PROJECT:	CHANGE OF USE OF LAND TO A 4 PITCH FAMILY GYPSY & TRAVELLER SITE (RETROSPECTIVE) – RESUBMISSION OF REFUSED PLANNING APPLCIATION P/2025/0536
CLIENT:	MR T BERRY
PLANNING AGENT:	Mr. M. Carr MSc MRTPI
DESIGN ENGINEERS:	PKL CHARTERED BUILDING CONSULTANCY
DATE:	AUGUST 2026
REVISION:	-

PACKAGE SEWAGE TREATMENT PLANT DETAILS

MARSH GEMINI ™ COMBINED SBR AND PHOSPHATE REDUCTION PLANT
Combining the Marsh Nutra-Lite and Marsh Phos-Lite for compact sewage treatment, phosphate and nitrate removal

To reduce the footprint of a two-chamber system, Marsh Industries offers the Marsh Gemini, an 'all-in-one' solution that combines the Marsh Nutra-Lite SBR and the Marsh Phos-Lite into one single unit.

The Gemini is available for sites catering up to 16 people. This site would have less than 16 persons living on the site meaning that the Marsh Gemini 16 would be suitable make and model to support the use of this site.

Enhanced effluent quality
The Gemini achieves the following overall effluent quality through its combination of the fully certified and tested Nutra-Lite and Phos-Lite systems:

BOD: 1.62 mg/l
TNb: 10.5 mg/l
NH_4n: 0.38mg/l
Ptot: 0.26 mg/l
SS: 4.3 mg/l
The two-chamber approach is fully approved by PIA, with the technical and hydraulic features of the EN12566-3-certified Nutra-Lite and the EN12566-7-certified Phos-Lite remaining the same in this integrated unit

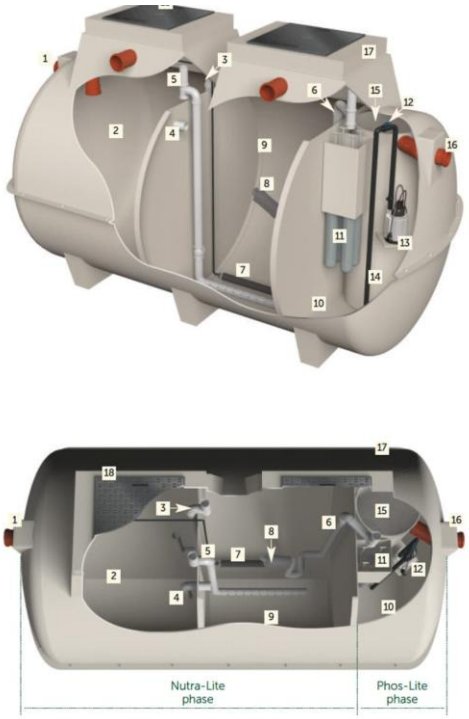
Key Features

A unique, two-in-one system - The Marsh Gemini enables a compact installation when both of our market-leading natural solutions, Nutra-Lite and Phos-Lite, are required. It also offers adaptability in tank diameters to suit specific site ground conditions.

This single unit houses the two certified systems: Nutra-Lite and Phos-Lite. The Nutra-Lite provides advanced Sequential Batch Reactor (SBR) sewage treatment, while the Phos-Lite further enhances effluent quality and supports the achievement of challenging phosphate reduction targets.

KEY

1. Inlet
2. Primary chamber
3. Inflow air-lift pipework
4. Overflow pipework
5. Recirculation air-lift pipework
6. Outflow air-lift pipework
7. Air diffuser
8. Sediment reduction valve
9. Secondary chamber
10. Setlement chamber
11. Filter socks
12. Flow control valve
13. Submersible pump
14. Pipework outflow (beneath lower shelf)
15. Phos-Pellet chamber
16. Outlet
17. Heavy duty GRP shell
18. Access cover



Phosphate reduction without chemical dosing

Marsh Phos-Lite is a groundbreaking product designed to efficiently remove phosphate from wastewater.

Utilising a unique adsorption process, Phos-Lite binds phosphorus to the surface of its media, which is composed of naturally occurring elements. This ensures long-term performance across varying flow rates and influent concentrations.

Recommended for up to 35PE (population equivalent), Phos-Lite is fully scalable to meet larger demands.

Achieves phosphate levels of 0.2mg/l

The plant is engineered for maximum retention time, guaranteeing stable, low effluent phosphorus concentrations certified by PIA GmbH at 0.2mg/l.

Economic and efficient

With an electrical consumption of just 0.03 kWh/d, Phos-Lite operates at very low cost.

System flexibility

This innovative tertiary treatment solution seamlessly connects to the outlet of both new and existing treatment plants.

Enhanced effluent quality

Phos-Lite not only excels in phosphate removal but also significantly reduces other key effluent constituents.

The Marsh Nutra-Lite treats effluent to the following standards:

BOD: 4mg/ltr

Suspended Solids: 11mg/ltr

Ammonia: 0.5mg/ltr

When the Marsh Nutra-Lite and Marsh Phos-Lite are combined, the effluent quality is further improved to:

BOD: 1.62mg/ltr

Suspended Solids: 4.3mg/ltr

Ammonia: 0.38mg/ltr

PTot: 0.26mg/ltr

TNb: 10.5mg/ltr

Test results achieved when the Marsh Ensign:EL and Marsh Phos-Lite are combined is as follows:

COD | 56.1% | 23 mg/ltr

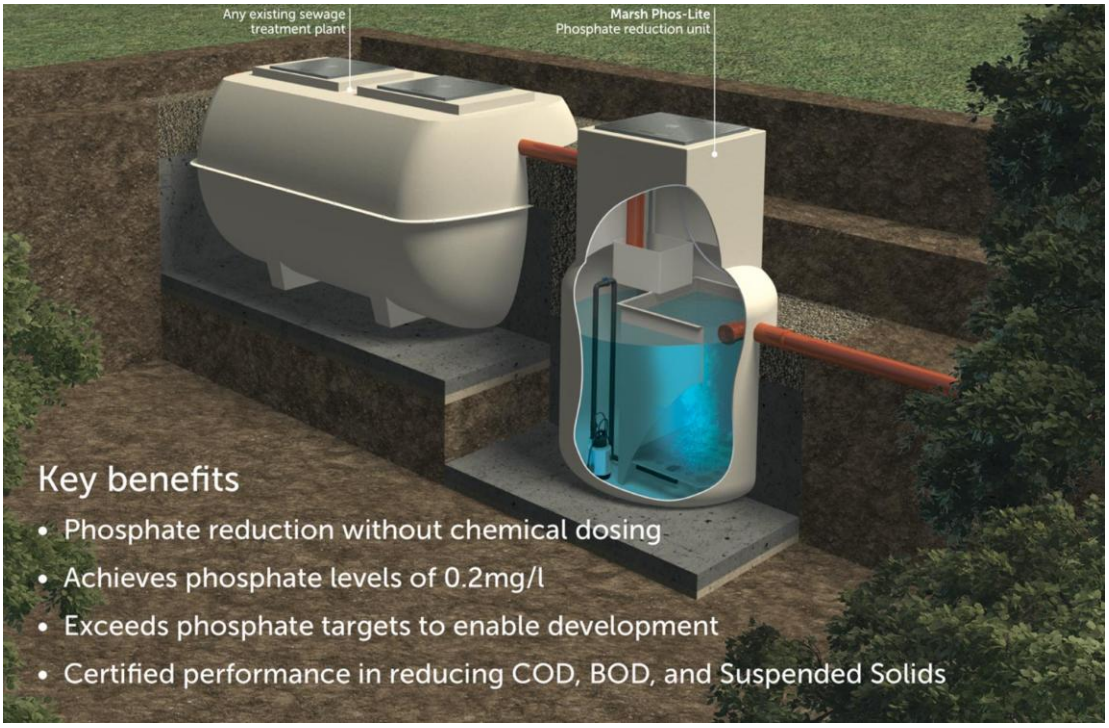
BOD | 59.5% | 4 mg/ltr

TNb | 5.5% | 26.5 mg/ltr

NH4n | 24% | 0.4 mg/ltr

Ptot | 95.9% | 0.2 mg/ltr

SS | 61.1% | 4 mg/ltr



Screening Out

Submitted with this planning application is the advice provided by PCAC/PEDW as part of appeal CAS-04541-X6L4Z8 in the Flintshire Borough, concerning a similar development of land.

The appeal information set out that:

We refer you to the publication by Natural Resource Wales (NRW) of the results of the

compliance assessment of Welsh Riverine Special Areas of Conservation (SACs) and the

condition assessment of Marine SACs:

• Riverine SAC compliance assessment available at

https://naturalresources.wales/evidence-and-data/research-and-reports/waterreports/compliance-assessment-of-welsh-river-sacs-against-phosphorustargets/?lang=en

• Marine SAC condition assessments available at

https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlifeand-biodiversity/protected-areas-of-land-and-seas/condition-assessments-for-welsheuropean-marine-sites-ems/?lang=en

Part 1 of that submission provides advice on how information (submitted) that will allow the development to be screened out as not likely to have a significant effect on a river or marine SAC in relation to nutrient inputs as there is unlikely to be a source of additional nutrients or pathway for impacts:

Part 1 (d) then identifies that:

d) Confirmation that the development would provide a private sewage treatment system discharging domestic wastewater to ground, built to the relevant British Standard (BS6297:2007+A1:2008: https://knowledge.bsigroup.com/products/code-of-practice-forthe-design-and-installation-of-drainage-fields-for-use-in-wastewatertreatment/standard)

and that all of the following criteria are met:

i. the maximum daily discharge rate is less than 2 cubic metres (m3); and

ii. the drainage field is located more than 40 m from any surface water feature such as a river, stream, ditch or drain and

iii. it is located more than 50 m from a SAC boundary, and

iv. the discharge to ground is at least 50 m from any other discharge to ground.

Our understanding of the development, the sites' location and the number of occupants is that the provision of the proposed PSTP March Gemini 16 would provide adequate and suitable sewerage arrangements and that the development can be screened out.