NON TECHNICAL SUMMARY

Churchtown Landfill Site

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Non Technical Summary
Final
16 July 2019

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Contents

Appendices

1 NON-TECHNICAL SUMMARY

1.1 Background and Nature of the Activity

Donegal County Council holds Waste Licence ref. W0062-1 for Churchtown Landfill Site. The site closed on 31st August 2000. The landfill facility at Churchtown occupies an area of approximately 9.7 hectares in the townland of Churchtown, near Lifford, Co. Donegal.

The site is located approximately 3km south west of Lifford and bordered to the northwest by the N15, the main Lifford to Ballybofey Road. The ground to the northeast and southwest of the site is the low lying and gently undulating flood plain of the River Finn, both areas being used for grazing. The southeastern boundary is formed by the River Finn. Site Location and Layout are shown on Drawings IBR01015/100A and IBR1015/103. The National Grid Reference for the facility is 230985E 395986N.

A willow bed and an Integrated Constructed Wetland (ICW) has recently been installed on top of the landfill. This waste licence review is required to provide for authorisation of discharge of treated leachate to the River Finn.

The site is located within Donegal County Council planning authority and the activity constitutes development but is exempted development. An Environmental Impact Assessment (EIS) has not been prepared in support of this application. An Natura Impact Statement has been prepared and this document is contained as appendices to this application. The site is closed and therefore no wastes will be treated, recovered or disposed of at the facility

1.2 Class of Activity

The classes of activity concerned are specified in the Third Schedule of the Waste Management Act, 1996, as amended:-

Third schedule of waste management acts 1996 to 2011 disposal operations

D 1 Deposit into or on to land (e.g. landfill, etc.)

D 4 Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.)

D 15 Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage (being preliminary storage according to the definition of ‘collection’ in section 5(1)), pending collection, on the site where the waste is produced).

1.3 Plant, Methods, Processes, Ancillary Processes, Abatement, Recovery and Treatment Systems and Operating Procedures for the Activity

The site is an unlined site historically operated on a dilute and disperses principal, whereby solid waste was tipped directly onto the underlying excavated surface with leachate allowed to percolate directly through the soils with no engineered liner installed. Landfilling began in 1987 and the site ceased operations on the 31st August 2000.

A willow bed and an ICW have been installed on top of the landfill. Extracted leachate is pumped to the willow plantation before discharge to surface water. If treated leachate levels are unacceptably elevated, the leachate is pumped into the nearest pumping station chamber to be treated further by circulating via the willow/ICW's before discharging to surface water. The Willow plantation is supplied with leachate on a timed basis. A number of factors dictate leachate treatment and application rates within the Willow Plantation and are as follows:

1. Precipitation
2. Temperature
3. Visual inspection manual intervention.

Flow of leachate to ICW's is controlled on the pumping main with an actuated valve within a precast concrete chamber along with flow measurements via flow meter. Flow of leachate to ICW's is via a weir chamber and flow split on a 60 / 40 percentage basis relative to their areas (approx. 60% to A series pond and remaining 40% to B series ponds).

Where leachate is available over and above the treatment capacity of the willow plantation (either through seasonal increases in leachate generation, wet/frosty weather conditions or manual operator intervention) leachate can be diverted to the ICWs as a secondary alternative. The system also allow the site operator to intervene and permit periodic irrigation of the ICWs when sufficient leachate is available during dry weather which would ordinarily be applied to the willow plantation in order to maintain the ICWs.

1.4 Provide Information For The Purpose Of Enabling The Matters Specified In Paragraphs (a) to (g) Of Section 40(4) Of The Act

(a) any emissions from the recovery or disposal activity in question (''the activity concerned'') will not result in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any other enactment,

Donegal County Council will operate the facility to comply with emission standards and limits set out in the Waste licence were applicable.

(b) the activity concerned, carried on in accordance with such conditions as may be attached to the licence, will not cause environmental pollution,

The site is unlined but has been restored with a cap and leachate treatment system (willow and ICW) installed. The facility will be operated to ensure that the operations post restoration will not cause any environmental harm.

(c) the best available technology not entailing excessive costs will be used to prevent or eliminate or, where that is not practicable, to limit, abate or reduce an emission from the activity concerned,

The site is unlined but has been restored with a cap and leachate treatment system. Donegal County Council will employ BAT to limit, abate or reduce an emission from the activity concerned,

(d) if the applicant is not a local authority, the corporation of a borough that is not a county borough, or the council of an urban district, subject to subsection (8), he or she is a fit and proper person to hold a waste licence,

Donegal County Council is a local authority.

(e) the applicant has complied with any requirements under section 53

As a Local Authority, Donegal County Council is fully committed to the on-going investment as required by this facility to ensure that it is properly managed environmentally.

1.5 Source, Location, Nature, Composition, Quantity, Level And Rate Of Emissions Arising From The Activity And, Where Relevant, The Period Or Periods During Which Such Emissions Are Made Or Are To Be Made

The primary treatment option for the extracted leachate is to the willow plantation. Leachate is pumped to the willow plantation before discharge to surface water. If treated leachate levels are unacceptably elevated, the leachate is treated further by circulating via the willow plantation and/or constructed wetlands before discharging to surface water.

There are two discharge outlets from the Willow plantation (D1 and D3) and two discharge outlets from the ICW (D2 and D4). The proposed emission limit values (ELVs) are provided in Table 1

Table 1 Proposed Emission Limit Values

Parameter	Limit
pH	6-9
BOD	20 mg/l
Suspended Solids	30 mg/l
Orthophosphate	2 mg/l
Total Ammonia (as N)	3 mg/l

The discharge rates from the willow and ICW systems will be variable depending on the volumes to be treated and on climatic conditions. With higher rates of discharge during the winter months and reduced or no discharges during the summer months.

1.6 Assessment Of The Effects, Of Any Existing Or Proposed Emissions On The Environment, Including Any Environmental Medium Other Than That Into Which The Emissions Are, Or Are To Be, Made, And Of Proposed Measures To Prevent Or Eliminate Or, Where That Is Not Practicable, To Limit Or Abate Such Emissions

A screening for appropriate assessment report for the proposed discharge from the leachate management system to the River Finn has been completed. The report concluded that the proposed discharge:

(i) is not directly connected with or necessary to the management of a Natura 2000 site

and

(ii) will not have significant effects on the qualifying habitats and species of the River Finn SAC provided proposed discharge ELVs are adhered to.

Assimilative capacity was calculated to measure the receiving water body's ability to assimilate the Pollutants based on the proposed emission limit values. The assessment when taking the Q95 low flow statistics into consideration is conservative in nature given that during low flow conditions it is unlikely that there will be a discharge from the leachate management system. Therefore an estimated maximum discharge flow of 136m^3/sec has been calculated (using the rainfall and evapotranspiration data available for Malin Head) and has been assessed using the Q30 mean flows in the Finn as a more appropriate flow statistic. When this flow is considered, the mass balance assessment indicates that there would be an imperceptible increase in concentrations that would not be detectable, i.e. less than the limit of detection for many laboratories.

1.7 Monitoring And Sampling Points And Indicate Proposed Arrangements For The Monitoring Of Emissions And The Environmental Consequences Of Any Such Emissions

Groundwater, surface water, leachate and landfill gas is currently being undertaken for parameters as listed in Waste Licence W0062-01, however the monitoring frequency is now quarterly from monthly. Four additional monitoring points (D1 to D4) have been included to monitor discharges from the willow and ICW systems. The two outlets from the Willow plantation are being monitored by Ammonia analysers and flowmeters and recorded on the SCADA system. When any sample reaches a limit of 3 mg/l ammonia, a motorised valve will shut and divert flow via gravity into the nearest pumping station chamber (No1 or 2) for recirculation in the willow/ICWs. This scenario shall continue until sample has reached acceptable limits.

1.8 Describe The Existing Or Proposed Measures, Including Emergency Procedures, To Prevent Unauthorised Or Unexpected Emissions And Minimise The Impact On The Environment Of Any Such Emissions

An Environmental Management System (EMS) was submitted to the EPA during 2004 and approved. All, reports/records in relation to the facility are maintained. Donegal County Council will maintain EMS for the aftercare of the site.

1.9 Proposed Measures For The Closure, Restoration, Remediation Or Aftercare Of The Facility

The site is closed and has been restored. Donegal County Council is meet current foreseeable aftercare costs.

1.10 Financial Provision

As a Local Authority, Donegal County Council is fully committed to the on-going investment as required by this facility to ensure that it is properly managed environmentally.

1.11 Annex To Council Directive 80/68/EEC Of 17 December 1979, Describe The Existing Or Proposed Arrangements Necessary To Give Effect To Articles 3, 4, 5, 6, 7, 8, 9 And 10 Of The Aforementioned Council Directive

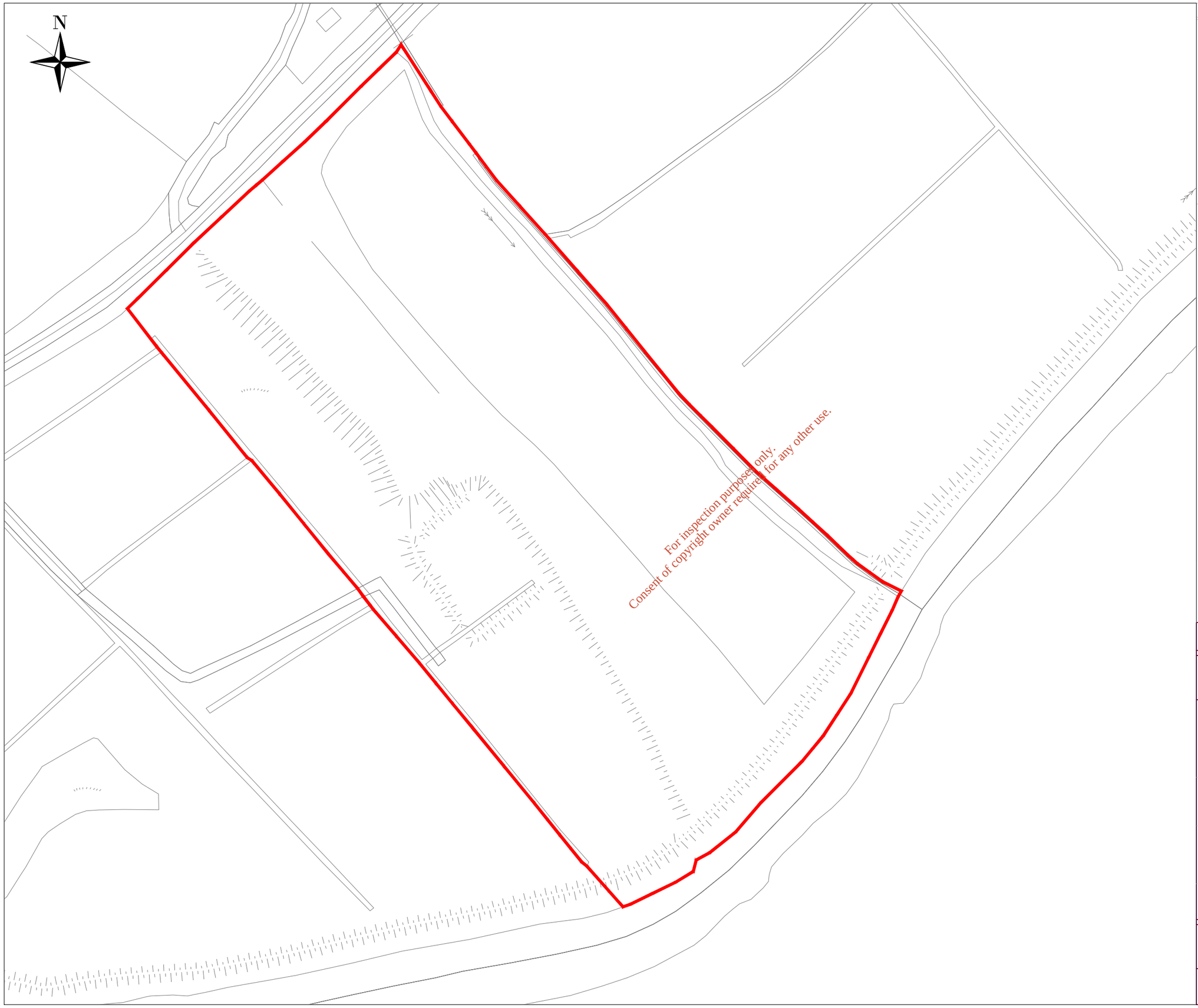
The site is closed. The site is unlined and has been capped. A hydrogeological risk assessment was undertaken in 2015 and submitted to the EPA. The report found that groundwater quality data does not indicate any upwards trends over time. Both groundwater and surface water contaminant fluxes from the landfill have the potential to impact on the quality of the River Finn. However, available data suggests that groundwater contaminant fluxes to the river are having a negligible effect on the river downstream of the landfill. Groundwater quality is expected to improve after the ICW and willow treatment has been commissioned.

1.12 Seveso II Regulations

The EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations (S.I. No. 74 of 2006) do not apply to the proposed activity.

Appendix A

Drawings



NOTES

1. Verifying Dimensions.
   The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.

2. Existing Services.
   Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.

3. Issue of Drawings.
   Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipients own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipients drawing production, or setting out on site.

4. Datum.

Site Boundary

rev	amendments	drawn	date
A	Topo survey info removed	AMB	May '19

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Client
Comhairle Contae Dhún na nGall
Donegal County Council

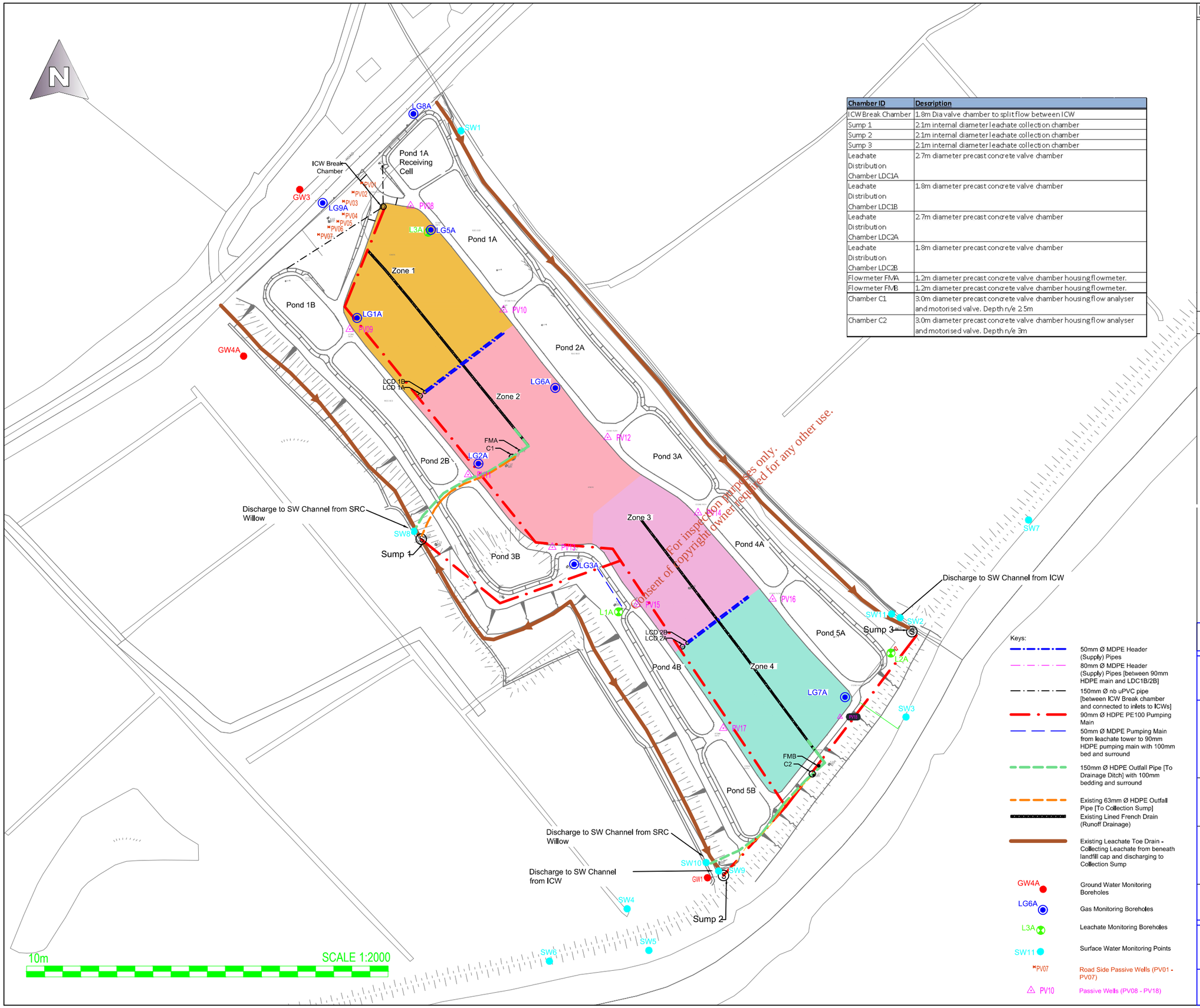
Project
CHURCHTOWN LICENSE REVIEW

Title
SITE BOUNDARY

Drawing Status	Sheet Size	Drawing Scale
Preliminary	A3	1:2000

Drawing Number	Rev
IBR1015/101	A

Project Leader	Drawn By	Date	Initial Review
DD	AMB	MAY-2019	AMcG



Chamber ID	Description
ICW Break Chamber	1.8m Dia valve chamber to split flow between ICW
Sump 1	2.1m internal diameter leachate collection chamber
Sump 2	2.1m internal diameter leachate collection chamber
Sump 3	2.1m internal diameter leachate collection chamber
Leachate Distribution Chamber LDC1A	2.7m diameter precast concrete valve chamber
Leachate Distribution Chamber LDC1B	1.8m diameter precast concrete valve chamber
Leachate Distribution Chamber LDC2A	2.7m diameter precast concrete valve chamber
Leachate Distribution Chamber LDC2B	1.8m diameter precast concrete valve chamber
Flowmeter FMA	1.2m diameter precast concrete valve chamber housing flowmeter.
Flowmeter FMB	1.2m diameter precast concrete valve chamber housing flowmeter.
Chamber C1	3.0m diameter precast concrete valve chamber housing flow analyser and motorised valve. Depth n/e 2.5m
Chamber C2	3.0m diameter precast concrete valve chamber housing flow analyser and motorised valve. Depth n/e 3m

Keys:

- 50mm Ø MDPE Header (Supply) Pipes
- 80mm Ø MDPE Header (Supply) Pipes [between 90mm HDPE main and LDC1B/2B]
- 150mm Ø nb uPVC pipe [between ICW Break chamber and connected to inlets to ICWs]
- 90mm Ø HDPE PE100 Pumping Main
- 50mm Ø MDPE Pumping Main from leachate tower to 90mm HDPE pumping main with 100mm bed and surround
- 150mm Ø HDPE Outfall Pipe [To Drainage Ditch] with 100mm bedding and surround
- Existing 63mm Ø HDPE Outfall Pipe [To Collection Sump]
- Existing Lined French Drain (Runoff Drainage)
- Existing Leachate Toe Drain - Collecting Leachate from beneath landfill cap and discharging to Collection Sump
- GW4A — Ground Water Monitoring Boreholes
- LG6A — Gas Monitoring Boreholes
- L3A — Leachate Monitoring Boreholes
- SW11 — Surface Water Monitoring Points
- PV07 — Road Side Passive Wells (PV01 - PV07)
- PV10 — Passive Wells (PV08 - PV18)

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4. Keys:

rev	amendments	drawn	date

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Client: Comhairle Contae Dhún na nGall, Donegal County Council

Project: Churchtown License Review

Title: Leachate System

Drawing Status	Sheet Size	Drawing Scale
Preliminary	A3	1:2000

Drawing Number	Rev
IBR1015 /103	-

Project Leader	Drawn By	Date	Initial Review
DD	AMB	May - 2017	JD

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