

Attachment 7-7-1 Storm Water Monitoring

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1. Introduction

Amazon Data Services Ireland Limited (ADSIL) (*‘the Applicant’*) is applying to the Environmental Protection Agency (*‘the Agency’*) for an Industrial Emissions (IE) Licence for its data storage facility (hereafter referred to as the *‘Installation’*) located at Data Centre Building B1, Kildare Innovation Campus (KIC), Barnhall Road, Leixlip, County Kildare, Ireland.

The Installation site covers an area of c. 3.645 hectares (ha) in total and sits within the wider KIC Masterplan site, which was granted planning permission in January 2024 by Kildare County Council (KCC) (KCC Planning Ref. 23/60047). An Environmental Impact Assessment Report (EIAR) and Appropriate Assessment (AA) Screening Report were prepared as part of this planning application and have been submitted with this IE Licence application, refer to Attachment 6-3-6 and Attachment 6-2-1 respectively.

ADSIL holds a long-term lease that concerns lands within the IE licence application boundary, which sits within the northwest corner of the KIC Masterplan site. The IE licence relates only to the area concerning the Installation. The remaining areas within the KIC Masterplan site are controlled by the KIC Masterplan site owner, hereafter referred to as *“the Landowner”*.

The Installation will include 2 no. stormwater emission points (termed SW1 and SW2), as defined under the EPA Licence Application Form Guidance Version 2.1 June 2021. These emission points will be monitored by ADSIL where they sit within the IE Licence site boundary. Once stormwater leaves the IE Licence boundary and feeds into the KIC Masterplan site’s stormwater network, monitoring and control measures no longer fall under the scope of this IE licence application.

The Installation will include 1 no. inbound stormwater connection point to the Landowner’s stormwater network (termed ISW1). The stormwater entering the Installation from the Landowner’s surface water network will be monitored to identify any potential contamination of stormwater prior to entering the Installation site. In the unlikely event that this incoming stormwater is contaminated, the incoming stormwater will be subject to the same control measures as the remainder of the stormwater collected onsite.

2. Control Monitoring

The emissions to stormwater consist of stormwater runoff from building roofs, yards and the road network, but does not include residual evaporative cooling water (mains water that has passed through the cooling / AHU equipment).

The stormwater drainage network will be designed in accordance with Greater Dublin Strategic Drainage Study (GSDSDS)¹ and Greater Dublin Regional Code of Practice².

The Installation will include 1 no. inbound stormwater connection point to the Landowner’s stormwater network (termed ISW1). The stormwater entering the Installation from the Landowner’s surface water network will be monitored at 1 no. inbound stormwater monitoring point (termed ISW1-1) to identify any potential contamination of stormwater prior to entering the Installation site. In the unlikely event that this incoming stormwater is contaminated, the incoming stormwater will be subject to the same control measures as the remainder of the stormwater collected onsite.

Rainwater runoff from impermeable areas (including but not limited to car parks and roads) at the Installation will be collected via onsite stormwater and sustainable drainage systems (SuDS) networks in accordance with the KIC Masterplan site planning application (KCC Planning Ref. 23/60047).

¹ <https://www.sdcc.ie/en/download-it/publications/gdsds-new-development.pdf>

² <https://www.sdcc.ie/en/download-it/guidelines/greater-dublin-regional-code-of-practice-for-drainage.pdf>

The network within the Installation site will convey stormwater via 2 no. monitoring stations and 2 no. bypass interceptors with alarms through 2 no. emission points situated at the IE Licence site boundary (SW1 and SW2) to the KIC Masterplan site's 1 no. attenuation pond (2,132 m³) to the east and 1 no. attenuation pond (1,836 m³) to the north of the Installation site boundary. Stormwater from the eastern attenuation pond on the KIC Masterplan site will flow to the northern attenuation pond on the KIC Masterplan site before combining with the remainder of the KIC Masterplan site's stormwater network. The attenuation ponds and point of discharge to the Leixlip Reservoir will be situated within KIC Masterplan site (outside of the IE Licence site boundary) and will be under the Landowner's control and monitoring regime.

Stormwater collected around the emergency generator yard will pass through 1 no. full retention interceptor prior to combining with the remainder of the Installation site's stormwater network.

The hydrocarbon interceptors at the Installation site will be equipped with level detection sensors which will send an alarm signal to the Building Management System (BMS) to alert Engineering Operations Technicians (EOTs) to warn of high hydrocarbon, liquid and silt levels in the separator. These hydrocarbon interceptors will be used to capture any hydrocarbons that have entered the stormwater network.

There will be 1 no. hydrocarbon interceptor and 1 no. stormwater flow control device located downstream of KIC Masterplan site's attenuation pond to the north of the Installation (outside of the IE Licence application boundary). These devices will ensure the quality and flow rate of stormwater prior to discharge to KIC Masterplan site's stormwater drainage system.

The KIC Masterplan site's stormwater network ultimately discharges attenuated flows to the Leixlip Reservoir, located c. 800m southeast of the Installation immediately across from Celbridge Road. The Leixlip Reservoir flows to the River Liffey which connects with the South Dublin Bay and River Tolka Estuary Special Protection Area (SPA) c. 19.5 km to the east of the Installation and the other Natura Designated Sites within Dublin Bay (South Dublin Bay and North Dublin Bay Special Areas of Conservation (SACs)).

The top up tank and fuel delivery bay at the Installation will be surrounded by ACO drainage channels that discharge via a full retention interceptor to the Installation's foul network. The Installation's foul network will connect to the KIC Masterplan site's foul network at emission point SE1. Other rainwater runoff drainage from the fuel unloading bay at the Installation will be directed to the Installation's stormwater network and subject to the control and monitoring regime of the surface water network.

The top up tank will be double skinned and fitted with hydrocarbon level alarms that will send a signal to the BMS to alert EOTs to warn of high hydrocarbon, liquid and silt levels in the separator.

The emergency generators will be housed within containers. The containerised emergency generator housing will include retention in the base of the container. There will be leak detection systems within the containers to alert in the event of a leak from the generator fuel tank or lubricating oil tank. The onboard controller for individual generators will be connected and alarm to the BMS.

The top up tank, fuel storage tanks associated with each generator and emergency generator housing containers will undergo testing for their integrity during the commissioning phase. All tanks, containers and pipelines will be integrity tested following installation by vendor.

The only chemical stored in notable quantities on site will be fuel: Hydrotreated Vegetable Oil (HVO), diesel, or a blend of HVO and diesel, for the emergency generators. HVO, where supply is available, will be the preferred source of fuel stored in fuel storage tanks at the Installation. Where insufficient quantities of HVO are available, a blend of diesel and HVO will be supplied to the storage tanks, and in the absence of HVO, diesel will be supplied to the storage tanks. Where HVO and diesel are blended in fuel storage tanks, the ratio of HVO : diesel in the fuel storage tanks will vary with the availability of HVO. Control measures (i.e., tanks with alarms, hydrocarbon interceptors with level alarms) will be located at the sources of storage and transfer.

Delivery of fuel will be a controlled process, and is undertaken in accordance with the Fuel Delivery SOPs. Fuel deliveries will be supervised and will take place in designated fuel unloading bays. Hydrocarbon interceptors will be in place for the fuel tanker delivery bay to capture any spills.

Penstocks will be installed on the outfalls prior to the discharge into the KIC Masterplan site's stormwater network. Once installed, the penstocks will restrict stormwater outflow in the event of a large spill or a fire. Any resulting stormwater of unacceptable quality will be pumped out or otherwise removed from the stormwater network and disposed of appropriately.

See Attachment 4-8-1 Operational Report for further information and refer to Drawing 305131-ARP-ZZ-XX-YE-DR-1004 - Surface Water Layout for the surface water layout.

3. Monitoring of Emissions

No online monitoring is proposed for the stormwater discharge. The only chemical stored in notable quantities onsite will be HVO, diesel, or a blend of HVO and diesel; adequate control measures will be in place to monitor any potential leaks or spills of hydrocarbons at source.

Weekly visual inspections will be undertaken at the outfalls from the Installation (monitoring points SW1-1 and SW2-1) to monitor the quality of the discharge.

Weekly visual inspections will be undertaken at the inbound stormwater connection point from the Landowner's stormwater network to the Installation (monitoring point ISW1-1) to monitor the quality of the stormwater prior to entering the Installation stormwater network.

Due to the limited storage of bulk chemicals on site, and the robust control measures outlined, above it is considered that no further monitoring or control methods will be required for stormwater.