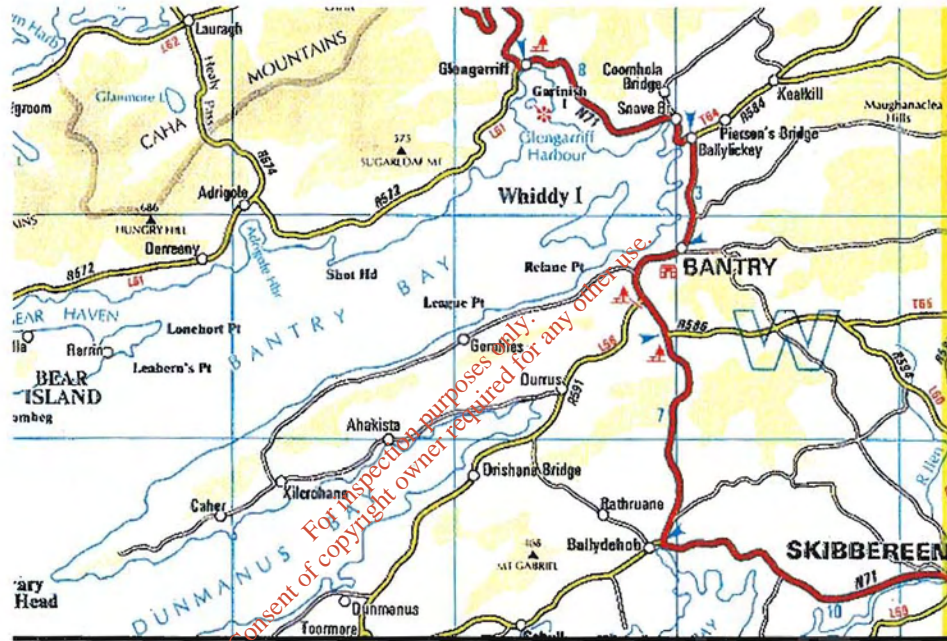




Cork County Council Bantry Sewerage Scheme

Proposed Wastewater Treatment Plant at Bantry, Co. Cork



Addendum to the Environmental Impact Statement



E.G. Pettit & Company
Springville House
Blackrock Road
Cork

Job Nr.: A6373

March 2002

CORK COUNTY COUNCIL
BANTRY SEWERAGE SCHEME

PROPOSED WASTEWATER TREATMENT PLANT
AT BANTRY, CO. CORK
ADDENDUM TO THE
ENVIRONMENTAL IMPACT STATEMENT

E. G. Pettit & Co.
Consulting Engineers
Springville House
Blackrock Road
Cork

Job Nr. A6373

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REVISION CONTROL TABLE

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Rev. Nr.	Description of Changes	Prepared by	Checked by	Approved by	Date
A	Initial Issue	V. Kiewisz	F.McGivern	F.McGivern	September 2000
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- Appendix 2 Revised Layout of the Bantry Treatment Works**

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1.0 INTRODUCTION

This document is an addendum to the Environmental Impact Statement (EIS) for the proposed Bantry Sewerage Scheme, which was prepared in February 1992. A layout plan of the wastewater treatment plant as proposed in 1992 is shown in Appendix 1. This addendum describes the environmental impact associated with proposed additions to the wastewater treatment plant as proposed in 1992. Two primary sedimentation tanks and a sludge holding tank will be added to the proposed plant. The tanks will be located on the northern part of the site (See Appendix 2).

The proposed changes are intended to provide for the recommendations of the Strategy Study on Options for the Treatment and Disposal of Sewage Sludge in Ireland, which was published in November 1993 and the recommendations contained in the Sludge Management Plan for County Cork, published in March 2000. The study recommends primary settlement as a part of sewage treatment for all new works greater than 5,000 PE. The design population equivalent for the Bantry Wastewater Treatment Plant (WWTP) is 6,000. Therefore primary settlement is required. The Sludge Management Plan for County Cork identifies Bantry as a satellite centre, which will receive sludges from smaller plants for transportation to the major hub-centre in Skibbereen.

2.0 DESCRIPTION OF THE PROPOSED ADDITIONAL DEVELOPMENT

It is proposed to construct two primary sedimentation tanks and a sludge holding tank as addition to the wastewater treatment plant previously proposed in 1992.

The two rectangular primary sedimentation tanks will have dimensions 16 x 5.15 x 3.7 m each, and will be located to the north of the aeration tanks (see Appendix 2). The tanks will be equipped with sludge scrapers and sludge, which is collected in the tanks, will be pumped from the tanks to the proposed sludge holding tank.

The sludge holding tank will be a circular tank of 7.5 m diameter and capacity approx. 155 m³. This will be located between the preliminary treatment works and the aeration tanks. Sludge will be drawn off site by vacuum tankers. Supernatant liquor will be directed to the aeration tanks.

It is intended that the primary sedimentation tanks and the sludge holding tank will not be brought into operation until such time as the

recommendations of the Cork County Sludge Management Plan are in place. The Sludge Management Plan for County Cork recommends that sludges from Bantry will be transported to a hub-centre for sludge treatment to be established in Skibbereen. There is no firm indication at present as to when the hub-centre may be constructed. The design of the proposed WWTP at Bantry allows for the bypassing of the primary sedimentation tanks until such time as the hub-centre becomes operational.

In the interim period it is intended to use the Primary Sludge holding Tank as a balancing tank for imported extended aeration sludges arising from Glengarriff, Durrus, Ballylickey and Kealkil.

When the primary settlement tanks are put into operation in the future, these imported sludges will be blended with the indigenous secondary sludges, dewatered and transported by skip to the hub centre at Skibbereen. At that stage the primary sludge arising from the Primary Settlement Tanks will be pumped to the Sludge Storage Tank, gravity thickened, and transported by vacuum tanker to the sludge treatment centre at Skibbereen.

3.0 RECEIVING ENVIRONMENT

3.1 Existing Environment

The existing environment is described in the main body of the Environmental Impact Statement. There have been no significant changes to the existing environment, which would need to be considered further in respect of the new addition to the proposed WWTP. The site for the plant has remained static with regard to its use and immediate surrounding environment.

The site for the treatment works currently consists of an old orchard and spruce plantation, obscured from the nearby road by trees, shrubs and an abandoned farmhouse. The site is surrounded mainly by vacant land and some agricultural lands (grazing).

3.2 Impact of the Proposed Additional Development

3.2.1. Odours

Due to relatively small scale of the proposed works, favourable local conditions and lack of the odour sensitive receptors in the vicinity of the plant, odour dispersion modelling was not carried out as a part of original EIS. The wastewater treatment processes proposed in the EIS were aerobic processes and therefore odours are not generally associated with this type of plant when it is working normally. It is generally accepted that when the

wastewater treatment plant is operating under design conditions the plant will not generate odours, which would adversely impact beyond the boundary of the site.

The introduction of primary sedimentation tanks and a sludge holding tank will increase the potential for odour emission from the proposed works. The perception of odour at some point downwind of an emission source depends on the type of odour compound and the air concentration of the odorous gas. The measure used to quantify odour nuisance potential is the odour concentration (odour unit per cubic metre ou/m³). An odour concentration of 1 ou/m³ is the level at which there is a 50 % probability that, under laboratory conditions using a panel of qualified observers, an odour may be detected. At levels below 1 o.u./m³ the concentration of the gaseous compound causing the odour in the air will be less than detection level and so although gas is still present in the air no odour will occur. The intensity of an odour ranges from 1 o.u./m³ = odour detection, 2 = slight odour up to 5 o.u./m³ where the odour is strong and easily recognisable with higher levels likely to result in nuisance complaints by the neighbouring community. Since the duration of the odour also determines whether or not a nuisance situation may occur an odour concentration of greater than 5 o.u./m³ is widely used as a criteria for predicting the potential for complaints over periods of 15-30 minutes. The plant incorporating the primary settlement stage will be designed to ensure odour concentrations of less than 5 o.u./m³ are consistently met at the site boundary.

Wind speed and wind direction will affect the magnitude of any potential odour nuisance at a specific property in the surrounding area. At high winds any odour generated at the treatment plant will be rapidly dispersed in the air and so will quickly reach a concentration below which it is not detected. Conversely, during slack winds an odour plume from the plant may drift some distance before dilution of the odour is such as to be below the odour detection limit.

The importance of any malodour from the treatment plant will depend on the direction of the wind during the period of odorous emission in relation to housing located in the area. There are no houses situated within approximately 0.2 km of the proposed site boundary with the nearest being to the east.

The potential for odours from the primary settlement tanks depends on the BOD load of the influent, the rate of evaporation of odorous components from the surface of the influent and the turbulence at the overflow weirs. The surface area of liquor in the tanks rather than the depth of the tank is important in relation to odour potential. In addition, the overflow weir at the outlet end of the tank can result in the generation of turbulence as the

liquor flows out over a drop to a collecting trough. This may be a source of odours, especially during warm weather conditions.

It is expected that the sludge holding tank will not be a significant source of odour emission due to its small surface area and lack of overflows which could generate turbulence of the liquor. During the interim period before the commissioning of the sludge treatment centre the greatest potential for odour emission will occur during filling of this tank with imported sludges. However, it is expected that such sludges will be mostly from extended aeration wastewater treatment plants and therefore it is not expected that these operations would cause an odour problem. Likewise storage of these sludges will not generate odours. However, as a precautionary measure, it is intended to roof, vent and treat the vented air from this tank at the outset to ensure that no potential odour problem is created even during the interim period. Should other septic tank or primary sludges be imported to the satellite centre, these will be stored in the Primary Sludge Holding Tank along with the indigenous primary sludges. When the primary settlement stage is commissioned the imported extended aeration sludges will be mixed with the indigenous secondary sludges at the Picket Fence thickener and dewatered subsequently. At that stage only primary sludges will be stored in the sludge holding tank and this will have been roofed and fitted with an air extraction system and odour treatment unit.

As mentioned before odour dispersion modelling was not carried out as a part of the EIS. However there is sufficient data available from modelling carried out for similar types but much bigger works (for example the wastewater treatment plants for Waterford 148,500 PE, and Limerick 130,000 PE) to show that with partially covered primary sedimentation tanks odour concentrations do not exceed 5 ou/m² in worst case scenarios. Therefore it can be expected that the proposed treatment works in Bantry will not generate offensive odours on the understanding that covers will be provided on the inlet and outlet of primary sedimentation tanks. Any odours likely to arise from the facility would be barely discernible from naturally occurring background odours in the locality. These conclusions are only valid when considering the plant is operating under normal conditions.

It is therefore concluded that no adverse impact in terms of concentrations of odours is likely to result beyond the boundary of the treatment plant. The environmental impact of the proposed additional development is therefore neutral.

3.2.2. Noise

The proposed new facilities will not change significantly the overall noise emission of the works. Proposed scrapers and sludge transfer pumps are a low-noise equipment and will not be a significant source of noise emission.

There will be additional traffic associated with transportation of the sludge to and from Bantry treatment works. The Sludge Management Plan for County Cork identifies Bantry as a satellite centre, which will receive sludges from smaller centres for dewatering and transportation to the major hub-centre in Skibbereen for treatment. The amount of sludge to be transported to Bantry WWTP is estimated to be approximately 44 t D.S./year, and will not exceed four 10 m³ vacuum tankers per week.

Primary sludge will be removed from the site approximately four times per week. Therefore total increase of traffic due to transportation of the sludge will amount to a maximum of 8 tankers per week. This traffic will occur during daylight hours and will not impact significantly in terms of traffic levels in the vicinity of the site.

The impact on noise emissions resulting from the proposed development is insignificant.

3.2.3. Sludge Reuse

Bantry Wastewater Treatment Plant is designated in the Sludge Management Plan for County Cork, as satellite, which will receive sludges from smaller centres for transportation to the hub-centre in Skibbereen. The proposed primary sludge holding tank will be used initially to receive sludges transferred from the specified remote sites. These will be mixed with the extended aeration sludge produced on site, dewatered and reused/recycled locally. When the West Cork Biogas plant is operational the imported sludges will be added directly to the secondary sludge thickening tank, (the design of which will be modified from a continuous flow tank to a fill and draw system) for blending prior to dewatering.

It is intended that the proposed primary sedimentation tanks and sludge holding tank will not be brought into operation until such time as there is an outlet for this type of sludge. The Sludge Management Plan for County Cork recommends that sludges from Bantry will be transported to a hub-centre for sludge treatment to be established in Skibbereen. The design of the proposed WWTP at Bantry allows for the bypassing of the primary sedimentation tanks until such time as the hub-centre becomes available.

When the Skibbereen Sludge Treatment Centre is in operation the primary settlement tanks and Sludge Holding Tank will be put into operation.

Primary sludge, separated in the primary sedimentation tanks, will be stored in the sludge holding tank. It is anticipated that approximately 40 cubic meters of primary sludge per week will need to be removed from the facility. Primary sludge will be removed by vacuum tankers approximately four times a week to the designated hub-centre for sludge treatment in Skibbereen.

The proposed development will be a part of sludge management system, which will allow for environmentally friendly reuse of biosolids produced in West Cork.

It is therefore concluded that the proposed additional development will have a positive environmental impact in respect of sludge reuse, as it will provide facilities to ensure the beneficial re-use of sludge in accordance with best practice.

3.2.4. Landscape/Visual Resources

Introduction of the primary sedimentation tanks and the sludge holding tank will not change the landscape of the treatment works. The proposed tanks will be located well within the originally proposed site boundary. As described in the EIS the site will be well screened by retaining the belt screen of existing trees. The northern part of the site with proposed primary sedimentation tanks and sludge holding tank, will also be screened by the overlooking hill.

It is therefore concluded that the proposed additional development will have a neutral impact on the landscape and visual resources.

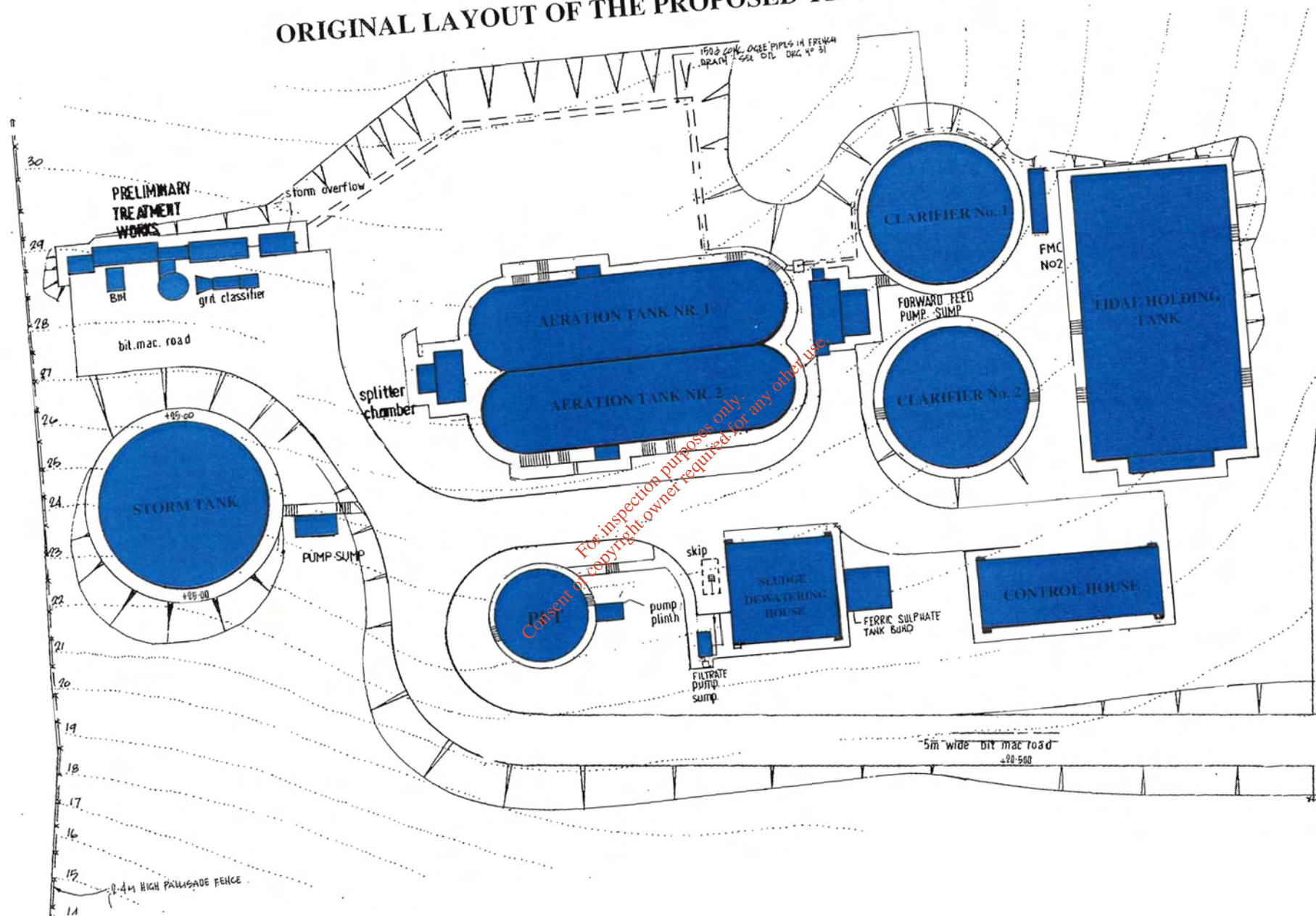
3.3 Mitigation Measures

No mitigation measures are considered necessary in order to mitigate the impact of the primary sedimentation tanks. Roofing and the provision of an odour control unit will be provided for sludge holding tank at the commissioning of the plant. However, it is recommended that odour monitoring/odour audits should be carried out on regular basis by the Local Authority at the wastewater treatment plant site/boundary as part of the operation of the works. The sludge holding tank will incorporate a roof and an air extraction system from the tank from the first commissioning of the wastewater treatment plant.

APPENDIX 1
***ORIGINAL LAYOUT OF THE PROPOSED
TREATMENT WORKS***

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ORIGINAL LAYOUT OF THE PROPOSED TREATMENT WORKS

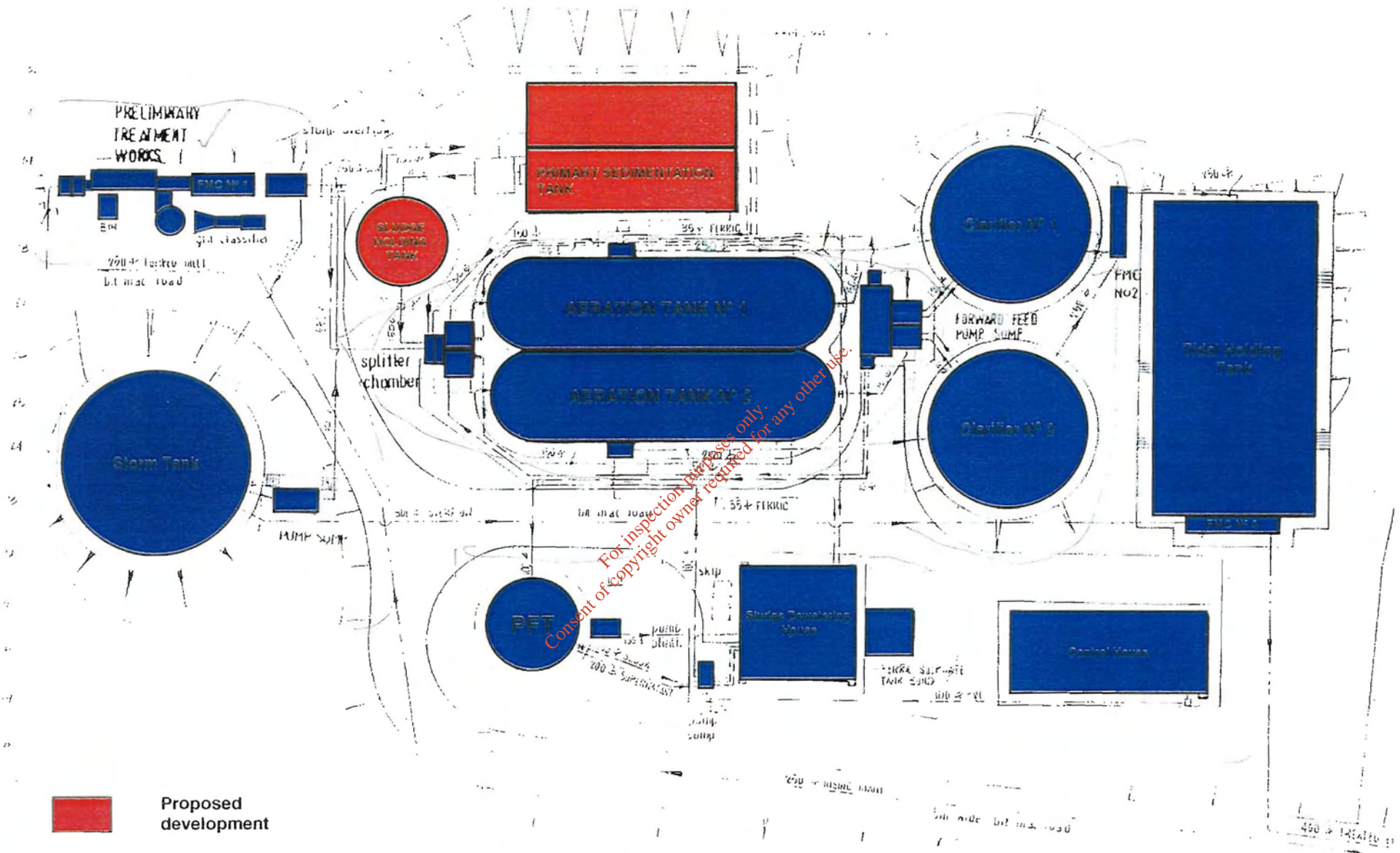


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APPENDIX 2
***REVISED LAYOUT OF THE PROPOSED
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REVISED LAYOUT OF THE PROPOSED TREATMENT WORKS



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