



**Flood Risk Assessment including Sequential Test,
Exception Test, Specific Warning and Evacuation
Plan and Drainage Scheme for Sandy Bay Caravan
Park, 119 Pilling Lane, Preesall, Poulton- le- Flyde,
FY6 0HG.**



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1.0 Description of the Proposed Development

The proposed site is located as shown on Plan 1 at Sandy Bay Caravan Park, 119 Pilling Lane, Preesall, Poulton-le-Flyde, FY6 0HG. The site is currently a holiday home park and is located within a mixed residential and commercial area of Preesall. Please refer to Plan 1 for the proposed site layout. See Appendix 2 for key site photographs, Appendix 3 for the architects existing and proposed layout plans and Appendix 4 for the topographical survey plans.

The existing holiday homes at the site will be increased by 33 new holiday home plots. As well as the relocation of five existing holiday homes (labelled as A- E on Plan 1). The holiday homes are not permanent residential dwellings.

Based on the flood maps provided by the Environment Agency (EA) (as included in Appendix 1) the site is situated in Flood Zone 3, in an area benefitting from flood defences.

It should be noted that the proposed new holiday homes are located within 16m of the sea defences. Specifically, the new holiday home number 15 is located 10.5m from the defences, and the new holiday home number 20 is located 12.8m from the defences. As such, an Environmental Permit will be required from the EA as the proposed activity is not classified as an exempt or excluded activity. As the proposed activity is also not covered in the standard rules for flood risk activities, a bespoke permit will be required, which will take 4 months to be processed. Given that the planning application for the proposed new holiday homes and this risk assessment will be reviewed by the EA as a statutory consultee, it would be helpful if the EA could advise if a bespoke permit will also be required in addition to their review of the planning process.

2.0 Sources of Flooding

Sub Regional (County level) flooding scenarios have been investigated and summarised in the Wyre Borough Council Levels 1 and 2 Strategic Flood Risk Assessment (Reference 1) and information categorising the risk of flooding and the hazards posed to the area. The risk of flooding from six types of sources has been considered below using the information from the SFRA's (References 1 and 2, respectively) and other sources.

Level 2 of the SFRA (Reference 1) describes the area as "the section of coast extending between Knott End-on-Sea and Pilling faces north-west and consists of an extensive sandy intertidal zone fronting a narrow strip of saltmarsh on the upper beach, backed by hard linear defences and low-lying land" (Reference 1).

Fluvial/ Tidal:

Based on the EA flood maps (see Appendix 1, and Figure 1 below) the site is located in Flood Zone 3. As noted in Figure 1 below and in Figure 1.3 in the Level 2 SFRA (Reference 1) the site is located in an area benefitting from flood defences. Photographs of these flood defences are included in the site walkover photographs (See Appendix 2).

Level 1 of the SFRA (Reference 2) notes that “as indicated in Figure 9-1, a significant proportion of Wyre is considered to be at a medium or high risk of flooding from rivers or the sea. This is particularly prevalent in the western and coastal parts of the Borough” (Reference 2).



Figure 1: EA fluvial flood risk map. Site location marked with a red star. (Source – EA).

Level 1 of the SFRA (Reference 2) includes a record of historic flooding incidents. The site is not located in an area mentioned in these records.

As noted in the site walkover photos (see Appendix 2) there are two watercourses located adjacent to the site (one located to the East and the other to the South of the site). These could cause localised flooding in the area.

Pluvial:

Based on the EA’s online surface water flooding maps (see Figure 2 below) the site is located in an area that does not appear to have any records of pluvial flooding or is not at risk of pluvial flooding. Figure 2.3 from the Level 2 SFRA (Reference 1) classifies areas as being within 1:30, 1:100 and 1:1000 years flood extents for surface water flooding and the site are not classified as being in one of these flood extent areas.



Figure 2: EA pluvial flood risk map. Site location marked with a red star. (Source – EA).

A Sustainable Drainage Scheme (SuDS) has been included in the proposed drainage design for the development part of the site as discussed further in Section 7 below.

Sewer:

The Level 1 SFRA (Reference 2) includes a Density Heat Map of Properties at Risk of Internal Hydraulic Flooding, the site is not within one of these areas.

Critical Drainage Area's (CDA's) that have been identified by the Local Planning Authority as being at risk of sewer flooding, due to a capacity issue in the public sewer system for a variety of reasons. The Level 2 SFRA includes six CDA's which have been further delineated with additional maps. The site is not located within a CDA area. Whilst this will suggest that sewer flooding is not an issue in this area the use of a SuDS scheme for the development part of the site will reduce the volume of surface water discharging to the public sewer.

Groundwater:

The Level 1 SFRA (Reference 2) includes a map which classifies the susceptibility of areas to groundwater flooding (Figure 9.3). The area has not been given a classification on this map, which suggests the area is not at risk of groundwater flooding. However, the Level 2 SFRA (Reference 1) does note that some areas have recorded localised groundwater ponding due to "low-lying land and the presence of shallow sand and gravel aquifers" (Reference 1).

The geology of the area is categorised as Blown Sand superficial deposits comprising sand. With Sherwood Sandstone Group as the bedrock, according to the British Geological Survey's Geology of Britain Viewer (see Figure 3 below).

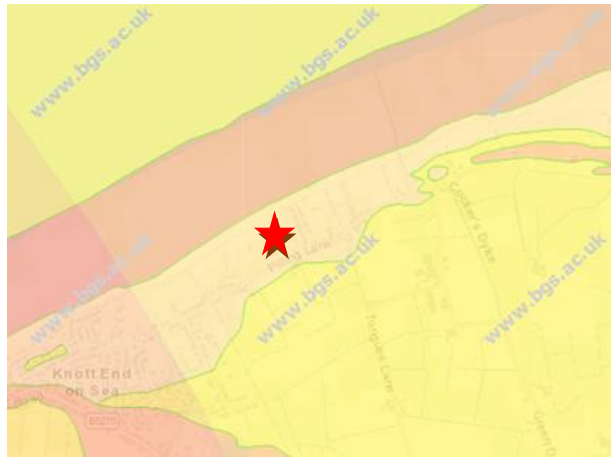


Figure 3: Geological map. Site locality marked with a red pin. (Source – British Geological Survey).

It should be noted that there are no basements in the proposed or existing parts of the site.

Canals:

Level 2 of the SFRA (Reference 1) notes that “given the geographical distance of the nearest canal (Lancaster Canal) to this Community Area, the risk of flooding from this source to the area is extremely low and it will not be a development constraint in this area” (Reference 1).

Reservoirs:

The risk of flooding from reservoirs is included in Figure 4 below and indicates that the site is not located within an area at risk of flooding from this source.



Figure 4: EA reservoir flood risk map. Site location marked with a red star. (Source – EA).

3.0 Confirmation of Existing Flood Risk

As a result of the analysis in Section 2, this FRA report has focused on the risk of tidal flooding. We have contacted the EA as part of this report to obtain the flood level data for this site and the data they have provided is included as Appendix 1.

The flood map categorises the site as being located within Flood Zone 3 or having a 'high probability' of fluvial/ tidal flooding. Land in this classification has an estimated flood risk of 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year based on the classification in the Technical Guidance to the National Planning Policy Framework (Reference 3).

It is proposed to extend the existing business by redeveloping part of the site to add additional holiday homes. The Technical Guidance to the National Planning Policy Framework (Reference 3) classify this use as a more vulnerable use and as such the Exception Test must be passed for this flood zone, as such this is included in Section 5 below.

The Technical Guidance to the National Planning Policy Framework (Reference 3) also notes that "sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan" (Reference 3). As such, a Specific Warning and Evacuation Plan for the site is summarised in Section 6 below and included as Appendix 5.

4.0 Sequential Test

The Technical Guidance to the National Planning Policy Framework (Reference 3) notes that "as set out in the National Planning Policy Framework, the aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding" (Reference 3).

The SFRA (Reference 1) does include some potential development sites located within Flood Zone 1 (lowest probability of flooding) which have passed the sequential test as part of the SFRA process, but these are not located within the vicinity of the existing business site. The proposed redevelopment as part of this planning application is to extend the existing business located at the site by increasing the number of holiday homes. It could therefore be argued that the following guidance from the Wyre Council's Guidance for Applicants: Flood Risk Sequential Tests (Reference 4) applies in this instance:

"The council would normally accept that a site is not reasonably available if:

1. It contains an existing operational or business use unless a planning approval for development proposes to extinguish that use" (paragraph 7.25) (Reference 4).

The guidance also states that "as noted above, the NPPG states that when applying the sequential test, a pragmatic approach to the availability of alternative sites should be taken. It gives an example of a planning application for an extension to an existing business premises

and suggests that it might be impractical to suggest that there are more suitable alternative locations for that development elsewhere” (paragraph 8.1) (Reference 4).

Following the undertaking of the sequential test and exceptions test, Maplebrook Environmental Consultants were made aware of a similar proposal for the expansion of static holiday caravans at Sunset Park, Sower Carr Lane, Hambleton (Planning Application Reference: 19/00254), which was also identified as being located within Flood Zone 3. In approving planning permission in July 2019, Wyre Borough Council concluded that the disaggregation of that site was unreasonable, and no further testing was required to study the potential of alternative sites as a more preferable location for the proposed development.

It is therefore suggested that as this application relates to an extension to the existing business that an alternative location situated in Flood Zone 1 or 2 is not reasonably available. The below sections of the report will discuss the Exception Test and the Specific Warning and Evacuation Plans.

5.0 Exception Test

The SFRA (Reference 1) notes that “the consideration of future regeneration and development within the borough could result in the consideration of sites that cannot pass the Sequential Test and therefore require the assessment of the Exception Test. If a development is proposed that is not ‘appropriate’ as defined in Table 3 of the NPPG, the Exception Test is a method to demonstrate and help ensure that flood risk to people and property would be managed satisfactorily, whilst allowing certain types of necessary development to progress ahead in situations where suitable sites at lower risk of flooding are not available” (Reference 1).

The SFRA (Reference 1) states that “for the Exception Test to be passed:

g) it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared; and

h) a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall (Reference 1).”

First Part of the Test

In relation to the first part of the exception test the proposed planning application is in relation to the extension of an existing business. Enabling the extension of the business would comply with the following Economic Policies within the Wyre Local Plan (2011- 2031) (Reference 5):

EP8- Rural Economy – by enabling the expansion of an existing business.

EP9- Holiday Accommodation- by providing an additional 33 holiday homes which would provide additional revenues for the local economy for which tourism is an important element.

It could be therefore argued that the economic benefits of the expansion of the existing business would provide wider benefits to the local area in accordance with the first part of the exception test.

Second Part of the Test:

Level 2 of the SFRA (Reference 1) notes that “where a site is already benefitting from defences, residual flood risks should be addressed including risk of defence breaching, overtopping or pump failure. Existing hydraulic models are already available from the Environment Agency to undertake this assessment. However, climate change scenarios will have to be updated in line with current guidance” (Reference 1). To review the safety of the development the flood models will be assessed in relation to the Finished Floor Level.

Finished Floor Level:

To assess the site specific flood risk posed to the site a topographical survey has been completed (see Appendix 4) and these levels have been compared to the modelled data as provided by the EA maps (see Appendix 1). A site walkover of the site and surrounding area was also completed (see Appendix 2 for the key site photographs).

The EA have provided flood data for the site which is included in Appendix 1. The EA have provided modelled data for two locations on the existing site. In their response the EA have noted that whilst the tidal data was taken from the Lancashire Tidal ABD study, which was produced in 2014, updated 2020 Climate Change scenarios have been applied in relation to Sea Level Rise (SLR) allowances. Although they note that any changes to the topography of the area since the 2014 modelling will not have been included in the 2020 update to the SLR scenarios.

The EA have provided modelled data for a number of different scenarios in Appendix 1. Of the two locations provided the location nearest to the Northern boundary of the site has been used as this is closest to the tidal source and also has the higher modelled levels of the two locations. These are listed below in order to make the comparison of the data easier:

Scenario	Annual Exceedance Probability (%)	Level from Modelled Data (mAOD)
Tidal Defended	0.5	5.42
Tidal Defended	0.1	5.56
Tidal Defended + Climate Change (370mm SLR)	0.5	5.6
Tidal Defended + Climate Change (970mm SLR)	0.5	5.6
Tidal undefended	0.5	6.66
Tidal undefended	0.1	6.95
Tidal undefended + Climate Change (370mm SLR)	0.5	7.04
Tidal undefended + Climate Change (970mm SLR)	0.5	7.63

Generally, when considering the recommended Finished Floor Level (FFL) for the development the agreed practice is to use the 1:100 year (1%) plus climate change allowance data set, with the addition of a 0.6m freeboard, in order to provide additional safety above the estimated flood level. Given that this site is reviewing tidal data the use of the 1:200 year (0.5%) data has been used instead.

This would result in a recommended FFL of:

$$5.6\text{m} + 0.6\text{m} = 6.2\text{m AOD}$$

(Using the tidal defended plus Climate Change allowance of 970mm SLR data)

Plan 2 includes the topographical survey of the existing site levels with the proposed redevelopment area added with the new holiday homes. This area is situated within the North and West of the full site. A number of the existing holiday homes on the existing site were checked during the site walkover and the FFL of the holiday homes is 0.7m above the existing ground levels. A review of this plan indicates that the proposed site levels for this area are:

Proposed site location	Existing site level from West to East of the development area (m)	Existing site level from West to East of the development area with 0.7m freeboard added (m)
New holiday homes numbers 15- 20	5.94 – 5.34	6.64 – 6.04
New holiday homes numbers 14 & 24- 21	5.51 – 5.57	6.21 – 6.27
New holiday homes numbers 9 & 32- 29	5.19 – 5.18	5.89 -5.88

As the above summary of the site levels for the proposed redevelopment area site indicate the FFL of the holiday homes located within the East and South of the proposed redevelopment area would be below the recommended FFL of 6.2m. However, all of the redevelopment site is located above the modelled flood level of the tidal defended plus Climate Change allowance of 970mm SLR level of 5.6m.

Development will be safe for its lifetime:

As well as the modelled SLR data that was provided for the site the EA also provide Climate Change allowances for the various regions/ river basins (Reference 6). The data provided for the North West region/ river basin is for the Higher Central (70th percentile) and Upper End (95th percentile) for four epoch's up to 2125. It is likely that as the site is a commercial business rather than a residential dwelling that it will not be operational for all four epochs (covering 125 years). Therefore, the following assumptions have been made when assessing the EA's SLR based on the first two epoch's which cover 65 years:

Defended 1:200 (0.5%) level without any Climate Change allowances of 5.42m.

70th percentile Climate Change allowance of 377mm (2000- 2035 epoch of 158mm plus 2036-2065 epoch of 219mm):

$$5.42\text{m} + 0.377\text{m} = 5.797\text{m}$$

95th percentile Climate Change allowance of 497mm (2000- 2035 epoch of 200mm plus 2036-2065 epoch of 297mm):

$$5.42\text{m} + 0.497\text{m} = 5.917\text{m}$$

Based on these calculations for the 70th percentile or 70% allowance the whole of the proposed redevelopment area would be above the 5.797m level. Based on the 95th percentile or 95% allowance majority of the redevelopment area would be above the 5.917m level, although the new holiday homes to the South of the area would not be above this level.

In addition to the EA's site specific modelling and region climate change allowances, the SFRA Level 2 (Reference 1) includes a number of modelled flood depth maps. Figure 3.3 with the modelled flood depths during a 1% AEP fluvial event and 0.5% AEP tidal event (un-defended scenario) indicates that the site would be subject to a depth >1.25m (Reference 1).

Figure 4.3 with modelled flood depths during a 1% AEP fluvial event and 0.5% AEP tidal event (defended scenario) indicates that the Northern boundary of the site (closest to the tidal defences) would be subject to a 0.-0.25m depth, with the rest of the site being categorised as within the 'flood extent including climate change' grouping (Reference 1).

Figure 6.3 with modelled flood depths during a 0.5% AEP tidal event (breach scenario) indicates that the site would be subject to 0.04- 0.25m depth and 0.26- 0.5m depth category. These levels would be below the FFL for the holiday homes. Although there could be a risk of vehicles being moved by the flood water depths in the second category (Reference 1).

Figure 7.3 with modelled flood hazard during a 1% AEP fluvial event and 0.5% AEP tidal event (un-defended scenario) indicates that the majority of the site would be in the Flood hazard score of >2/ dangerous for all/ extreme (Reference 1).

Whilst Figure 8.3 with modelled flood hazard during a 1% AEP fluvial event and 0.5% AEP tidal event (defended scenario) indicates that the Flood hazard score for the majority of the site would be 0- 0.75 or very low hazard (Reference 1).

To summarise the modelled flood maps in the SFRA (Reference 1) suggest that for the undefended scenarios (Figures 3.3 and 7.3) considered the site would be at risk of flooding. However, the defended modelled scenarios (Figures 4.3 and 8.3) the site would be at a much reduced risk of flooding. The breach scenarios (Figure 6.3) suggests that in the event of the breach of the existing flood defences would result in flooding levels below the FFL of the holiday homes but could result in levels that would cause vehicles to move. The site is in an area which benefits from flood defences.

Not Increase Flooding Elsewhere:

Finally, as part of the second part of the exception test the development should not increase the risk of flooding elsewhere.

As the SFRA (Reference 1) notes the existing rock armour fronting defences are “designed to protect the area to a 0.5% (1 in 200-year) AEP Standard of Protection (SoP)” (Reference 1). The SFRA (Reference 1) also notes that “according to the Shoreline Management Plan (SMP2)15, these defences have a remaining life greater than 5 years, with most in good condition or showing signs of wear. These embankments, banks, seawalls and revetments are currently maintained by the Environment Agency, Lancashire County Council or privately”. The SMP2 short to medium-term strategy continue to provide protection against flood and erosion to property and infrastructure (i.e. hold the line)” (Reference 1).

The existing site is located next to greenfield sites on either side, which will act as floodplain for the neighbouring residential dwellings on Pilling Lane.

A proposed SuDS scheme is also included as part of the redevelopment in order to ensure that the sites surface water will continue to discharge to ground as per the current arrangements as the proposed area is currently grass. The information relating to the SuDS design is discussed in Section 7 below.

6.0 Specific Warning and Evacuation Plan

As noted previously, the Technical Guidance to the National Planning Policy Framework (Reference 3) notes that sites used for holiday or short-let caravans and camping should be subject to a specific warning and evacuation plan when classified as being within a more vulnerable use (Reference 3). As such, a Specific Warning and Evacuation Plan for the site and the business has been completed. This plan has been completed as a separate document to this report so that the business owners can update the document as required, therefore, please see Appendix 5 for this document.

The document does include information relating to the various EA flood alert stages and the actions required by the business at each stage. Plus, details of the evacuation plan. A safe egress route is required to ensure that the residents can safely exit a dwelling and head to higher ground which would be dry and safe in the event of a flooding incident. The document includes a plan of the safe egress route off the site, and also the safe egress route to a location within Flood Zone 1 (3 minute drive from the site).

7.0 Drainage Design to RIBA Stage 2

The existing drainage from the site discharges to the combined sewer on Pilling Lane as illustrated on the sewer plan provided by United Utilities (See Plan 2). The foul drainage from the site connects to the public sewer. The majority of the surface water from the site discharges to ground but some grids were noted during the site walkover (see Appendix 2). The existing drainage plan has been provided by the business owners and is included as Plan 3.

The sewer plan also indicates that there is a septic tank located to North of the site. The business owners have confirmed that they have no knowledge of this tank. As it is located where proposed existing holiday homes D and E are to be relocated as part of the redevelopment of the site attention should be paid during the redevelopment works for any signs of the tank. Given that the tank is noted on the sewer plan it is assumed that United Utilities consider it one of their assets and in the event that it is found then they will need to be contacted so they can determine, along with the business owners, as to how to proceed. Given that the site connects to the public sewer it would be recommended that the tank (if it exists) is emptied, removed and the excavation is infilled.

Existing Foul Drainage

As noted previously the site’s foul drainage connected to the combined sewer. Based on the industry standard document Flows and Loads 4 (Reference 7) the existing holiday homes will generate the following flows and load to the combined sewer in Pilling Lane:

Size	Population	Population Equivalent (PE)	Flow (l)	BOD (g)	Ammonia as N
1 population for static fully serviced sites	1	1	150	60	8
Existing 51 holiday homes (assuming 3 people per holiday home)	153	153	22950	9180	1224
Total	153	153	22950	9180	1224

These calculations estimate that the daily flow to the combined sewer is currently 22.95m³. The above figures make the assumption that each holiday home is continuously occupied and that three occupants are in every holiday home. In reality this is likely to be a maximum flow

and load that would only be the case on a small number of days per year. For this reason, the flows and loads from the auxiliary buildings and visitors have not been included.

Proposed Foul Drainage

Again, using the guidance figures provided in Flows and Loads 4 (Reference 7), the below figures have been provided to illustrate the impact of the proposed redevelopment of the site will have on the proposed flows and loads to the sewer.

Size	Population	Population Equivalent (PE)	Flow (l)	BOD (g)	Ammonia as N
1 population for static fully serviced sites	1	1	150	60	8
Existing 51 holiday homes (assuming 3 people per holiday home)	153	153	22950	9180	1224
Proposed 33 holiday homes (assuming 3 people per holiday home)	99	99	14850	5940	792
Total	252	252	37800	15120	2016

Based on the above calculations the proposed flow from the redevelopment will have a population (P) or population equivalent (pe) of 252pe. With an estimated flow of 37,800 litres or 37.8m³.

However, Flows and Loads 4 (Reference 1) states that “if the calculated total P for a group of houses exceeds 12 P then some reduction may be made to allow for the balancing effects on daily flow of a group of houses”. Reference 7 recommends that for a P of between 26- 50 P the figure should be adjusted by multiplying the figure by 0.8 so that the estimated population equivalent is reduced, in this case, to 201.6pe.

The conceptual drainage design (RIBA stage 2) is included on Plan 5. It is proposed that new holiday homes are connected to the existing foul drainage system that discharges to the combined sewer on Pilling Lane.

Surface Water Drainage

The redevelopment area is currently a grassed area of approximately 7320m². Existing surface water will discharge to ground via infiltration. It is unlikely that any of this runs off to sewer.

There are a number of models that can be used to calculate the various storage volumes required for SuDS designs and the merits of each model is detailed in Section 6 of Rainfall Runoff Management for Developments (Reference 8). The guidance recommends the use of the IH124 method which is the model that has been used for this report (see Appendix 3).

Whilst the guidance notes that the model has a tendency of producing larger storage volumes for small sites, this will provide some additional comfort within the design.

The SuDS Manual (Reference 9) does note that “values derived from any analysis should be regarded as approximate, because prediction of run off from very small catchments will always be imprecise”. And therefore, the aim of the SuDS design is to provide a “consistent and reasonable estimate” on which to base the sites design (Reference 9).

The proposed redevelopment of the site area calculations are as follows:

Proposed redevelopment area	Permeable area (m²)		Total
	Remaining grassed area	5246.8265	5246.8265
	Non permeable area (m²)		Total
	Holiday home area including parking bays	988.35	2073.2473
	New roads	1084.8973	
	Total site area (m²)		7320.0738

And based on the output from HR Wallingford’s IH124 Method the following storage volumes are required:

Storage Types	Storage Area Requirements (m³)
Attenuation	51
Long Term	0
Total	51

The attenuation storage (51m³) is essentially the volume required for run off from medium duration events covering a range of return periods.

It is recommended that in order to provide the required storage a 0.5m wide filter drain is installed along the external boundary of the new holiday homes, in a similar design to some of the existing holiday homes as noted during the site walkover in Photo 4 (see Appendix 2). This would provide the following storage:

Assuming the holiday homes are 12.2m by 3.6m as noted on Plan 2, then this would provide 15.8m² area per holiday home.

With 33 proposed new holiday homes with would provide a total filter drain area of 521m².

Assuming a stone depth of 0.5m within the filter drains this would provide a storage area of 260.7m³.

And finally, assuming a storage volume with a 20% porosity, this would provide 52.14m³ storage within the filter drains. And therefore, provide the required surface water storage as calculated by the IH124 model. The filter drains would discharge to ground. Maintenance of the filter drains should be undertaken to ensure that they do not become silted over time which would reduce the storage capacity within the system.

It is recommended that the new roads have a camber that enables surface water to run off to the grassed areas at the side of the roads so that surface water can continue to discharge to ground and doesn't pool on the roads.

The proposed SuDS scheme will therefore ensure that no surface water from the new holiday homes and associated access roads will discharge to the combined sewer.

As the design is developed to RIBA stages 3-5 the developer will need to follow the guidance outlined in Approved Document H and BS EN 752: 2018 Drain and Sewer Systems Outside Buildings.

8.0 Conclusions

The flood map categorises the site as being located within Flood Zone 3 or having a 'high probability' of fluvial/ tidal flooding. Land in this classification has an estimated flood risk of 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year based on the classification in the Technical Guidance to the National Planning Policy Framework (Reference 3).

It is proposed to extend the existing business by redeveloping part of the site to add additional holiday homes. The Technical Guidance to the National Planning Policy Framework (Reference 3) classify this use as a more vulnerable use and as such the Exception Test must be passed for this flood zone.

The Technical Guidance to the National Planning Policy Framework (Reference 3) also notes that "sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan" (Reference 3).

In relation to the sequential test, it is suggested that as this application relates to an extension to the existing business that an alternative location situated in Flood Zone 1 or 2 is not reasonably available.

In relation to the exception test, it could be argued that the economic benefits of the expansion of the existing business would provide wider benefits to the local area as per the local plan.

Level 2 of the SFRA (Reference 1) notes that “where a site is already benefitting from defences, residual flood risks should be addressed including risk of defence breaching, overtopping or pump failure.” (Reference 1).

To assess the safety of the site three separate flood models have been reviewed. These being the site specific EA model data which includes SLR allowances, the EA’s climate change allowances from 2016 and the modelled maps from the SFRA Level 2. The site specific EA model could be summarised as the holiday homes located within the East and South of the proposed redevelopment area would be below the recommended FFL of 6.2m. However, all of the redevelopment site is located above the modelled flood level (the tidal defended plus Climate Change allowance of 970mm SLR level) of 5.6m.

As well as the modelled SLR data that was provided for the site, the EA also provide Climate Change allowances for the various regions/ river basins (Reference 6). It is likely that as the site is a commercial business rather than a residential dwelling that it will not be operational for all four epochs provided by the EA (covering 125 years).

Based on these calculations for the 70th percentile or 70% allowance the whole of the proposed redevelopment area would be above the 5.797m level. Based on the 95th percentile or 95% allowance majority of the redevelopment area would be above the 5.917m level, although the new holiday homes to the South of the area would not be above this level.

The modelled flood maps in the SFRA (Reference 1) suggest that for the undefended scenarios considered (Figures 3.3 and 7.3) the site would be at risk of flooding. However, the defended modelled scenarios considered (Figures 4.3 and 8.3) the site would be at a much reduced risk of flooding. The breach scenarios (Figure 6.3) suggests that in the event of the breach of the existing flood defences would result in flooding levels below the FFL of the holiday homes but could result in levels that would cause vehicles to move. The site is in an area which benefits from flood defences.

A Specific Flood Warning and Evacuation Plan has been provided as Appendix 5. The document does include information relating to the various EA flood alert stages and the actions required by the business/ community at each stage. Plus, details of the evacuation plan. The document includes a plan of the safe egress route off the site, and also the safe egress route to a location within Flood Zone 1 (3 minute drive from the site).

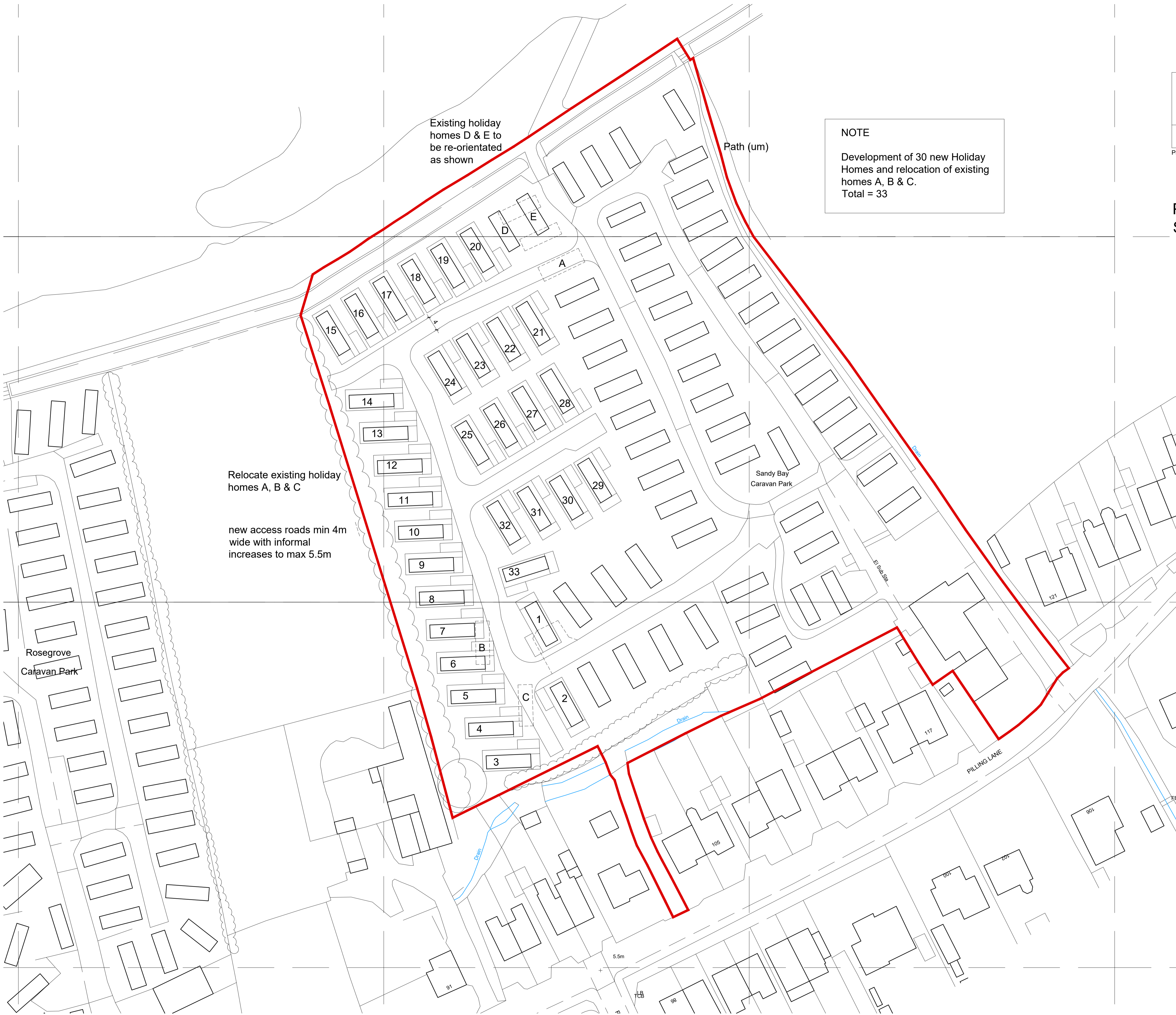
The proposed SuDS scheme (RIBA stage 2) will ensure that no surface water from the new holiday homes and associated access roads will discharge to the combined sewer.

9.0 References

1. Wyre Level 2 Strategic Risk Assessment. Wyre Borough Council. October 2016.
1. Wyre Level 1 Strategic Risk Assessment. Wyre Borough Council. July 2016.

3. Technical Guidance to the National Planning Policy Framework. Department for Communities and Local Government. March 2012.
4. Guidance for Applicants, Flood Risk Sequential Tests v1.2. Wyre Borough Council. April 2021.
5. Wyre Local Plan (2011- 2031). Wyre Borough council. February 2019.
6. Flood Risk Assessments: Climate Change Allowances. Environment Agency. February 2016.
7. Flows and Loads 4. British Water. 2013.
8. Rainfall Runoff Management for Developments. The Environment Agency. 2013.
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Plans

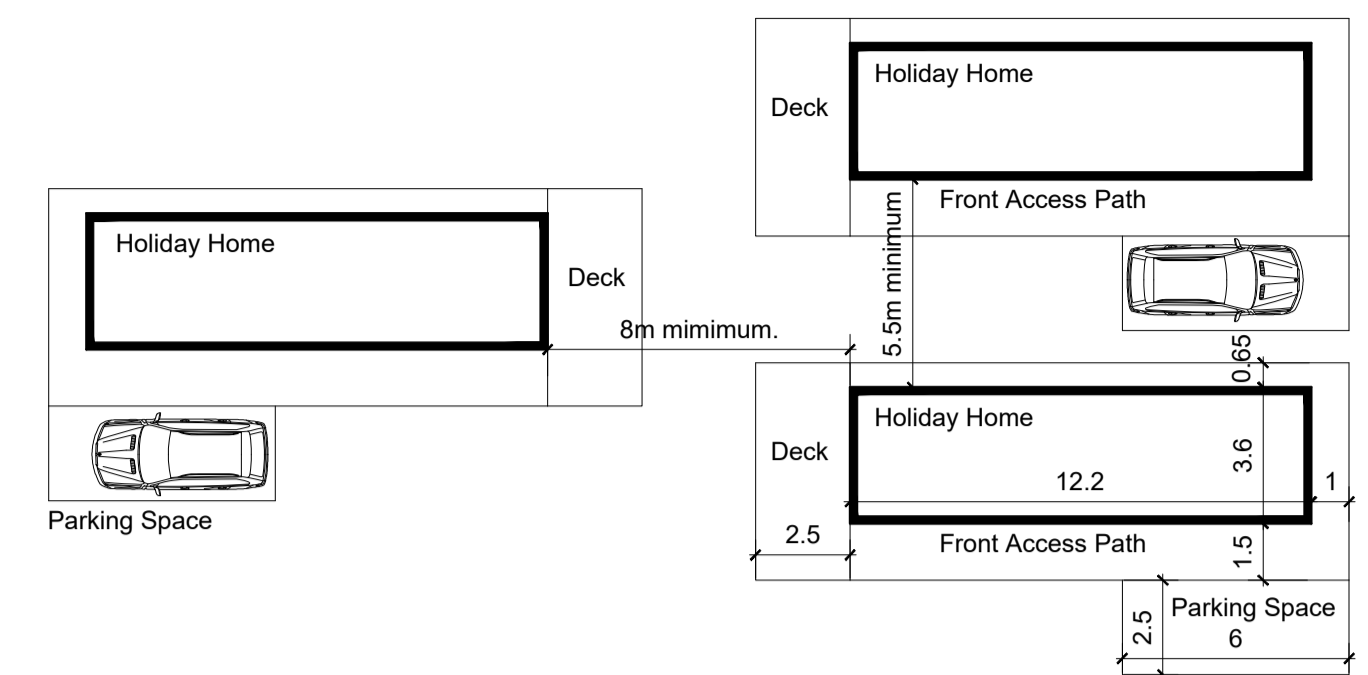


Existing holiday homes D & E to be re-oriented as shown

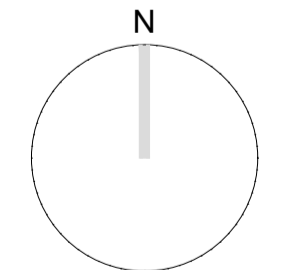
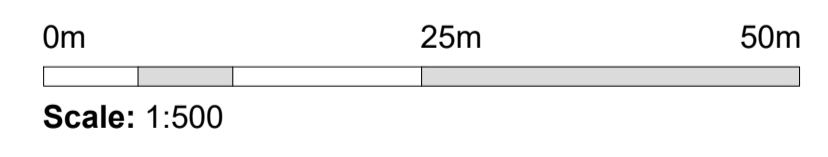
NOTE
 Development of 30 new Holiday Homes and relocation of existing homes A, B & C.
 Total = 33

Relocate existing holiday homes A, B & C

new access roads min 4m wide with informal increases to max 5.5m



PLAN SHOWING SPACE ALLOWANCES
 Scale 1:200



Revision Notes:

LMP ARCHITECTURAL CONSULTANTS			
CLIENT	W & T Danson		
PROJECT NAME	Proposed further development of		
	Sandy Bay Caravan Park, 119 Pilling Lane, Preesall, FY6 0HG		
DRAWING NAME	Proposed Site Layout		
SCALE	DRAWN BY	DATE	DRAWING NUMBER
1:500 @ A1	ASL	07/02/21	20-119-P01
			REVISION
			-

Maplebrook Environmental Consultant Limited

5 Oakland Court
Cearns Road, Oxton
Wirral, North West
CH43 1XH

FAO:

How to contact us:

**United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP**

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

Your Ref: SBCP
Our Ref: UUPS-ORD-255650
Date: 05/03/2021

Dear Sirs

Location: 119 PILLING LANE, PREESALL, POULTON-LE-FYLDE, FY6 0HG

I acknowledge with thanks your request dated 01/03/2021 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.



Reho	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
5901	5.34	CO	3.36	225		VC	85.20433		
1602	5.3	CO	1.72	225		VC	11.07712	1 in 369	
1603	5.3	CO	1.29	375		VC	4.822707	1 in 241	
1703	5.36	CO	1.83	225		VC	36.16339	1 in 320	
5902		CO		150		VC	11.86818		
2701	5.43	CO	2.29	225		VC	119.972	1 in 258	
2702	5.3	SW	4.49	225		VC	108.3736		
5906		CO		150		VC	4.26157		
0703	5.31	CO	0.93	625		VC	19.9213		
4804		CO		150		VC	8.184717		
5904		CO		150		VC	16.98723		
3601		CO		150		VC	15.76665		
3706		CO		100		VC	15.2111		
1701	5.2	CO	1.17	525		CO	30.8515	1 in 129	
5903	5.25	CO	3.99	225		VC	61.99028	1 in 339	
5905		CO		150		VC	15.37411		
2704		SW		225		VC	18.46629		
4603	5.42	CO		150		VC	27.4528		
5907		CO		150		VC	30.86227		
1704	5.34	CO	1.37	375		CO	47.17941	1 in 590	
2703	5.35	SW		225		VC	36.30278		
3744		FO		150		VC	22.90237		
1601	5.25	CO	1.23	525		CO	48.69288		
1601	5.25	CO	1.7	225		VC	55.91999	1 in 221	
3711		CO		150		VC	12.87627		
3710		CO		150		VC	7.01812		
3602		CO		150		VC	10.46012		
3709		CO		150		VC	7.21348		
2705		CO		100		VC	26.20917		
5908		CO		150		VC	3.379291		
4608		CO		100		VC	12.42964		
3712		CO		150		VC	11.37818		
3606		CO		100		VC	13.72027		
3701	5.32	CO	2.99	225		VC	5.242066	1 in 17	
4703		SW		150		VC	32.0607		
3719		CO		100		VC	4.645004		
3801	5.3	SW	4.11	225		VC	11.82878		
3804		CO		150		VC	4.739033		
3703	5.33	SW		225		PVC	74.28307		
4711		FO		100		PVC	26.33985		
4702	5.36	SW	4.65	150		VC	28.65873		
4709		FO		150		PVC	2.633445		
3805		CO		150		VC	10.33874		
4710		FO		150		PVC	18.27016		
4814		CO		225		VC	121.6904		
3704	5.31	SW		225		VC	6.45348		
3803	5.34	CO	2.87	225		VC	103.896	1 in 278	
1608	5.38	CO	2.72	375		CO	78.8103	1 in 59	
4802		SW		100		VC	19.28817		
3720		CO		150		VC	60.56664		
4801		SW		150		VC	30.82882		
4701	5.53	CO	3.33	225		VC	100.4832	1 in 913	

LEGEND

Abandoned Foul Surface Water Combined Public Sewer

----- Private Sewer
 ----- Section 104
 ----- Rising Main
 ----- Sludge Main
 ----- Overflow
 ----- Water Course
 ----- Highway Drain

All point assets follow the standard colour convention:
 red - combined blue - surface water
 brown - foul purple - overflow

- Manhole
- Head of System
- Extent of Survey
- Rodding Eye
- Inlet
- Discharge Point
- Vortex
- Penstock
- Washout Chamber
- Valve
- Air Valve
- Non Return Valve
- Soakaway
- Gully
- Cascade
- Flow Meter
- Hatch Box
- Oil Interceptor
- Summit
- Drop Shaft
- Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- Inspection Chamber
- Bifurcation Chamber
- Lamp Hole
- T Junction / Saddle
- Catchpit
- Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- Network Storage Tank
- Sewer Overflow
- Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- Control Kiosk
- Change of Characteristic

MANHOLE FUNCTION

FO Foul
 SW Surface Water
 CO Combined
 OV Overflow

SEWER SHAPE

CI Circular TR Trapezoidal
 EG Egg AR Arch
 OV Oval BA Barrel
 FT Flat Top HO HorseShoe
 RE Rectangular UN Unspecified
 SQ Square

SEWER MATERIAL

AC Asbestos Cement
 BR Brick
 PE Polyethylene
 RP Reinforced Plastic Matrix
 CO Concrete
 CSB Concrete Segment Bolted
 CSU Concrete Segment Unbolted
 CC Concrete Box Culverted
 PSC Plastic / Steel Composite
 GRC Glass Reinforced Plastic
 DI Ductile Iron
 PVC Polyvinyl Chloride
 CI Cast Iron
 SI Spun Iron
 ST Steel
 VC Vitrified Clay
 PP Polypropylene
 PF Pitch Fibre
 MAC Masonry, Coursed
 MAR Masonry, Random
 U Unspecified

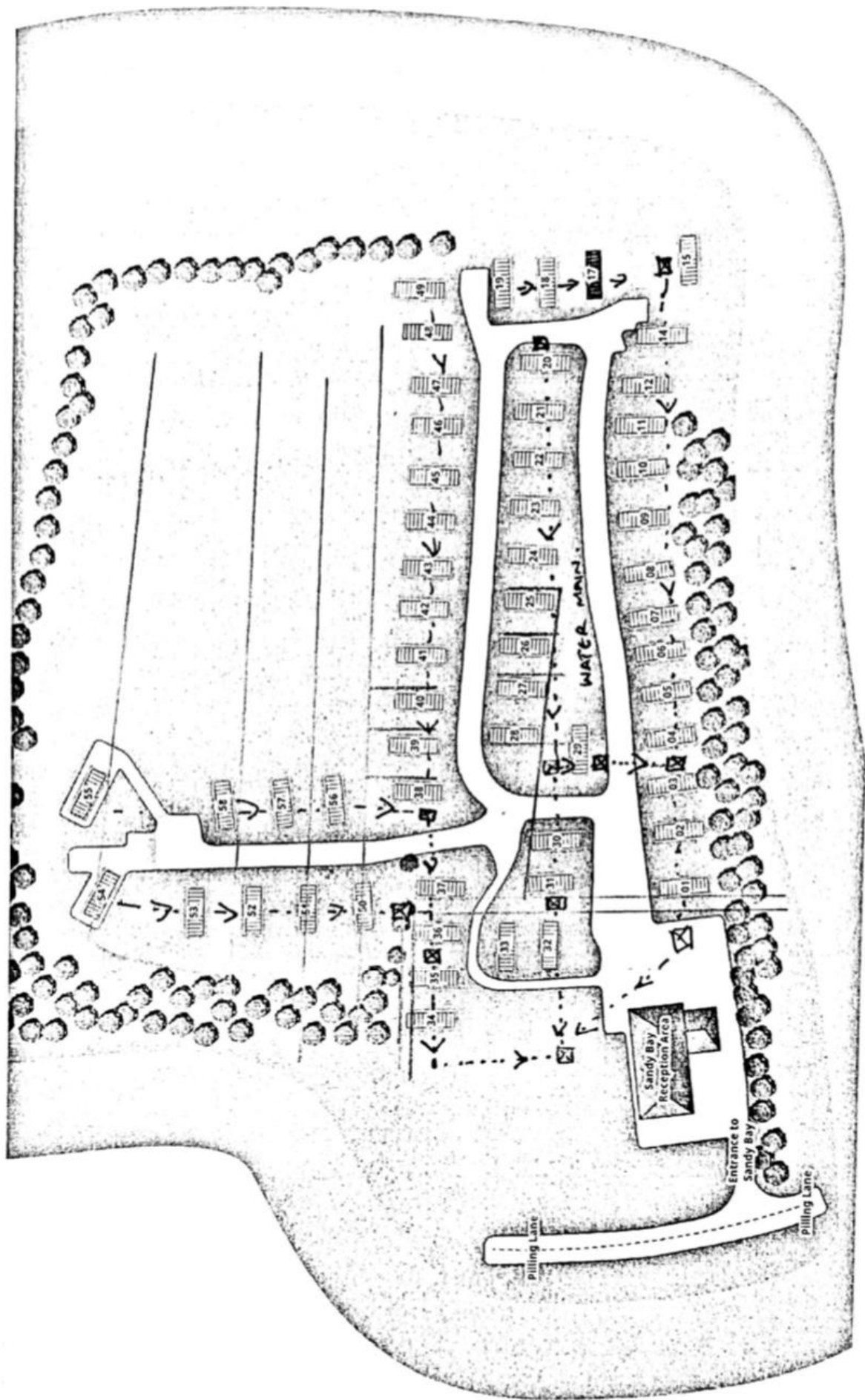
Address or Site Reference:

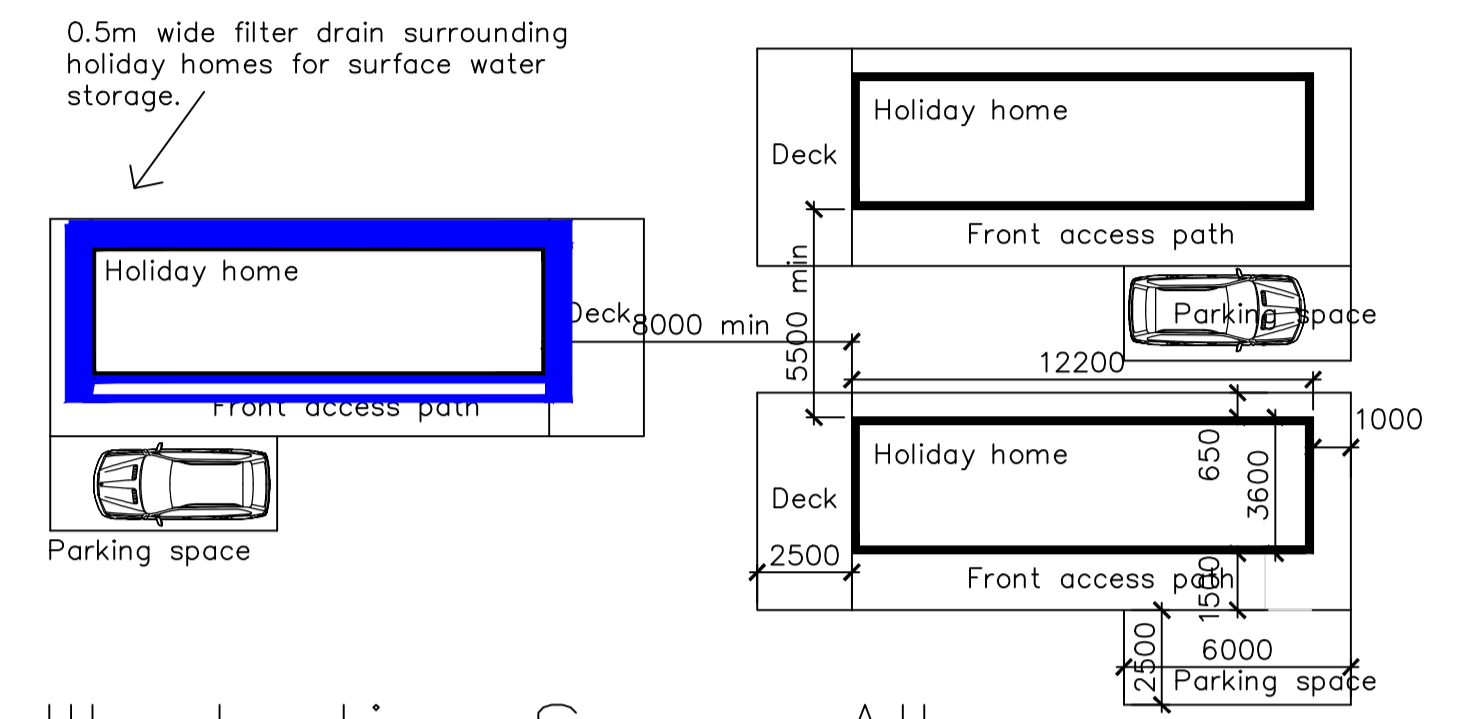
119 PILLING LANE,
 PREESALL,
 POULTON-LE-FYLDE,
 FY6 0HG

Scale: 1:1250 **Date:** 05/03/2021

Sheet: 1 of 1

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Illustrative Space Allowances
Scale 1:200

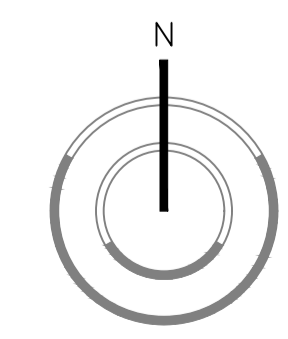
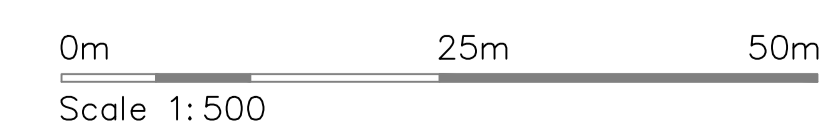
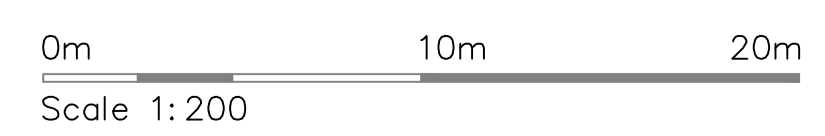
Maplebrook Environmental Drainage Notes:

- Proposed new foul manholes
- Proposed new foul lateral drains

Appropriate drainage falls required as per Approved Document H.

Appropriate cover for drainage pipes as per Approved Document H depending on whether pipe laid in grass or roads.

See above for Surface Water filter drain layout.



Revision Notes:

CLIENT	W & T Danson				
PROJECT	Proposed Further Development of Sandy Bay Caravan Park, 119 Pilling Lane, Preesall, FY6 0HG				
DRAWING	Proposed Site Layout				
DRAWN	ASL	DATE	23/04/21	NUMBER	20/119/P01
SCALE	1:500	SHEET	A1	REVISION	-

LMPI ARCHITECTURAL CONSULTANTS
213 Preston Road, Whittle-le-Woods, Chorley, Lancashire, PR6 3PS
Telephone: 01257 205555 | www.lmpi.co.uk