

HealthBeacon Limited

Waste Licence Application

Application ID: LA006978

Attachment-1-1-1 Non-technical Summary

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1 Overview of the Proposed Waste Activity

HealthBeacon Limited intend to apply for a Waste Licence for the operation of a small-scale Healthcare Waste Management Facility at Unit 18, Naas Road Business Park, Muirfield Drive, Naas Road, Dublin 12 (Eircode D12 PF63) (National Grid Reference: Easting 311107 Northing 232278).

HealthBeacon Ltd (an Irish Medical Technology Company) have developed the world's first Smart sharps container (HealthBeacon; Fig 1) that is used by patients on home injectable medication. This device reminds patients when to take their medication and tracks the disposal event. As well as a medication adherence tool, this system provides a method to closely manage home generated sharps waste in a streamlined manner. Within each Smart Sharps System is a replaceable sharps container (Fig 2) which, once full, is sealed and destroyed in the traditional way (steam sterilised/shredded/waste to energy). To reduce the environmental impact of destroying the sharps container in addition to the sharps waste the applicant intends on accepting its own sharps container for processing, sterilization and re-use. A maximum of 20 tonnes of these waste bins will be accepted on-site per annum. Sharps waste (contained in the bins) will be temporarily stored on-site after transfer to regulated containers before being dispatched to an appropriate third-party waste treatment facility. The empty bins will be washed using a validated sterilisation process (validated low temperature washing cycle with a biodegradable disinfectant/detergent solution). A small Processing Area consisting of a wash-room and a clean-room will be developed at the existing premises for the purposes of carrying out this activity. Cleaned bins will then be reused in the Smart Sharps System, reducing environmental impact of incinerating as end of life. A small waste storage area will be contained within the wash-room and adjacent to the processing rooms. The name given to the proposed project by Applicant is the 'ReUse Project'. The processing areas for the proposed project will be known as the 'HB Green Labs.' Each sharps container has an RFID tag that allows complete traceability.



Fig 1: HealthBeacon Smart Sharps System – demonstrating how a patient disposes of their used autoinjector pen

Fig 2: HealthBeacon Smart Sharps System and Sharps Container (subject of the proposed waste license application)

HealthBeacon will receive the full sharps container to the facility via 2 methods (a) Sharps Mailback approved packaging delivered by courier or postal operator (b) Operator with Waste Collection Permit. Both methods will be accompanied by a relevant Waste Transfer Form.

Mailback of sharps waste in approved sharps in combination with approved outer transportation packaging has been operating in the U.S for over 30 years and is Authorised by the U.S Postal

Service. Sharps containers (UN3291) are packaged into a triple walled containment system that allows the safe transportation through the U.S Postal system to the processing facility.

HealthBeacon's fully trackable approved UN3291 sharps container and USPS approved packaging system (Fig 3) will improve the traceability of waste from its generation and improve safety for handlers during transportation as well as reducing overall transportation costs for this waste.

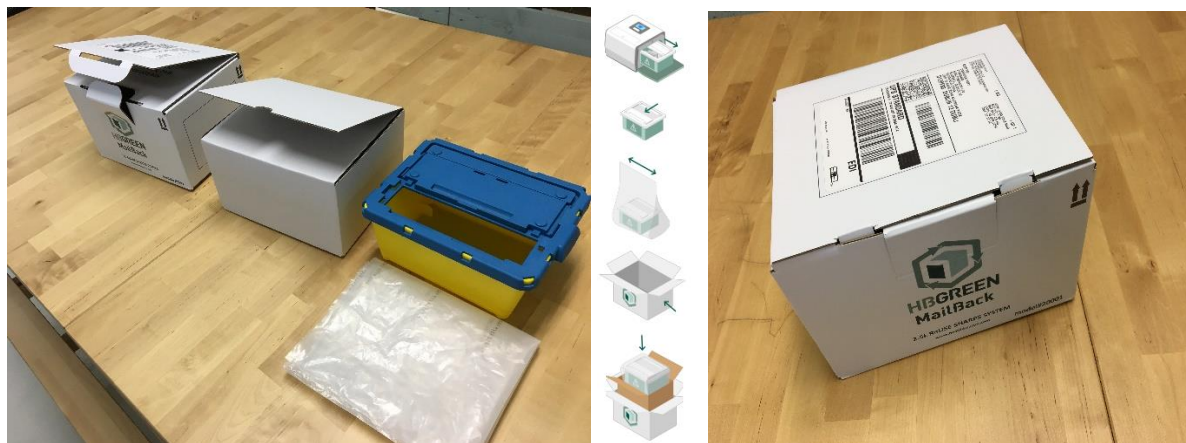


Fig 3: shows the Mailback packaging and how it is assembled before transport to HB Green Labs

The Proposed HB Green Labs activity constitutes a waste activity under the Waste Management Act. Thus, a waste licence application is required for the proposed activity. An application for a waste licence will be made to the EPA in conjunction with the submission of a planning application to the Planning Authority.

Layout Plans showing the design of the proposed facility adjoins this Waste Licence Application.

The prospective applicant proposes accepting sharps waste at their premises (EWC Code 18 -01-03). A maximum of 20 tonnes of sharps waste will be accepted at the premises per annum for onward transfer. A maximum of 300 kilograms of sharps waste will be stored on-site at any one point in time.

The class of activity at the site, as specified in the Fourth schedules of the Waste Management Act 1996, as amended, are as follows:

Principal Activity

Class R12 exchange of waste for submission to any of the operations numbered R1 to R11 (if there is no other R code appropriate, this can include preliminary operations prior to recovery including pre-processing such as, amongst others, dismantling, sorting, crushing, compacting, pelletising, drying, shredding, conditioning, repackaging, separating, blending or mixing prior to submission to any of the operations numbered R1 to R11.

Other Activities

R 13 Storage of waste pending any of the operations numbered R 1 to R 12 (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)

HealthBeacon Limited are required to obtain a Waste Licence for the proposed waste activities to be undertaken and are required to adhere to the Best Available Techniques for environmental

management for the waste sector defined in the EPA BAT Document '*Final Draft BAT Guidance Note on Best Available Techniques for the Waste Sector: Waste Transfer and Materials Recovery.*'

2 Description of Facility Operations

The proposed waste activity is relatively uncomplex in nature. HealthBeacon Limited intend on developing a Healthcare Waste Management Facility at the site (Under the 'ReUse Project'). They propose accepting their own UN Approved home sharps bins (2.3 litre) which they supply to domestic customers on-site for processing and sterilization. Used sharps in these bins will be accepted on-site, mixed into larger bins and temporarily stored on-site before being dispatched onwards to an appropriate waste treatment facility for recovery. The bins themselves will undergo sterilization on-site and will be reused in the course of the applicant's business.

The facility will be in operation from 9:00 – 17:00, Monday to Friday. It will not be operational on weekends or on Bank Holidays.

Further information and detail on proposed facility operations is contained in Attachment 4-8-1 to this application.

3 Materials Utilized by the Facility

The proposed facility will only use very small levels of disinfectant during the sterilization process.

4 Sources and Nature of Emissions

There will be no emissions to ground, groundwater or surface waters associated with the proposed waste activity.

There will be no emissions to sewer associated with the proposed waste activity. Wastewater from the sterilization/wash process will be collected in a double skinned IBC on-site and dispatched off-site to a hazardous waste treatment facility as necessary.

There will be no emissions to air associated with the proposed activity. There will be one minor emission point consisting of a passive vent to the wash room. It is envisaged that negligible levels of bioaerosols will be emitted during the wash process given the nature and scale of process operations.

A facility of this nature and scale will not give rise to any noise emissions of significance. There will be no plant or equipment situated on-site giving rise to significant levels of noise. All waste handling and storage activities will take place indoors in designated areas.

Having regard to the nature of the waste being accepted on-site, considering the proposed control measures for preventing odour, and considering the small volume of sharps waste that will be present on-site at any one point in time it is considered that there is no likelihood that the proposed facility will give rise to any odours of significance.

The potential for the generation of litter or vermin in or around the site is negligible given the nature and scale of the waste activity, and given the procedures that will be in place for accepting and controlling this waste on-site.

5 Environmental Conditions on and around the site

The application site is situated in a built-up urban area characterized by commercial, light industrial and industrial land uses with some residential land use nearby also.

A Public Record Drainage Map for the area surrounding the site was reviewed. This map appears to indicate that surface water arising at Naas Road Business Park is collected by the business park drainage system and then directed via surface water gravity mains toward to the Camac River as it runs through Lansdowne Valley Park approximately 100 metre east of the site. The River Camac flow into the River Liffey alongside Heuston Station in Dublin City Centre, which in turn enters Dublin Bay.

The business park in which the site is located is underlain by hard-standing ground. The ground underneath the site comprises till chiefly derived from limestone which has low sub-soil permeability and is poorly drained. The site is underlain by a Locally Important Aquifer in Bedrock which is Moderately Productive only in Local Zones. Groundwater vulnerability underlying the site is defined by the Geological Survey of Ireland as High.

There are no areas of ecological importance within the immediate environs of the site. The site is situated in a business park in a built up, urban area characterized by commercial, light industrial and industrial land uses.

The nearest protected area is the Grand Canal pNHA situated approximately 500 metres north of the site. There is a hydrological pathway between the roof and outdoor hard-standing areas in Naas Road Business Park to a number of Natura 2000 sites in Dublin Bay.

The local area therefore can be characterized as quite a loud and busy noise environment.

Ambient air quality in the local area is likely to be somewhat affected by emissions to air from traffic and land uses in the area. The nearest EPA Ambient Air Quality monitoring station is the Ballyfermot station which records PM2.5, PM10 and NO2. PM10 levels were breached at this monitoring point 7 times in 2019 (The particulate matter, PM10 daily limit of 50 ug m⁻³ is deemed breached if more than 35 exceedances occur in a calendar year), whilst NO2 levels were breached 0 times in 2019. There is no hourly or daily limit value for PM2.5 therefore PM2.5 results could not be compared with the applicable limit.

6 Main Techniques to Minimize Emissions

Wastewater from the wash process will be collected in a bunded IBC situated in a designated wastewater storage area before being collected from the site by an authorized waste collector and sent to an appropriate waste treatment facility. The Wastewater Storage IBC on-site will be double skinned in order to prevent the accidental release of wastewater in the event the interior IBC ruptures. A spill kit and suitably sized spill containment barrier will be provided adjacent to the IBC for containing any accidental releases that make their way onto ground and to prevent the run-off of spilled wastewater outside roller doors and into the drainage system serving the business park. An Emergency Response Procedure comprehensively detailing Spill Response Procedures will be in place.

Wastes arriving on-site will be contained in an enclosed sharps bin. Waste handling and storage activities will take place indoors in the processing rooms. No wastes will be handled or stored areas outside the processing room or outdoors, thus preventing any contaminated stormwater run-off and noise impacts of any significance, and minimizing the potential for the generation of odour, litter or vermin.

The table below details how waste generated at the site will be minimised to incorporate recycling/reuse of materials:

Waste	Description	How its processed	3 rd Party vendor
Sharps waste	Home generated sharps waste deposited into HB sharps bins	Removed from sharps containers and transferred to larger containers for processing.	Collected by Regulated 3 rd party vendor for processing.
HB Sharps bins	HB 2.3l home sharps bins that fit inside the Smart Sharps Bin	Bins are emptied, washed, dried and reused	
HB Sharps lids	HB Lids that attach onto HB Sharps bins	The lids are removed prior to transferring the sharps waste to the larger containers. The lids are polypropelene and once cleaned are recycled	3 rd Party Vendor (example, PolyFab Plastics, Leinster Environmentals)
labels	Sharp Container labels placed on the side of the sharps bin	The labels are removed prior to washing and placed into a recycling container. When full it is placed into our Green bin.	3 rd party recycling company. Example Greyhound, Panda
Cardboard packaging	Smart Sharps Bin, sharps bin, packaging boxes	Packaging is reused if it is not damaged. If packaging is not suitable for reuse it is placed into recycling containers and into the Green bin.	3 rd party recycling company Example Greyhound, Panda
Plastic Packaging	Bubble wrap in packaging. Polythene bags used in mailback packaging	Bubble wrap is continuously reused. Polythene bags can be reused or sent for recycling.	3 rd party recycling company
Paper	All paper waste	Sent for recycling	3 rd party recycling company
Waste Water	Water from the washer machine	The water is stored in a 1000 litre IBC container and collected once full.	Enva
Used Office supplies	Batteries, printer cartridges,	Placed in specific containers	Recycling centres

A Standard Operating Procedure (SOP) has been developed to ensure that waste processing reduces risks associated with infectious materials to negligible to very low levels.

A significant level of further detail on how emissions and environmental impacts will be controlled is contained in Attachment-9-1-1 to this application. Environmental management techniques will be implemented in accordance with the guidelines contained in the EPA BAT Document 'Final Draft BAT

Guidance Note on Best Available Techniques for the Waste Sector: Waste Transfer and Materials Recovery.'

7 Compliance with the Waste Hierarchy

Currently the sharps bins in question are collected and dispatched to a third-party waste treatment facility. The Proposed waste activity will involve the redirection of the sharps bins themselves from the aforementioned recovery process and the direct reuse of these sharps bins in the course of the applicants business. Thus, the Proposed Waste Activity results in the reuse of a material previously deemed a waste. All Sharps Waste arriving on-site will be temporarily stored on-site before being dispatched to a third-party Waste Facility for recovery in adherence with the principles of the Waste Hierarchy. All wastes arising during the course of facility operations will be sent to third party waste facilities for recovery where feasible.

8 Closure

Upon cessation of the proposed waste activity, the facility will be decommissioned and closed in accordance with a Closure Plan detailed in Attachment-9-1-1 to this application, as well as the relevant Conditions of the granted Waste Licence.

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