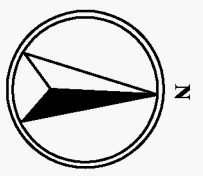
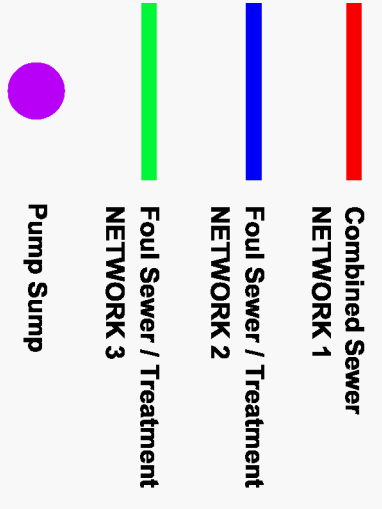



**NOTES:**

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3. All levels refer to Ordnance Survey Datum, Malin Head.
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Rev	Date	By	Description


  
**CORK COUNTY COUNCIL**  
 SOUTHERN DIVISION  
 Noel O'Keefe, B.E. Chief Executive  
 County Hall, Cork.

Project: BELGOLLY WWTP  
 WASTE WATER  
 DISCHARGE LICENCE APPLICATION  
 Title: Application Form  
 Attachment C1\_Map10  
 Operation Information Requirements

Designed: MS	Checked: MS	Scale: 1:3,000 @ A3	Drawing No: C1_Map10
Drawn: MM	Approved: VH	Date: 01.05.12	Status: -
File Path:			

# OUTLINE SPECIFICATION FOR SEWAGE TREATMENT PLANTS

## THE BMS BL 1000 BLIVET RANGE

### 1. GENERAL

The BMS BLIVET system is the most compact "all in one" system available. The civil works are minimal consisting of a flat concrete support slab the plan area of the unit constructed 1.5m below the invert of the incoming pipe.

As the final appearance of the unit is critical, the system may be buried up to deck level such that the impact on the landscape is not intrusive. The units are covered preventing noise and fly nuisance. The BLIVET is a modular unit that lends itself to future expansion or relocation.

### 2. DESIGN PARAMETERS BL1000 BLIVET

Parameter	Influent	Effluent
Design flow	833 L/Hr	833 L/Hr
BOD	300 mg/l	20 mg/l
Average flow	20 m3/day	20 m3/day
Suspended Solids	300 mg/l	30 mg/l

Please note: Selection of unit may vary for any other final effluent quality required e.g. this unit is nominally 100 PE to produce '20:30' and 125 PE to produce '25:35'.

### 3. TREATMENT

#### 3.1 Primary Settlement

The Blivet is capable of receiving raw sewage and settling gross solids without recourse to mechanical means. It incorporates lamella or parallel plates to enhance efficiency and utilisation of space. The Primary Settlement zone reduces the Suspended Solids by 75% and the BOD by 25% to 30%. This zone is relatively maintenance free and contains no moving mechanical parts or electrical devices. Lockable GRP covers with easy access and sufficient ventilation are provided.

#### 3.2 Aerobic Treatment

The settled sewage is treated by means of an efficient and compact system (the BMS Aerotor Biozone) requiring minimal power input and maintenance. It is a combined fixed film reactor and active aeration system mounted on a horizontal shaft. The rotational media is a spiral formation enclosed in outer drum to provide active aeration, intense surface area and net hydraulic lift.

The Biozone is self cleansing and no extraneous pumping or sludge returns are required. For process efficiency it is, in effect, a plug flow system.

#### 3.3 Final Settlement

The final settlement or Humus tank is a discrete compartment denying ingress of untreated or partially treated liquor. The design is similar to the Primary Settlement Tank on an upward flow basis. A Saran Filter or equivalent may be fitted just below the TWL. This is static design i.e. not powered, and set in frames that are easily removable for cleansing. This zone has frequent automatic removal of sludge to sludge storage by means of a timed submersible pump.

#### 3.4 Sludge Storage

Sludge storage is provided in the base of the unit. Depending on the load applied there is approx. 12 weeks capacity provided. Normally desludging is carried out by suction tanker.

## 4. MATERIALS/CONSTRUCTION

### 4.1 Tankage

The Blivet is a unitary tank in multiple modules if necessary. The outside tank is reinforced GRP and is capable of free standing or interment up to deck level without the necessity of a concrete surround. All internal surfaces in contact with sewage are GRP. The maximum weight of the BL1000 unit is 3.35 tonne (unladen) and maximum dimensions are 2.27m width, 5.375m length and 3m overall height. Adequate permanent lifting hooks are provided.

All watertight compartments are hydraulically tested before leaving the manufacturer. Quality certificates can also be provided. Copies of certificates of conformity for all major components and materials are available for inspection.

The tank and internal components are accessed by a series of lockable GRP covers capable of being lifted by one person. These can be manufactured in a colour of the client's choice to enhance the visual impact of the location.

### 4.2 Mechanical

The shaft supporting the media is EN 8 steel and has a diameter of 60mm. It is driven through a reduction gear box of the helical gear variety with an output speed of 6 RPM.

Each section of the shaft is coupled by a duplex chain coupling encased in a chain guard with grease access nipple.

Either side of each coupling the shaft is supported by roller bearings in plummer blocks fitted with double lip seals and grease access nipples. The unit has just one drive train.

All mechanical components provided are of world renown manufacture with spare parts readily available in the country of operation. A grease gun with extended grease hose is provided with each unit and mounted in the motor/gearbox compartment.

### 4.3 Electrical

In order to minimise power consumption, possible breakdown and extra maintenance, the unit has a maximum of two electrical devices, i.e. the main shaft drive and a final sludge return pump.

The main motor in the BL1000 unit is only 0.37Kw (in three phase)/0.5hp. It is directly coupled to the reduction gearbox and is easily accessible protected by a locked GRP cover.

A submersible pump of maximum 1.5hp is fitted in the final settlement compartment. This is activated by an adjustable minute timer connected in the control box.

A single control box is mounted on the motor/gearbox compartment and is accessible from the surface. It contains all the electrical controls and is to I.P 55 standard.

## 5 CIVIL WORKS

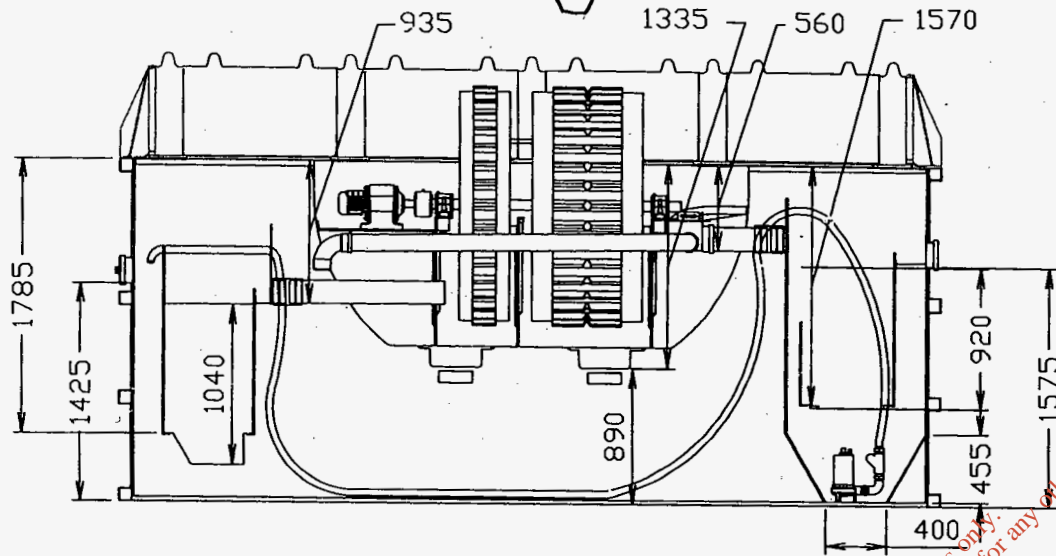
For ease of construction the civil works consist of a flat base support slab (2.3m wide by 5.4m long) in 20N reinforced concrete, the placing of the units thereon, the pipe and electrical connections and back filling with fine material if units are not free standing.

## 6. LOCATION

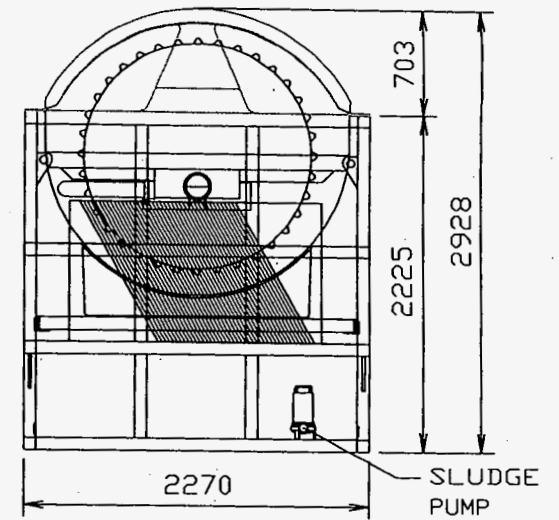
According to the EPA (Ireland) this system should be located at least 40m from the nearest habitable building. However if the unit(s) are to be located inside a building e.g. a basement, then adequate procedures must be taken to ventilate the location remotely to areas not frequented by users of the development.

**Particular care must be taken to avoid locations prone to flooding.**

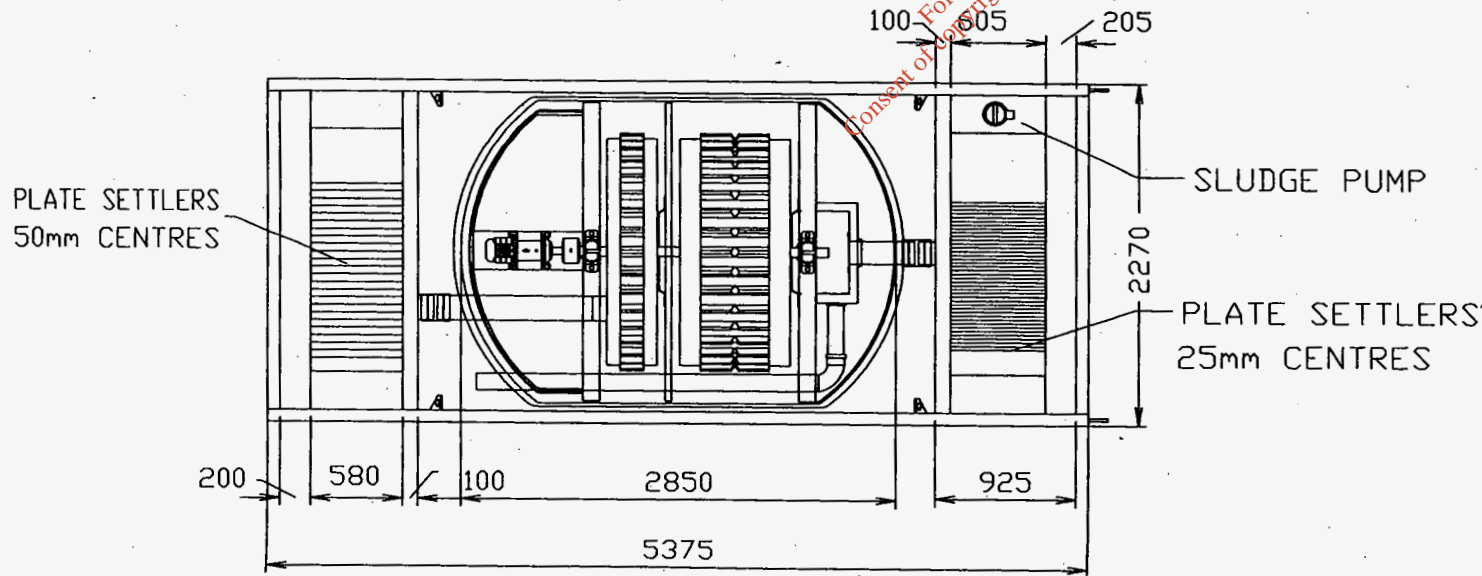




ELEVATION



END VIEW



PLAN

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Company <b>BUTLER MANUFACTURING SERVICES LTD</b>		Drawn by <b>T.M.</b>	
Title <b>BL 1000</b>		Date <b>02.04.96</b>	
Approved by <b>K.C.</b>		Scale	
Drawing no. <b>BL1000</b>		REVISION	
1	SEPT 03		