM11.313.04, RM11.313.05, RM11.313.06, RM11.313.07, RM11.313.08, RM11.313.09, RM11.313.10 (10 permits)

A Stormwater Quality

- (a) The consent holder shall install an automated monitoring device to record stormwater discharge quality over a duration of one year, once every five years, at the following outfalls in turn, being one outfall in each of the ICMP catchments of South Dunedin, Halsey Street, Shore Street, Kitchener Street and Mason Street :

Coordinates provided in NZTM 2000 format

Catchment:	Easting	Northing	DCC application reference
South Dunedin	1407365 E	4914848 N	5
Halsey Street	1407391 E	4916854 N	16(a)
Shore Street	1407645 E	4914742 N	4
Kitchener Street	1406573 E	4915910 N	9(b)
Mason Street	1407124 E	4916579 N	15(a)

- (i) The automated monitoring device shall be set to take time or flow proportional samples within the first 2 hours of the sampled storm event within the catchment prior to any mixing with seawater and:
1. The monitoring device shall be set to be triggered by connection to either a rain gauge or a flow/water level monitor. If flows are used as the trigger, flow monitoring or stormwater modelling shall be used to set the trigger corresponding to a rainfall intensity of 0.5mm per hour. A period of flow and rainfall monitoring is to be undertaken prior to setting this trigger value, to ensure that the trigger is set appropriately to capture a full storm hydrograph.
 2. there must be at least 72 hours of dry weather before the monitoring device is activated.
- (ii) The consent holder shall sample a minimum of 3 storm events over the 1 year sampling duration at each outfall commencing six months from the date of granting of this consent. Any further sampling of the catchment may be at the discretion of the consent holder.
- (b) Once per year the consent holder shall take a grab sample of stormwater from an outfall in each of the 10 catchments described in the 10 permits that are subject to this appendix.
- (i) The grab samples in the non priority catchments, i.e those that are not listed in (a) above shall be taken from the outfall in the non priority catchments with the highest flows during rainfall events or otherwise from an alternative outfall in agreement with the consent authority.
 - (ii) The grab samples in the priority catchments listed in (a) above shall not be required in the years when the automated monitoring device described in (a)

above is operating in a catchment.

(iii) The grab sample shall be taken before the stormwater mixes with seawater, and shall be taken within the first 2 hours of a storm event, and following a period of 72 hours of no rainfall in the catchment.

(c) All stormwater samples required under A(a) and (b) above shall be analysed for the following parameters:

- i) pH
- ii) suspended solids
- iii) Escherichia coli units
- iv) total copper
- v) total lead
- vi) total zinc
- vii) total arsenic
- viii) total nickel
- ix) total cadmium
- x) total chromium
- xi) polycyclic aromatic hydrocarbons
- xii) oil and grease

(d) the raw data results from each stormwater event shall be forwarded to the consent authority annually as part of the annual reporting required by condition 11.

B Harbour water quality monitoring

(a) Harbour water quality monitoring shall be undertaken annually to determine the effect the authorised stormwater discharge is having on water quality in the Otago Harbour and to determine whether the trigger values in table B 1 are being exceeded.

(b) Harbour water quality sampling shall be undertaken at the six locations as identified within the plan attached in Appendix 3 during wet and dry weather.

- i) samples are to be taken on 4 occasions (two rounds (see below) annually
- ii) samples shall be taken no closer than 20 metres horizontal distance from the location of the confluence of the stormwater outlet and the waters edge if there are stormwater discharges occurring from the outfall at the time of sampling
- iii) samples must be taken 100-200mm below the surface of the water
- iv) first round sampling shall be three hours apart following high tide, and at mid ebb tide during a period when there has been no measurable rainfall for at least 72 hours prior to sampling.
- v) the second round sampling will occur at the same state of tides as the first round, no less than three hours after the commencement of a rain event that is likely to produce

at last 2 mm of rainfall and that has had an antecedent dry period of at least 72 hours.

(c) If harbour water quality sampling identifies the following contaminants at a level exceeding the trigger values set out below in table B 1, the level of contamination shall be confirmed by re-sampling and re-analysis.

- i. total cadmium
- ii. total copper
- iii. total lead
- iv. total zinc
- v. enterococci cfu/100ml (indicator organism)

Table B 1. Harbour Water Trigger Levels

Indicator	Unit	ANZECC 95%Marine Guideline value	2013 Trigger	Description
Total Arsenic	(g/m ³)		0.036	USEPA chronic trigger
Total Cadmium	(g/m ³)	0.00550	0.00550	ANZECC guideline
Total Chromium	(g/m ³)	0.00440	0.00440	ANZECC guideline
Total Copper	(g/m ³)	0.00130	0.00130	ANZECC guideline
Total Nickel	(g/m ³)	0.07000	0.07000	ANZECC guideline
Total Lead	(g/m ³)	0.00440	0.00440	ANZECC guideline
Total Zinc	(g/m ³)	0.01500	0.01500	ANZECC guideline
Enterococci	Cfu/100ml	-	140	MfE guideline (amber alert)

d) If the harbour water quality is confirmed as exceeding the trigger values outlined in Table B 1, the protocol outlined in Condition 10 of the permits shall be implemented.

C Harbour sediment quality

(a) The consent holder shall undertake sediment quality sampling using sediment samples taken from the top 20 millimetres of the seabed. Samples shall be collected from the 4 locations as identified within the plan attached as Appendix 3. The sampling point shall be at or about 20 metres from the nearest stormwater outfall to each site marked on Appendix 3. Samples shall be collected between January and June, on an annual basis.

- (b) The sediment properties and contaminants from each sample site are to be tested. At a minimum the consent holder shall for each of the sites collect and analyse one composite surface sediment sample made up of 5 sub-samples for:
- i. weak-acid extractable copper,
 - ii. total lead,
 - iii. total zinc,
 - iv. total total arsenic,
 - v. total cadmium,
 - vi. total chromium,
 - vii. total copper,
 - viii. total mercury,
 - ix. total nickel,
 - x. polycyclic aromatic hydrocarbons (the 16 USEPA priority compounds, retene, 2,6- and 1,7-methylated phenanthrene, and hopanes),
 - xi. total petroleum hydrocarbons, and
 - xii. organochlorine pesticides.
- (c) The sample results obtained are to be forwarded to the Consent Authority along with a comparison with any previous monitoring in accordance with the annual reporting required by condition 11 of the permits that apply to this appendix.
- (d) Table C 1 sets out the trigger levels for harbour sediments. The trigger levels may be changed with the written agreement of the consent authority, as new monitoring results or other information comes to hand. If agreement cannot be reached on (a) new trigger level/s the consent holder has the option of applying to vary the conditions under s127 of the Act.
- (e) If harbour sediment sampling identifies the following contaminants at a level exceeding the trigger values set out below in table C 1, the level of contamination shall be confirmed by re-sampling and re-analysis. The effect of the trigger exceedance shall be assessed taking into account the results of biological monitoring that is nearest and/or most relevant to the sediment monitoring site.

Table C 1 Harbour Sediment Trigger Levels

Indicator	Unit	ANZECC Guideline		2013 Trigger	Reason for 2013 trigger	Amended Trigger Reason
		Low	High			
Total Arsenic	(mg/kg dry wt)	20	70	19	80 th percentile of samples collected to date	
Total Cadmium	(mg/kg dry wt)	1.5	10	1.7	80 th percentile of samples collected to date	
Total Chromium	(mg/kg dry wt)	80	370	80	ANZECC trigger most samples to date below ANZECC	
Total Copper	(mg/kg dry wt)	65	270	122	80 th percentile of samples collected to date	
Total Nickel	(mg/kg dry wt)	21	52	21	ANZECC trigger most samples to date below ANZECC	
Total Lead	(mg/kg dry wt)	50	220	209	80 th percentile of samples collected to date	
Total Zinc	(mg/kg dry wt)	200	410	902	80 th percentile of samples collected to date	
Total PAH	(mg/kg dry wt)	4	45	183	80 th percentile of samples collected to date	
TPH	(mg/kg dry wt)			To be determined	To be determined	
Enterococci	Cfu/100ml			108	80 th percentile of samples collected to date	

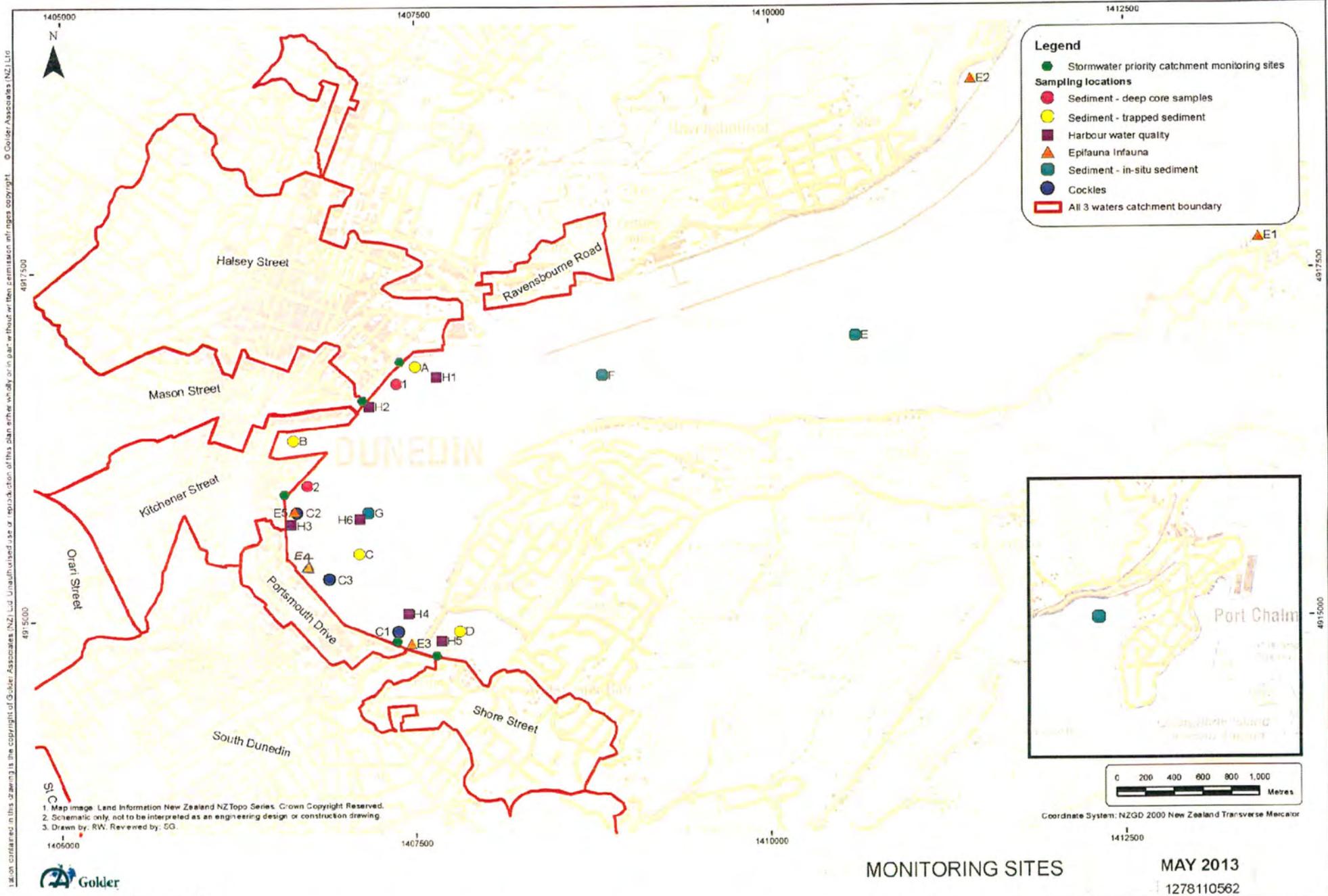
- (f) If the harbour sediment contamination is confirmed as exceeding the trigger values outlined in table C 1 and analysis of biological monitoring under (e) above supports that confirmation, the protocol outlined in Condition 10 of the permits shall be implemented.

D Biological Monitoring

- (a) The consent holder shall undertake biological sampling from the five locations identified on the plan attached as Appendix 3 to the permits. Samples shall be collected between the months of January and June at two yearly intervals. The monitoring shall include:
- (b) Sampling is to be at 3 sites per location as follows: the waters edge at low tide; within 20 metres of the confluence of the stormwater outlet and the waters edge at low tide, and a minimum of 50 metres from the confluence of the stormwater outlet and the waters edge at low tide.
- (c) From the top 200 millimetres at each site, three randomly spaced 5 square metre quadrats shall be sampled for epifauna, infauna and macroflora.
- (d) Sampling and species identification for each site shall include:
 - i. For epifauna within each 5 square metre quadrat, the number of each species shall be recorded in five 0.1 square metre quadrats.
 - ii. For infauna a sediment core shall be taken in three 0.1 square metre quadrats and the number of each species shall be recorded.
 - iii. For macroflora, the percentage cover of each species shall be estimated in three 1.0 square metre quadrats.
- (e) The consent holder shall undertake samples of the flesh of cockles (*Austrovenus stutchburyi*) at the 3 locations identified in Appendix 3 to the permits.
 - i. Sampling shall be carried out at two yearly intervals.
 - ii. Sampling from each location shall be at the waters edge at low tide and within 20 metres of the confluence of the stormwater outlet and the waters edge at low tide.
 - iii. Analysis shall be from a composite sample from each location of at least 200 grams of cockle flesh. The number and size of cockles used shall be recorded.
 - iv. If no cockles are present from in front of an outfall no sample to be taken at that location.
 - v. The cockle flesh samples shall be analysed for:
 - 1) total copper
 - 2) total lead
 - 3) total arsenic
 - 4) total cadmium
 - 5) total chromium
 - 6) polycyclic aromatic hydrocarbons
 - 7) Enterococcus Colony Forming Units in No/100 millilitres)

Dry weight sample results shall be recorded for each sample.

- (f) The sample results from all biological monitoring shall be provided to the consent authority in accordance with the annual reporting required by condition 11 of the permits that apply to this appendix.



MONITORING SITES

MAY 2013

1278110562

APPENDIX 3
 To RM11.313.01, RM11.313.02, RM11.313.03, RM11.313.04, RM11.313.05,
 RM11.313.06, RM11.313.07, RM11.313.08, RM11.313.09, RM11.313.10



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