

45.0 Lake Grassmere Salt Works Zone

45.1 Permitted Activities

45.1.1 Unless expressly limited elsewhere and subject to compliance with the conditions applying to Permitted Activities, the activities listed below shall be permitted without a resource consent.

- The solar production, refining, handling, packaging, storage and sale of salt and associated by-products and, the full range of processes required.
- Buildings, bunds, roads and other development in the Zone associated with Salt Works activities.
- Within the Pipeline Extension Corridor as shown in Figure 1:
 - The taking and use of coastal water;
 - The maintenance of existing seawater wells and pipelines;
 - The construction of a temporary stormwater flood outlet channel from Lake Grassmere to the sea, including any disturbance of the foreshore and seabed.
- Discharge to Air:
 - Of displaced air;
 - Of steam and/or saturated air;
 - From small scale fuel burning equipment;
 - From abrasive blasting operations.
- Discharge to Land of:
 - 'Domestic' effluent and 'greywater', to a properly engineered and certified on-site effluent disposal system.
- Discharge to Coastal Water of:
 - Stormwater from Lake Grassmere and surrounding catchments and, diluted brine.
- Land Disturbance:
 - Filling of land not exceeding 1.5 metres in height and excavation of land not exceeding 500mm in depth within 100 metres of the zone boundary and not exceeding 1.5 metres elsewhere;
 - Hazardous substances with an effects ratio no greater than 1.0.

Conditions for Permitted Activities

45.1.2 Amenities

45.1.2.1 Height

- a) Buildings within 500 metres of MHWS shall not exceed 8 metres in height.
- b) Buildings located within the "Administration, Workshops, Salt Refining and Processing Area" (detailed in Map 202) shall not exceed 15 metres in height.
- c) Buildings beyond 500 metres from MHWS but not in the "Administration, Workshops, Salt Refining and Processing Area" shall not exceed 10 metres in height.

45.1.2.2 Noise

All activities shall be carried out in such a manner that noise arising from the activities within the Lake Grassmere Salt Works Zone does not exceed the following standards when measured at any point at or within the boundary of any land in the Rural 4 Zone and the Port Zone.

55 dBA L_{10} 0700 hours to 2200 hours Monday to Sunday inclusive

45 dBA L_{10} at all other times

75 dBA L_{MAX}

EXCEPT that noise from salt harvest operations, when measured at or beyond the Special Noise Boundary which shall be a distance of 500 metres from the 'outside' edges of the salt crystallising ponds, as shown on Map 202, shall not exceed the following:

55 dBA L_{10} 0700 hours to 2200 hours Monday to Sunday inclusive

45 dBA L_{10} at all other times

75 dBA L_{MAX}

Note:

For reference purposes the "Special Noise Boundary" is detailed on Map 202.

45.1.2.3 Dust

- 44.1.2.3.1 The best practicable option shall be adopted to minimise dust generation within the zone, so as to mitigate any adverse effects of that dust beyond the zone boundaries.

45.1.2.4 Solar Production of Salt

The best practicable method shall be adopted to contain the spread of brine into soil beyond the boundaries of the zone.

45.1.2.5 Wind Borne Salt Foam

The best practicable method shall be adopted to minimise the generation of salt foam within the zone and to contain the spread of wind-borne salt foam beyond the boundaries of the zone.

45.1.3 Taking and Use of Coastal Water

The taking of water from within the pipeline extension corridor shown in Figure 1 for use in the Lake Grassmere Salt Works Zone shall not exceed 1.4m³ per second and 121 000m³ per day provided that the activity does not change natural water quality.

45.1.4 Discharges

45.1.4.1 Discharges to Air

45.1.4.1.1 Discharges of Displaced Air

The discharge into air of any contaminant contained in air displaced from tanks used for the storage of liquids (including petrol and diesel oil) or from the venting of gas pipelines, pumps, compressors or tanks shall be a Permitted Activity provided that there is no objectionable odour or dust at or beyond the property boundary.

45.1.4.1.2 Discharges of Steam and/or Saturated Air

Any discharge into air of condensed water vapour, including steam shall be a Permitted Activity provided that:

- a) Any plume does not impair visibility on any road or in any aircraft flight path; and
- b) There is no drift of an objectionable plume onto an adjacent property; and
- c) There is no venting of steam or water vapour directly onto adjacent properties.

45.1.4.1.3 Discharge From Small Scale Fuel Burning Equipment

The discharge into air from an industrial trade premise, or from a non-moving source that is not an industrial or trade premise, (excluding portable generators used for the annual salt harvest), of:

- a) Products of combustion from fuel burning equipment using coal, oil, or untreated wood at a rate not exceeding 200 kilowatts; or
- b) Methane, or natural or liquefied petroleum gas at a rate not exceeding 5 Megawatts;

shall be a Permitted Activity provided that:

- c) The discharge is from a chimney or exhaust flue; and
- d) There is no objectionable smoke at or beyond the property boundary; and

- e) Smoke does not adversely affect visibility on any road or in any aircraft flight path; and
- f) There is no objectionable odour at or beyond the property boundary; and
- g) There is no objectionable deposition of particulate matter from smoke onto any land or structure at or beyond the property boundary.

45.1.4.1.4 Discharges from Abrasive Blasting Operations

45.1.4.1.4.1 The discharge of contaminants into air from abrasive blasting, other than from a mobile source, is a Permitted Activity provided that:

- a) The surface to be blasted shall not contain any lead, zinc, arsenic, chromium, cadmium, copper, mercury, tributyltin or thorium-based compounds;
- b) When using dry abrasive blasting techniques, all items shall be blasted within an abrasive blasting enclosure, and air extracted from the enclosure shall be filtered so that there is no visible discharge of dust;
- c) When using wet abrasive blasting techniques, there shall be no discharge of water spray beyond the boundary of the subject property;
- d) The discharge shall not raise the ambient dust deposition rate by more than 4 g/m² per 30 days at any point beyond the boundary of the subject property; and
- e) Sand or any other material used for abrasive blasting shall contain not more than 5% free silica on a dry weight basis, and shall not be reused.

45.1.4.1.4.2 The discharge of contaminants into air from abrasive blasting using a mobile source is a Permitted Activity provided that:

- a) The surface to be blasted shall not contain any lead, zinc, arsenic, chromium, cadmium, copper, mercury, tributyltin or thorium-based compounds;
- b) The Council and owners or occupiers of properties adjacent to the subject property shall be notified of the location, date and duration of the proposed abrasive blasting operation at least 5 working days before the commencement of the work;
- c) Sand or any other material used for abrasive blasting shall contain not more than 5% free silica on a dry weight basis;
- d) The operator shall so far as is practicable collect all debris and used blasting materials;
- e) All collected debris and used blasting materials shall be removed from the site daily and when operations are completed;
- f) There shall be no discharge of water spray beyond the boundary of the subject property, or beyond 50 metres of the discharge when sited on public land;
- g) There shall be no visible discharge of dust beyond the boundary of the subject property, or beyond 50 metres of the discharge when sited on public land.

45.1.4.2 Discharge of Diluted Brine to Coastal Waters

45.1.4.2.1 The discharge of diluted brine to coastal waters is a Permitted Activity provided that outside a mixing zone of 200 metre radius measure from the point of discharge:

- a) The discharge shall not inhibit the gathering of shellfish for human consumption;
- b) The natural temperature of the water shall not be changed by more than 3 degrees Celsius;
- c) The adverse effects of the following are avoided, remedied or mitigated:
 - Any pH change;
 - Any increase in the deposition of matter on the foreshore or seabed;
 - Any discharge of a contaminant (other than brine) into the water;
- d) The concentration of dissolved oxygen shall exceed 80% of the saturation concentration; and
- e) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.

Note:

For the purpose of this Rule, "diluted brine" is the waste brine discharged from the salt ponds to the drainage system, where at discharge it has an approximate S.G. of 1.07. (This brine becomes diluted with stormwater, groundwater and tidal water as it travels towards the coast.)

On discharge to coastal water through the existing discharge system the S.G. would be approximately 1.04, compared with the 1.02 S.G. of seawater.

45.1.4.3 Temporary Flood Stormwater Outlet

45.1.4.3.1 The excavation of a temporary flood stormwater outlet is a Permitted Activity provided that:

- a) Excavation of a temporary flood stormwater outlet shall be confined to the position and dimension within the intake pipeline extension corridor overlay shown on Figure 1;
- b) The Council and the Department of Conservation shall be advised immediately a decision has been taken to excavate the temporary flood stormwater outlet;
- c) All excavated material shall be stockpiled beside the temporary outlet cut for reinstatement following release of stormwater; and
- d) The breach in the fore dunes and beach gravels shall be reinstated to as close as practicable the condition of the land immediately prior to the work commencing. Such reinstatement shall be completed as soon as practicable following the passing of the storm event which created the need for the temporary outlet, but by no later than 7 days after the event.

45.1.5 Hazardous Facilities (District Function)

45.1.5.1 Scope

Only those chemicals and hazardous substances necessary for the production of all forms of salt in the zone and associated activities are permitted.

45.1.5.2 Effects Ratio

Any activity having an 'effects ratio' no greater than 1.0 shall be a Permitted Activity. The 'effects ratio' shall be calculated in accordance with the Hazardous Facility Screening Procedure set out in Appendix C.

45.1.5.3 Site Design

- a) Any part of the site where liquid or solid hazardous substances are stored or used shall be effectively sealed with materials which are resistant to the substance(s).
- b) Any part of the site where liquid or solid hazardous substances are stored or used shall be sealed and bunded so that the equivalent of the maximum of the largest container within the bunded area can be contained and excluded from the site stormwater system when a spill occurs. In areas where drums are stored, the bunded area shall be able to contain half of the maximum amount of the material stored.
- c) Any bunds shall be constructed from materials which are resistant to the substance that the bund is designed to contain, so as to prevent the substance entering the soil.
- d) All site stormwater grates shall be clearly marked.
- e) Storage of petroleum products in underground tanks shall comply with the most recent version of the Code of Practice for 'Design, Installation and Operation of Underground Petroleum Systems'.
- f) Any part of the site where solid or liquid hazardous substances are loaded or unloaded shall be sealed, bunded, and drained.
- g) All vehicle accessways onto that part of a hazardous facility site where hazardous substances are loaded or unloaded shall have cut-off drains installed which are not directly connected to the site stormwater system.
- h) Any part of the site where vehicles, equipment or containers that have or may have become contaminated with hazardous substances are washed, shall be sealed, bunded and drained so that process effluent (run-off) from the washdown area is collected and recirculated within the site, or collected and stored in tanks or sealed ponds for removal by a suitable trade waste contractor.
- i) A record will be kept of the quantities of hazardous wastes stored on-site, or taken away for disposal. This record is to be available to the Council, upon request.

45.2 Controlled Activities

45.2.1 Application must be made for a resource consent for a Controlled Activity for the following:

- Any Permitted Activity for this Zone that does not meet the standards of Rules 45.1.2 to 45.1.5 above.
- The discharge into air from an industrial or trade premise, of the products of combustion from fuel burning equipment used for generating heat or electric power using:
 - a) Untreated wood, coal or oil, excluding waste oil, for the purposes of generating heat or electric power at a rate not exceeding 10 Megawatts;
 - b) Methane or natural or liquefied petroleum gas for the purposes of generating heat or electric power at a rate not exceeding 50 Megawatts; or

where the limits specified in a) and b) above apply to the cumulative generated heat or electric power produced by the specified fuel within the same premises.

- The excavation of land exceeding 500 mm in depth but not exceeding 1.5 metres in depth within 100 metres of the Zone boundary.
- Water Control Activities in Lake Grassmere and Cattle Creek as follows:
 - Maintenance of structures between 10 metres and 100 metres below the Cattle Creek rail bridge (No 174) and/or from 10 metres above the Cattle Creek rail bridge (No 174), to prevent or limit the extent of salt water intrusion into the channels and streams above the rail bridge;
 - Maintenance dredging of the bed of Cattle Creek above and below the rail bridge No. 174; and
 - Works necessary to control and impound stormwater outside storm events, to provide maximum protection for Lake Grassmere from fresh water during storm events.

45.2.2 All Controlled Activities shall be subject to the general standards and conditions applicable to Permitted Activities. In assessing any controlled activity, the Council shall reserve its control over those matters of condition required to achieve the purpose of the Act in respect of the degree by which permitted activity standards are not met. In addition the following shall apply to specified activities.

45.2.3 Discharges to Air

45.2.3.1 Standards and Terms

- a) The discharge is from a chimney.
- b) The chimney is designed so that the minimum efflux velocity is 20 metres per second at the chimney exit at full load for sources less than 10

Megawatt capacity, and 15 metres per second for sources equal to or greater than 10 Megawatt capacity.

- c) The chimney is designed so that the discharge is vertically upwards and unimpeded by cowls or any other fixtures on the top of the stack coning may be used to increase the velocity discharge.
- d) The minimum chimney height conforms with the requirements in Appendix E.

45.2.3.2 Matters Over Which the Council Will Exercise Control

The Council reserves control over and may impose conditions with respect to:

- a) The location of the point of discharge;
- b) The carrying out of measurements, samples, analyses, surveys, investigations or inspections;
- c) The provision of information to the Council at specified times; and
- d) Compliance with monitoring, sampling and analysis conditions at the consent holder's expense.

45.2.4 Excavation of Land

45.2.4.1 Standards and Terms

Works are restricted to excavations within 100 metres of the zone boundary.

45.2.4.2 Matters over which Council will Exercise Control

The Council reserves control over and may impose conditions with respect to:

- a) The excavation of test pits;
- b) The protection of adjoining land from contamination by brine/saline water;
- c) Transmissiveness of the soils media between the site of excavation and the zone boundary; and
- d) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.

45.2.5 Water Control Activities in Lake Grassmere and Cattle Creek

45.2.5.1 Standards and Terms

- a) Maintenance dredging of the bed of Cattle Creek shall not cause the bed of Cattle Creek to be either raised or deepened above or below its natural depth.
- b) The works necessary to control and impound stormwater shall be contained within a distance from 10 metres immediately above Cattle Creek rail bridge (No 174).

- c) Works shall not cause impounded water (either saltwater or freshwater) to flood beyond the banks of any creek or drain above its entrance into Lake Grassmere or beyond the banks of Lake Grassmere.

45.2.5.2 Matters over which the Council will Exercise Control

The Council reserves control over and may impose conditions with respect to:

- a) The structural integrity of the rail bridge;
- b) Use of freshwater for stock drinking purposes upstream of the upper physical barrier;
- c) Preventing flooding of neighbouring land; and
- d) Extent of maintenance dredging of the bed of Cattle Creek.

45.3 Discretionary Activities

45.3.1 Application must be made for a resource consent for a Discretionary Activity for the following:

- Activities listed as Permitted, Controlled or Limited Discretionary Activities which do not comply with standards and/or conditions. Except that this provision shall not apply to activities listed as Non-Complying or Prohibited Activities.
- Land based aquaculture.
- Discharge from land based aquaculture.
- Seawater intake and discharge pipelines and associated structures within the Pipeline Extension Corridor shown in Figure 1.
- Disturbance of foreshore and seabed.

45.3.2 General Assessment Criteria (Pursuant to Sections 67(1)(k) and 75(1)(k) of the Resource Management Act 1991)

Any application for a Discretionary or Non-Complying Activity shall be considered in terms of the following assessment criteria. For some activities specific standards and criteria also apply.

45.3.2.1 Matters the Subject of Assessment

45.3.2.1.1 The objectives and policies for the Lake Grassmere Salt Works Zone.

45.3.2.1.2 The extent to which the proposed activity will contribute to the efficient economic use of land and salt producing activities in the Zone.

45.3.2.1.3 Any effects of the proposed activity on those in the immediate locality and, where relevant, on the wider community, including socio-economic and cultural effects.

45.3.2.1.4 The likely effects of the proposal on the natural character of the coastal environment.

- 45.3.2.1.5 The extent to which the proposal may require foreshore protection works and structures, and the likely effectiveness of any provisions to avoid, remedy or mitigate actual or potential adverse environmental effects caused by such activities.
- 45.3.2.1.6 The extent to which the proposed activity may have adverse effects on coastal processes.
- 45.3.2.1.7 The extent to which structures have been designed to withstand coastal hazards and extreme storm events.

45.3.3 Particular Standards and Criteria applicable to listed Discretionary activities

45.3.3.1 Land Based Aquaculture

45.3.3.1.1 Assessment Criteria

- a) The extent to which the proposed activity will be compatible with the character of the surrounding rural area.
- b) The degree to which the proposed activity is likely to lead to odour, noise or health nuisances beyond the boundary of the site, and in particular, the technology and management systems proposed to mitigate noise or odour nuisance, including:
- the size of the proposed activity and its associated site;
 - the design of the buildings, facilities, and waste and noise management systems;
 - the management and operation of the waste and noise management systems;
 - waste treatment measures employed; and
 - odour and noise abatement measures employed.
- c) The degree to which existing or proposed landscaping, including plantings, will shelter and screen the proposed site.
- d) The extent to which the proposed buildings, will be compatible with the appearance, layout and scale of other buildings and sites in the surrounding area.
- e) The extent to which any proposal complies with any Industry Code of Practice.

45.3.3.2 Discharge from Land Based Aquaculture

45.3.3.2.1 Standards for Discharges to Water

- a) The discharge shall not inhibit the gathering of shellfish for human consumption.
- b) The natural temperature of the water shall not be changed by more than 3 degrees Celsius.
- c) Any pH change shall not have any significant adverse effect on aquatic life.

- d) Any increase in the deposition of matter on the foreshore or seabed shall not have any significant adverse effect on aquatic life.
- e) Any discharge of a contaminant into the water shall not have any significant adverse effect on aquatic life.
- f) The concentration of dissolved oxygen shall exceed 80% of the saturation concentration.
- g) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.
- h) Aquatic organisms shall not be rendered unsuitable for human consumption by the presence of contaminants.
- i) The visual clarity of the water shall not be so low as to be unsuitable for bathing.

45.3.3.2.2 Assessment Criteria for Discharges to Water

- a) Any mixing zone will be established in accordance with the relevant provisions elsewhere in this Plan.
- b) The impact of the discharge having regard to, inter alia, the effect of: currents, tides, waves, and winds, on horizontal transport and vertical mixing of the contaminant.
- c) The impact of the discharge having regard to, inter alia, temperature, BOD5, nutrients, pathogens/bacteria, suspended solids, and pH.
- d) The chemical content of the discharge, including any heavy metals or other toxic substances.
- e) The effectiveness of any mitigation measures.
- f) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.
- g) An assessment of the benefits and costs of the method of disposal.
- h) Whether there are alternative methods of disposal.
- i) An assessment of the risk to the environment in the event of equipment or other infrastructural failure.

45.3.3.2.3 Assessment Criteria for Discharges to Air

- a) The extent to which the discharge is noxious, toxic, dangerous, offensive or objectionable, at or beyond the boundary of the property, or has or is likely to have an adverse effect on the environment.
- b) The extent to which the discharger has adopted the best practicable option to avoid, remedy or mitigate any adverse effects on the environment.

45.3.3.3 Seawater intake and discharge pipelines and associated structures within the Pipeline Extension Corridor (shown in Figure 1)

45.3.3.3.1 Assessment Criteria

- a) Size of structure and area potentially affected.

- b) Effect on water and sediment movement.
- c) Effects on landscape and amenity values.
- d) Ecological effects.
- e) Extent to which the structure could compromise navigational safety.
- f) Natural character

45.3.3.3.2 Standards

- a) The pipelines shall not be more than 1000 metres in length and the materials used in the construction of the pipelines shall not contain any chemicals or material harmful to the marine environment; e.g., tributyltin shall not be used.
- b) The position of the intake point shall be determined in NZ Map Grid co-ordinates and GPS co-ordinates, which the consent holder shall provide to the Council and to the Maritime Transport Safety Authority within 7 days of construction being completed.
- c) The position of the intake point shall be marked by a buoy anchored to the intake point with 40mm chain and 24-32mm rope.
- d) The marker buoy shall carry an appropriate navigation light and radar reflector.
- e) The buoy, light and radar reflector shall accord with international protocols.
- f) The pipeline consent holder shall carry out a maintenance check at intervals of not less than 30 days to ensure that the marker buoy remains securely moored and the navigation light and radar reflector are continuously working. A record of maintenance shall be kept and annual summaries provided to the Council.
- g) A coastal permit shall be granted for a period not exceeding 35 years.

45.3.3.4 Disturbance of Foreshore and Seabed

45.3.3.4.1 Standards

- a) Precaution shall be taken to avoid the release of contaminants from equipment being used for the operation.
- b) The activity shall not cause any long term adverse effect on the foreshore or within the coastal marine area.
- c) The foreshore shall be left in a condition as near as practicable the same after completion of the work as it was before commencement.
- d) All equipment and surplus materials shall be removed from the site upon completion of the works.

45.3.3.4.2 Assessment Criteria

- a) Extent of disturbance and area potentially affected.
- b) Water quality effects.
- c) Physical effects including erosion, scouring and deposition.

- d) Effect on the natural character of the area.
- e) Effects on landscape and amenity values.
- f) Ecological effects including effects on the benthic environment.
- g) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.
- h) Any actual or potential effects the disturbance may have on people and communities.
- i) Extent to which the structure could compromise navigational safety.

45.4 Non-Complying Activities

- 45.4.1 Application must be made for a resource consent for a Non-Complying Activity for the following:
- Any activity not provided for as a Permitted, Controlled, Limited Discretionary, Discretionary or Prohibited Activity shall be deemed to be a Non-Complying Activity.

45.5 Prohibited Activities

- 45.5.1 The following are Prohibited activities for which no resource consent shall be granted:
- Disposal of waste matter other than as provided for in the Resource Management (Marine Pollution) Regulations 1998 (including shell and offal).
 - The disposal of hazardous waste substances to land or water other than discharges from salt production processes.
 - **The combustion in the open of:**
 - Materials associated with the recovery of metals from insulated electrical cables or
 - Materials and metals used in motor vehicles or
 - Any other PVC plastic, or rubber tyres, waste oil, treated timber or agricultural chemical wastes.

Note:

For the purpose of this rule the words "in the open" mean other than in an enclosed incineration device with a chimney.

Figure 1

