

Holcim (New Zealand) Ltd Westport Cement Works

ADDITIONAL ABESTOS DISPOSAL LOCATIONS

Assessment of Effects: Buller District Council

8 August 2019



REPORT DETAILS

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GLOSSARY of ABBREVIATIONS

| ITEM | DESCRIPTION |
|-------------|--|
| ACM | Asbestos Containing Materials |
| AEE | Assessment of Environmental Effects |
| ANZECC 2000 | Australian and New Zealand Environment Conservation Council 2000: Australian and New Zealand Guidelines for Marine and Freshwater Quality. |
| BDC | Buller District Council |
| BGL | Below Ground Level |
| CCME | Canadian Council of Ministers of the Environment |
| CKD | Cement Kiln Dust |
| DSI | Detailed Site Investigation |
| EMS | Environmental Management System |
| ESCP | Erosion and Sediment Control Plan |
| HAIL | Hazardous Activities Industries List |
| HNZL | Holcim (New Zealand) Ltd |
| MfE | Ministry for Environment |
| NESCS | <i>Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Manage Human Health) Regulations 2011</i> |
| NPS | National Policy Statement |
| NSD | Nodulised Stack Dust |
| PCB | Polychlorinated Biphenyl |
| PSI | Preliminary Site Investigation |
| RMA | Resource Management Act 1991 |
| SKM | Sinclair Knight Merz |
| WCRC | West Coast Regional Council |

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1.0 INTRODUCTION

1.1 Background

Holcim (New Zealand) Ltd (HNZL) is a leading New Zealand supplier of cement, aggregates and ready mixed concrete. Its involvement in the New Zealand building industry dates back to 1888 and today it operates at 17 sites and employs approximately 150 people nationally. In 2015 HNZL combined with Holcim Australia Ltd.

HNZL announced in 2014 that manufacturing of cement at its Westport Cement Works (“the Works”) would cease and be replaced by a cement import business. In June 2016 the Works was closed following the successful construction and commissioning of two cement import terminals built at the Ports of Auckland (Waitemata) and Timaru.

1.2 Site History

Approval for the construction of the Works was granted in 1956 by the New Zealand Cement Company Ltd following nearly half a century of feasibility investigations by various parties and companies. In late 1958 construction of the Works was completed. A majority of the Works buildings and facilities were constructed with Super 6 cladding (asbestos) as was common at the time.

Initially the Plant consisted of one 98m rotary kiln (using a wet process), associated cement manufacturing equipment and development of a marl/limestone quarry at Cape Foulwind (originally G Quarry) to supply raw material. The initial production rate was 100,000 tonnes per year; however it was designed to allow additional capacity to be easily added if required. By 1973 the Works had three kilns with a production capacity of around 500,000 tonnes of cement per annum.

During its operational life the Works was instrumental in the development of key power generating projects across New Zealand, all of which form an important part of the power distribution network today.

HNZL closed the Works on 30 June 2016 due to increasing production and distribution costs.

1.3 Application Reason

HNZL applied for consents from the West Coast Regional Council (WCRC) and Buller District Council (BDC) in December 2017 to allow the demolition and rehabilitation of the Works and associated peripheral sites. In summary these consents (WCRC RC-2017-0144 (01-04) and BDC RC170052) authorised a number of activities at the site including (but not limited to);

- ❖ Disposal of asbestos containing materials (ACM) and contaminated soil in Crusher 2;
- ❖ Transport of ACM from peripheral sites to the Works for disposal in Crusher 2;
- ❖ Demolition of the Westport Works;
- ❖ Earthworks within a Hazardous Activities Industries List (HAIL) site;
- ❖ Air Discharge during demolition;
- ❖ Remediation of Nodulised Stack Dust (NSD) Stockpiles; and
- ❖ Amendments to the leachate drains to encompass newly rehabilitated NSD Stockpiles.

In December 2017, a detailed asbestos demolition investigation was undertaken by ChemSafety

which identified more ACM that had been previously anticipated. In addition building/facilities not initially planned to be demolished were added to the demolition scope including;

- ❖ Canteen and electrical workshop buildings at the Works; and
- ❖ Entire demolition of the Packing Plant and Wharf Silos and associated facilities.

In November 2018 HNZN applied and was granted consent WCRC RC-2018-0112 (01-02) and BDC RC180071 to dispose of ACM in Crusher 1 (in addition to Crusher 2). Both Crusher 1 and 2 are now at 95% capacity and HNZN have yet to contain ACM from the wharf silos, laboratory building as well as the potential requirement for soil scrapes if there is identified ACM contaminated soil.

Given that there have been more contaminated ACM materials than anticipated; there is a need for additional containment cells. HNZN are therefore applying to dispose of ACM and hydrocarbon contaminated soil in the Clinker Silo Tunnel void and the Slurry Basin Void.

1.3.1 Consents Sought

A summary of activities which trigger the requirement for landuse consent to allow the disposal of ACM into the Clinker Silo Tunnel and slurry Void under the Buller District Plan are outlined below in Table 1.

Table 1: Consents Sought

| BULLER DISTRICT PLAN | |
|---|---|
| <ul style="list-style-type: none"> ❖ Onsite disposal of ACM ❖ Stockpiling potentially hazardous material (ACM) in stockpiles before final disposal. | <ul style="list-style-type: none"> ❖ Discretionary under Rule 6.4.2.7 |

1.4 Applicant Details

Applicant and contact details in relation to this consent application are outlined on Table 2.

Table 2: Applicant Details

| | |
|----------------------------------|---|
| Applicant: | Holcim (New Zealand) Ltd |
| Address for Service: | PO Box 4060 Upper Riccarton Christchurch |
| Primary Contact | Attention: Nicky Hogarth Planning and Environment Manager nicky.hogarth@lafargeholcim.com Phone : (03) 339 7529 Mobile: 027 703 0801 |
| Map Reference: (NZTM2000) | mN: 5376804.902 mE: 1475381.976 |
| Activity Location: | Westport Cement Works Cape Foulwind Road Owner: Holcim (New Zealand) Ltd |

2.0 PROJECT BACKGROUND

2.1 Site Location

The Works site is located 8km to the west of Westport and 3km east of the Cape Foulwind as shown on Figure 1.

Figure 1: Site Location



2.2 Land Description

Works relating to this consent application are being undertaken on the land parcels and District Plan zonings outlined on Table 3. The site boundary and land parcels are also shown in Figure 2 (does not show peripheral sites). Certificates of Title are included as **Appendix 1**.

Table 3: Legal Land Description

| | Land Parcel | Area (ha) | Title | Zoning |
|------------------|-----------------------------------|-----------|-------------|------------------------|
| Cement Works | Section 2 BLK 2 Steeples SD | 18.74 | NL101/14 | Cement Production Zone |
| | Section 23 SO 09707 | 8.14 | NL 10A/1060 | |
| | Pt Section 8 BLK I Steeples SD | 10.38 | NL112/75 | |
| | Section 3 SO 14160 | 1.18 | NL10A/1060 | |
| Packing Plant | Lot 1 DP 5535 | 8.62 | NL 141/37 | Rural |
| Wharf Silos | Section 1223 SO Plan 13422 | 0.19 | - | Port |
| Quarry (crusher) | Lot 3 DP 5455 | 0.33 | NL 135/44 | Cement Production Zone |
| | Lot 2 DP 5455 | 9.74 | NL133/78 | |
| | Part Section 16 BLK I Steeples SD | 9.51 | NL 9C/1297 | |
| | Section 41 BLK III Steeples SD | 5.08 | NL 4D/1394 | |
| Okari TP House | Lot 1 DP 5775 | 3.45 | NL 155/86 | Rural |

Figure 2: Location of Land Parcels



2.3 Surrounding Land Use

The Works site is surrounded by farmland and the nearby Limestone Quarry (the Quarry) at Cape Foulwind which supplied limestone and marl for cement manufacturing (see Figure 1). The Quarry is located approximately 3km west of the Works. 300m north of the Works are a small number of HNZL owned houses (which currently house the demolition workforce). The closest residential community is located at Omau, which is 1.6km west of the plant. Approximately 4.5km east of the site is the semi urban settlement of Carters Beach.

2.4 Other Consents

Within the proposed work area as shown on Figure 2 (peripheral sites not shown), HNZL hold a number of consents for the purpose of manufacturing cement and associated activities from both the WCRC and BDC. It is proposed that a majority of these consents are maintained in the interim in the event the land is sold and the new owner requires use of these consents. Consents that are no longer needed will be relinquished once HNZL has concluded the sale of the land and its assets. HNZL hold the following consents for the demolition, ACM disposal and associated rehabilitation of the Works (and associated sites);

- ❖ WCRC RC-2017-0144 (01-04) – Demolition/ACM Disposal (Crusher 2) and Rehabilitation;
- ❖ BDC RC170052 – Demolition/ACM Disposal (Crusher 2) and Rehabilitation;
- ❖ WCRC RC 2018-0112 (01-02) – ACM Disposal Crusher 1; and
- ❖ BDC RC180071 – ACM Disposal Crusher 1.

3.0 EXISTING ENVIRONMENT

3.1 Climate

The climate in Westport is strongly influenced by the high amount of precipitation from the Tasman Sea. The annual rainfall recorded at the Westport Airport (6km North) is around 2190mm per annum. The rainfall is not thought to be seasonally influenced but on average February is the driest month.

3.2 Geology

The geology of the area is described as beach, dune and lagoonal deposits of the last inter-glacial period (Oturi) which form part of the Waites formation.

The Waites formation within the vicinity of the Works comprises an interbedded sequence of predominately sand with silt and clay layers with considerable variation in lateral and vertical uniformity. The Waites Formation at the Works ranges from 4m to 16m deep. Beneath the Waites Formation is a sandy clay unit term the “Blue Bottom Clay”.

The sand deposits are rich in ilmenite (an iron mineral) and leaching and subsequent re-deposition of iron has resulted in the formation of extensive iron pans within the soil profile. These iron pans significantly impede soil drainage resulting in the formation of extensive swamp areas across much of the coastal plain (including within the Works site) and referred to as Pakahi.

3.3 Groundwater

The unconsolidated sediments underlying the site form a relatively unconfined aquifer system. The presence of iron pans across the site, appear to impede vertical drainage through the unsaturated zone with rainfall forming the principle recharge source. Based on a simple water balance calculation, allowing for rainfall and evapotranspiration, the typical annual rainfall surplus available for groundwater recharge in the Cape Foulwind area is approximately 1300mm per annum.

Groundwater flows though the unconfined aquifer is complicated by the presence of multiple silt and clay lenses within the sand deposits. These units are likely to result in the formation of perched water tables within the aquifer system and may also be from semi confining layers for deeper sand units within the sequence.

Groundwater levels in the vicinity of the works ranges from 0.5 – 7m meters below ground level (bgl), with groundwater elevations highest in the centre of the works reducing toward Marris and Gibson Creeks. Groundwater shows a general gradient toward the coast to the north. There is evidence of groundwater mounding beneath Marris Mountain and the Old Dust Dump which increase the flow of water toward Gibson and Marris Creeks.

3.4 Surface Water

The Works is located on the catchment divide of the Gibson’s and Marris Creeks to the west of the Works is Gibson’s Creek, with Marris Creek to the east. Both of these creeks flow in a north east direction as shown in Figure 3. The creeks are relatively short (Gibson’s Creek approximately 3.5 km, and Marris Creek approximately 2 km).

Both Marris Creek and Gibson’s Creek networks contain numerous permanently flowing tributary streams. Given the relatively small catchment area, the consistent discharge in these streams

suggests a significant component of groundwater base flow in the local area. Numerous seeps are evident in stream banks and many tributary streams appear to gain flow downstream as they cross the site.

Figure 3: Surface Water Catchments



3.5 Site Contamination

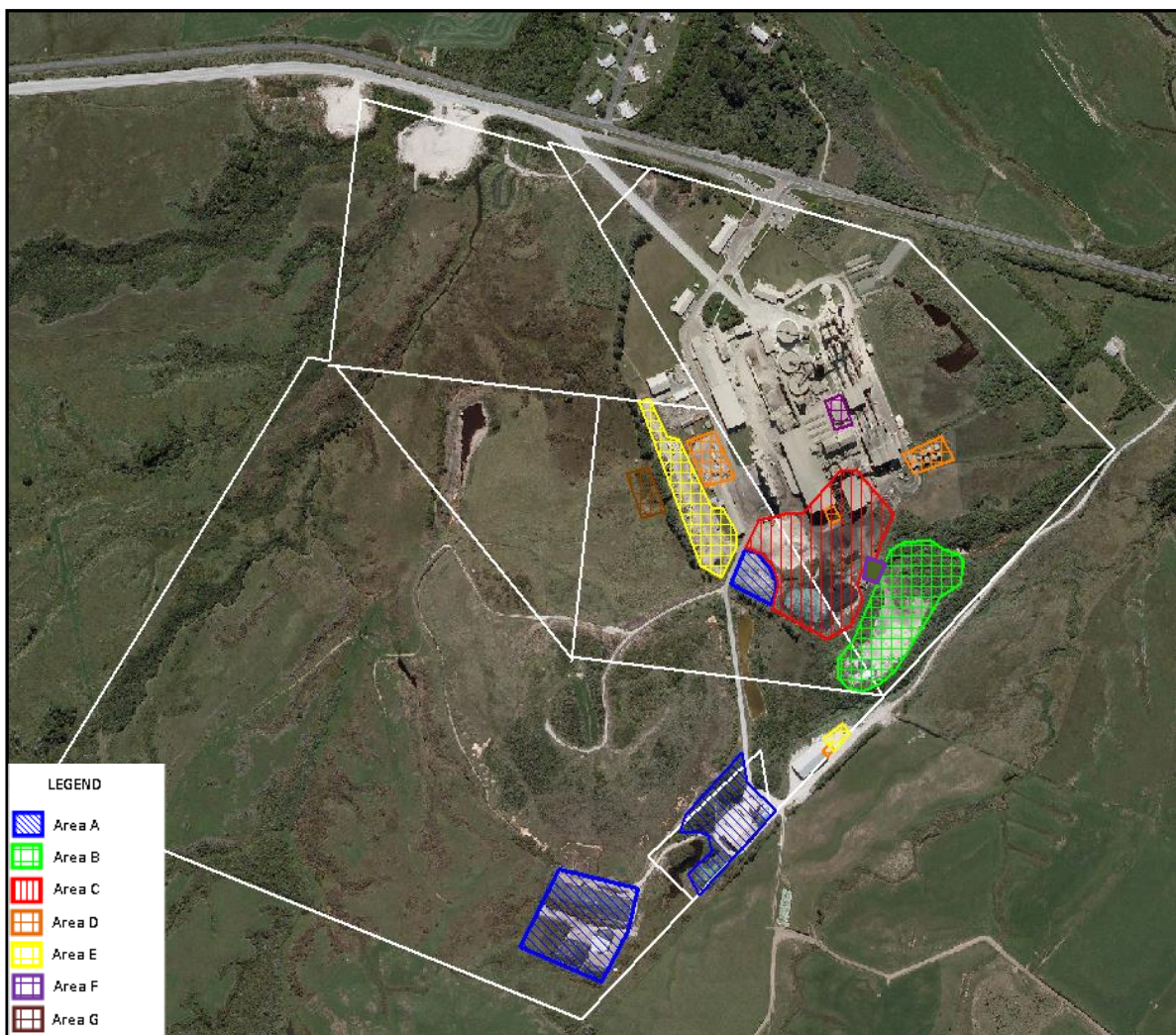
Following the closure of the Westport Works in June 2016, HNZN have been planning the demolition and subsequent rehabilitation of the site. Demolition of the Works commenced in November 2018. As a number of HAIL activities have been undertaken on the site, Golder Associates were commissioned by HNZN to undertake a Preliminary Site Investigation (PSI) and Detailed Site Investigations (DSI) across all of its land holdings in accordance with the *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Manage Human Health) Regulations 2011* (NESCS). These investigations were undertaken to understand the contamination status of the sites to assist in determining demolition and rehabilitation consenting

requirements. The Works PSI was undertaken in October 2016 and the DSI in November 2016. An additional DSI was undertaken in September 2017 to cover the transformer bays which were excluded in the original DSI (as power had not been disconnected). The PSI and DSI(s) have already been provided as part of the Assessment of Environmental Effects (AEE) for WCRC RC-2017-0144 and BDC RC170052 and therefore they have not been provided as part of this application.

One of the key findings of the Works PSI was the lack of data on soil quality at the Works. This resulted in the further investigation of seven areas of interest (based on current or historical occurrence of HAIL activities). The areas identified are as follows and shown on Figure 4.

- ❖ Area A – NSD Stock Piles;
- ❖ Area B – Waste Storage Area (for Old Mixed Landfill);
- ❖ Area C – Coal Storage;
- ❖ Area D – Fuel Storage;
- ❖ Area E – Equipment and Material Storage;
- ❖ Area F – Plant Operational Activities; and
- ❖ Area G – Miscellaneous.

Figure 4: Investigation Locations



In addition to Areas A-G, ACM on many buildings throughout the site were also flagged as a potential source of site wide contamination. The November 2016 DSI comprised of the excavation of 48 test

pits (with collection and laboratory analysis of key contaminants of concern, drilling of 8 bore holes (fitted with groundwater monitoring installations) and the collection of 42 surface samples for asbestos assessment. Soil and groundwater samples were analysed for pH, metals, arsenic, hydrocarbons and asbestos fibres. The DSI investigation undertaken by Golder Associates Ltd was augmented by surface and groundwater monitoring undertaken by HNZN in 2016.

The September 2017 DSI (Transformer Bays) comprised of the excavation of 4 test pits with collection of samples and analysis of key contaminants polychlorinated biphenyl (PCBs) and hydrocarbons). Results of DSI's undertaken and additional ground and surface water sampling at the site are outlined in Sections 3.5.1 to 3.5.4.

3.5.1 Soil Quality

With the exception of one investigation location, soil concentrations of metals, arsenic and hydrocarbons were at levels acceptable for commercial/industrial land use. Hydrocarbons were identified in soil and groundwater above the relevant risk based soil and water quality criteria at a location associated with a vehicle refuelling facility (area D14). High pH was identified at several locations and is likely to be from residual clinker, cement and cement kiln dust (CKD) associated with cement manufacturing and the storage of CKD and NSD. ACM was not identified during the investigation, although the mixed landfill (Area B) contained some vinyl floor tiles which often contain asbestos.

Sampling of Area F (Transformer Bays) indicated that there was hydrocarbon contamination in the near surface soils of one bay. The contamination had limited vertical extent and was well above the groundwater level.

3.5.2 Surface Water Quality

Detailed monitoring of water in Gibson's and Marris Creeks from various points up stream, adjacent to and down stream of the cement works was undertaken by Sinclair Knight Merz (SKM) in 2007¹ and also by HNZN in August 2016 and reported in the Works DSI. The results of surface water analysis can be summarised as follows;

- ❖ pH is typically alkaline when compared with typically acidic surface water pH. The pH is variable and the median pH in recent years at both creeks downstream sampling points has generally been neutral.
- ❖ Long term median values of ammoniacal nitrogen concentrations are generally low with occasionally high concentrations. The concentrations measured are unlikely to result in adverse effects.
- ❖ Concentrations of some trace elements have been recorded at elevated concentrations. Copper and Zinc were present in 2016 (and in previous sampling) above the Australia & New Zealand Environment and Conservation Council (2000) (ANZECC) trigger values for the protection of 95% of freshwater species. However both copper and zinc were present above the ANZECC (2000) trigger values at the control sites indicating that there is a source of these metals upstream of the site. Concentrations of thallium measured in creek water in 2016 were lower than the Canadian Council of Ministers of the Environment (CCME) water quality water guidance for thallium of 0.8ug/L

¹ SKM 2007: Westport Cement Works: Technical Report – Hydrogeology, Water Quality and Ecology Report: Sinclair Knight Merz for Holcim (New Zealand) Limited. June 2007.

3.5.3 Groundwater Quality

Monitoring data collected since 1992 indicates the concentration of calcium, potassium, sodium and sulphate are significantly elevated above assumed background levels in groundwater on the HNZN's site. Depending on the individual monitoring well, departures from background pH, alkalinity, ammoniacal nitrogen, fluoride and chloride concentrations are also observed. The presence of elevated concentrations of these parameters is considered indicative of ongoing weathering and leaching of contaminants from the historic CKD landfills on site.

Monitoring of groundwater bores between 2003 and 2007 (SKM 2007) and in 2016 by HNZN and reported in the DSI (Golder Associates Ltd) November 2016 which indicates the following;

- ❖ Alkaline pH was recorded in one bore (BH2);
- ❖ The concentration of the majority of trace elements measured in groundwater on site were low relative to the ANZECC (2000) 95% trigger values to protect aquatic biota;
- ❖ Elevated o-xylenes and p-xylenes (hydrocarbons) were measured in one well located in Area D (associated with a historic underground fuel storage tank).

3.5.4 Aquatic Ecology

Two aquatic ecology surveys have been conducted in the creeks adjacent to the Works. One, in 1998, was conducted on Gibson Creek and SKM surveyed both Gibson and Marris Creeks in 2006. Overall, all of the sites were dominated by a high proportion of the more tolerant species, such as gastropods and crustacean. Macroinvertebrate species were typical of grossly enriched or severely degraded habitat conditions such as unfenced farm drains.

3.6 Existing Consented Closed Landfill(s)

3.6.1 Marris Mountain and Old Dust Dump

From 1974/75 until 1995, CKD was landfilled at the back of the plant site, as a waste product. It is understood that the CKD was deposited onto the natural ground surface. Initially a gully was filled at the location now known as Old Dust Dump. In the 1980's landfilling operations moved south and eventually created Marris Mountain. It is estimated that there is a combined total of 600,000 tonnes of CKD landfilled in the Old Dust Dump and Marris Mountain. Landfilling of CKD commenced following the installation of electrostatic precipitators at the kilns in the 1970's.

From 1995 to the Works closure, HNZN removed all CKD generated on site to either the Fertiliser Plant or to Solid Energy's Stockton Mine for use in acid mine drainage remediation due to its alkaline properties. The Fertiliser Plant used CKD to make a fertiliser called NSD (hydrated CKD). This practice ceased around 2008. Currently there are four NSD stockpiles remaining on site.

A surface water management system exists on site which acts to direct a large proportion of landfill leachate and stormwater runoff into a storage lake ('Lake Syme') as shown in Figure 5.

Figure 5: Water Management System



The purpose of the management system is to divert potentially contaminated water away from natural water courses, to a central point where water can be treated and discharged to the environment. The system currently captures the following and is authorised under consent by WCRC RC07183 and BDC RC07157 (BDC):

- ❖ Leachate and stormwater from Marris Mountain and Old Dust Dump;
- ❖ Stormwater from the plant area;
- ❖ Two tributaries of Gibson's Creek that have been dammed and diverted after evidence of contamination was found. They are named Tributary Pond and Holding Pond (see Figure 5)

- ❖ Runoff from stockpiled NSD;
- ❖ Fertiliser pond which captures runoff from the east side of Marris Mountain (but nothing from around the Fertiliser Plant);

No significant changes will be made to the water management system post demolition, although there maybe some modifications to the leachate drains around Marris Mountain and to stormwater runoff from various areas of the plant area to ensure all leachate/stormwater is captured.

3.6.2 Old Mixed Landfill

The other known landfill onsite is described as a mixed use landfill, of which reportedly contains (but not confirmed); electrical cables, plastic, cement bags, CKD, bricks, conveyor belts, metal, timber, vinyl tiles and other general wastes. In 1995 waste disposal in this location ceased and the landfill rehabilitated capped and planted. It is unclear how much waste was landfilled at this location but based on rough calculations it is estimated there is approximately 20,000m³ of waste material located in this area. The Old Mixed Landfill is consented under resource consent WCRC RC7183 and BDC RC07/157 (Works Catchment). The vegetated portion of the Old Mixed Landfill will be left in its current state as it has been rehabilitated and appears to be relatively stable and non-eroding. Monitoring will continue to occur in accordance with resource consents.

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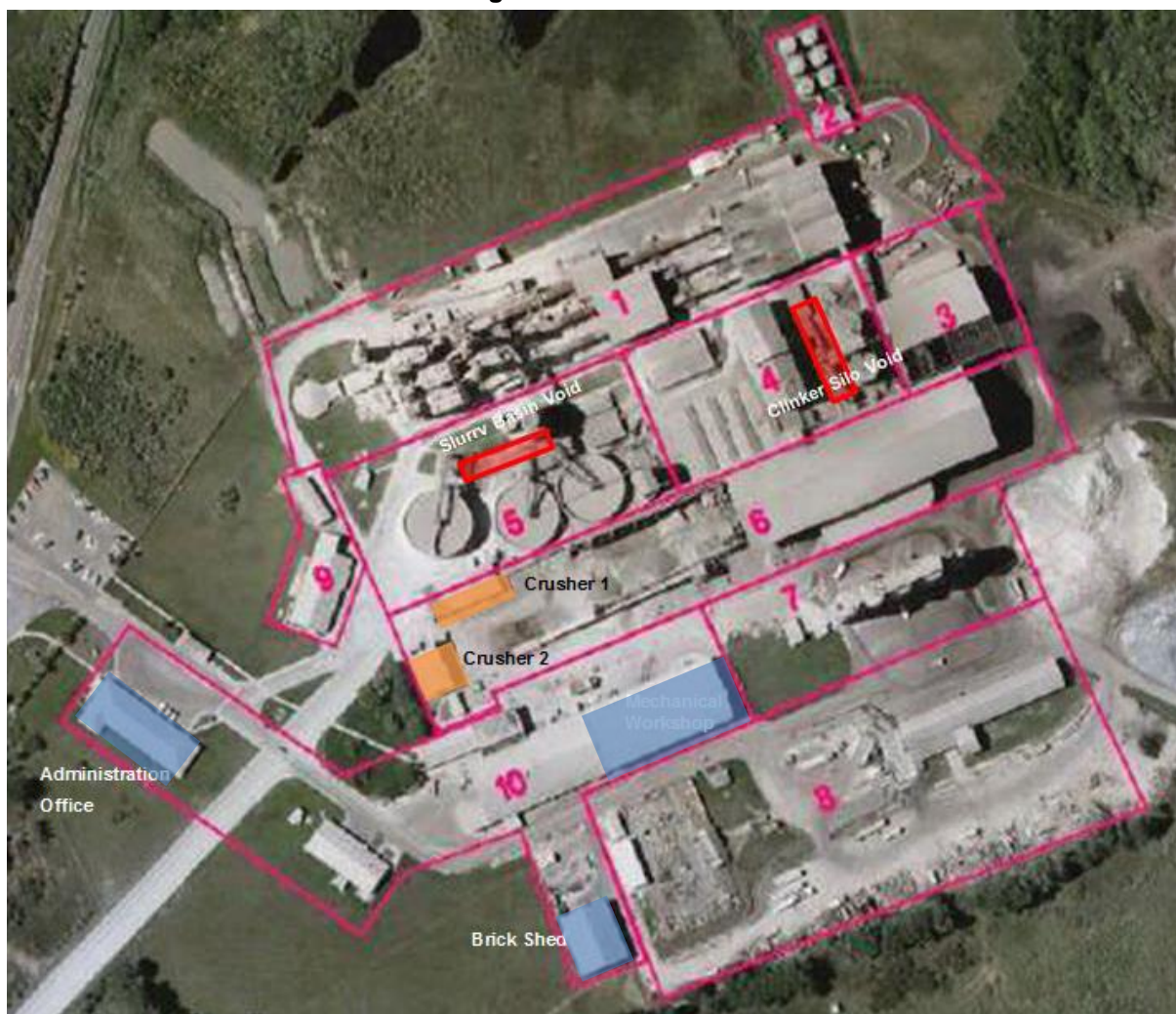
4.0 PROJECT DESCRIPTION

4.1 Demolition Overview

HNZL commenced demolition of the Works site (and associated sites) in November 2018, with completion expected to be by December 2019. The demolition works includes all those activities required to dismantle or demolish equipment, structures and foundations down to grade level (relative ground level).

Individual facilities being demolished or marked for retention are outlined Figure 6. Areas 1-15 have largely been demolished; however buildings being retained include the administration building, mechanical workshop and the brick shed (see areas marked in blue on Figure 6).

Figure 6: Plant Areas



- ❖ Area 1: Kilns;
- ❖ Area 2: Waste Oil Tank Farm;
- ❖ Area 3: Southland Shed (Coal Storage);
- ❖ Area 4: Mill House, Clinker Silos and Electrical Substation;
- ❖ Area 5: Slurry Basins and Pump House;
- ❖ Area 6: Crane Store and Overhead Cranes;

- ❖ Area 7: Cement Storage Silos;
- ❖ Area 8: Old Store and “Grave Yard”;
- ❖ Area 9: Laboratory and Rescue Shed
- ❖ Area 10: Administration and Workshops
- ❖ Area 11: Quarry Buildings (not shown on Figure 6);
- ❖ Area 12: Fertiliser Plant (no shown on Figure 6);
- ❖ Area 13: Westport Wharf Silos (not shown on Figure 6);
- ❖ Area 14: Packing Plant (not shown on Figure 6); and
- ❖ Area 15: Okari Water Treatment Plant (not shown on Figure 6).

Sites not included on Figure 6 but are currently included in the scope of demolition works include (referred to as the peripheral sites);

- ❖ Quarry Buildings (Area 11);
- ❖ Fertiliser Plant (Area 12);
- ❖ Westport Wharf Silos (Area 13);
- ❖ Packing Plant: Nine Mile Road (Area 14); and
- ❖ Water Treatment Plant House (Area 15).

Nikau are currently processing recoverable materials into a suitable condition for disposal as scrap (80% of the materials generated during demolition expect to be recovered). This includes separation of materials such as steels, copper, aluminium, stripping cabling and cutting to length. Nikau are also crushing the concrete recovered during the demolition, removing the rebar then using the crushed concrete for backfilling voids. The current status of the demolition progress as of August 2019 is summarised as follows;

- ❖ Demolition of the Works (retention of the mechanical workshop, administration building and brick shed) – 90% Complete;
- ❖ Removal and disposal of asbestos containing materials (ACM) from buildings at the Works, by suitably qualified contractors - 90% complete.

(Note: Contamination identified during final site verification surveys will occur once the site is clean of demolition material and will be removed as necessary before the site is deemed complete)

- ❖ Demolition and ACM Removal at the Packing Plant – 85% complete
- ❖ Demolition of the Quarry Crusher – 100% complete.
- ❖ Demolition and ACM removal at the Wharf Silos - 5% complete.

4.1.1 Work Hours

Working hours for the demolition and associated ACM removal are outlined below (however there may be occasions where works are carried outside of these times);

- ❖ Monday to Friday 6am to 6pm.

- ❖ Saturday 7am to 5pm.

Demolition work will not be undertaken on;

- ❖ Sundays
- ❖ Public Holidays

4.2 Demolition Waste Disposal

4.2.1 Contaminated Waste Disposal

4.2.1.1 Disposal Location

Much of the contamination at the site (to date) has largely been generated during the removal of ACM's from the site, in addition to minor hydrocarbon contaminated soil located in a bay in the old transformer building (Area 4) and in other isolated locations identified during the demolition process. HNZN currently have resource consents (BDC RC170052, WCRC RC2017-0144, BDC 180071 and WCRC RC2018-0112) to dispose of ACM and contaminated soil in Crusher 1 and 2.

Whilst the estimated capacity of Crusher 1 and 2 is able to contain much of the ACM sheeting, including backfill, the removal methodology of managed collapse for some areas of unstable ACM sheeting (Southland Coal Shed and Crane Shed) has meant there has been more contaminated soil generated, than is able to be contained in Crusher 1 and 2. Both consented ACM disposal pits are at 95% capacity, with asbestos still to be removed from the Wharf Silos, Laboratory Building, other minor structures and contaminated soil.

HNZN are therefore proposing to use the Clinker Silo Tunnel void to encapsulate the remaining ACM/hydrocarbon contaminated soil and using the Slurry Basin Void as a contingency contaminated soil disposal location. The Clinker Silo Tunnel Void is located in Area 4 and the Slurry Basin Void is located in Area 5 (see Figure 6). It should be noted that the Slurry Basin Void is only a contingency should there be more ACM contaminated soil identified than can fit into the Clinker Silo Tunnel Void (and therefore may or may not need to be used).

HNZN have chosen both the Clinker Silo Tunnel Void and the Slurry Basin Void for disposal location as they are both fully lined concrete chambers, with an available volume which can accommodate contaminated soil and any residual ACM sheeting not able to be contained in Crusher 1 and 2. The estimated volumes of the proposed disposal locations are outlined in Table 4.

Table 4: Volume of Proposed ACM Disposal Locations

| Location | Dimensions* | ~Volume m ³ | Usable Volume m ³ |
|--------------------------|------------------------------|------------------------|------------------------------|
| Clinker Silo Tunnel Void | 42.55(l) x 3.08(w) x 4.11(d) | 534 | 480 |
| Slurry Basin Void | 22.48(l) x 3.05(w) x 5.50(d) | 400 | 375 |

*Please note the dimensions are from survey and may differ from plans shown in Figures 7 – 9.

All above ground facilities will be demolished to ground level, leaving the voids unfilled, the locations of which are shown in Figure 7 and cross sections shown in Figures 8 and 9.

Figure 7: Site Location of ACM Disposal Locations

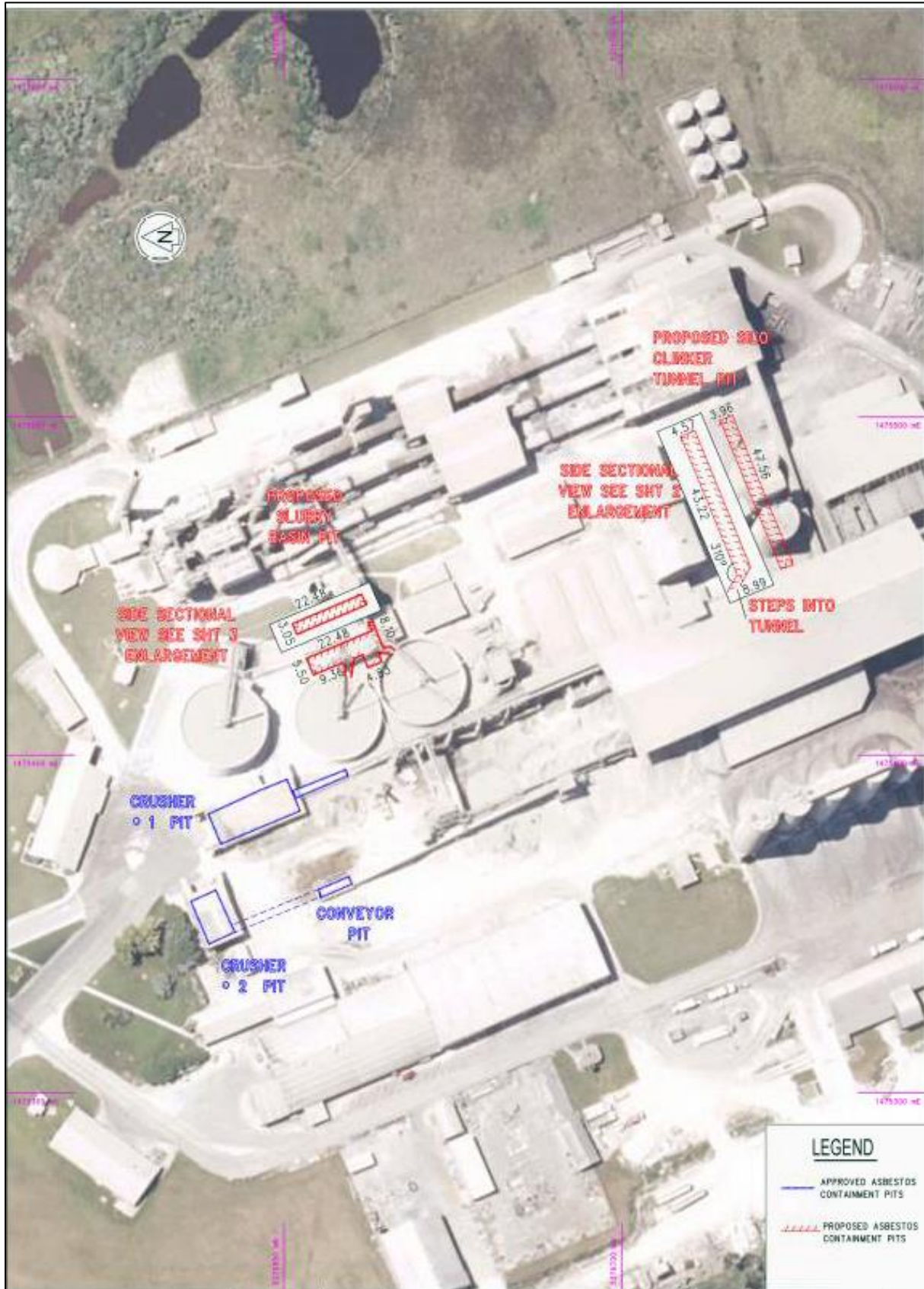


Figure 8: Cross Section – Clinker Silo Tunnel Void

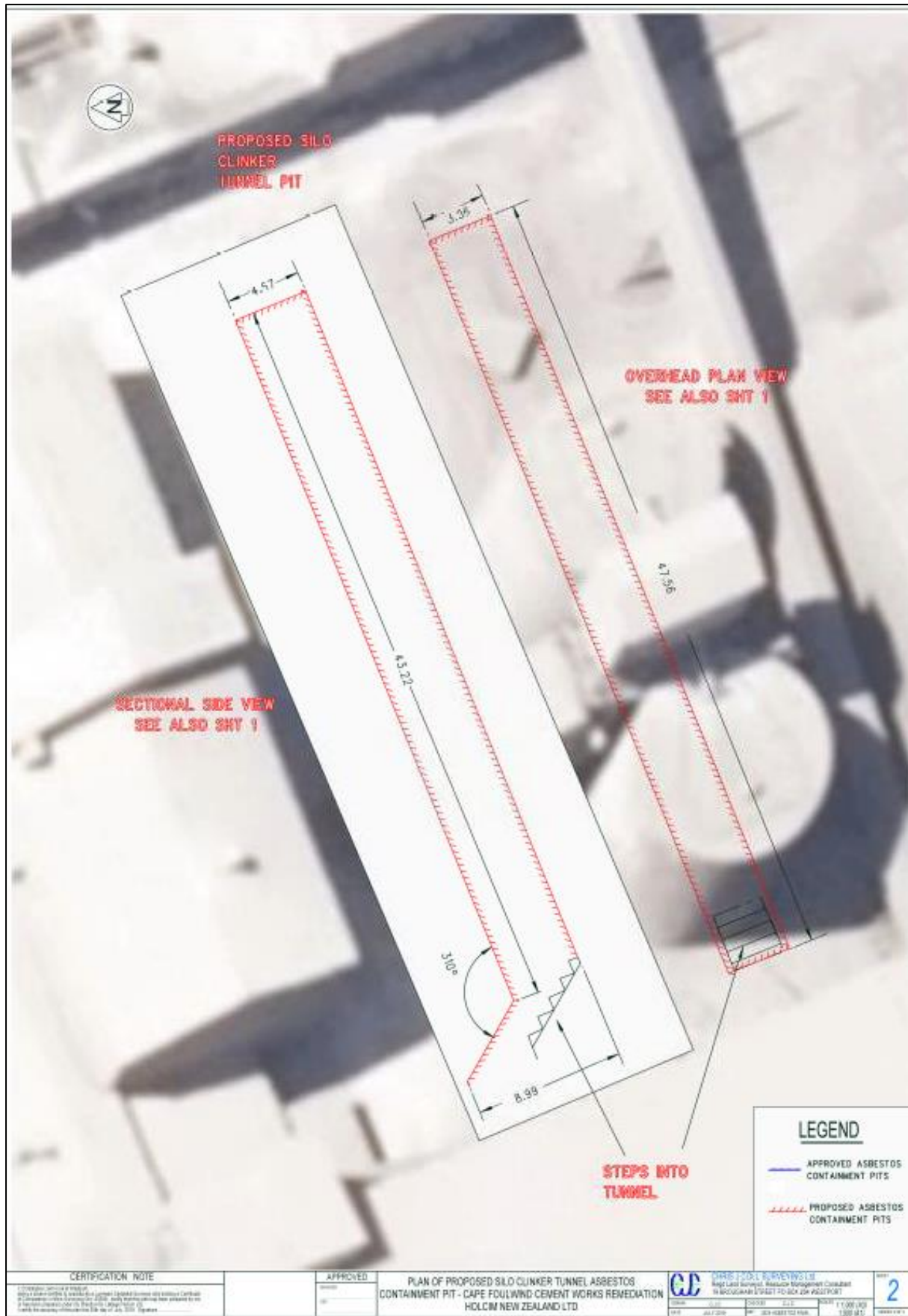
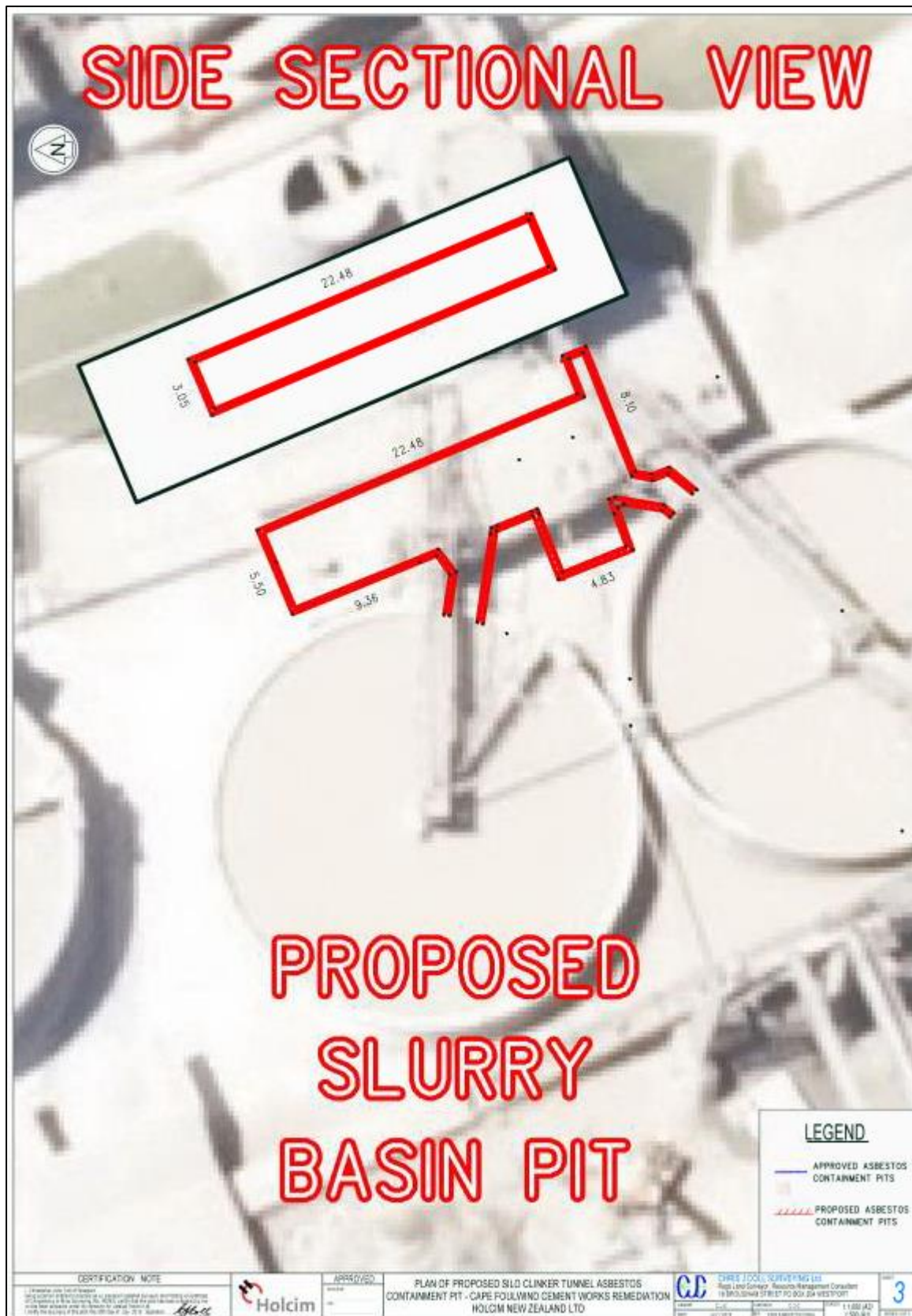


Figure 9: Cross Section – Slurry Basin Void



Prior to the disposal of ACM and contaminated soil, any equipment still remaining in the voids will be removed. Any holes in the void will be sealed off to prevent water ingress into the crusher chamber. ACM will then be placed in the chamber by crane or other equipment and then covered frequently

with either spoil from the site including (but not limited to) crushed demolition concrete, limestone from the quarry and soils contaminated with asbestos fibres or hydrocarbon contaminated soil to ensure voids are minimised. Once the crusher chamber is full, it is proposed to encapsulate the ACM with a concrete cap. On completion the area(s) will be fenced and signposted to ensure it is not accidentally disturbed in the future.

4.2.1.2 Disposal Volume

The Clinker Silo Tunnel void is the primary disposal location for any ACM not able to be contained in Crusher 1 and 2. As previously mentioned the Slurry Basin Void will be used as a contingency measure only. The total volume of contaminated material requiring disposal is estimated to be approximately 780m³ as shown in Table 5. Any remaining space in the voids will be backfilled with inert demolition materials.

Table 5: ACM Location and Estimated Volume

| Area | Facilities | Area (m ³) |
|------------------------------------|--|------------------------|
| Clinker Silo Tunnel Void | | |
| 9 | Laboratory and Rescue Shed | 40 |
| 13 | Westport Wharf | 160 |
| 15 | Okari Water Treatment Plant | 10 |
| Works | Soil Scrape (Southland and Crane Shed) and other isolated areas. | 250 |
| TOTAL Clinker Silo Tunnel Void | | 460 |
| Slurry Basin Void | | |
| Works | Potentially hydrocarbon contaminated soil | 250 |
| Works | 10% Contingency | 70 |
| TOTAL Slurry Basin Void | | 320 |
| Grand Total (ESTIMATE ONLY) | | 780 |

The combined usable volume available for ACM disposal in Crusher 1, 2, the Clinker Silo Tunnel and Slurry Basin Void is approximately 2313m³ as outlined in Table 6. Recalculated volumes of asbestos and backfill indicates that the material cannot be contained in Crusher 1 and 2 alone and as a result HNZZ are therefore seeking approval to also use the Clinker Silo Tunnel and Slurry Basin Voids for ACM disposal. Crusher 1 was filled quicker than expected due to identification of soil contamination around the crane shed (as a result of a Worksafe approved controlled collapse of ACM cladding).

Table 6: ACM Disposal Volume

| Area | Sub Area | Overall volume (m ³) | Usable Void Volume (m ³) |
|-----------|-----------------|----------------------------------|--------------------------------------|
| Crusher 1 | Chamber 1 | ~1300 | ~780 (60% of total volume) |
| | Chamber 2 | ~180 | ~36 (20% of total volume) |
| Crusher 2 | Chamber 1 | ~985 | ~591 (60% of total volume) |
| | Chamber 2 and 3 | ~257 | ~51 (20% of total volume) |

| Area | Sub Area | Overall volume (m ³) | Usable Void Volume (m ³) |
|---------------------|-----------|----------------------------------|--------------------------------------|
| Clinker Silo Tunnel | Chamber 1 | ~534 | ~480 (66% of total Volume) |
| Slurry Basin Void | Chamber 1 | 400 | ~375 (94% of total Volume) |
| Total | | ~3656 | ~2313 |

Note useable void is based on packing efficiency of asbestos sheeting – backfill then used to fill voids

4.2.1.3 Contamination Removal

Nikau has been appointed to manage and undertake the demolition, including the removal of all ACM and other contamination identified by DSI's. Removal of ACM has been and will continue to be undertaken in accordance with the *Health and Safety at Work (Asbestos) Regulations 2016* and in accordance with an approved ACM management methodology prepared by a suitably qualified person and approved by Worksafe.

4.2.1.4 ACM Clearance Certificates

On completion of ACM removal and other contamination, a clearance certificate will be sought for re-occupation of the site that satisfies the requirements of *Health and Safety at Work (Asbestos) Regulations 2016* and WorkSafe. Part of the requirements for obtaining a clearance certificate is that testing for the presence of ACM is undertaken post contaminated material removal to ensure areas identified as being contaminated are appropriately remediated prior to structural demolition of the site which meet the requirements of the *Health and Safety at Work (Asbestos) Regulations 2016*.

Nikau are responsible for the removal of ACM (and other contamination) at the Works including;

- ❖ Decontamination of all equipment/machinery used in the removal process;
- ❖ Removal of all ACM contaminated materials (disposal into Crusher 1, 2 and the proposed Clinker Silo Tunnel and Slurry Basin Voids).

ACM removal will occur in discrete areas, once it is removed and verified by a Worksafe approved methodology as being decontaminated it will be handed over for demolition and scrap salvage. Please note that decontamination and demolition may occur at the same time; for example the Contactor may remove contamination in one area of the site and once decontaminated it would be handed over for demolition before moving to another area to decontaminate.

4.2.1.5 Decontamination Verification

In addition to clearance certificates required under the *Health and Safety at Work (Asbestos) Regulations 2016* and WorkSafe requirements, HNZL will undertake a decontamination verification assessment as required by the NESCS to ensure that the site is left in a manner that enables a future industrial landuse. Verification sampling of the site will determine if soil contamination is present following the removal of ACM and other contamination identified in the DSI. Further decontamination works may need to be undertaken if verification testing indicates unacceptable contamination prior to final signoff.

5.0 LEGISLATIVE ASSESSMENT

5.1 Resource Management Act 1991

5.1.1 Part 2 (Sections 5-8)

Part 2 of the *Resource Management Act 1991* (RMA) (Section 5), sets out the purpose and principles of the Act. All decisions made under the RMA are subject to consideration of Part 2.

The purpose of the RMA (Section 2) is to “promote the sustainable management of natural and physical resources”. Section 6 and 7 list matters of “National Importance” and “other matters” that have a substantial role in shaping and directing how the RMA’s purpose is given effect through planning and decision making. Section 8 sets out the RMA’s requirement to take into account the principles of the Treaty of Waitangi. Table 7 provides an analysis of the Project against Part 2 of the RMA. HNZL consider that overall the Proposal is consistent with Part 2 of the RMA

Table 7: Part 2 Assessment

| RMA Section | Comment |
|-------------|---|
| 5 | The proposal will demolish and rehabilitate a HAIL site and in the process enhance the “sustainable management of natural and physical resources” by decontaminating and disposing of ACM in an encapsulated cell to ensure there are no impacts on people and the Environment. HNZL are proposing best practice mitigation measures to avoid, remedy or mitigate potential impacts of the activity, as required in Section 5(2) (c). |
| 6 | No matters of National Importance included of Section 6 of the RMA are of relevance to the Project. |
| 7 | With regard to section 7(c) and (f) the project will enhance the amenity values of the Cape Foulwind Area and result in improved environmental outcomes following decontamination ACM disposal (onsite) and rehabilitation of the site. |
| 8 | No relevant Treaty of Waitangi matters have been identified. |

5.1.2 Section 104

Section 104 of the RMA, sets out matters which the consent authority shall have regard to when considering an application for resource consent and as outlined below. All of these matters are to be considered under Part 2 of the RMA.

Sub section 104(1) (a) requires a consent authority to have regard to the actual and potential effects on the environment of allowing the activity.

- ❖ The actual and potential effects are contained in Section 6.0 of this document.
- ❖ The assessment concluded that as long as appropriate management measures are in place the project would result in less than minor effects on the environment or people.

Subsection 104(1) (b) requires a consent authority to have regard to any relevant objectives, policies,

rules or other provisions of a plan or a proposed plan.

- ❖ The provisions of matters outlined in Section 104(1)(2) are discussed in Section 5.0 of this document.

Subsection 104(1)(c) requires a consent authority to have regard to any other relevant considerations.

- ❖ There are no relevant considerations.

Section 104A outlines the requirement for assessment of Discretionary Consents. A consent authority under 104A (a) may grant or refuse the application and under 104A (b) if it grants the application it may impose conditions under section 108.

- ❖ HNZN believe that this proposal will result in better environmental and social outcomes.

5.2 National Policy Statement Freshwater

The National Policy Statement for Freshwater Management 2014 (“NPS”) sets out objectives and policies that direct local government to manage water in an integrated and sustainable way, while providing for economic growth within set water quantity and quality limits. The relevant objectives and policies of the NPS include:

| National Policy Statement Freshwater | |
|--------------------------------------|--|
| Objective A1 | To safeguard: <ol style="list-style-type: none"> a) The life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, of fresh water; and b) The health of people and communities, at least as affected by secondary contact with fresh water; c) Sustainably managing the use and development of land, and of discharges of contaminants. |
| Objective A2 | The overall quality of fresh water within a region is maintained or improved while: <ol style="list-style-type: none"> a) Protecting the significant values of outstanding freshwater bodies; b) Protecting the significant values of wetlands; and d) Improving the quality of fresh water in water bodies that have been degraded by human activities to the point of being over-allocated. |

It is considered that the proposal is consistent with the objectives of the NPS Freshwater.

- ❖ As part of the proposal HNZN will implement measures outlined in Section 6.0. Effects on water resources as a result of implementing the Proposal will be less than minor.

5.3 Buller District Plan

Objectives and Policies outlined in the Buller District Plan specifically relating to the disposal of ACM in Crusher 1 at the Works are outlined in section 5.3.4 Cement Production Zone, Section 4.4 Rural Land and Water Resource and section 4.11 Hazardous Substances.

In addition “Proposed Plan Change 136, which relates to hazardous substances and the management of contaminated sites, is also applicable (Plan Change 136 formally recognises and aligns the District

Plan with the requirements of the NESCS).

5.3.1 Objectives and Policies

Resource management issues significant to the Buller District are identified by specific objectives and policies which address those issues. Objectives and Policies applicable to this proposal are outlined below.

Rural Land and Water Resource

Objectives and policies in relation to the proposed disposal of ACM into Crusher 1 at the Works and the potential for water resources and adjacent rural land to be impacted are covered by Objective 4.4.13.1 and Policy 4.4.14.4. The effects of land use activities can adversely affect the ecological values associated with water resources.

| |
|--|
| Operative Buller District Plan – Objective 4.4.13.1 |
| Promote Landuse activities which maintain or improve the water quality of the districts rives and do not adversely affect water quantity, in order to safeguard the life supporting capacity of water. |
| Buller District Plan – Policy 4.4.14.4 |
| The protection of water resources from adverse effects of land based activities shall be encouraged as a means of maintaining and enhancing water quality. |
| Operative Buller District Plan – Objective 4.4.13.1 |
| Promote Landuse activities which maintain or improve the water quality of the districts rives and do not adversely affect water quantity, in order to safeguard the life supporting capacity of water. |
| Buller District Plan – Policy 4.4.14.4 |
| The protection of water resources from adverse effects of land based activities shall be encouraged as a means of maintaining and enhancing water quality. |

During the demolition ACM removal and disposal there will be a number of controls in place to ensure that the proposed activity does not cause any additional effects to water resources and adjacent rural land, these measures are outlined in Section 6.0.

5.3.1.1 Plan Change 136

Hazardous Substances

Objectives and Policies relating to the disposal of ACM on site during the decontamination and demolition process at the site are covered by Objective 1 and Policy 1.

| |
|--|
| Plan Change 136 –Hazardous Substances Objective 1 |
| To protect the environment from the adverse effect and subdivision/ land use activities involving hazardous substances. |
| Proposed Plan Change 136 – Hazardous Substances Policy 1 |
| Activities and facilities involving the use and storage of hazardous substances shall be designed, located, constructed and operated so as to minimise risk to people and the environment. |

Objective 1 seeks to minimise the risk of adverse effects from hazardous substances. This is achieved through controls to manage the safe and secure containment of Hazardous Substances at all locations. Policy 1 recognises that the design, construction and management of a facility are important components in avoiding contamination. Particular consideration will be given if the activity is appropriate in a given location. HNZN are proposing to fully encapsulate ACM in the Clinker Silo Tunnel and Slurry Basin Voids (and in Crusher 1 and 2, which are already consented for this purpose). The management of any potential or actual effects of this proposal are outlined in Section 6.

Contaminated Sites

Objective and Policies relating to Contaminated Sites is applicable at the Works as a result of cement manufacturing being on the HAIL List. PSI's and DSI's were undertaken at the Works to verify if the NESCS is applicable. These studies concluded the Westport Cement Works was subject to NESCS.

| |
|--|
| Plan Change 136 – Objective 2 |
| To ensure that contaminated land is used, subdivide, developed or managed in a way that avoids or mitigates the adverse effects pm the environment and human health. |
| Plan Change 136 – Policy 2 |
| To ensure that when contaminated land is used, subdivided, and/or developed, the land is managed or remediated in a way that avoids or mitigate adverse effects on the environment and manages the risk to human health to a level that is appropriate for the intended use. |

Objective 2 provides that contaminated land is to be managed so that it does not pose an unacceptable risk to current and/or future land owners and/or occupiers. Policy 2 is based on implementing the NESCS. Any activity that seeks to remediate, use, redevelop or subdivide contaminated land is required to be assessed under the NESCS. Any works undertaken at the Works will need to ensure that demolition and remediation practices will not lead to further degradation of the site or the surrounding environment or present a risk to human health.

5.3.1.2 Summary of Objectives and Policies

HNZN believe that as long as appropriate management measures are implemented, the disposal of ACM onsite in Crusher 1 can be undertaken in a manner which is consistent with the objectives and policies of the Buller District Plan and Proposed Plan Change 136. It should be noted that for the most part HNZN's proposed activities within the Buller District are covered under the NESCS.

5.3.2 Rules

5.3.2.1 Cement Production Zone

Activities in the Cement Production Zone are either permitted, controlled or discretionary if they fall into the standards for that activity listed in Table 5.9 or Table 5.10 of the Buller District Plan. Activities listed in Table 5.9 must also comply with the "District Wide Rules" outlined in Section 7 of the Plan. HNZN will comply with the performance standards set for the Cement Production Zone unless otherwise stated in Table 8.

Table 8: Relevant Rules: Cement Production Zone

| Rule | Status | Description | Comment |
|----------------------|----------------------|--|--|
| Hazardous Substances | | | |
| 6.4.2.7 | Discretionary | Activities involving hazardous substances which do not meet all the performance standards for controlled activities. | The disposal of demolition wastes (ACM etc.) at the Works are not specifically mentioned in Table 5.9. Works with Hazardous substances i.e. ACM are outlined in Section 6 of the District Plan and these rules override any rules in the district plan unless otherwise stated. Therefore the proposed activities revert to section 6 Rules. Controlled rules under section 6.3 are not appropriate unless the works can be done without discharges into or onto land, water and air except where this is provided for by a rule within the regional plan or other rule or regulation. Rule 6.3.1.3 is not applicable as drainage to a waste treatment system may not all be from a sealed surface. Therefore Landuse Consent for additional ACM disposal locations is required under rule 6.4.2.7 |

5.3.2.2 General Rules

Noise during the demolition is covered under the construction noise standard given that the activity is of a temporary nature as outlined in Table 9.

Table 9: Noise Rules

| Rule | Status | Description | Comment |
|---------|--------|---|---|
| 7.8.3.4 | N/A | Construction noise emanating from any site shall not exceed the limits recommended in and be measure and assed in accordance with the New Zealand Standard 6803P:1984 "The measurement and assessment of noise from construction, maintenance and demolition work | Noise from Demolition will need to comply with the stipulated standard. It should be noted that NZ Standard 6803:1984 has been superseded by NZ Standard 8603:1999. |

5.4 National Environmental Standards

5.4.1 Contaminated Land

The relevant National Environmental Standard applicable to the site is the NESCS. The NESCS considers land to be actually or potentially contaminated if an activity or industry on the HAIL has been, is, or is more likely than not to have been, undertaken on that land. HAIL activities identified for the site(s) are outlined in Table 10.

Table 10: Site HAIL Activities

| Hail Activity | Contaminants of Concern |
|---|--|
| A6: Fertiliser Manufacture | Metals, metalloids and high pH (processing CKD and NSD into fertiliser). |
| A17: Storage tanks or drums for fuel, chemicals or liquid waste. | Petroleum hydrocarbons, in particular; polycyclic aromatic hydrocarbons (PAH) and Benzene, toluene, ethylbenzene |

| Hail Activity | Contaminants of Concern |
|-------------------------------------|---|
| | and xylene (BTEX), metals, solvents and other volatiles. |
| B2: Electrical Transformers. | Petroleum hydrocarbons; polychlorinated biphenyls (PCB), metals and metalloids. |
| D1: Abrasive blasting. | Metals and metalloids. |
| E3: Cement Manufacturing. | Metals and metalloids, high pH, asbestos and hydrocarbons. |
| E5: Coal yard. | Metals and metalloids and PAH. |
| F7: Refuelling facilities. | Petroleum hydrocarbons; PAH and BTEX. |

The NESCS is applicable to land where;

- ❖ An Activity included on the HAIL is being undertaken, has been undertaken or is more likely than not to have been undertaken on the land.
- ❖ One of five specified activities is proposed for the land including, removing or replacing a fuel storage system, sampling the soil, disturbing the soil, subdividing the land and/or changing the land use.

The Works is captured by HAIL category E3-Cement Manufacture using a kiln and others related to specific activities at the site as detailed in Table 10. Therefore the NESCS is applicable to the Works.

Under Regulation 8(3) of the NESCS, soil disturbance of up to 25 m³ per 500 m² and disposal of up to 5m³ per 500m² is allowed as a Permitted Activity. If the soil disturbance does not comply with the permitted activity criteria, a DSI is required to establish whether the soil disturbance should be consented as a controlled activity (if contaminant concentrations are below the soil contaminant standard (SCS) or a restricted discretionary activity (if contaminant concentrations are above the SCS).

Given that soil contaminant concentrations (although in an isolated area), have been identified above the Soil Contaminant Standard through DSIs. HNZN sought resource consent under the NESCS for the entire Demolition Project in 2017, including bulk earthworks, contamination removal and remediation under resource consents BDC RC170052 and WCRC RC2017-0144 and therefore are not seeking any new consent under the NES for this proposal.

5.5 Other Relevant Legislation

5.5.1 Asbestos Regulations 2016

The Regulations around working with asbestos changed on 4 April 2016 with the introduction of *Health and Safety at Work (Asbestos) Regulations 2016*. The new regulations are designed to protect as many people as possible from exposure to asbestos fibres. A licensing system for the removal of asbestos has now been introduced.

From 4 April 2016, if more than 10 m² of non-friable asbestos has to be removed over the whole course of the project for the site, it must be done by a licensed asbestos removalist. All friable asbestos removal work (where the number of fibres released is likely to be high) must also be carried out by a licensed asbestos removalist. This includes work on asbestos lagging, asbestos insulation and damaged asbestos board. A licensed asbestos removalist is a person holding a current

Certificate of Competence. HNZN will ensure that all work involving the removal and disposal of asbestos will be in accordance with the “*Health and Safety at Work (Asbestos) Regulations 2016*”

5.6 Summary

A summary of the consenting requirements under the Regional Plan for the Project (use of Clinker Silo Tunnel Void to dispose of ACM) are outlined on Table 11. HNZN are seeking appropriate consents from WCRC concurrently with this application.

Table 11: Consent Requirements.

| Rule | Status | Description | Comment |
|---------|----------------------|--|---|
| 6.4.2.7 | Discretionary | Activities involving hazardous substances which do not meet all the performance standards for controlled activities. | <p>The disposal of demolition wastes (ACM etc.) at the Works are not specifically mentioned in Table 5.9.</p> <p>Works with Hazardous substances i.e. ACM are outlined in Section 6 of the District Plan and these rules override any rules in the district plan unless otherwise stated. Therefore the proposed activities revert to section 6 Rules.</p> <p>Controlled rules under section 6.3 are not appropriate unless the works can be done without discharges into or onto land, water and air except where this is provided for by a rule within the regional plan or other rule or regulation. Rule 6.3.1.3 is not applicable as drainage to a waste treatment system may not all be from a sealed surface. Therefore Landuse Consent for Additional ACM Disposal Locations is required under rule 6.4.2.7</p> |

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6.0 ENVIRONMENTAL EFFECTS and MANAGEMENT

6.1 Background

The effects of demolition, decontamination and remediation (including ACM removal and disposal in Crusher 1 and 2) have already been considered in the AEEs associated with the following consents;

- ❖ BDC RC170052;
- ❖ WCRC RC2017-0144;
- ❖ BDC 180071; and
- ❖ WCRC RC2018-0112.

Only the effects directly associated with the proposed disposal of ACM into to the proposed Clinker Silo Tunnel void are presented in this AEE.

6.2 Environmental Management

HNZL is committed to taking care of the environment whilst going about its day to day operations. Ensuring the highest level of environmental performance at all of HNZL's sites is regarded in the company as everyone's business. Our Environmental Policy outlines key focus areas such as implementation of environmental management systems, ensuring efficient resource utilisation and minimising environmental impacts and is included as **Appendix 2**.

HNZL has an Environmental Management System (EMS) which aligns with the requirements of the international standard ISO 14001:2015. The EMS is designed to manage the environmental impacts that result from any activity at all sites operating under the HNZL umbrella.

Compliance with consents and other environmental regulations is a top priority. The company strives to outperform compliance limits whenever practicable. Compliance is assured through regular management reviews with external and internal environmental auditing.

6.2.1 Incident Management

All incidents at HNZL sites including complaints, hazards and near misses are entered into HNZL's incident management system (INX). This system allows incidents to be recorded, tracked, investigated and closed out. Incidents are periodically audited to ensure issues have been appropriately investigated, actioned and closed out.

6.3 ACM Disposal

As outlined in Section 4.2.1, HNZL are proposing to encapsulate ACM (including any contaminated soil) within the empty void of the Clinker Silo Tunnel (and the already consented Crusher 1 and 2). Like Crusher 1 and 2, the Clinker Silo Tunnel and if necessary the Slurry Basin Void(s) is essentially concrete bunker which will be progressively filled with ACM and voids backfilled with contaminated soils and building rubble. Once the disposal of ACM is complete, the crusher will be covered with a concrete cap, fenced and signposted.

- ❖ A specific Asbestos Removal Control Plan (ARCP) has been prepared for the site to ensure that ACM removal and disposal is undertaken in a manner that meets all legislative requirements and does not present a risk to both people and the environment. The ARCP will be updated to include the Clinker Silo Tunnel as a disposal location once consents for this activity have been granted. The ARCP has already been provided with previous consent applications (BDC RC170052/RC180071) and as such has not been included in this AEE.

There are large quantities of ACM onsite (generally as super 6 building cladding) and during the removal and subsequent disposal of this of this material there is the potential for fibres to be transferred outside of ACM Control Areas via discharges to surface water or air if appropriate controls are not implemented. Sections 6.3.2 and 6.3.3 outline potential water and dust effects and their management during the disposal of ACM and other contaminated soil (as approved already for Crusher 1 and 2). Section 6.3.4 outlines controls proposed to deal with the transport of ACM from peripheral sites to the disposal locations at the Works.

6.3.1 Positive Effects

6.3.1.1 Traffic

Due to the volume of ACM expected to be recovered from the Works, HNZN have opted to use onsite disposal, rather than truck it to an authorised facility (i.e. Nelson or Christchurch). It is estimated that it would take more than 100 trucks to transport the material offsite. Given that the inland route to either Nelson and/or Christchurch is already congested, HNZN believe there is less risk by onsite disposal.

6.3.1.2 ACM Disposal Location

Once the ACM is encapsulated then any effects to the environment will be negligible as it is fully contained and unable to migrate outwards via water or air. Given that asbestos is inert when not exposed to the weather, encapsulation in a fully lined concrete bunker is the best method to ensure that any human health risks and effects on the environment are contained without the possibility of generating leachate from the disposal site. Accidental disturbance of the disposal locations will be prevented by fencing and clear signage. The sites will also be registered on the BDC and WCRC HAIL Register to ensure that future development does not impact on ACM disposal sites.

6.3.2 Water Management

6.3.2.1 Issue

Surface water may become contaminated by ACM fibres. During the removal, storage and the subsequent disposal of ACM and other contamination (minor hydrocarbon contaminated soil), storm water could migrate beyond the designated control area posing, a small risk that the environment and human health (via water contamination) may be impacted.

6.3.2.2 Management

During removal and disposal of ACM, erosion and sediment controls will be implemented to ensure that any contaminated material is contained within the specific area of work and not spread into existing stormwater drains and surface water bodies such as Lake Syme and ultimately Gibson's and Marris Creeks.

Management measures implemented may include (but not limited to) clean and dirty water diversions, water filtration (to remove fibres) in ACM removal areas and restrictions of traffic in certain areas.

An Erosion and Sediment Control Plan (ESCP) has been prepared for ACM removal works and disposal (provided as part of consents for Crusher 1 and 2). The Demolition Contractor has prepared an ARCP in accordance with applicable legislation which outlines general controls in relation to the removal and disposal of ACM (this has not been appended as it has been provided with consents for ACM disposal into Crusher 1 and 2). As long as appropriate management measures are implemented then water quality effects during the removal and disposal of ACM are considered less than minor.

❖ **Summary Management Controls :**

Not appended as previously provided with; BDC RC170052; and RC180071 AEE

❖ ARCP

❖ Erosion and Sediment Control Plan

6.3.3 Dust Management

6.3.3.1 Issue

There is the potential that during the disposal of ACM into cells at the Works, dust containing ACM fibres could be generated and contaminate other areas/soils around the site potentially resulting in health and environmental risks.

6.3.3.2 Management

The aim during disposal of ACM is for no dust to be generated where possible. Management measures proposed to be implemented (but not limited to) include the following measures;

- ❖ Use of mobile dust atomisers (produces a fine mist and does not result in water runoff);
- ❖ Limiting vehicle speeds;
- ❖ Use of covered bins to transport ACM to disposal location(s) to prevent wind dispersion of ACM fibres; and
- ❖ Ceasing work in windy conditions.

Dust generated during the disposal of ACM will be strictly controlled in accordance with a Dust Management Plan (already provided for ACM disposal in Crusher 1 and 2). The Demolition Contractor has prepared an ARCP in accordance with applicable legislation which outlines general controls in relation to the removal and disposal of ACM. HNZL believe that as long as appropriate management measures are implemented then dust effects during the removal and disposal of ACM are less than minor.

Summary Management Controls : Earthworks

Not appended as previously provided with; BDC RC170052; and RC180071 AEE

❖ Dust Management Plan:

❖ ARCP:

6.3.4 ACM Transport

6.3.4.1 Issue

There is the potential for spread of contaminated ACM material being transported from offsite from the Packing Plant, Wharf Silos, Quarry and Okari Water Treatment plant to the disposal location at the Works.

6.3.4.2 Management

All ACM from offsite sources will be transported to the Works for disposal in covered trucks to prevent the spread of windblown asbestos fibres and in accordance with the ARCP.

7.0 CONSULTATION and NOTIFICATION

7.1 Notification

In 2009 the RMA underwent substantial amendments to the notification provisions. There is no longer a presumption in favor of notification, which is a significant departure from the previous position, a change in thresholds, as well as clarification as to what a consent authority should now take into consideration when making a notification assessment. Under section 95A(2) a consent authority can only publicly notify a resource consent application if:

Section 95A(2)

- a) *it decides (under section 95D) that the activity will have or is likely to have adverse effects on the environment that are more than minor; or*
- b) *if the applicant requests notification; or*
- c) *if a rule or national environment standard requires it.*

The applicant has not requested notification and there is no relevant rule or national environmental standard which requires the application to be notified.

A consent authority that is deciding, for the purpose of section 95A(2)(a), whether an activity will have or is likely to have adverse effects on the environment that are more than minor (under section 95D):

Section 95D

- a) *must disregard any effects on persons who own or occupy -
 - (i) *the land in, on, or over which the activity will occur; or*
 - (ii) *any land adjacent to that land; and**
- b) *may disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect; and*
- c) *must disregard trade competition and the effects of trade competition; and*
- d) *must disregard any effect on a person who has given written approval to the relevant application.*

The assessment of effects on the environment contained in this AEE has demonstrated that this proposal will not have or is not likely to have adverse effects on the environment that are more than minor and therefore public notification of the resource consent applications under Section 95A of the RMA is not considered necessary or appropriate.

Limited notification is dealt with under section 95B, which states:

Section 95B

If a consent authority does not publicly notify an application for a resource consent for an activity, it must decide (under sections 95E and 95F) if there are any affected persons or affected order holders in relation to the activity.

[Subsections (2) and (3) are not relevant]

Under section 95B(1), the Council must decide if there are any affected persons to be notified. Under section 95E a person is an 'affected person' if the adverse effects on them are minor or more than

minor (but not less than minor). People need to be affected in at least a minor or more than minor way. And that assessment has to be made in the context of the Regional and District Plans, which provides the "framework" for the assessment of effects.

It is clear from the assessment provided in this AEE that the proposed ACM disposal sites will not result in effects on the environment or people which are more than minor. No persons need to be notified in respect to this application as the effects are considered to be less than minor. In conclusion, the application does not need to be fully notified or limited notified.

7.2 Consultation

HNZL believe that any effects from the proposed activities as outlined in Section 6.0 are able to be managed to ensure the works meet applicable guidelines developed to protect human health and the environment. As a result of limited human and environmental effects are considered less than minor.

HNZL has not widely consulted on the proposed works, however the Westport community has been advised via the Westport) regarding progress of demolition works and what it entails. HNZL have consulted extensively with the Buller District Council and the West Coast Regional Council.

Up until the closure of the Works consultation with individuals and neighbours in the immediate vicinity of the site has been on-going for many years through the quarterly Community Liaison Group and regular visits to local residents by HNZL staff.

8.0 CONCLUSION

To facilitate the decontamination, demolition and rehabilitation of the Works, HNZN are seeking consent from the WCRC and BDC to allow ACM disposal in two new sites at the Works, in addition to that sought under;

- ❖ BDC RC170052;
- ❖ WCRC RC2017-0144;
- ❖ BDC 180071; and
- ❖ WCRC RC2018-0112.

HNZN are proposing to use the Clinker Silo Tunnel and Slurry Basin Void as additional ACM disposal sites.

This application is considered to be supported by the relevant objectives and policies of the planning documents. The proposal appropriately manages adverse effects on the environment and to humans, and is considered to be consistent with the relevant objectives and policies of the relevant plans.

It is clear from the assessment provided in this AEE that the additional ACM disposal sites will not result in effects on the environment which are more than minor. No persons need to be notified in respect to this application as the effects are considered to be less than minor. In conclusion, the application does not need to be fully notified or limited notified.

Holcim (New Zealand) Ltd
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Christchurch

Phone + 64 3 339 7500
Fax + 64 3 339 7499
www.holcim.com/nz

APPENDIX 1

CERTIFICATES OF TITLE



COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952



**Guaranteed Search Copy issued under Section 172A
of the Land Transfer Act 1952**


R. W. Muir
Registrar-General
of Land

Identifier NL101/14
Land Registration District Nelson
Date Issued 05 March 1948

Prior References

NLPR11/77 WA 407

Estate Fee Simple
Area 19.9409 hectares more or less
Legal Description Section 2 and Section 2A Block I Steeples
Survey District

Proprietors

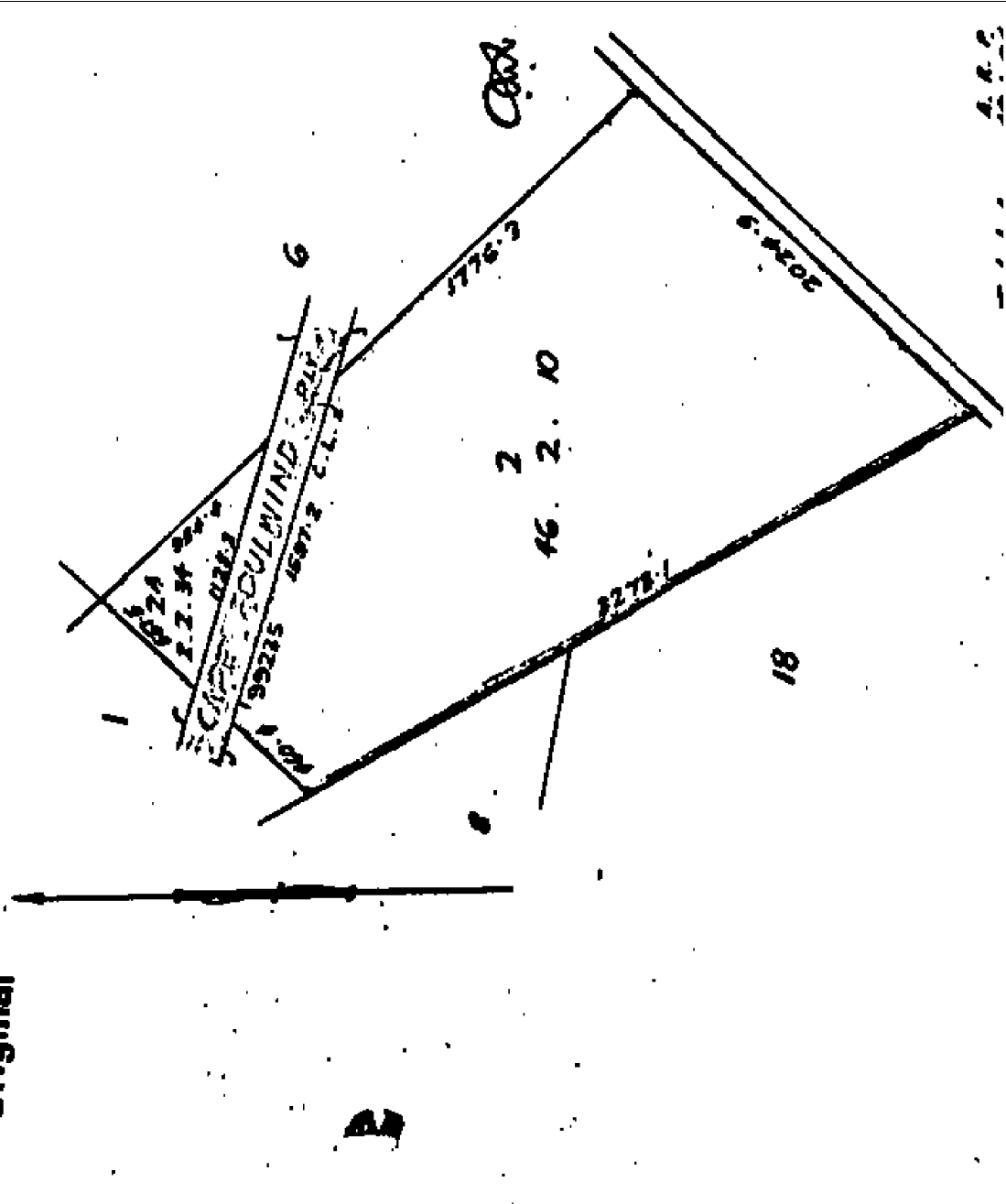
Holcim (New Zealand) Limited

Interests

Land Covenant in Easement Instrument 8569026.1 - 16.8.2010 at 12:11 pm
Land Covenant in Easement Instrument 8593442.1 - 15.9.2010 at 3:04 pm



Image Quality due
to Condition
of Original





COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952



Search Copy


R. W. Muir
Registrar-General
of Land

Identifier NL146/32
Land Registration District Nelson
Date Issued 07 October 1958

Prior References

NL135/99

Estate Fee Simple
Area 2.0513 hectares more or less
Legal Description Lot 3 Deposited Plan 5510 and Lot 2
Deposited Plan 5663

Proprietors

Holcim (New Zealand) Limited

Interests

Land Covenant in Easement Instrument 8569026.1 - 16.8.2010 at 12:11 pm
Land Covenant in Easement Instrument 8593442.1 - 15.9.2010 at 3:04 pm



COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952



**Guaranteed Search Copy issued under Section 172A
of the Land Transfer Act 1952**


R. W. Muir
Registrar-General
of Land

Identifier NL112/75
Land Registration District Nelson
Date Issued 05 September 1951

Prior References

NL24/142

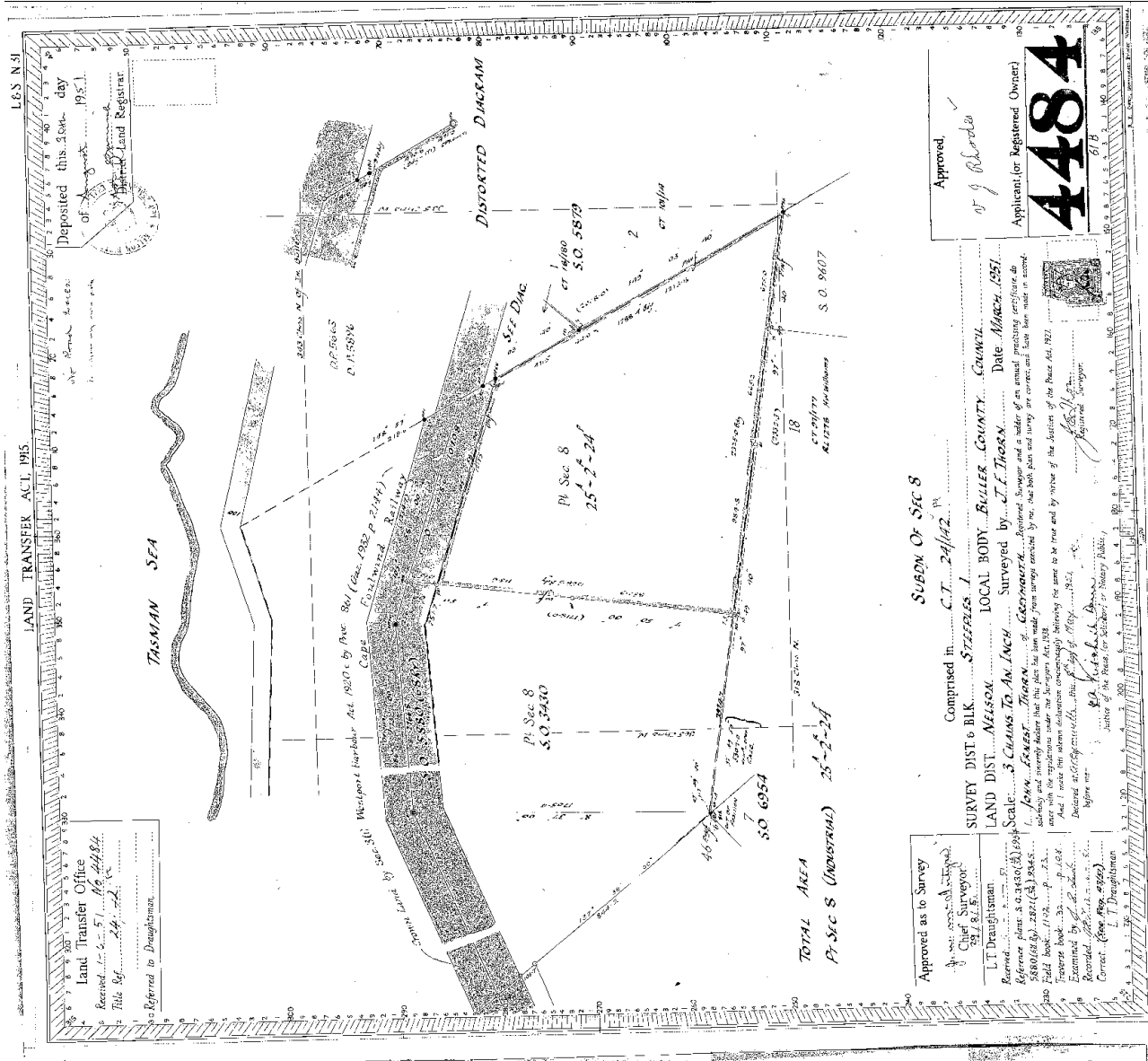
Estate Fee Simple
Area 10.3802 hectares more or less
Legal Description Deposited Plan 4484

Proprietors

Holcim (New Zealand) Limited

Interests

For access see CT NL101/14
Land Covenant in Easement Instrument 8569026.1 - 16.8.2010 at 12:11 pm
Land Covenant in Easement Instrument 8593442.1 - 15.9.2010 at 3:04 pm



Approved, ✓
 of J. B. B. B. B.
 Applicant (or Registered Owner)
4484
 618

Comprised in C.T. 24/142 M
 SUBDN. OF SEC 8
 SURVEY DIST. to BLK. STEELES 1
 LOCAL BODY. BULLER COUNTY. COUNCIL.
 LAND DIST. NELSON Surveyed by J. F. THORN Date. March 1957
 Scale. 5 CHAINS TO AN INCH
 JOHN. GARRETT. THORN. of. CERTIFICATE. Registered. Surveyor. and. a. holder. of. an. annual. practicing. certificate. do. hereby. certify. that. the. plan. of. the. land. shown. above. is. a. true. and. correct. copy. of. the. original. plan. of. the. land. shown. above. as. the. same. was. submitted. to. me. on. the. 25th. day. of. March. 1985. and. that. the. same. has. been. made. in. accordance. with. the. provisions. of. the. Land. Transfer. Act. 1985.
 Deponent. J. F. THORN. Registered. Surveyor.
 before me. J. T. Draughtman. Justice. of. the. Peace. for. the. County. of. West. Tasmania.

Approved as to Survey
 of the. Surveyor.
 J. T. Draughtman
 Received. at. the. Office. of. the. Registrar. of. Land. Transfer. on. the. 25th. day. of. March. 1985.
 J. T. Draughtman
 Registrar. of. Land. Transfer.



COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952




R. W. Muir
Registrar-General
of Land

**Guaranteed Search Copy issued under Section 172A
of the Land Transfer Act 1952**

Identifier **NL139/84**
Land Registration District **Nelson**
Date Issued 19 December 1957

Prior References

NLPR13/105

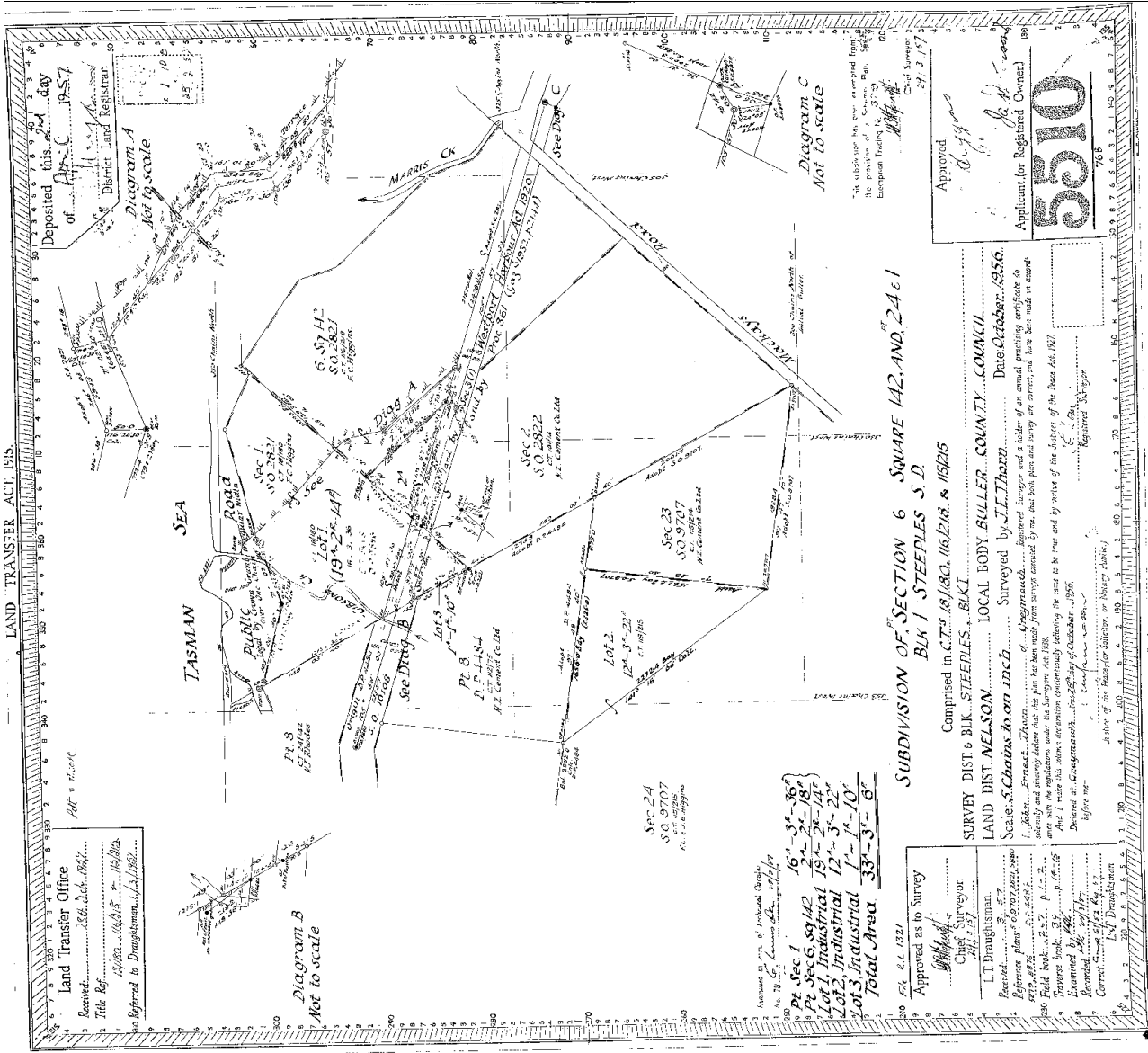
Estate Fee Simple
Area 5.2154 hectares more or less
Legal Description Lot 2 Deposited Plan 5510

Proprietors

Holcim (New Zealand) Limited

Interests

For frontage to a public road see Certificates of Title NL101/14 and NL112/75
Subject to Section 59 Land Act 1948





**COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952**



Search Copy


R. W. Muir
Registrar-General
of Land

Identifier **NL10A/1060**
Land Registration District **Nelson**
Date Issued 14 May 1992

Prior References

NL1B/12

Estate Fee Simple
Area 36.9696 hectares more or less
Legal Description Section 2-3 Survey Office Plan 14160

Proprietors

Holcim (New Zealand) Limited

Interests

Subject to Part IV A Conservation Act 1987
Subject to Section 11 Crown Minerals Act 1991



**COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952**



**Guaranteed Search Copy issued under Section 172A
of the Land Transfer Act 1952**


R. W. Muir
Registrar-General
of Land

Identifier **NL10A/702**
Land Registration District **Nelson**
Date Issued 31 March 1992

Prior References

OIC 315979.1

Estate Fee Simple
Area 887 square metres more or less
Legal Description Section 1 Survey Office Plan 14851

Proprietors

Holcim (New Zealand) Limited

Interests

Subject to Section 11 Crown Minerals Act 1991
Subject to Part IV A Conservation Act 1987

APPENDIX 2

ENVIRONMENTAL POLICY

Policy

Environment Policy

April 2016

Framework

The Holcim Australia & New Zealand (HANZ) Environment policy is an integral part of the HANZ policy landscape. This policy should be read in close conjunction with the policies and directives listed in Annex 2.

The environment policy comprises:

- Scope
- Policy Principles
- Annex 1: Responsibilities
- Annex 2: LafargeHolcim policies and directives related to the HANZ Environment Policy
- Annex 3: Recommendations related to the policies
- Annex 4: Definitions and Abbreviations

2. Scope

2.0 Applicability

The scope of the Environment Policy covers the management of all Holcim operations (active and inactive) throughout Australia and New Zealand including its subsidiaries and agents.

In associated companies or joint ventures where Holcim does not exercise equity or management control, the responsible Executive Committee Member will establish that the associated company or joint venture is aware of the HANZ Environment Policy and will encourage its adoption or at least essentially equivalent standards by such associated company or joint venture.

2.1 Content in scope

This Policy addresses the impacts associated with the interaction between our operations and the environment in terms of their nature, their source and their consequences. The management of specific environmental aspects are defined in more detail in the policies and directives listed in Annex 2.

3. Policy Principles

HANZ is committed to providing positive contributions to the community, the environment and our business by continuously improving environmental performance and focusing on sustainable development.

Our Environmental Policy contains four main pillars, under which we have assigned principles to guide our business, so that our day to day activities are carried out in a manner which minimises and improves our impact on the environment.

3.0 Management Systems

- All operations shall use an effective Environmental Management System (EMS) that aligns with the requirements of ISO14001 to manage overall environmental responsibilities and performance.
- All operations shall comply with all applicable environmental laws, regulations, standards and voluntary agreements applicable to our products and operations.
- We promote our commitment through training and integrate the consideration of environmental issues into business decision-making.
- We engage with customers to develop sound environmental practices and expect our contractors and suppliers to respect and comply with our environmental policies and procedures.
- We set corporate objectives and targets and undertake regular audits of environmental performance to monitor our progress.

3.1 Environmental Impacts

- **Process Improvement:** We assess and measure our environmental impacts, continuously improve processes, tools and capabilities and promote best practices in our industry. We encourage analysis of impacts through the life cycle of our products and solutions.
- **Release of pollutants:** We identify, develop and implement effective controls to monitor, minimize or prevent the release of pollutants to the environment (air, water, and soil) from our operations
- **Climate Change:** We strive to reduce our impact on climate change through the development, manufacture or promotion of innovative and sustainable products and solutions, optimizing the use of energy, and where appropriate the use of renewable energy sources.
- **Water:** We minimize our impact on water resources by limiting water withdrawal through the use of recycling, the promotion of water efficient practices and a responsible management of water discharges.
- **Quarry Rehabilitation:** We develop a rehabilitation plan for all quarry sites that takes into account the needs and expectations of our stakeholders and, where feasible and relevant, fosters wildlife habitat creation and contribution to the conservation of species.
- **Biodiversity:** We implement biodiversity management plans for all relevant extraction sites and work to protect important areas or habitats and facilitate the conservation of heritage artifacts discovered during site development and quarry operations.
- **Local impacts:** We assess, and appropriately mitigate, our impacts on surrounding communities in regards to fugitive dust, noise, vibrations, and traffic.

3.2 Resource Utilization

- We promote eco-efficiency, conservation of non-renewable resources and recycling of secondary materials.
- We pursue the optimal utilisation of resources and the reduction of waste.

3.3 Stakeholder Relations, Monitoring & Reporting

- We are open, honest, and accountable to our stakeholders.
- We effectively engage and communicate with stakeholders in relation to environmental matters

This Policy was approved by Group Executive Committee on 17th May 2016 and will come into force on 1st June 2016.

| | |
|---|-----------------|
| Original dated: May 2016 | Revision Dates: |
| Version dated: May 2016 | |
| Responsible Group Executive Committee Member – Duncan Harris / EGM Aggregates Responsible Person – Garry Pirie / Environmental Lead – Holcim Australia | |

Annex 1: Responsibilities

1. Country level

1.1. Australia & New Zealand CEO

- The CEO is ultimately responsible for the company's compliance with this Policy.
- The CEO delegates responsibilities for specific tasks to the different organizational units.

1.2. Environment Function – Holcim Australia and New Zealand

- Proposes amendments to this Policy where and when necessary.
- Assists Holcim Australia and New Zealand Business Units in understanding and applying the Environmental Policy and Directives.
- Supports training on the Environmental Policy and Directives in the Holcim Australia and New Zealand Business Units.
- Share good practices within their region and promote environmental success stories at Group level.
- Assists in solving serious environmental compliance issues and other significant environmental issues.
- Collects feedback from Holcim Australian and New Zealand business units with regard to amendments of the Environmental Policy and Directives.

1.3 Other Central Functions

- Implementing the Environmental Policy requires cooperation with the following central functions in particular: Legal/Compliance, Procurement, Strategy, Finance, Project Management and Engineering, Communications

Annex 2a: LafargeHolcim Policies related to HANZ Environment Policy

| Link with Policy | Definition / Description | Responsibility |
|------------------|--------------------------|----------------|
| | TBA | |
| | | |

Annex 2b: HANZ Directives related to Environment policy

| Link to Environment Policy | Directive | Definition / Description | Responsibility | Reference |
|----------------------------|---|--|------------------------|-------------|
| Biodiversity Directive | Management of Biodiversity in our Aggregate operations. | The Biodiversity Directive provides an integrated approach to maintaining and safeguarding biodiversity and the resulting ecosystems and ecosystem services in all the company's operations. | Planning & Environment | Section 2.2 |
| Water Directive | Management of Water Resources. | The Water Directive provides the rules to manage water in a responsible manner, ensuring we are aware of water related risks and that we manage our water usage optimally. The Water Directive also sets the framework for appropriate actions to minimize our impacts on water resources. | Planning & Environment | Section 2.2 |
| Rehabilitation Directive | Management of Quarry Rehabilitation. | The objective of this Rehabilitation Directive is to provide mandatory rules for the preparation and closure of quarries (or any part thereof) in a safe, environmentally and socially responsible manner. | Planning & Environment | Section 2.2 |

Annex 3: Recommendations related to the Environment policy

| Recommendation | Definition / Description | Reference |
|----------------|--------------------------|-----------|
| Nil | | |

Annex 4: Definitions and Abbreviations

| | |
|------|---------------------------------|
| CEO | Chief Executive Officer |
| EMS | Environmental Management System |
| HANZ | Holcim Australia & New Zealand |