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**FIRE WATER RISK ASSESSMENT**  
**RILTA ENVIRONMENTAL LTD.**  
**SITE 14-A1 GREENOGUE BUSINESS PARK**  
**LICENCE NO. W0185-01**

**Prepared For:-**

Rilta Environmental Ltd,  
Greenogue Business Park,  
Rathcoole,  
County Dublin.

**Prepared By: -**

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Cork.

**December 2016**

Project		Fire Water Risk Assessment		
Client		Rilta (W0185-02)		
Report No	Date	Status	Prepared By	Reviewed By
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Appendix 1            Emergency Response Procedures

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# 1. INTRODUCTION

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RILTA Environmental Limited (RILTA) operates an Integrated Waste Management Facility at Block 402, Grant's Drive, Greenogue Business Park, Rathcoole, County Dublin under an Industrial Emissions Licence (W0185-01) granted by the Environmental Protection Agency (Agency).

Condition 9.2 requires the licensee to prepare a written Emergency Response Procedure (ERP) that addresses any emergency situations that may originate on the facility and shall include provision for minimising the effects of any emergency on the environment. This shall include a risk assessment to determine the requirements for fire water retention facilities.

A fire water retention assessment was completed in 2006 and RILTA commissioned O'Callaghan Moran & Associates (OCM) to update the risk assessment to take into consideration current site operations. The assessment was based on the Agency's draft Guidance Note to Industry on the Requirements for Fire-Water Retention Facilities.

- The identification of existing and potential hazards (evaluation of the materials and waste products typically stored on-site).
- A review of existing control measures, and
- An assessment of the hazards associated with:
  - i. The probability of an accident occurring,
  - ii. Its impact both on-site and off-site (soil, water and air), and
  - iii. The impact of an incident on sensitive receptors (residents, schools, businesses, hospitals etc).

The data sources included the original ELRA prepared in 2004 and the licence application.

Rilta contacted the Dublin Fire Service regarding the preparation of the risk assessment but at the time of the preparation of this report the Fire Service has not visited the site.

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## 2. FACILITY OVERVIEW

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### 2.1 Facility Location

The facility is located in the Greenogue Business Park, approximately 1.5km east of Newcastle.

### 2.2 Facility Layout

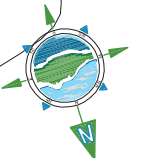
The site layout is show on Figure 2.1. It encompasses 0.5ha and there are three adjoining buildings- Warehouse, Workshop and the Offices. There is a weighbridge at the site entrance and a covered Tanker Bay. There is a redundant backup generator in a bund in the north-eastern corner of the site. The open yards (2,760m<sup>2</sup>) are paved with a 120mm reinforced concrete slab and are surrounded by a perimeter kerb.

**Table 2.1 Site Infrastructure**

Infrastructure	Details
Office	Three storey (432m <sup>2</sup> floor space), houses reception, office, canteen, toilet, showers
Warehouse	Portal frame with metal cladding side walls and roof (1,560m <sup>2</sup> )
Chemical Stores	Occupies 219m <sup>2</sup> and contains three separate compartments
Tanker Bay (Warehouse)	Fully enclosed and occupies 168m <sup>2</sup>
Yard	Paved with 120mm concrete slab (2,700m <sup>3</sup> ).
Storm Water Attenuation Tank	158m <sup>3</sup> with shut of valve

The building construction incorporates fire prevention and containment measures and all have Fire Safety Certificates issued by South Dublin County Council. The Warehouse is fitted with a fire detection and alarm system, with smoke detectors fitted in the offices. The eastern wall of the Warehouse and Hazardous Waste Store is rated for one hour (integrity 60 minutes and insulation 16 minutes) fire resistance. There are two (2 No.) fire hydrants and one (1 No.) hose reels and appropriate fire extinguishers are provided at strategic locations in the buildings.

The Warehouse is provided with a reinforced containment kerb around the entire building with ramps at the entrances providing a retention capacity of 235m<sup>3</sup>. The floor of each compartment in the Hazardous Waste Store drains into gullies that connect to an underground 300m<sup>3</sup> tank. The Tanker Bays are contained by retaining kerb and floors slope to a sump providing a retention capacity of 31m<sup>3</sup>



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- LEGEND**
- ▲ SURFACE WATER DISCHARGE POINT
  - NOISE MONITORING POINT
  - DUST MONITORING POINT
  - GROUNDWATER MONITORING WELL
  - FOULED WATER MONITORING POINT

Rev	Date	Description	By	Check
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Client: **RILTA Environmental Limited**

Project: **RILTA WASTE FACILITY AT GREENOUGE BUSINESS PARK**

Title: **ENVIRONMENTAL MONITORING LOCATIONS**

Scale @ A1: **1:125**

Prepared By: **M. Nolan**      Checked: **April 2011**      Date: **April 2011**

O'Callaghan Moran & Associates  
 Unit 15 Melbourn Business Park,  
 Mabel Farm Road,  
 Carrigrohane, Co. Wick.

21

Revision:

## 2.3 Facility Activities

The installation is authorised to accept up to 60,000 tonnes of household, commercial and industrial, construction and demolition wastes, sewage and industrial sludges and hazardous waste. Current waste processing activities are confined to the acceptance and processing of electrical transformers inside the warehouse. Refrigerators collected at WEEE drop of centres arrive in articulated trailers which are temporarily parked pending the completion of the appropriate documentation before they are sent to Northern Ireland for processing.

## 2.4 Services

Electricity is provided by a utility company. Water is obtained from the Irish Water mains supply.

## 2.5 Wastewater

Sanitary wastewater is discharged to the foul sewer that serves the Business Park. The warehouse is designed to collect floor wash downs in a 5m<sup>3</sup> sealed sump from where it can be pumped to the foul sewer that serves the industrial estate. However, as putrescible wastes are not accepted at the facility, floor wash downs are not required and the sump is not used. There is a drain gate valve on the foul sewer that can be manually activated to stop the flow in the event of an incident inside the warehouse.

## 2.6 Surface Water Drainage

There are two separate internal surface water drainage systems. The first collects the rainwater run-off from the building roof and this is discharged via a 158m<sup>3</sup> flow attenuation tank to the storm sewer serving the Business Park. The second collects rainwater run-off from paved areas and weighbridge and this is passed through a Class 1 oil interceptor before entering the attenuation tank.

The outflow from the attenuation tank is regulated by a 'hydrobrake' and there is an electrically and manually activated shut-off valve between the 'hydrobrake' and the connection to the sewer. The storm sewer connects to the sites foul sewer and the combined flow enters the fowls sewer that serves the Business Park sewer.

There are three drain gate valves on the surface water network, one in the yard west of the office, one at the outlet from the attenuation tank and one in the loading docks. The valves in the yard and at the attenuation are activated remotely by the use of emergency stop buttons located in the Comms Room on the ground floor of the office and on the external wall of the warehouse. Both sets of buttons are emergency stop only. These valves can only be reset (i.e. opened again to allow liquid to flow) by manually using the hand wheel. The valve that drains the delivery dock area in the yard is a manually activated and works by sliding a flat gate into place.

## 2.7 Hydrology

The facility is located in the catchment of the River Griffeen, which is a tributary of the Liffey, and a culverted stretch of a tributary of the Griffeen runs along the northern site boundary. The Griffeen joins the Liffey at Lucan approximately 8km north of the site. It is part of the Griffeen Lower Water Body (Code IE\_EA-09\_242) designated under the Eastern River Basin District Management Plan. The Fish and Ecological Status is Bad and the overall water quality status is Bad and the river is 'At Risk' of not meeting the objective of restoration to 'Good' Status by 2027.

## 2.8 Geology & Hydrogeology

The subsoils beneath the site are between 3 to 5 m thick and comprise grey silty CLAY with cobbles and boulders. The site is underlain by Calp limestone, which comprises dark, grey fine-grained argillaceous limestone. The limestone aquifer is Locally Important Aquifer that is productive only in local zones (**L**). Although the subsoils are poorly permeable, because the thickness is <3m in some areas, the vulnerability of the bedrock aquifer to contamination from the ground surface is considered to be extreme (**E**).

## 2.9 Designated Areas

There are no Natura 2001 Sites (Special Area of Conservation (SAC) and Special Protected Areas (SPA)) or National Heritage Areas (NHA) within the licensed area and the closest designated site is the Glenasmole Valley SAC, which is almost 10 km to the south-east.

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### 3. OPERATIONAL AREAS

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Current waste activities are confined to the acceptance and processing of electrical transformers inside the warehouse. The transformers are stored in steel spill containment trays pending the removal of the coolant oil which is stored in IBCs inside the building and also in one of the compartments in the Hazardous Waste Store.

The transformer oils do not contain polychlorinated biphenyls (PCB). Where the producer of the transformers considers it possible due to the age of the unit that it contain PCB, the oil is tested and if PCBs are detected the unit is exported directly to overseas treatment and not sent to the RILTA facility.

The transformers are then placed on a steel platform that has integral spill containment where an angle grinder is used to remove the copper components. The metals are stored inside the warehouse pending shipment to overseas smelters.

Refrigerators collected WEEE drop off centres arrive in articulated trailers which are temporarily parked on-site pending the completion of the appropriate documentation before they are sent to RILTA's sister company in Northern Ireland for processing. The Tanker Bay is currently used to store new empty product drums for the RILTA facility at Grants Drive.

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## 4. FIRE CHARACTERISTICS OF MATERIALS ON-SITE

### 4.1 Materials Classification

The maximum amount of waste on site at any one time, which is derived from the Decommissioning Management Plan, is ? tonnes, details of which is provided in Table 4.1.

**Table 4.1 – Materials Inventory**

Wastes/Products	Quantity Stored	Location
Transformers	300 Tonnes	Warehouse
Ferrous Metals	60 Tonnes	Warehouse
Non-Ferrous Metals	20 Tonnes	Warehouse
Waste Oil	100 Tonnes	80 Tonnes in Warehouse 20 Tonnes in Hazardous Waste Store
Refrigerators	25 Tonnes	In Articulated Trailer
Other WEEE	25 Tonnes	Warehouse?
Product Drums	100 No	Tanker Bay
Empty Packaging	2 Tonnes	Hazardous Waste Store

The only hazardous substances are the transformer oils and the maximum amount on site at any one time is 100 tonnes. This is either contained inside the unprocessed transformers or in IBCs stored in the Warehouse and one of the compartments in the Hazardous Waste Store. The oil while combustible is not particularly flammable and the flash point is 135<sup>0</sup>C.

The materials were classified using the Hazard Statements derived from the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

**Table 4.2 - Risk Phrase & Chemical Hazard**

Material	Hazard Description	CAS No	Hazard Statement
Transformer Oil	May be fatal if swallowed and enters airways	Mixture	H304
	Very Toxic to Aquatic Life		H400
	Very Toxic to Aquatic Life with long lasting effects		H410

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## 5. FIRE SAFETY MANAGEMENT SYSTEM

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### 5.1 Fire Fighting Management System

The safety management system comprises:

- Fire prevention
- Fire detection
- Fire response
- Fire suppression

### 5.2 Fire Prevention Measures

#### 5.2.1 Building Design and Construction

The building construction incorporates fire prevention and containment measures, and all have Fire Safety Certificates issued by South Dublin County Council

#### 5.2.2 Storage of Combustible and Flammable Materials

All combustible and flammable materials and wastes are stored in appropriately designed and constructed storage tanks/areas

#### 5.2.3 Control of Sources of Ignition

The potential sources of ignition include:

- arson/vandalism:
- naked flames/smoking:
- incidents related to welding and cutting :
- electrical faults/heating faults/equipment failures:

The controls measures applied to minimise ignition sources include:

- Security fencing and CCTV system to prevent unauthorised entry.
- Smoking only allowed in designated areas.
- Electrical and Hot Work Permit system for all works carried out at the site.

### 5.3 Fire Detection

The process buildings are fitted with a fire detection and alarm system, with smoke detectors fitted in the offices.

### 5.4 Fire Response

RILTA has nominated Fire Wardens, and provides training to all relevant employees in

- Fire control
- Fire Protection Equipment Handling
- First Aid
- Evacuation Control

The responsibilities are detailed in the Emergency Response Procedures, a copy of which is in Appendix 1. The Fire Service have visited the site to familiarise themselves with the site layout and the location and access to the fire hydrants.

Emergency shut-off points for electricity are not required. In an emergency, power would be required in order to quickly close the drainage system (this however can also be done manually by entering the relevant manholes and turning the flywheels to the closed position). Standard circuit breakers are included as part of the electrical system: however there is no master electrical shut-off facility to stop power to the entire site.

### 5.5 Fire Suppression

There are two (2 No.) fire hydrants on the mains supply main and one (1 N. hose reel), and appropriate fire extinguishers are provided at strategic locations in the buildings as shown in the ERP in Appendix 1. In the event of an emergency call out the Dublin Fire Service tenders will bring water to the site, and additional water can be obtained from the Griffeen River.

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## 6. FIRE WATER RISK ASSESSMENT

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Risk Assessment is defined in the Draft Guidelines as ‘an assessment of the risk that an industrial facility poses to the environment during a fire that brings fire-water into contact with operations or substances that would cause significant pollution’. Contaminated fire-water is defined as ‘water that has become contaminated with process materials used at a facility and the products resulting from combustion’.

The review of site operations identified one discrete drainage areas for risk assessment purposes. This comprise the storm water and wastewater drains serving the entire facility.

### 6.1 Potential Fire Load Criteria

The potential fire load is determined by the type of combustible materials present and the likely rate of combustion. The criteria used in this assessment are set out in Table 6.1.

**Table 6.1 Fire Load Criteria**

<i>Low Load</i>	Quantities of poorly combustible material
<i>Medium Load</i>	Significant quantities of combustible materials
<i>High load</i>	Substantial quantity of combustible materials, or large quantity of flammable liquids

The potential Fire Load is considered to be **High** due to quantities of combustible and flammable wastes stored on site at any one time.

### 6.2 Fire Risk Criteria

The fire risk criteria are:

- Risk of ignition
- Risk of non-detection
- Risk of failure to extinguish correctly/quickly

The risk of ignition is lowest where there are no flammable or highly flammable materials, such as liquids or gases present, or where they are present only in small quantities.

The risk of non-detection is highest in an area that is unoccupied/unmonitored for a prolonged period of time, and when there is no automated fire detection system.

The risk of failure to extinguish a fire quickly and fully is dependent on quick detection and appropriate fire extinguishing techniques. If detected promptly and the appropriate corrective action taken, then the fire risk is considered to be Low. If a fire is not likely to be detected quickly, the fire risk is considered to be Medium. The Fire Risk Categories used in this assessment are set out in Table 6.2.

**Table 6.2: Fire Risk Categories**

<i>Low Risk</i>	Where fire is an unlikely risk
<i>Medium Risk</i>	Where fire is a possible risk
<i>High Risk</i>	Where a fire has feasible potential

The Fire Risk is **Low**. The sources of ignition are limited and confined to the electrical equipment, hot works and mobile plant. The building construction incorporates fire prevention and containment measures, and all have Fire Safety Certificates issued by South Dublin County Council.

The buildings are fitted with a fire detection and alarm system, with smoke detectors fitted in the offices.

Site staff have been provided with training on the appropriate response actions in the event of a fire, including tackling the fire with the on-site suppression equipment, if it is safe to do so and the prompt notification of the fire service.

There are three (3 No.) fire hydrants on a 150mm internal fire water main and hose reels and appropriate fire extinguishers are provided at strategic locations in the process buildings.

### 6.3 Environmental Load

The environmental load is an assessment of the likelihood of environmental impacts to surrounding soils, air, surface and groundwater. The severity of the impacts depends on the characteristics and quantities of materials on-site at the time of a fire that have the potential for significant degradation of the receiving environmental media. The main assessment criteria include:

- BOD
- Acute toxicity effects
- Persistence of the pollutant
- Risk of bio-accumulation

The Environmental Load Criteria are set out in Table 6.3.

**Table 6.3 Environmental Load Criteria**

<i>Low Load</i>	Minor potential for degradation of receiving air/soil/water
<i>Medium Load</i>	Potential for minor degradation and/or long term effects to receiving soils/waters
<i>High Load</i>	Potential for major degradation and long term effects to receiving air/soil/water

The potential environmental load is **High** due to the quantity and type of combustible materials and the volume of ecotoxic wastes stored at the site.

#### 6.4 Environmental Risk Criteria

The assessment of the environmental risk presented by a fire is based on a combination of the risk and extent of a fire, the environmental load and the area at risk. The latter includes:

- The extent of air/soil/water polluted,
- Use of receiving air/soil/water (crop production, potable water, livestock, water irrigation, fishing, wetlands/wildlife habitat or public amenity use).

The Environmental Risk Criteria used in this assessment are presented in Table 6.4.

**Table 6.4 Environmental Risk Criteria**

<i>Low Risk</i>	Not a significant risk, protective measures may be required in the long term
<i>Medium Risk</i>	Discernible risk, where proactive remedial works or protective works may be required
<i>High Risk</i>	Extremely hazardous risk of significant environmental degradation and preventative action is required immediately

The risk is **Low** due to a combination of the site design and control measures (site entirely paved, drainage systems in buildings connected to foul sewer, isolation valves on surface water and foul water drainage systems, firewater retention capacity inside each building and appropriately trained site staff).

## 6.5 Fire Outbreak

The most likely location of an outbreak is in the Warehouse where angle grinders are used and the bulk of the transformer oil is stored. Given the design of the adjoining Hazardous Waste Store the likelihood of a fire spreading from the Warehouse to the Store and the adjoining Tanker Bay is Low; however the risk of spreading to the Office is Medium.

## 6.6 Firewater Volumes

For the purpose of this assessment it has been assumed that a fire in the Warehouse, given the quantities of combustible wastes that are stored inside the building and the building size constitutes the worst case fire scenario

The likely firewater volume arising due to a fire is shown in Table 6.5. The Draft Guidance assumes a fire will last 45 minutes; however recent experience indicates that a fire can last for much longer than this. For the purpose of this assessment, it has been assumed that firefighting will continue for 4 hours. This is based on the type and quantities of waste on site at any one time and the existing detection and suppression systems.

**Table 6.5 – Warehouse**

Parameter	Calculation	
Area	1560	m <sup>2</sup>
Containment in the building	240	m <sup>3</sup>
<b>Available Containment</b>	<b>240</b>	<b>m<sup>3</sup></b>
Tender Vehicle Capacity x 4	10.92	m <sup>3</sup>
Duration of Fire	12	hours
Water Hydrant Delivery -20 litres/second/hydrant (2 No)	576	m <sup>3</sup> /hour
Firewater (10.92m <sup>3</sup> + 576m <sup>3</sup> )	<b>586.92</b>	m <sup>3</sup>
<b>Total To be Contained</b>	<b>586.92</b>	<b>m<sup>3</sup></b>

A fire during a 50mm rainfall event would generate 838.92m<sup>3</sup> of firewater. The existing containment inside the building is 240m<sup>3</sup>, leaving a short-fall of 598.92m<sup>3</sup>.

## 6.7 Destination

In the event of a fire the water will enter the sump in the Warehouse. The isolation valves will be closed to prevent the entry to the foul sewer, which will result in the water backing up on to the floor of the building.

Once the level exceeds the ramps at the doorways the water will overflow into the yard, where it will flow into the surface water drains that connect to the attenuation tank. The valve on the



outlet from the attenuation tank will be closed to retain the water in the tank. If the tank capacity is exceeded the firewater could back up into the yard.

## 6.8 Source-Pathway-Receptor Risk Assessment

Risk assessment is a scientific mechanism, which allows the various hazards, pathways and receptors present at a site to be evaluated. It uses a systematic and progressive approach in identifying the risks at a site, with the aim of establishing a pollutant linkage from a hazard via a pathway to a receptor. If a pathway does not exist linking the hazard to a receptor, then the risk is absent.

### *Source*

The source is contaminated firewater run-off

### *Pathways*

The existing pathways by which contaminated firewater can migrate from the site are;

- Surface water drains,
- Foul water drains
- Overland flow

### *Receptors*

The potential receptors are:-

- Irish Water WWTP
- Adjoining lots

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## 6.9 Retention Requirement

A fire will generate 586.92 m<sup>3</sup> of runoff. The Draft Guidance requires consideration of a significant rainfall event on the day of the fire. The Draft Guidance specifies a rainfall event of at least 50mm over the entire area served by the surface water drainage system. The volume of water generated by a rainfall event of this magnitude is 250m<sup>3</sup> (area served by drainage system 5000m<sup>2</sup> x 0.05m).

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## 7. RETENTION CAPACITY

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### 7.1 Current Capacity

The Warehouse is provided with a reinforced containment kerb around the entire building with ramps at the entrances providing a retention capacity of 235m<sup>3</sup> and there is a 5m<sup>3</sup> sealed sump in the floor. The floor of each compartment in the Hazardous Waste Store drains into gullies that connect to an underground 300m<sup>3</sup> tank. The Tanker Bays are contained by retaining kerb and floors slope to a sump providing a retention capacity of 31m<sup>3</sup>, with an overflow capacity to the adjoining Hazardous Waste Store.

In the event firewater escapes from the Warehouse into the yard it can be pumped from one of the gullies to the Hazardous Waste Store. Once the underground tank is full the run-off will be allowed to enter the stormwater attenuation tank, which has a retention capacity of 158m<sup>3</sup>. There is a continuous outflow from the tank at a controlled rate, which means that on average 90% of storage capacity is always available.

There is a 100mm perimeter kerb around the paved open yards (2,700m<sup>3</sup>), which prevents overland flow onto the adjoining properties and for the purpose of this assessment it has been assumed the average depth of water retained will be 25 mm. This would contain 69m<sup>3</sup>; however it has been conservatively assumed that this will not be available.

The existing retention capacity is

Warehouse	240m <sup>3</sup>
Hazardous Waste Store	300m <sup>3</sup>
Tanker Bay	31m <sup>3</sup>
Stormwater Attenuation Tank	142.2m <sup>3</sup>
Total	713.2m <sup>3</sup>

The total is 126.3m<sup>3</sup> more than the 586.92 m<sup>3</sup> that could be generated during a fire at the Warehouse.

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## 8. CONCLUSIONS

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### 8.1 Conclusions

The potential fire load is High due to the volume of flammable materials stored on site. The risk of fire is Low due to the prevention measures implemented by RILTA. The environmental load is High due to the quantities of hazardous materials on site. The environmental risk is Low due to a combination of the site layout, construction and surface water and foul water drainage systems.

The maximum volume of firewater generated that would require retention as 587m<sup>3</sup>. The current retention capacity is 713 m<sup>3</sup> and there is no need for additional retention capacity. In the highly unlikely scenario that the fire occurs at the same time as a 50mm rain event the RILTA vacuum tankers, which have a capacity of 120m<sup>3</sup>, can be deployed during the incident to tanker water from the site to the RILTA's facility on Grant's Drive where it will be temporarily stored in that installation's retention facility.

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APPENDIX 1

Emergency Response Procedure

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# RILTA ENVIRONMENTAL

## ENVIRONMENT, HEALTH AND SAFETY

### EMERGENCY RESPONSE PLAN

Location:

**Unit 14A1 Grants Road, Greenogue Business Park,  
Rathcoole, Co Dublin**

Waste Licence No.: **W0185-01**

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Revision No.	Revision Date:
EHS-ERP-0116	DRAFT

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## Definitions

### Emergency Situation

An emergency situation is one that poses a direct or indirect danger to persons or to the environment. This includes but is not limited to the following:

- Fire
- Explosion
- Release of chemical(s) to surface water (drain or river)
- Release of flammable (or reactive) chemical(s) to sewer
- Spill of large volumes of chemical(s)
- Vehicle-person impact
- Vehicle-vehicle impact
- Excavator turnover
- Flooding (from river or mains rupture)
- Discovery of body or body part

### Relevant Person

A relevant person in the context of this document is a person who has a specific part to play (i.e. coordinate the event, shut off a valve, guide people to a place of safety, etc.) in the response to the emergency situation.

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## Introduction

The environment, health and safety emergency response plan (EHS-RP) is a document that details

- What to do
- Who does it and
- How to do it

in an emergency situation.

It is a requirement of the waste licence for the facility that a detailed plan be established, documented and tested (via mock exercises). The plan must be reviewed annually or after testing of the plan and that all relevant persons become familiar with the contents of the plan.

## Upon Discovery of an Emergency Situation

Upon discovery of an emergency situation the person must take the following steps:

1. Raise the alarm. This can be done by activating the break-glass units to activate the fire alarm.
2. Evacuate the area (alert those around the person of the situation).

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## Roles and Responsibilities

### Incident Controller

#### Role

The designated incident controller is the Facility Manager (as of November 2016 this is Mr. Colm Hussey).

The back-up incident controller is the General Manager (as of November 2016 this is Mr. Seàn Cotter).

#### Responsibility

- Isolate Facility
  - Close all gas valves (Qty 2) to buildings – see Attachment No.01.
  - Close all valves (Qty 2) to prevent discharge to sewer – see Attachment No.02.
  - Close all doors to buildings (internal and external industrial doors).
  - Prevent all vehicles (except emergency response) from entering the facility.
  - Ensure that the main gate to the facility remains open during the emergency.
  
- Provide Instruction
  - Instruct Reception to contact the emergency services (Dial 999 or 112).
  - Instruct Fire Marshals to conduct orderly evacuation of the site.
  - Instruct the emergency services on the locations of all on-site hazardous materials/substances (i.e. danger points) – see Attachment No.08.
  - Instruct First Aiders to provide first aid where required.
  - Instruct Supervisors and Managers to manage traffic outside the facility while staff are at the assembly point.
  
- Liaise
  - Act as the liaison between the company and the emergency services.
  - Hand over control to the emergency services once they are present on site. Inform the emergency services of the situation and what measures have been taken.
  - Coordinate communications with all neighbouring facilities to ensure that they are aware of the situation and are ready to evacuate if necessary.

## Manager/Supervisor

### Role

The people currently (as of November 2016) in these roles are:

- Mr. Jim Haberlin

### Responsibility

- On hearing the alarm:
  - Instruct all persons to evacuate the facility and assemble at the designated assembly point (on footpath outside main entrance gate).
  - Carry out a search of their areas to ensure there is no one left behind. Closing (NOT locking) all doors as they exit each area.
  - Liaise with the Incident Controller and carry out functions as instructed.

### Additional Functions

Mr. Jim Haberlin

- Close the sewer drain close valve (normal position is open) – see Attachment No.02.
- Close the surface water drain valve (normal position is open) – see Attachment No.02.
- Close the shutter (BY HAND) on the drain in the loading bay (normal position is closed) – see Attachment No.02.

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## Receptionist

### Role

The person currently (as of November 2016) in this role is:

- Ms. Barbara Leahy

### Responsibility

- Contact the Incident Controller and confirm the emergency.
- Contact the Emergency Services (Dial 999 or 112), EVEN IF ANOTHER CALL HAS BEEN MADE and inform them of the situation.

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## Weighbridge Operator

### Role

The person currently (as of November 2016) in this role is:

- Mr. Jim Haberlin

### Responsibility

- Provide a list of all waste material that is on site and their locations.
- Provide this list to the Incident Controller.

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## Fire Marshals

### Role

The people currently (as of November 2016) in these roles are:

- Mr. Jim Haberlin
- Mr. Adrian Banut

### Responsibility

- On hearing the alarm:
  - Begin evacuating their designated area.
- Make contact with the Incident Controller.
- Carry out roll call at the designated assembly point.
- Instruct all persons to remain at the designated assembly point and NOT to re-enter the building until the all clear is given by the Incident Controller.

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## First Aiders

### Role

The people currently (as of November 2016) in these roles are:

- Helen Ginty
- Gregory Fox
- Tim McMahon
- Sarah Healy
- Shane Moore
- Robert Walsh
- Joseph Stephenson

### Responsibility

- On hearing the alarm:
  - Gather the first aid kit (if close by) and proceed to the designated assembly point.
- Where first aid is provided, inform the emergency services/paramedics of any treatment provided.
  - Log all treatment that has been provided to persons.
- If medical assistance is not required, assist the fire Wardens with roll call and crowd control.

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## Summary Information for General Staff

### Upon Hearing the Alarm:

- Leave what you are doing and begin evacuating the building. Do not wait to see if others are evacuating or if it is a false alarm.

Please note that alarm testing will be notified to all staff in advance of the testing.

- If you are driving a vehicle, park and secure the vehicle so that it will not block the path of a fire engine.
- Your assembly point is on the footpath outside the main entrance gate.
- Remain there until you are instructed otherwise (do NOT re-enter the building).
- Inform the fire marshals at the assembly point if any members of staff are missing.

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## Emergency Contact Details

### Normal Working Hours (08:00 to 17:00)

Contact Person	Contact Number
Rilta 24Hr Emergency Number	01 401 80 00
Incident Controller/Facility Manager – Mr. Colm Hussey	087 917 62 64
General Manager – Mr. Seàn Cotter	087 250 50 04
Rilta Company Doctor – Dr. Patrick Feeney	01 288 58 51
Emergency Services (Police/Fire/Ambulance/Gardai)	112 or 999
Gardai - Rathcoole	01 666 79 00
Environmental Protection Agency (EPA) - Dublin	01 268 01 00
Environmental Protection Agency (EPA) - Wexford	053 91 60 600
South Dublin County Council (SDCC) – Water Pollution Section	01 414 92 75
ESB	1850 372 999
Inland Fisheries Board Ireland (IFB)	1890 34 74 24

### Out-of Hours (17:00 to 08:00)

Contact Person	Contact Number
Rilta 24Hr Emergency Number	01 401 80 00
Incident Controller/Facility Manager – Mr. Colm Hussey	087 917 62 64
General Manager – Mr. Seàn Cotter	087 250 50 04
Rilta Company Doctor – Dr. Patrick Feeney	01 288 58 51
Emergency Services (Police/Fire/Ambulance/Gardai)	112 or 999
Gardai - Rathcoole	01 666 79 00
Environmental Protection Agency (EPA) - Wexford	053 91 60 600
South Dublin County Council (SDCC) – Water Pollution Section	01 414 92 75
ESB	1850 372 999
Inland Fisheries Board Ireland (IFB)	1890 34 74 24

## Incident Notification

### Environmental Protection Agency (EPA)

Where there is a significant emergency situation relating to the waste licence or the operation of the facility, the EPA must be notified as soon as possible.

They must be notified as soon as possible by telephone **and** also through the EDEN internet portal:

- Telephone
  - Normal Work Hours – 01 268 01 00
  - Out of Hours – 053 91 60 600
- EPA Website via the EDEN function
  - <https://www.edenireland.ie/>

### Health and Safety Authority (HSA)

An accident/incident resulting in serious injury, death or amputation must be reported to the HSA as soon as possible after the event has occurred.

This is done by logging on to the HSA's website at:

- <https://webapps.hsa.ie/Account/Login?ReturnUrl=%2f>

### South Dublin County Council (SDCC)

Where there is a significant emergency situation involving a release to sewer or surface water (i.e. river) SDCC must be notified as soon as possible.

This is done by calling the SDCC Water Pollution section on:

- 01 414 92 75

They may also be emailed on:

- [waterpollution@sdublincoco.ie](mailto:waterpollution@sdublincoco.ie)

### Inland Fisheries Board (IFB)

Where there is a significant emergency situation involving a release to surface water (i.e. river) the IFB must be notified as soon as possible.

This is done by calling the IFB on:

- 1890 34 74 24 (24Hr Number)

## Gardai

Where there is a significant fire, death, significant injury, amputation or where a person requires an ambulance, the Emergency Service must be notified as soon as possible.

This is done by calling the following numbers:

- Emergency Services (Police/Fire/Ambulance/Gardai)
  - 112 or 999

It may also be necessary to contact the local Gardai in Rathcoole. They can be contacted on:

- 01 666 79 00

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## Emergency Response Equipment

A variety of emergency response equipment is provided and is available throughout the site.

### Personal Protective Equipment (PPE)

PPE is available from the warehouse Office.

The following PPE will be required for managing a significant spill of transformer (non-PBC) oil:

- Safety goggles.
- Disposable coveralls suitable for working with a variety of chemicals (i.e. Lakeland Chemax 3 Coverall).
- Nitrile gauntlet gloves.
- Safety wellingtons.
- High visibility vest.

Due to the nature of the site, there may be contact with PCB oils. Where this is a possibility, the following PPE will be required:

- Full face respirator mask with ABEK Combination Filters.
- Disposable coveralls suitable for working with a variety of chemicals (i.e. Lakeland Chemax 3 Coverall).
- Nitrile gauntlet gloves.
- Safety wellingtons.
- High visibility vest.

### Emergency Shower-Eyewash Units

These are useful for the rinsing/flushing of most chemicals from the skin and eyes.

Emergency drench showers (cold water) and attached eyewash flush units (cold water) are available on site. For the locations of these units see Attachment No.06.

For drench showers to be effective, clothing needs to be removed first as the clothing can contain the absorbed chemical resulting in continuing exposure. In times of extreme emergency utilise emergency shower fully clothed. Flushing should continue for 3 to 5 minutes or longer if necessary.

To use the eyewash units that are attached to the emergency shower units, switch on the water and place the eyes in direct contact with the water. Flushing should continue for 3 to 5 minutes or longer if necessary.

Please note that the affected person may be dazed and in shock and will need assistance.

### Chemical Spill Kits/Oil Absorbent Stocks

The type of chemical spill that is expected in this location is an oil spill onto a hard (wet or dry) surface. It is because of this that fire retardant oil dry/absorbent granules are used as a means to quickly contain the liquid.

Note the wind direction and stay upwind. If this cannot be done, wear a full face respirator combination filter. The respirator and filters are only required where the chemical involved evokes a strong odour or gas.

Oil dry/absorbent granule stocks are available for use throughout the site. For their locations, see Attachment No.05.

The oil dry/absorbent granules are used to absorb the spilled chemical and to prevent it from spreading.

1. Identify the chemical that is involved
2. Put on appropriate PPE
3. Stop the source (if possible) (i.e. turnoff a valve, right a drum, etc.)
4. Contain the leading edge (i.e. where the liquid is flowing) by placing absorbent material approximately 1m ahead of the flowing liquid
5. Protect all vulnerable receptors (i.e. people, drains, rivers, etc.) and prevent traffic and people from moving through the spill
6. Clean up and dispose of the material in an appropriate manner

### **First Aid Kits**

There are a number of first aiders located throughout the site. They are trained as QQI Level 5 occupational first aiders.

First aid kits are available on site. For their locations, see Attachment No.06.

### **Fire Hydrants**

There are a number of fire hydrants (Qty 2) located throughout the site. These are part of the mains water system. For their locations, see Attachment No.04.

There are hoses and connections located in a red, fence mounted unit in the main yard.

During an emergency it is likely that the fire service will need to access these units. These areas must be kept clear at all times. Until the fire services arrive, the fire hydrants may be used to cool containers, vehicles or buildings (i.e. to help stop fire spreading or containers/vehicles from exploding or catching fire).

Water and electricity do not mix, use caution when directing water spray.

Mains water will be under pressure, use caution when using the fire hoses.

## Site Containment

### Gas Valves

It may be necessary to stop the flow of gas to the site. This is done by closing the gas valves (Qty 1 outside, Qty 1 inside at base of office stairs in entrance hall) that are located throughout the site. For their locations see Attachment No.01.

### Sewer and Surface Water Isolation Valves

The sewer and surface water drainage lines are interconnected on this site. They join and merge into the sewer line and then once joined exit the site at the main entrance, where it then joins the business park sewer line.

It may be necessary to stop liquid (non-domestic) from discharging to main sewer from these drainage lines. There are a number of drain gate valves (Qty 4) that are used to seal the drains and prevent liquid from leaving the site via this pipe network. For their locations see Attachment No.02.

These drain gate valves are closed by pressing one of two sets of emergency stop buttons. These buttons are located inside and outside of the buildings. Both sets of buttons do the same thing. One set is located in the 'Comms Room', inside on the ground floor of the office block. The second set is located on the wall of the warehouse building, right hand side of the roller shutter door that leads into the yard.

Both sets of buttons are emergency stop only. These drain closure valves can only be reset (i.e. opened again to allow liquid to flow) by going into the manhole that the valve in question is in and re-opening the valve via the hand-wheel.

The valve that drains the delivery dock area in the yard is a manual close valve and works by sliding a flat gate into place. There is no emergency stop button for this unit.

The valve that stops liquid from the main yard being pumped to sewer is marked as 'YARD VALVE' on the emergency stop control panels.

The valve that stops liquid from the underground attenuation tank (under the car parking spaces at the front of the site) and the drainage from the car parking areas being pumped to sewer, is marked as 'SURFACE VALVE' on the emergency stop control panels.

The section marked 'VALVE 3' on the control panel controls a pumping station (in the car parking area at the front of the site) that used to pump liquid from the floor of the warehouse (during the Cara Environmental days) to sewer. This is no longer in use and is powered off in the manhole that the pumping station sits in.

## Product and Waste Material Inventory

The facility deals with the safe decommissioning and disposal of transformers which contain oil. As a result of this, the only significant volumes of chemicals on site are transformer and heavy fuel oils.

See Attachment No.08 for their storage locations.

## Firewater

Firewater may be generated on site. This may be as the result of the water or foam used by the emergency services or the in-house emergency teams. This water may become contaminated with any of the chemicals that are on site. As a result, it must be contained during the event and appropriately treated after the event.

## Containment

Firewater generated on site can be contained in the loading bay dock area within the main yard. This is an area lower than the main yard and is at an incline which will assist in directing liquid towards it. This is bund tested (every three years, last tested in 2016) and confirmed to hold liquid.

Firewater may also be contained in the storage tanks that are located under Storage Bay 1, Storage Bay 2 and Storage Bay 3.

It may also be suitable to utilise the Rilta fleet of tankers to contain firewater generated on-site or to utilise them to maintain safe levels within the loading bay dock area or the underground tanks under Bay 1, 2 and 3.

## Disposal

The firewater liquid must be safely disposed of. Its disposal location must be agreed in advance with the environmental protection agency (EPA).

It must be noted here that after a significant emergency, the site may not be capable of carrying out any treatment process and all firewater generated on-site may need to be transported to another treatment facility. Use of such a treatment facility must be agreed in advance with the EPA.



## Training and Mock Exercise(s)

All relevant persons must be trained so that they are familiar with the overall plan and their role within this plan.

This training must take place at least once per year.

Mock exercises are used to determine the effectiveness of the plan and to identify what needs to be changed so as to make it a more robust and effective plan.

Mock exercises must take place at least once per year.

## Fighting Fires

Fires may only be tackled by in-house personnel, during the early stages of the fire. Portable fire extinguishers will be used to fight the fire. These have a limited capacity and will last no longer than 2 minutes per unit.

Once the fire has taken hold, no further fire fighting by in-house staff should take place. The emergency services must deal with the fire from this point onwards.

1. Use a fire extinguisher only if you are trained to do so
2. Foam should not be used on live electrical equipment
3. Pull the pin on the handle of the extinguisher
4. Aim the hose of the extinguisher at the **BASE** of the fire
5. Press the handle and spray from side to side

Only fight the fire with your back to the exit. This is so that you can easily escape, away from the fire.

Stay up-wind of the fire.

Be aware of your surroundings (i.e. what can harm you in the immediate area).

## Scenarios

### Scenario No.01 – Fire

#### Expected Effects

##### Office Block

- Electrical fire.
- Equipment overheating (i.e. kitchen equipment, under desk heaters, etc.).
- Room contents catch fire.
- Heavy smoke generated.
- Fire spreads due to open doors/doors not correctly sealing with door frame.
- Gas main ignites rupturing gas line.

##### Warehouse

- Fire from use of angle grinder.
- Electrical fire.
- Equipment overheating.
- Debris catches fire.
- Fire spreads to oil storage areas.
- IBC's of oil catch fire and disintegrate releasing contents and spreading fire to rest of warehouse.
- Dense smoke generated.
- Porto cabins catch fire.

##### Storage Bay 1, Storage Bay 2, Storage Bay 3

- Electrical fire.
- Debris catches fire.
- IBC's/other containers and packaging catch fire igniting adjacent IBC's/packaging.
- Dense smoke generated.
- Intense heat generated due to confined space. Heat ignites adjacent storage buildings.

##### Large Yard Shed

- Electrical fire.
- Debris catches fire.
- IBC's/other containers and packaging catch fire igniting adjacent IBC's/packaging.
- Dense smoke generated.
- Intense heat generated due to confined space. Heat ignites adjacent storage buildings.

##### Yard

- Vehicle engine overheating.
- Vehicle engulfed in fire.
- Dense smoke generated.
- Fuel tank explodes spreading fire to warehouse and storage buildings.
- Vehicle load is released, crashing to ground.

### During this Emergency Situation

- Activate fire alarm and evacuate site.
- Confirm that emergency services have been contacted.
- Fight fire if in early stages (i.e. if a fire extinguisher can extinguish it).
- Shut down all valves to sewer and surface water (see Attachment No.02).
- Shut down all gas valves (see Attachment No.01).
- Contact the adjacent neighbouring properties and alert them to prepare for evacuation.
- Contact the relevant external agencies (see Emergency Contacts Details section).

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## Scenario No.02 – PCB Oil Contamination (Person/Equipment/Structures)

### Expected Effects

#### *Warehouse, Storage Bay 1, Storage Bay 2, Storage Bay 3, Large Yard Shed, Yard*

- Release of PCB contaminated oil onto person. Chemical contamination of skin, eyes and clothing.
- Release of PCB contaminated oil onto equipment.
- Slippy equipment/difficult to hold.
- Release of PCB contaminated oil onto structures (including floor surfaces).
- Slippy surfaces.

### During this Emergency Situation

- Move offending structure (i.e. transformer/IBC) to a bunded unit.
- If necessary, shut down all valves to sewer and surface water (see Attachment No.02).
- Decontaminate equipment and structures. Water/other fluid use to clean the area must be treated as PCB contaminated waste.
- Test surfaces for traces of PCB contamination and confirm that they are now free of PCB contamination.
- Decontaminate person, remove clothing/section of clothing from exposed person(s) and begin thorough washing of the exposed area.
- Access medical attention for exposed person(s).
- Contact the relevant external agencies (see Emergency Contacts Details section).

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## Scenario No.03 – Oil Spill/IBC Rupture

### Expected Effects

#### Office Block

- With sewer line closed, toilets may back up.

#### Warehouse

- Oily liquid released onto ground.
- Oil mist may be generated.
- Potential for a flammable atmosphere to exist as the oil spreads on the ground.
- Slip hazard.
- Contamination of equipment.
- Slippy equipment/difficult to hold.

#### Storage Bay 1, Bay 2, Bay 3

- Oily liquid released onto ground.
- Oil mist may be generated.
- Potential for a flammable atmosphere to exist as the oil spreads on the ground.
- Slip hazard.
- Contamination of equipment.
- Slippy equipment/difficult to hold.
- Oil drains into under floor sump.

#### Large Yard Shed

- Oily liquid released onto ground.
- Oil mist may be generated.
- Potential for a flammable atmosphere to exist as the oil spreads on the ground.
- Slip hazard.
- Contamination of equipment.
- Slippy equipment/difficult to hold.
- Oil leaking into yard and potentially to drainage system.

### During this Emergency Situation

- Direct the containment of the oil utilising the oil dry/absorbent granules.
- Shut down all valves to sewer and surface water (see Attachment No.02).
- Partial or full evacuation of the site may be required.
- If necessary, confirm that emergency services have been contacted.
- If necessary, fight fire if in early stages (i.e. if a fire extinguisher can extinguish it).
- If necessary, contact the adjacent neighbouring properties and alert them to prepare for evacuation.
- If necessary, contact the relevant external agencies (see Emergency Contacts Details section).

## Scenario No.03 – Crane Turnover

### Expected Effects

#### Office Block

- Demolition of part of building, including shattering of windows.

#### Warehouse

- Demolition of part of building, including shattering of windows.

#### Storage Bay 1

- Demolition of part of building, including shattering of windows.

#### Storage Bay 2

- Demolition of part of building, including shattering of windows.

#### Storage Bay 3

- Demolition of part of building, including shattering of windows.

#### Large Yard Shed

- Demolition of part of building, including shattering of windows.

#### Yard

- Crushing/ severe injury of persons.
- Crushing of equipment.
- Blocking of entrance/exits.
- Demolition of part of building, including shattering of windows.
- Transformer oil spill.
- Crane fuel (diesel/petrol) spill.

### During this Emergency Situation

- Contact the emergency services (i.e. ambulance and fire brigade).
- Contact the in-house occupational first aiders and request their assistance.
- Request from the emergency service operator, details of what first aid can be applied until the arrival of the ambulance.
- Partial or full closure of the site may be required.
- Oil/fuel containment may be required – utilise stocks of oil dry/absorbent granules.
- Contact the relevant external agencies (see Emergency Contacts Details section) and provide details of the situation.

## Scenario No.04 – Vehicle Impact (Vehicle-Vehicle/Vehicle-Person)

### Expected Effects

#### Office Block

- None expected.

#### Warehouse

- Injury (bruises, cuts, muscle/ligament/joint damage, crush, amputation,) to person.
- Death(s).
- Damage to property/vehicle.
- Oil leak (transformers/IBC's).
- Vehicle fuel leak.
- Equipment fall from height.
- Containers fall from height.
- Collapse of racking.

#### Storage Bay 1, Bay 2, Bay 3, Large Yard Shed

- Injury (bruises, cuts, muscle/ligament/joint damage, crush, amputation,) to person.
- Death(s).
- Damage to property/vehicle.
- Oil leak (transformers/IBC's).
- Vehicle fuel leak.
- Equipment fall from height.
- Containers fall from height.
- Collapse of racking.

#### Yard

- Injury (bruises, cuts, muscle/ligament/joint damage, crush, amputation,) to person.
- Death(s).
- Damage to property/vehicle.
- Oil leak (transformers/IBC's).
- Vehicle fuel leak.
- Equipment fall from height.
- Containers fall from height.

### During this Emergency Situation

- Confirm if medical assistance from paramedics is required.
- Contact the emergency services (i.e. ambulance, fire brigade, Gardai).
- Contact the in-house occupational first aiders and request their assistance.
- Request from the emergency service operator, details of what first aid can be applied until the arrival of the ambulance.
- Oil/fuel containment may be required – utilise stocks of oil dry/absorbent granules. Fire hazard may exist.
- May need to secure any at height equipment or racking that was impacted.
- Partial or full closure of the site may be required.
- Contact the relevant external agencies (see Emergency Contacts Details section) and provide details of the situation.

## Scenario No.05 – Natural Gas Leak

### Expected Effects

#### Office Block

- Flammable/explosive atmosphere may exist.
- Fire/explosion when switches are switched on/off.
- Possibility of asphyxiation/unconsciousness in confined spaces or in upper areas of the building (e.g. top of stairwell).
- Natural gas (methane) is lighter than air and is expected to rise.

#### Warehouse

- Warehouse is not gas heated however possibility exists that leaking gas may make its way to the warehouse location or become trapped in the hallway leading to the warehouse.

#### Storage Bay 1, Bay 2, Bay 3, Large Yard Shed

- None-expected.

#### Front Car Parking Area

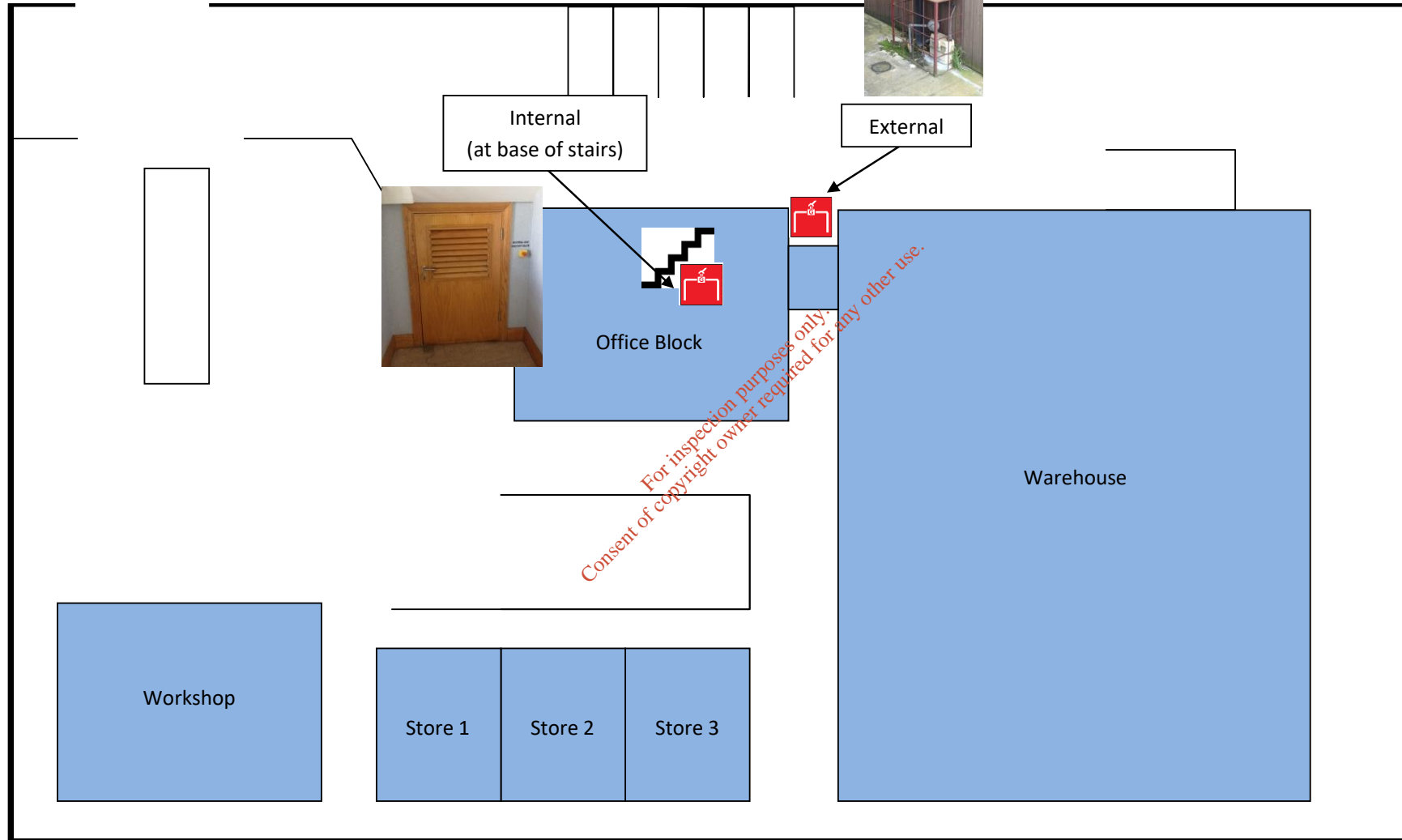
- Leaking gas may be ignited by passing/parked vehicle (e.g. hot exhaust/engine).
- Natural gas (methane) is lighter than air and is expected to rise and be diluted in open air.

### During this Emergency Situation

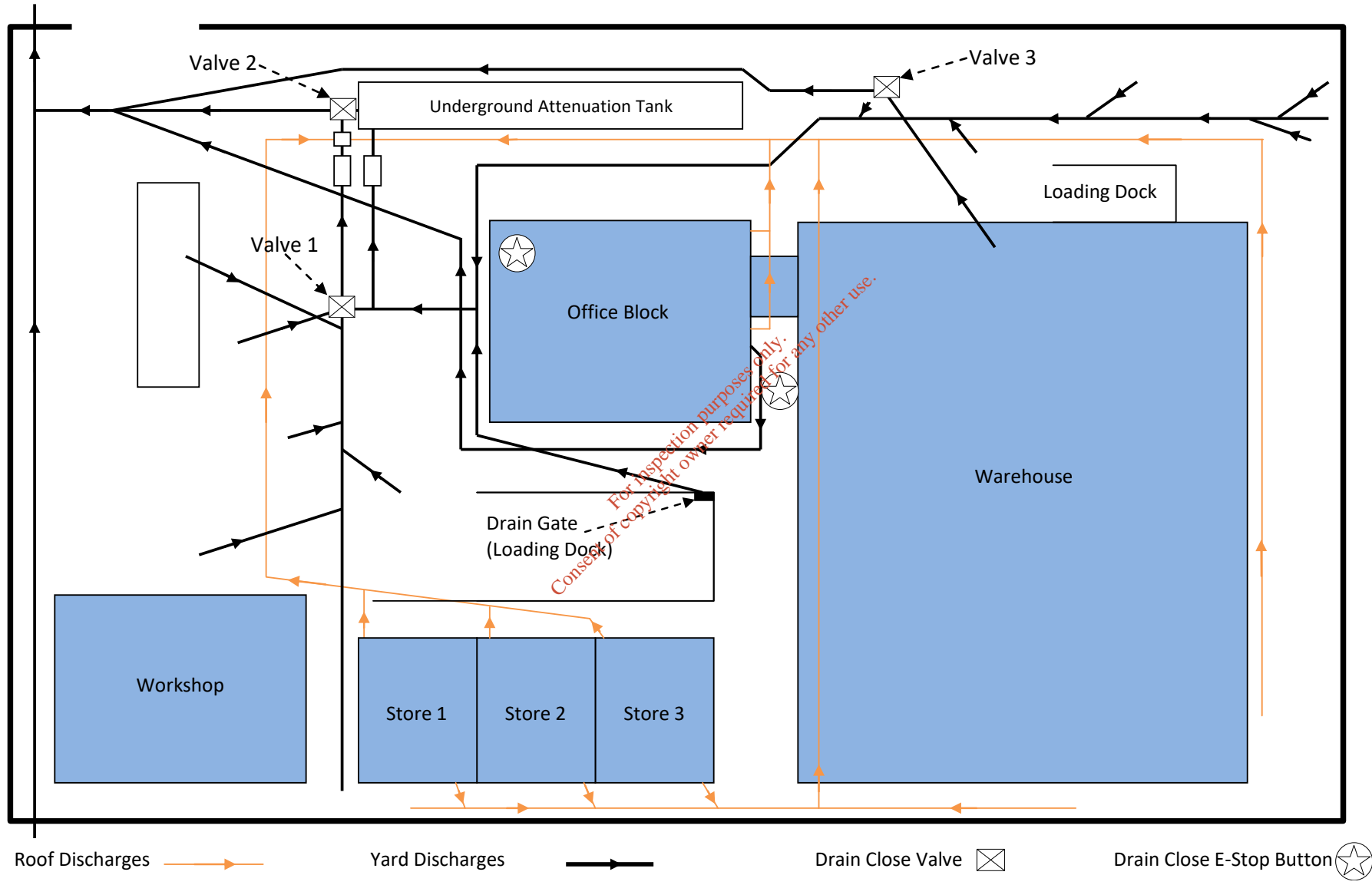
- Shut down all gas valves (see Attachment No.01).
- Ventilate the area(s).
- Activate fire alarm and evacuate site.
- Confirm that the emergency services are required.
- Contact the emergency services.
- Fight fire if in early stages (i.e. if a fire extinguisher can extinguish it).
- Shut down all valves to sewer and surface water (see Attachment No.02).
- Contact the adjacent neighbouring properties and alert them to prepare for evacuation.
- Contact the relevant external agencies (see Emergency Contacts Details section).



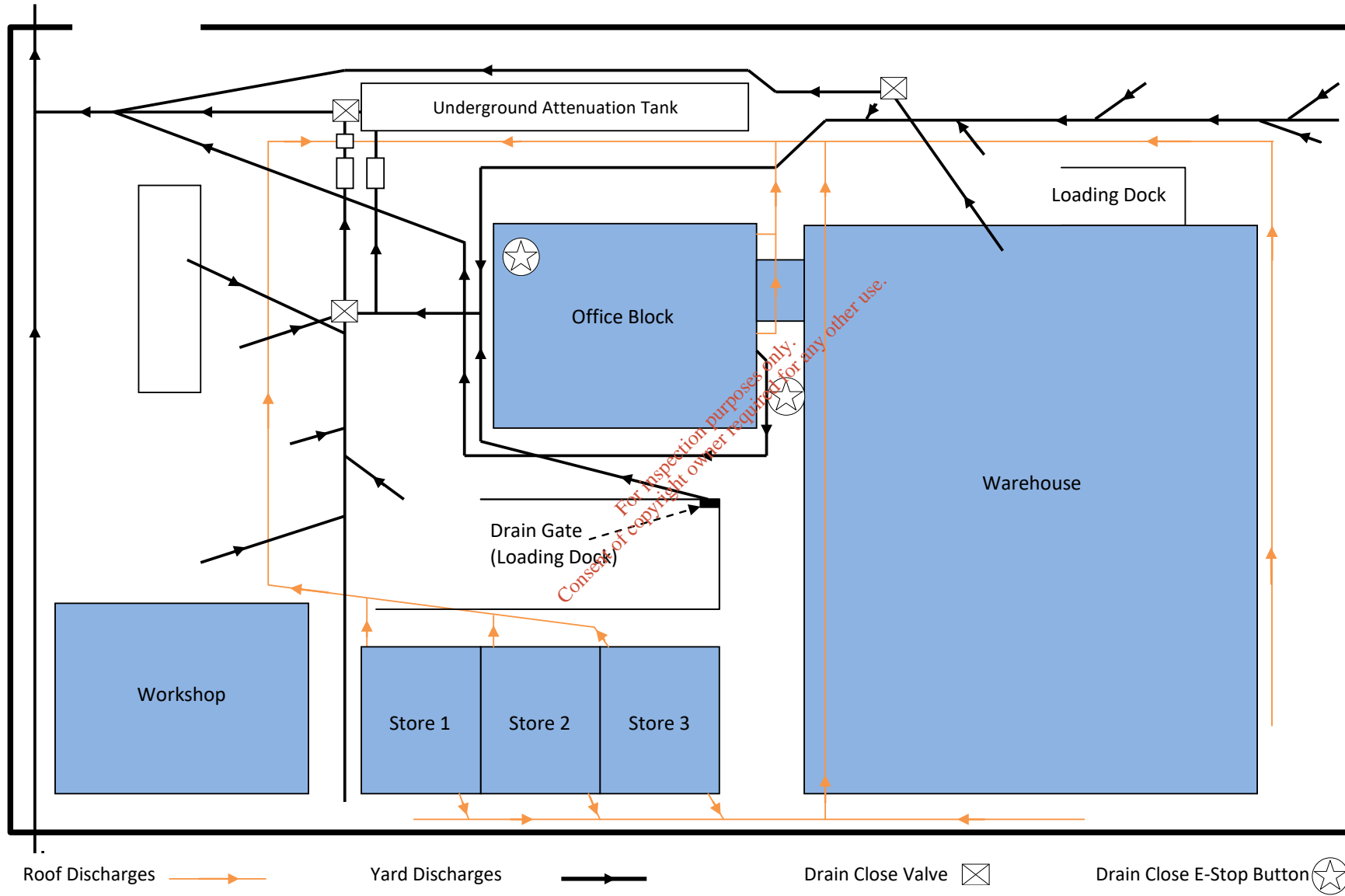
### Attachment No.01 – Location of Gas Shut-off Valves



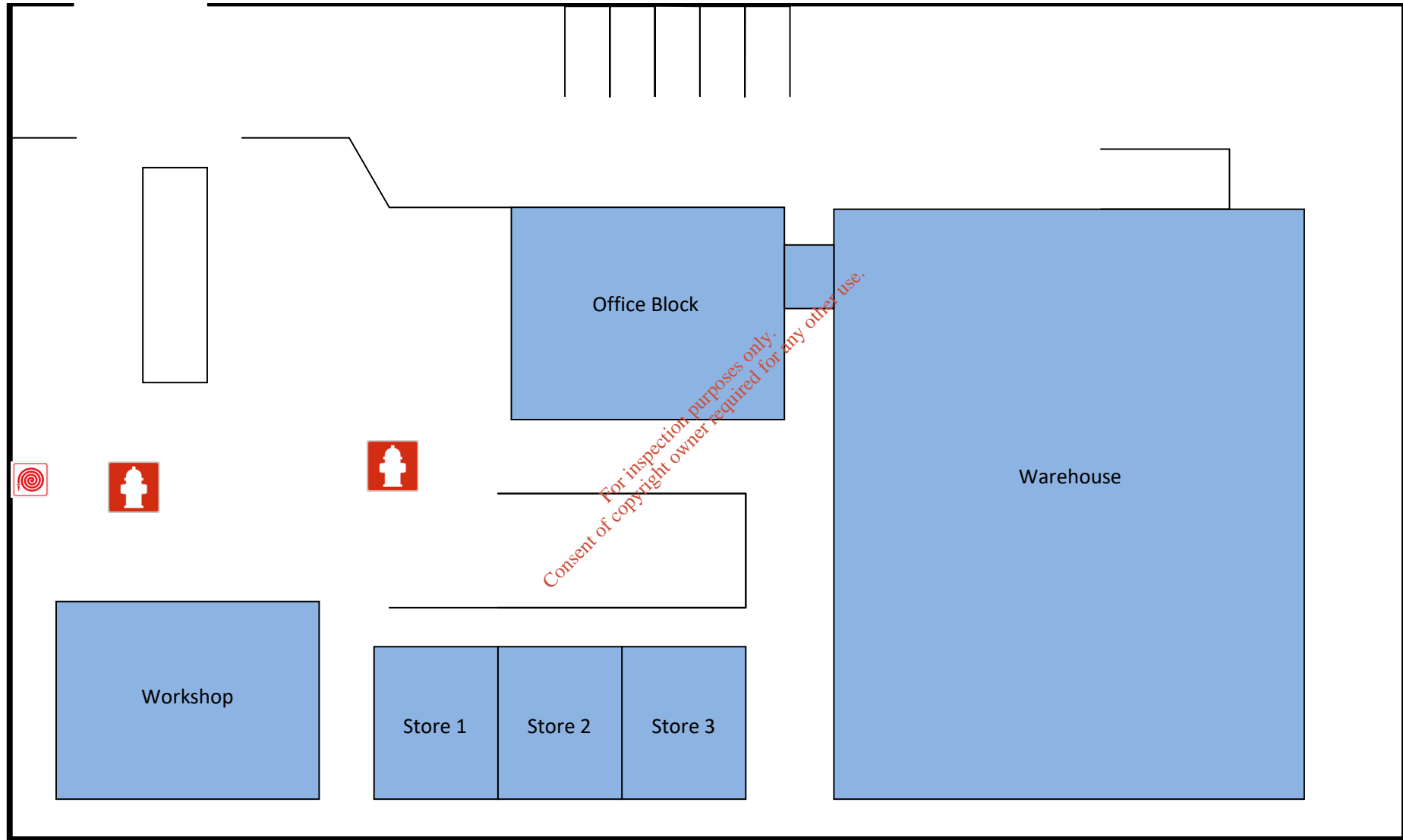
Attachment No.02 – Location of Drain (surface water and sewer) Isolation Valves



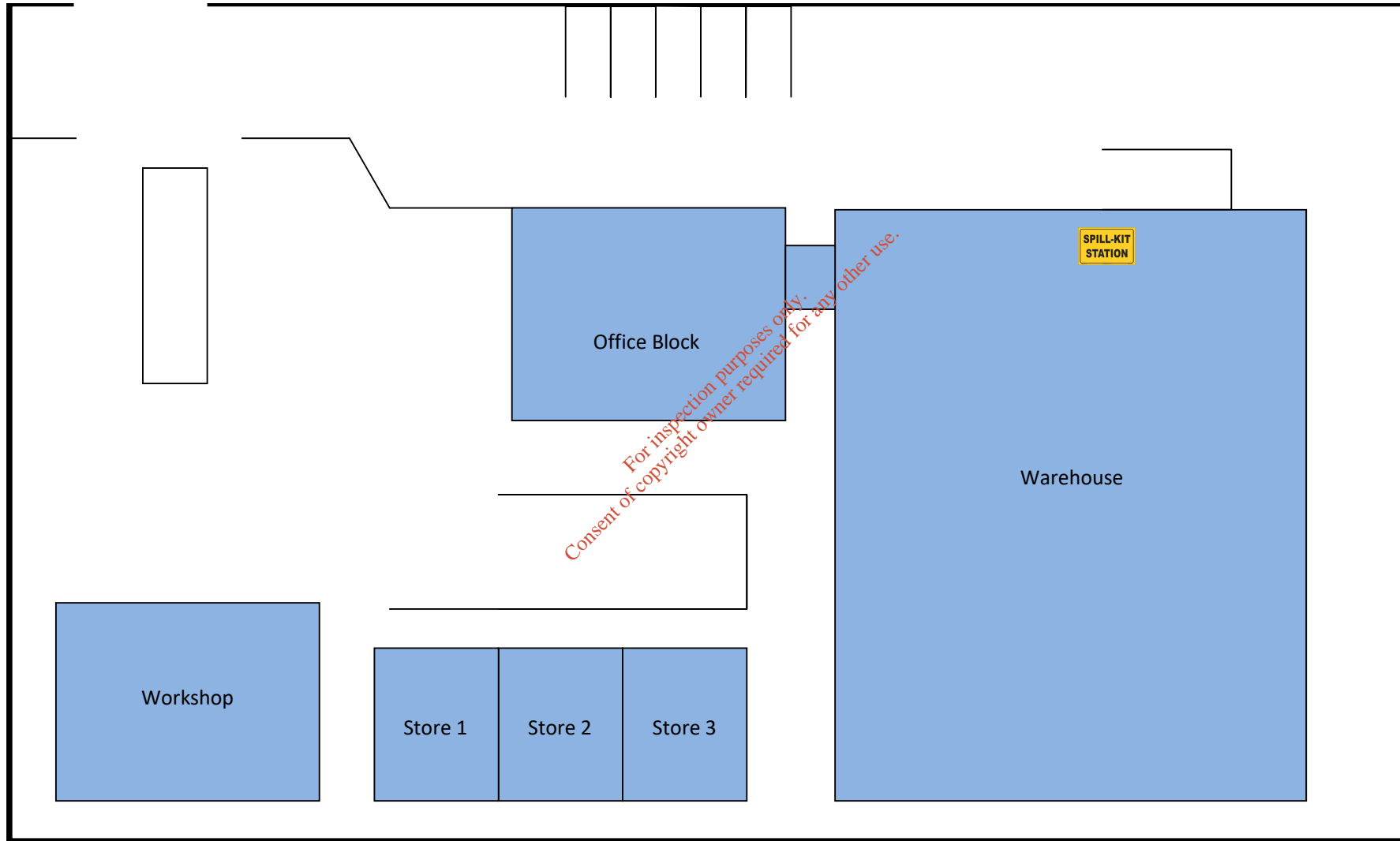
### Attachment No.03 – Drainage Map



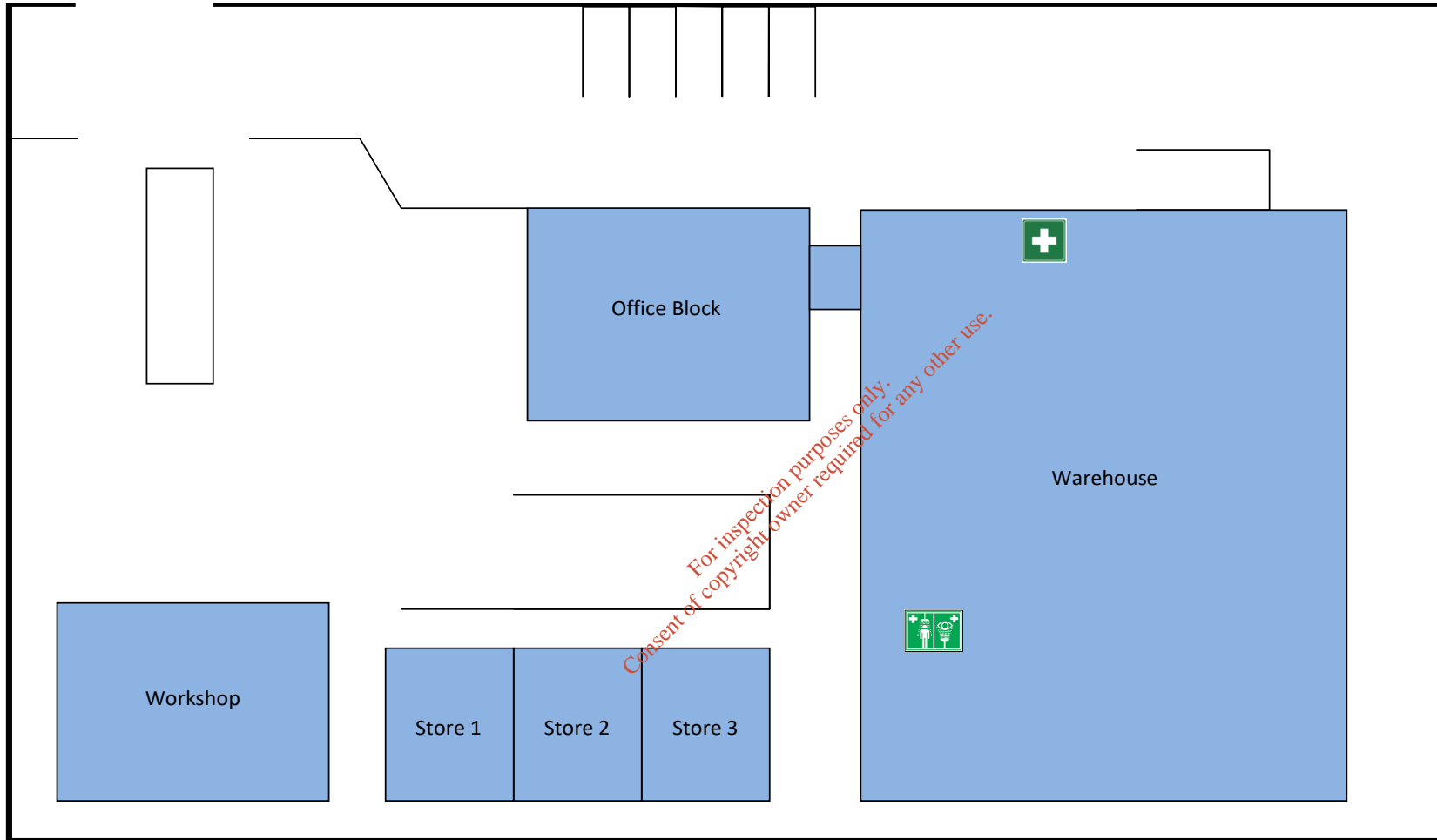
### Attachment No.04 – Location of Fire Hydrants and Fire Hoses



### Attachment No.05 – Location of Chemical Spill Containment Equipment



### Attachment No.06 – Location of Emergency Shower-Eyewash Units and First Aid Kits



## Attachment No.07 – Expected Volumes of Process Chemicals on Site

Process chemicals are chemicals utilised in the processing of waste chemicals/materials.

Please note that the data in the below table are approximate volumes only.

Line No.:	Type	Location	Volume	Primary Hazard
Line No.01	Heavy Fuel Oil	Warehouse	30,000litres	Irritant
Line No.02	Transformer Oil	Warehouse & Stores	10,000litres	Flammable

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### Attachment No.08 – Waste Chemical/Waste Material Storage Areas

