Macroom Civic Amenity Site
Codrum
Macroom
County Cork

Independent Closure Audit - Scope

Waste License Number – W0142-01

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1.0. Introduction

1.1 Background

Cork County Council operates the Macroom Civic Amenity Site at Codrum, Macroom under EPA Waste Licence W0142-01. The waste licence was issued on 02 November 2001. The facility was constructed between in 2001-2002 and commenced accepting waste and recyclable materials from the public in November 2002. The amount of waste intake licensed for the site is 5,000 tonnes annually (including 40 tonnes of household hazardous waste). The volume of waste / recyclables taken in has averaged 2,278 tonnes annually in the past five years, ranging between approximately 2,041 tonnes and 2,487 tonnes. The site location and layout are shown on Figures 1 and 2, respectively.

1.2 Scope and Purpose

The purpose of this report is to set out the detailed scope of the Independent Closure Audit (ICA) to be undertaken to support the surrender of the waste licence. The aspects of the ICA to be addressed follows the EPA checklist for the scope of ICAs:

1. Inventory of wastes at the site.
2. Identification of asbestos (asbestos containing material) occurring at the site.
3. Identification of all underground structures.
4. Status of all plant & machinery at the facility.
5. Assessment of potential soil and / or groundwater contamination.
6. Identification of environmental liabilities.
7. On-going sampling and monitoring programme.

The timescale and schedule for the completion of the ICA is also set out.

1.3 Site Setting

The facility is located adjacent to the R618 approximately 2.3km to the west of Macroom town centre. It is located within a landbank extending to 2.51ha and contained in Folio CK100524F. It is accessed directly from regional road R618 (formerly national secondary road N22 – Cork to Killarney Road). The lands immediately surrounding the facility is used for grazing. Housing estates, a hotel and cemetery are located 400m to the east along the R618.

The facility is in the sub-catchment of the Sullane River, part of hydrometric area (Water Framework Directive (WFD) catchment) No. 19 - Lee, Cork Harbour and Youghal Bay. The Sullane River flows to the east approximately 90m to the south of the facility. It is in WFD river sub-basin Sullane_060, which extends to an area of 17.01km^2. An unnamed stream rises to the north of the R618, is culverted under the R618 and flows through the facility, partially culverted but also in an open water feature (consisting of gabion baskets) at the centre of the facility. It flows in an open channel to the south of the facility where is discharges to the Sullane River. The stream is ephemeral.

The Sullane River flows east through Macroom, turns south and joins the River Lee at Mashanaglass. This confluence is downstream of The Gearagh on the River Lee. The Gearagh is a designated Special Area of Conservation (SAC – site code 000108), Special Protection Area (SPA – site code 004109) and proposed Natural Heritage Area (pNHA – site code 000108).

The River Waterbody WFD Status 2016-2021 (and 2013-2018) for the Sullane River is 'Good' and assessed as 'Not at Risk'. The EPA have surface water monitoring stations just upstream and downstream of the facility. The upstream monitoring point is at Linnamilla Bridge (EPA station code -

RS19S020400). The most recent result (2021) was Q4-5 indicating High status. The nearest downstream monitoring location is 500m downstream of Macroom Bridge, (EPA station code - RS19S020460). The most recent result (1990) was Q4-5 indicating High status. Further downstream a more recent result (2020) was Q4 indicating Good water quality. This is located at a ford upstream of the confluence with the Laney River (EPA station code - RS19S020480). The Sullane River is not identified on the EPA online mapping as being a drinking water source. The facility is not within the flood zone of the river. Surface water features are shown on Figure 3.

The area is underlain by the Bird Hill Formation, of Middle Devonian age, consisting of purple siltstone and fine-grained sandstone, with fine-grained lithologies dominating the formation. Bedrock geology is shown on Figure 4. The Bird Hill Formation is classified by the Geological Survey of Ireland (GSI) as a Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones (Pl). It forms part of the Ballinhassig West Groundwater body. Its Ground Waterbody WFD Status 2016-2021 is 'Good' and assessed as 'Not at Risk'. There are no groundwater wells on site; the site is serviced by mains water. The GSI web-mapping indicates that there are several wells (approximately 10) within 1km of the facility. The wells are shown on Figure 5 and summarised on Table 1. Note that as some of the well locations are known to an accurate of 2km or 5km, the distance from the facility can't be accurately measured. As shown on Table 1, the wells are used for domestic, agricultural and / or industrial supply. None are downgradient of the facility with respect to the inferred groundwater flow direction.

Table 1: Groundwater Wells within 1km

Well ID	GSI Well No.	Total Depth (m)	Use	Yield (m^3/day)	Locational Accuracy (m)	Distance from Facility
W1	1107SEW103	---	Industrial	21.8	100	1km
W2	1107SEW088	45.7	Industrial	70.9	50	930m
W3	1107SEW108	---	Domestic	10.9	200	960m
W4	1107SEW116	---	Unknown	---	50	940m
W5	1107SEW120	36.6	Agricultural & Domestic	109	50	930m
W6	1107SEW040	---	Unknown	Poor	2,000	~500m
W7	1107SEW053	61	Cattle mart	21.8	5,000	>1km
W8	1107SEW116	16	Unknown	281	50	860m

According to Met Eireann, the nearest rainfall gauges are located at Carrigadrohid (8.8km to the east), and Cahirbaroule (7.2km to the northeast). Monthly rainfall data for these gauging stations are summarised in Table 2.

Table 2: Monthly Rainfall (mm) Data for 2022

Month	Station Name		131 / 073 1km x 1km Grid – 30-year Average
	Carrigadrohid	Macroom (Cahirbaroule)	
January	54.9	72.5	161
February	134.9	169.4	123
March	87.4	81.1	102
April	63.7	80.1	95
May	37.0	44.6	85
June	84.7	80.9	82
July	26.7	39.6	87
August	47.9	25.5	93
September	167.0	179.9	100
October	253.3	311.4	145
November	265.7	279.4	153
December	124.4	131.4	167
TOTAL	**1,347.6**	**1,495.8**	**1,391**

Met Eireann also provide 30-year (1991 to 2020) rainfall amounts for 1km x 1km grids across the Country. This indicates that the long-term rainfall amount for the site is 1,391mm/annum.

The site, and surrounding area, is shown to have bedrock or subcrop (Rck). To the north of the R618 the area is underlain by tills derived from Devonian sandstones (TDSs). Along the Sullane River channel, there is alluvium (A). The quaternary subsoil geology is shown on Figure 6. The aquifer vulnerability at the site is rated as Extreme (X), rock at or near surface (or karst). Aquifer vulnerability is shown of Figure 7.

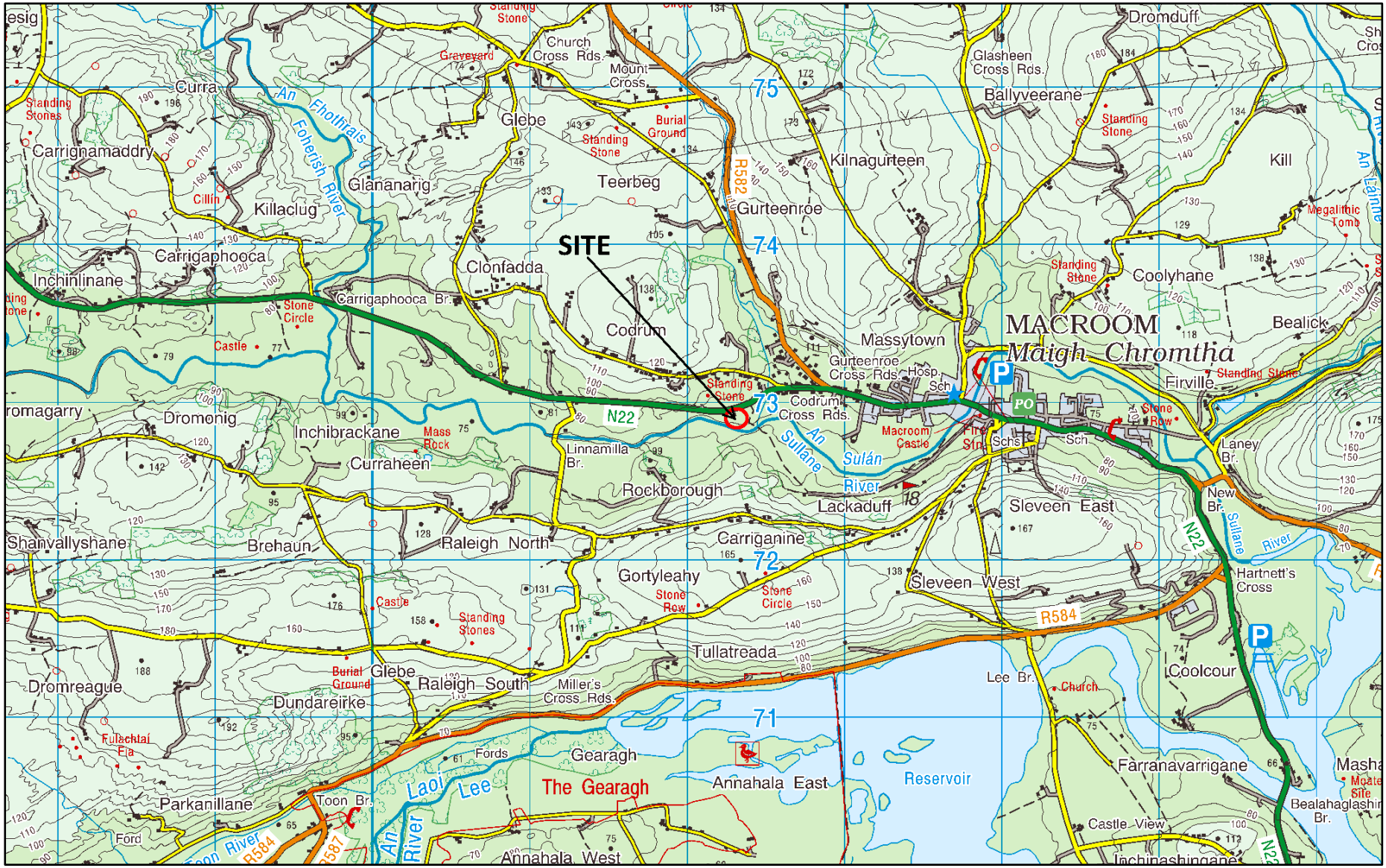


Figure 1: Site Location Map



Figure 2: Site Layout Plan



Figure 3: Surface Water Features

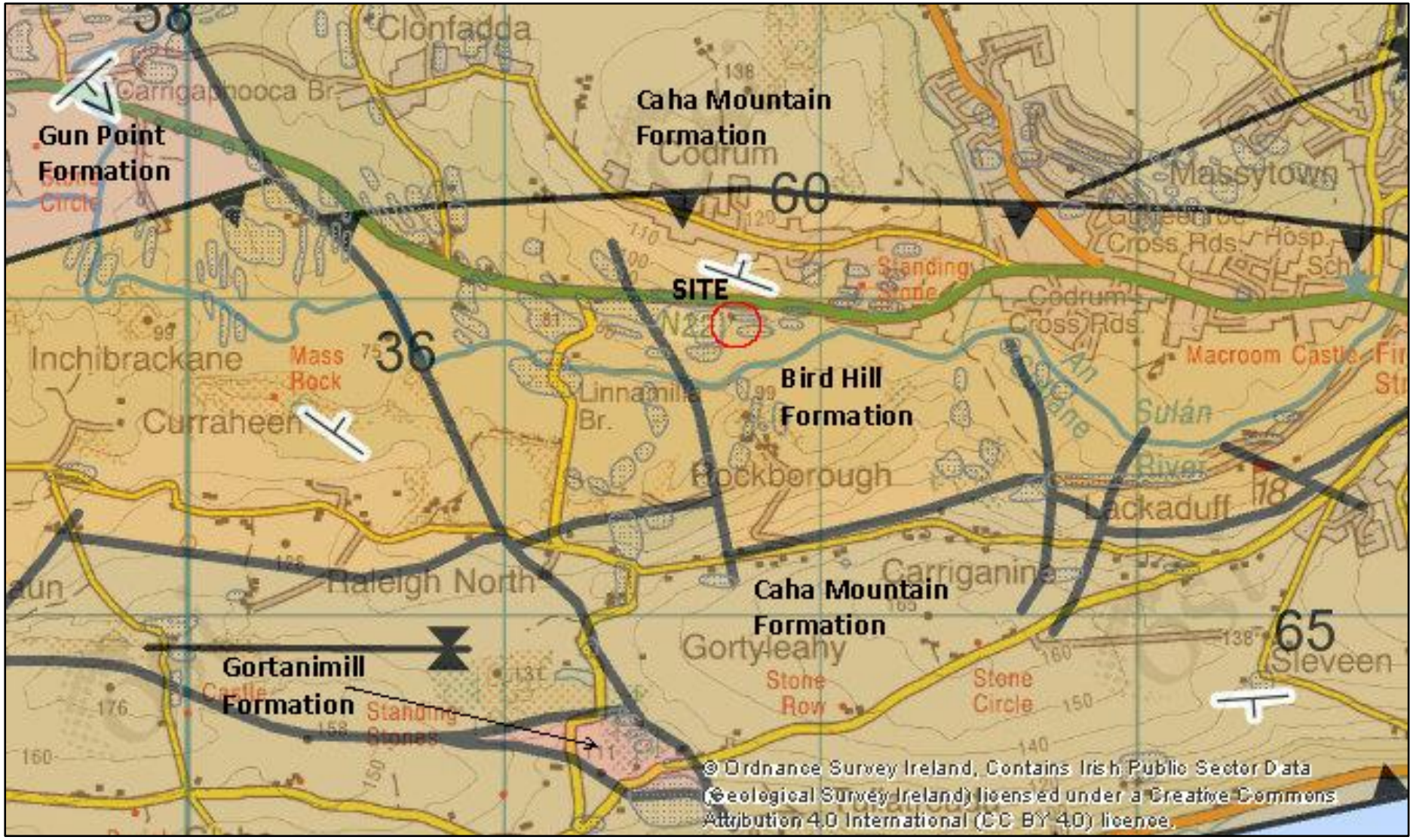


Figure 4: Bedrock Geology Map

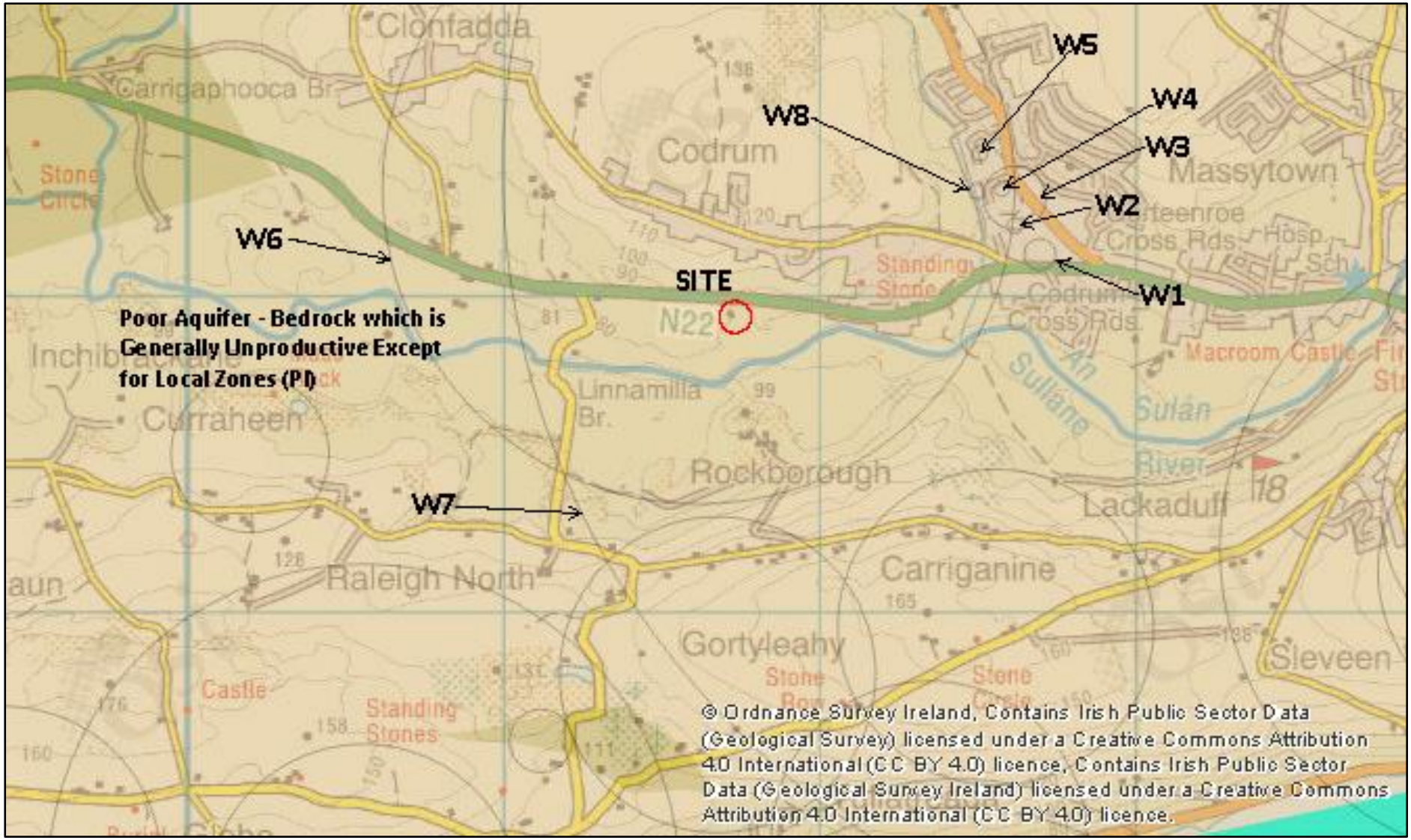


Figure 5: Bedrock Aquifer Map

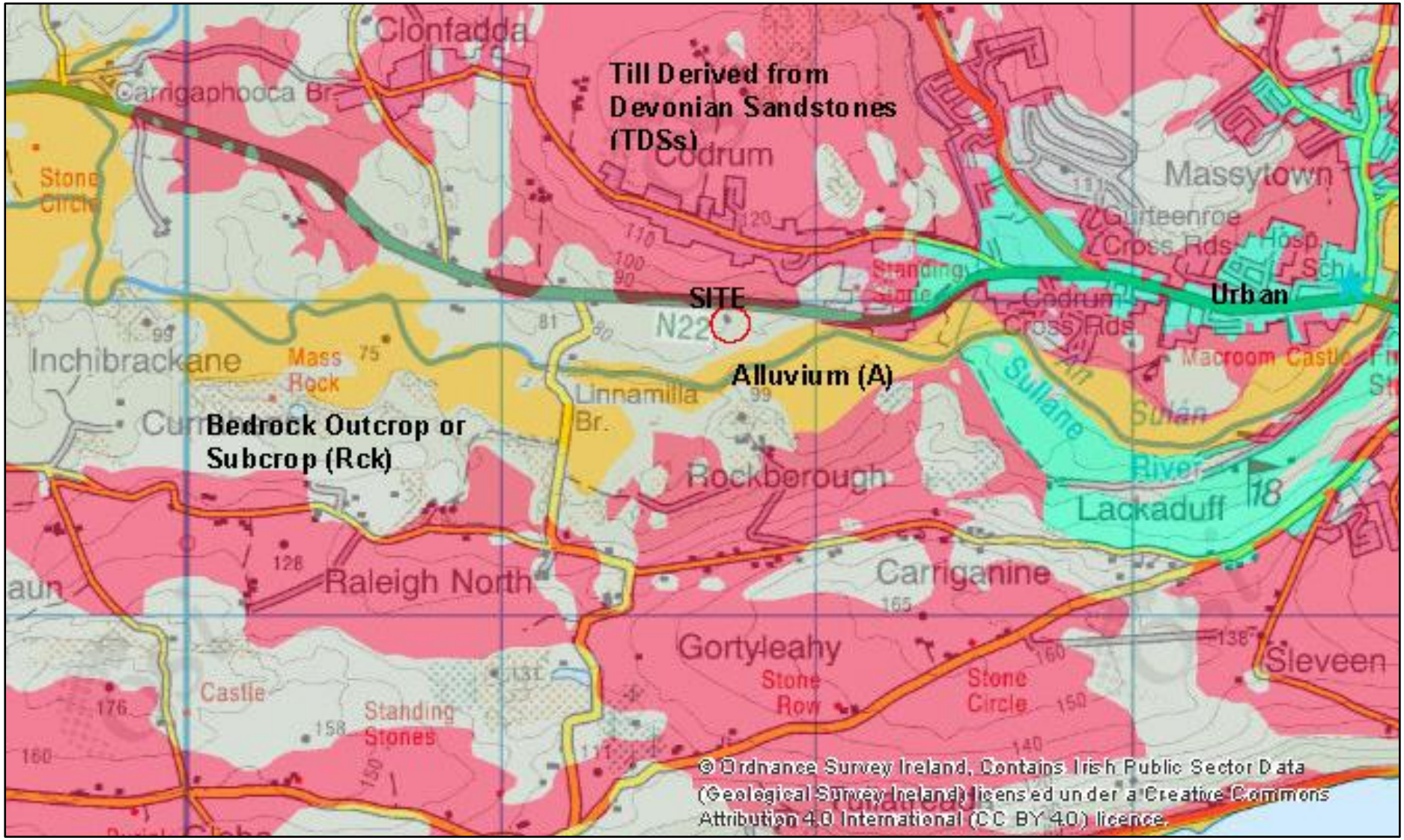


Figure 6: Overburden Geology Map

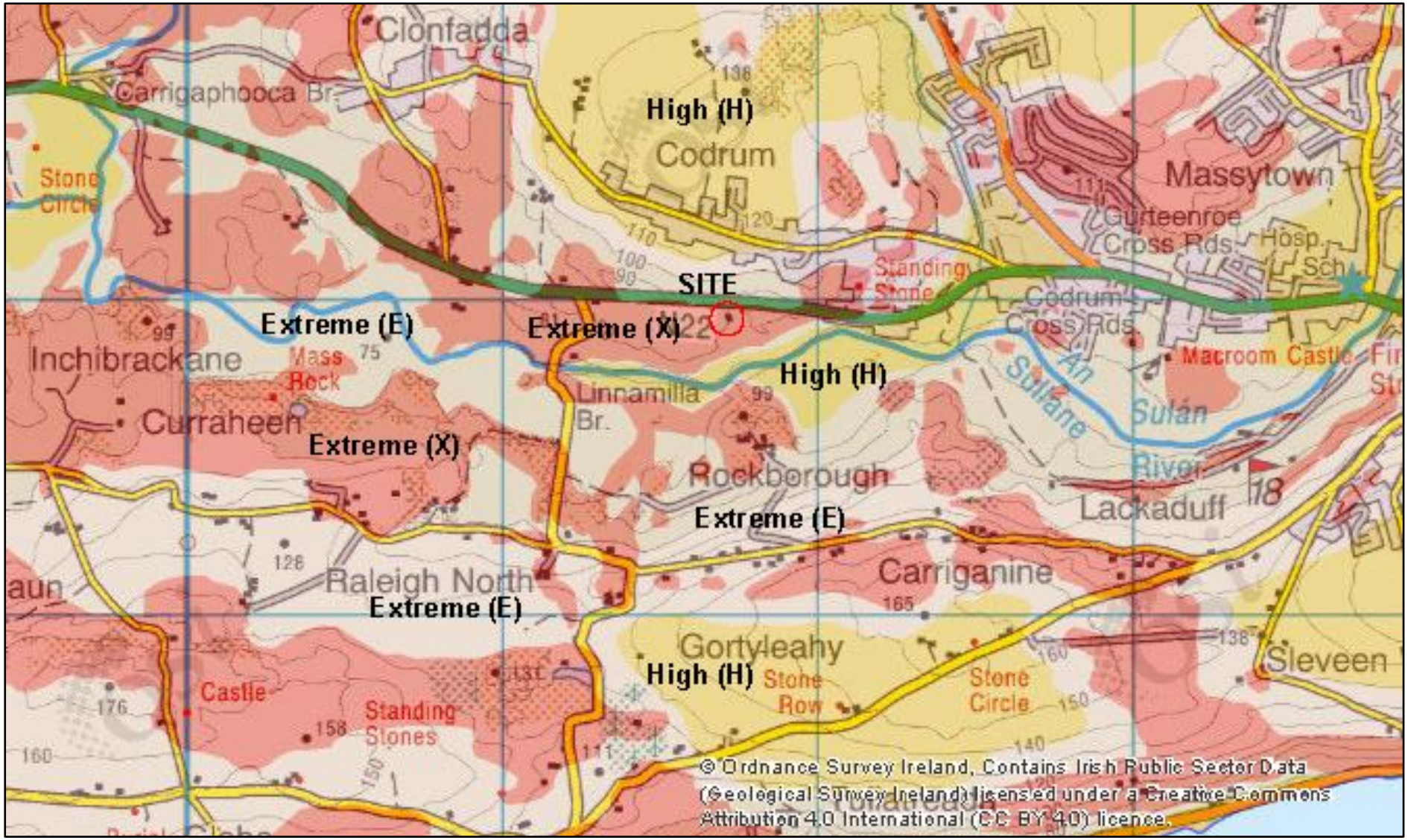


Figure 7: Aquifer Vulnerability Map

2.0 Scope of Independent Closure Audit

The scope of the independent closure audit follows EPA guidance.

2.1 Waste Inventory

The quantity of waste present on site at any given time is summarised in Table 3. As indicated, up to approximately 84 tonnes of waste may be present depending on transfer schedule. The data presented in Table 3 shows the maximum quantity of each material stored at any one time. It is derived from the most recent data for the facility.

Table 3: Typical Quantities of Waste on Site

Material	Tonnes	EWC Code	Haulier Name & Permit Number	Destination Facility & Licence / Permit Number
Bagged Waste	10 to 12	20 03 01	Starrus Eco Holdings Ltd t/a Panda & Greenstar NWCPO-13-11193-06	Sarsfieldcourt Industrial Estate, Sarsfieldcourt, Glanmire, Cork W0136-03 / WFP-CC-38-2020
Bulky Waste	4 to 6	20 03 07	Starrus Eco Holdings Ltd t/a Panda & Greenstar NWCPO-13-11193-06	Sarsfieldcourt Industrial Estate, Sarsfieldcourt, Glanmire, Cork W0136-03 / WFP-CC-38-2020
Aerosols	0.1	16 05 04*	Enva Ireland Ltd NWCPO-08-01116-03	Clonminam Industrial Estate Portlaoise Co. Laois W0184-02
Batteries (Elec fence)	0.1 to 0.15	16 06 05	KMK Metals Recycling NWCPO-08-10607-03	Cappincur Ind Estate Daingean Road Tullamore Co. Offaly W0113-04
Batteries (Lead Acid)	0.4 to 0.5	16 06 01	KMK Metals Recycling NWCPO-08-10607-03	Cappincur Ind Estate Daingean Road Tullamore Co. Offaly W0113-04
Batteries (Household)	0.15 to 0.2	20 01 33	KMK Metals Recycling NWCPO-08-10607-03	Cappincur Ind Estate Daingean Road Tullamore Co. Offaly W0113-04
Brown Bin	0.02 to 0.05	20 01 08	KWD NWCPO-10-05637-05	Aughacurreen, Killarney, Kerry W0217-02
Food Cans	0.2 to 0.3	20 01 99	Green Dragon Recycling NWCPO-10-04629-04	Corbally North Caherlag Glanmire Co. Cork WFP-CK-10-0060-04
Drink Cans	0.06 to 0.1	20 01 99	Green Dragon Recycling NWCPO-10-04629-04	Corbally North Caherlag Glanmire Co. Cork WFP-CK-10-0060-04
Textiles	1 to 2.5	20 01 11	Eco Environmental t/a Coppertale Unlimited Co. Carrick on Suir, Co. Tipperary NWCPO-16-11749-02	Cookestown Textile Recyclers 36 Magheralane Road, Randalstown, BT41 2NT, County Antrim WML 01/39 LN/13/46
Glass Bottles	4.5 to 6	20 01 02	Mr. Binman NWCPO-12-11056-06	Dock Road Limerick WFP/L/2021/203/R1
Flat Glass	6 to 8	17 02 02	Whites Skip Hire NWCPO-14-11356-06	Mountplummer, Broadford Co Limerick WFP/L/2021/17D/R5
Light Tubes	0.01 to 0.03	20 01 21	Irish Lamp Recycling Co. Ltd. NWCPO-08-01115-03	Woodstock Industrial Estate, Kilkenny Road, Athy, Co. Kildare WFP-KE-19-0094-01

Material	Tonnes	EWC Code	Haulier Name & Permit Number	Destination Facility & Licence / Permit Number
Scrap Metal	5 to 6	20 01 40	Pouladuff Dismantlers Cork Ltd NWCPO-08-04584-03	Forge Hill Airport Road Cork WFP-CC-28/2019
Engine Oil	1 to 1.5	20 01 26	Enva Ireland Ltd NWCPO-08-01116-03	Clonminam Industrial Estate Portlaoise Co. Laois W0184-01
Oil Filters	0.1 to 0.2	16 01 07	Enva Ireland Ltd NWCPO-08-01116-03	Clonminam Industrial Estate Portlaoise Co. Laois W0184-01
Cooking Oil	0.5 to 0.6	20 01 25	Frylite (Ireland) NWCPO-10-01297-03	Orchard Road Industrial Estate Strabane, Co. Tyrone, BT82 9FR WML 33/27 LN/11/63/V2
Paint	2.5 to 3.5	20 01 27	Enva Ireland Ltd NWCPO-08-01116-03	Clonminam Industrial Estate Portlaoise Co. Laois W0184-01
Cardboard	3.5 to 4.5	20 01 01	Starrus Eco Holdings Ltd t/a Panda NWCPO-13-11193-06	Taken overseas directly.
Paper / Plastic	8 to 10	20 01 01 / 20 01 09	Starrus Eco Holdings Ltd t/a Panda & Greenstar NWCPO-13-11193-06	Sarsfieldcourt Industrial Estate, Sarsfieldcourt, Glanmire, Cork W0136-03 / WFP-CC-38-2020
Timber	5 to 7	20 01 38	CTO Environmental NWCPO-15-11601-02	Rostellan, Midleton Co.Cork WFP-CK-09-0018-04
WEEE	6 to 8	20 01 35	KMK Metals Recycling NWCPO-08-10607-03	Cappincur Ind Estate Daingean Road Tullamore Co. Offaly W0113-04
C&D	0	17 01 07	---	---
Green Waste	5 to 7	20 02 01	CTO Environmental NWCPO-15-11601-02	Rostellan, Midleton Co.Cork WFP-CK-09-0018-04
TOTAL	**63.14 to 84.23**	**---**	**---**	**---**

The quantities of waste accepted annually at the facility in the last five years is summarised in Table 4.

Table 4: Summary of Waste Quantities – 2018 to 2022

Year	Waste Quantity (Tonnes)	Hazardous Waste (Tonnes)	Total (Tonnes)
2018	2,028.86	11.88	2,040.74
2019	2,364.04	18.32	2,382.36
2020	2,452.99	33.42	2,486.41
2021	2,385.63	12.08	2,397.71
2022	2,052.94	27.58	2,080.52

As shown in Table 4, the total quantity of waste accepted at the facility in the last five years ranged between 2,040.74 and 2,486.41 tonnes/annum, with an annual average of 2,278 tonnes. Kerbside collection has never been brought to the facility.

2.2 Asbestos

The facility was constructed between 2001 and 2002. Asbestos was no longer used in building material by that time. A review of the bill of quantities indicates that no asbestos containing material (ACM) was used in its construction. ACM historically used in construction includes attic insulation, pipe insulation, ceiling tiles, floor tiles, roof cladding, spray-on fireproofing, etc.

Asbestos is not accepted at the facility. If asbestos containing building materials are found mixed with C&D waste, procedures are in place for waste quarantine and emergency response.

An inspection of the facility didn't identify any suspected ACM used in the building materials.

2.3 Underground Structures

Underground structures at the facility includes:

1. Stormwater pipelines.
2. Foul sewer pipelines.
3. Oil interceptor on the stormwater network prior to discharge to a soakaway.
4. Septic tank, Puraflo Unit and percolation area.
5. Fire water retention tank.

There are no fuel storage tanks at the facility. The sumps, gully traps and oil interceptor are emptied and cleaned by a licenced contractor on a regular basis.

The underground services are shown on the attached site layout plan – Figure 2.

2.4 Plant & Machinery

There is no machinery kept full-time on site. A JCB comes to site in the evenings to move containers. There are 3 No. 30m^3 compactors on site, located at the southern end of the central raised platform. These are for:

1. Residual waste compactor.
2. Paper compactor.
3. Cardboard compactor.

2.5 Potential for Soil / Groundwater Contamination

The potential for soil and groundwater contamination, and associated risks, arising from the activities at the facility are qualitatively assessed in accordance with EA Guidance[1]. The output from this qualitative risk assessment is the proposals for further investigations (intrusive ground investigations, sampling, etc, if required) forming the scope of the Independent Closure Audit. Each source of contamination (potential hazard) is objectively assessed to establish whether there are any unacceptable risks, and where further work is required to quantify those risks. The following approach is used:

1. Identification of hazards (potential sources of contamination) from current and past site activities.
2. Assessment of hazard using the Source – Pathway – Receptor linkage to determine if there is potential for unacceptable risk. Where unacceptable risks are identified, propose further investigations to quantify same. Site investigation works would be phased, with advanced phases only carried out where the findings of the previous phases indicates that they are necessary and appropriate. Once the scope of the works is approved by the EPA, they would be carried out as part of the Independent Closure Audit and inform a quantitative risk assessment to be included in the Independent Closure Report.

[1] Environment Agency, April 2021. Guidance on Land Contamination Risk Management.

2.5.1 Potential Sources

Potential sources of soil / groundwater contamination at the facility are limited. There are no fuel storage tanks on site; there are no mobile plant kept at the site.

Small volumes of petrol are stored on site for small garden maintenance tools – lawnmower, strimmer, etc. This is stored in 5-litre plastic containers, which are kept in a steel storage cabinet in a 20-foot steel shipping container.

There is no home heating oil storage on site; the offices are heated with electric heaters.

Waste engine oils are accepted at the facility. The waste engine oil was stored in 2 No. double skinned plastic tanks (1,300 litre capacity) located over a drip tray and concrete bund. The concrete bund has dimensions 5.8m x 3.6m x 0.34m (volume – 7.1m^3). The waste engine oil is collected periodically by Enva, a licensed waste collection contractor. Plate 1 shows the location of the waste oil collection point. During the site visits in July and November the overall condition of the waste oil collection point was satisfactory. Integrity testing of the concrete bund is carried out every three years in accordance with Condition 3.11.5. The most recent integrity testing (July 2022) indicates that the bund is in good condition.

Paint and paint related products are also accepted at the facility. Paint tins are placed in 660 litre wheelie bins located in the central lockup area adjacent to the waste oil collection point – see Plate 2. This collection point is also located over a concrete bund. The concrete bund has dimensions 5.8m x 9.65m x 0.34m (volume – 19m^3). RELOVEPAINT sort the tins and remove any containing usable quantities for storage in their wheelie bins. Unusable paint tins are placed in separate wheelie bons and when full, the they are moved by site staff to the storage area at the southeast corner of the yard prior to removal off site.

Other Hazardous Wastes collected at the facility (Lead Acid Batteries, Ni-Cd Batteries, Fluorescent Tubes and Aerosols) are also collected at the central lockup area adjacent to the waste oil collection point.

Cars, trucks and site plant could potentially leak oils onto the pavement. Potentially contaminated surface water runoff, including runoff from areas used for the storage and handling of waste, is collected and passed through silt traps and an oil interceptor. The oil interceptor is located at the southwest corner of the site as shown in the site layout plan. It discharges to the percolation area.

The foul effluent from the site office discharges to a septic tank located just west of the facility. It then passes through a Puraflo system for secondary treatment. From there, the treated water combines with the stormwater before discharging to the percolation area. The on-site wastewater treatment plant is maintained under contract by Evergreen Water Treatment of Boherbue Mallow. It was serviced in November 2023.

Residual waste brought to site is placed in residual waste compactor. This is a sealed container. There were no signs of leachate from the waste on the ground around the compactor. As noted, any surface water runoff from this area is directed to an oil interceptor and treated at the WWTP.

Seepage of any potential contaminants through the pavement into the subsurface. This would include seepage of leachate, dips of engine oils on pavement, spillage of liquids from the hazardous waste collection / storage areas, etc. It is noted that the pavement at the site consists of concrete and tarmac pavement and is in good condition. The pavement is the original pavement installed in 2002; it was never replaced. As such, the pavement seen today is not concealing old or damaged pavement that could have been a pathway to the subsurface.

Potential sources of soil and groundwater contamination at the facility are summarised in Table 5.



Plate 1: View of (L-R) Waste Oil & Cooking Oil, Collection Points



Plate 2: Paint Collection & Storage Area

Table 5: Summary of Potential Sources of Contamination and Proposed Investigations

Potential Source	Volume Stored	Any Known Incident	Qualitative Risk Assessment	Proposed Soil / Groundwater Investigations or Actions
Fuel Storage	10 litres (2 No. plastic containers)	None	Only small volumes of petrol are stored on site. The fuel is stored in a steel cabinet located in a steel shipping container. There are no reported incidents of leaks or spillage at this location.	None
Waste Engine Oil Storage	2,600 litres (2 No. 1,300 litre tanks)	None	Stored in 2 No. good quality, double skinned, fuel storage tanks sitting in a drip tray on a steel grating over a reinforced concrete bund extending to greater than 110% of the tanks' capacities. It is located at the central area of the facility in a fenced lockup. There is an ACO drain around the bunded area which directs water to an oil interceptor. The bunded area is not fully covered. It is periodically emptied by a contractor. The bund is periodically tested and found to be in good condition. There were no signs of spillages around the bunded area, and no incidences are reported. There is the potential for members of the public to have spilt oil on the ground near the tank, but there is no evidence of this having occurred. The risk of the public spilling oil is reduced as the public is instructed to leave the containers on the drip tray for Council employee to empty. The last integrity test performed on the bund was in July 2022. The risk of oil leakages affecting soil / groundwater quality is assessed as **Negligible**.	No soil / ground investigation proposed. It is intended to roof the bunded areas to reduce the volume of liquid waste removed offsite. These works are scheduled to be completed by end of 2024.
Storage of Paints & Household Hazardous Wastes	Typically, less than 3.5 tonnes of paint / paint containers on site at any one time.	None	Paints and other household hazardous wastes are placed in plastic containers and a steel storage cabinet located in the central lockup area. This area is bunded. The public place the paint cans / containers directly into the receptacles provided. The public do not pour liquids into larger receptacles. RELOVEPAINT recycle the paint on site, going through the containers and removing those that can be recycled and placing them in their 660 litre storage bins. The rejected containers are placed in separate 660 litre bins. The staff remove full 660 litre wheelie bins for storage prior to removal off site. There are no indications of paint staining. There is **Negligible Risk** of this material being released into the environment. The area is bunded and the water is tested prior to emptying the bund. Subject to analytical results, the water is taken to a WWTP. Note that this part of the bund is separate from the bund at the waste oil collection area.	No soil / ground investigation proposed. It is intended to roof the bunded areas to reduce the volume of liquid waste removed offsite. These works are scheduled to be completed by end of 2024.

Potential Source	Volume Stored	Any Known Incident	Qualitative Risk Assessment	Proposed Soil / Groundwater Investigations or Actions
Drips / leaks of motor oil from vehicles using the site	Not Applicable	None	There is potential for motor oil to drip from vehicles using the site. The public using the facility are on site for a short period of time, so any drips would be minor in nature. An inspection of the paved surface of the facility doesn't indicate any notable oil staining in the marshalling and parking areas. Any drips would have been washed to the stormwater system and collected in the oil interceptor. The risk of soil / groundwater contamination is assessed as **Negligible**. The pavement has not been replaced. The risk of seepage to the subsurface in the past through damaged pavement is assessed as **Negligible**.	None
Leakage of leachate from compactors	Not Applicable	None	The compactors are sealed and inspection of the concrete pavement around the compactors did not show evidence of leachate staining. Any seepage that might have occurred in the past would be collected in the stormwater network. The risk of soil / groundwater contamination is assessed as **Negligible**.	None
Hydraulic oil from the waste compactors	3 No. 80 litre hydraulic oil reservoir tanks	None	The 3 No. waste compactors use hydraulic fluid which is stored in thick-walled steel tanks. There is potential for hydraulic hoses to break and leak fluids. The compactors are on a concrete floor slab. There have been no incidents. The concrete floor under the compactors is dirty but there are no signs of hydraulic fluid leakage. The risk of soil or groundwater contamination is assessed as **Negligible**. Rusting of parts of the compactor was noted.	No soil / ground investigation proposed. Continue current service & maintenance programme for the compactors. Replace residual waste compactor in 2024 / 2025.
Underground pipelines	N/A	None	The underground network of storm and foul sewer is shown on Figure 2. Integrity testing of the underground pipework is not required. The wastewater treatment plant is maintained under service contract by Evergreen. The risk of soil or groundwater contamination is assessed as **Low**.	None

2.5.2 Potential Pathways

The pathways for potential contamination to enter the environment are limited:

- The active area of the site is fully paved and well maintained. The pavement seen today is the original pavement.
- No evidence of oil spills or leaks have been noted at the site.
- Stormwater runoff from the marshalling yard is collected in the stormwater network and passed through an oil interceptor before discharge to the on-site percolation area.
- Surface water monitoring does not indicate impacts on water quality from the facility.

2.5.3 Potential Receptors

The potential receptor of contaminated groundwater would be the Sullane River, which is interpreted to receive groundwater baseflow from the aquifer which flows beneath the facility. As noted in Section 1.3, there are no groundwater wells downgradient of the facility. Also as noticed above, the risk of groundwater contamination from the facility is assessed as negligible.

The potential receptor of contaminated surface water is the stream running through the centre of the site, which discharges to the Sullane River. Indirectly, the Sullane River is the receptor of stormwater runoff and treated wastewater discharged to the percolation area.

2.5.4 Preliminary Conceptual Site Model

The preliminary conceptual site model is of a medium-scale waste transfer station / civic amenity site, whose operational areas are isolated from the underlying soils and groundwater by impervious pavement. Water is separated into four streams, as follows:

1. A small stream enters the site just east of the site entrance. Drainage from the R618 to the west of the entrance discharges to the stream via a 300mm diameter culvert. The stream passes through the site via culvert and open channel feature constructed with gabion baskets. It flows in an open channel to the south of the site and discharges to the Sullane River.
2. Clean roof and runoff water is collected in the stormwater system which passes through an oil interceptor before combining with the treated foul effluent and discharging to the percolation area.
3. In the event of a fire, the firewater will be diverted to a firewater retention tank. This has a capacity of approximately 98m^3. Flow to this tank is controlled by an actuator valve at the southwest corner of the site. There has never been a fire at the facility, so it has not been necessary to use the tank.
4. Foul effluent is treated in the on-site wastewater treatment plant. This consists of a septic tank, secondary treatment Puraflo unit and percolation area.

There have been no environmental incidences recorded at the facility. The operations at the facility present a negligible risk to the environment.

Based on the information available, it is not considered necessary to carry out soil or groundwater testing. Continuation of the current maintenance and surface water monitoring programme is considered sufficient.

2.6 Environmental Liabilities

The facility is not one of the 8 categories that require an Environmental Liability Risk Assessment (ELRA) (EPA Approach to Environmental Liabilities and Financial Provision, 2019).

However, any environmental liabilities arising after the closure audit will remain with Cork County Council following the surrender of the waste licence. Cork County Council will continue to be the owner and operator of the facility, operating it under a Certificate of Registration, which is more appropriate considering the low volume throughput of the facility.

2.7 Sampling & Monitoring Plan

2.7.1 Groundwater Well Installation

It is not considered necessary, nor is it proposed, to install groundwater monitoring wells.

2.7.2 Surface Water Sampling & Analysis

Routine sampling and analysis of surface water is required per the waste licence conditions. It is proposed to continue the monitoring programme as detailed in Table D.1.1 for surface water, with annual monitoring for all parameters listed in Table D.1.4 of the waste licence. The 4 No. surface water monitoring locations are shown on Drawing 003, submitted with the licence surrender application.

3.0 Schedule & Timescale

As no soil or groundwater investigations are proposed, no schedule or timescale is needed.

4.0 Conclusions & Recommendations

Cork County Council owns and operates the Macroom civic amenity site. This is a medium-scale operation with actual waste throughput less than 50% of the licensed quantities. Emissions from the facility are monitored by the Council and generally found to be within ELVs specified in the licence. The Council wishes to surrender its waste licence and continue operating the facility under a Certificate of Registration, which is more appropriate for the scale of operations.

Inspection of the facility didn't identify any viable source of environmental concern. As such, no intrusive investigations are proposed. As the Council intends to continue operating the facility, any environmental liability will remain with the Council should they occur in the future.



Signed: Dan Keohane

For & on behalf of Keohane Geological & Environmental Consultancy

22 November 2023____

Date