

**FORMER WREXHAM MUSICAL THEATRE, 1 SALOP ROAD,
WREXHAM, LL13 7AF**

**FLOOD CONSEQUENCES ASSESSMENT
FINAL REPORT V1.1**

June 2021

Report Title	Former Wrexham Musical Theatre, 1 Salop Road, Wrexham, LL13 7AF Flood Consequences Assessment Final Report v1.1
Client	P1 Speedyfit Ltd
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1 INTRODUCTION

1.1 Purpose of Report

Weetwood Services Ltd ('Weetwood') has been instructed by P1 Speedyfit Ltd to prepare a Flood Consequences Assessment (FCA) report to accompany a planning application for the proposed redevelopment of the former Wrexham Musical Theatre, 1 Salop Road, Wrexham.

An earlier version of this report was submitted to Wrexham County Borough Council to accompany the planning application referenced P/2021/0306. Natural Resources Wales objected to the proposals by way of consultation response letter dated 12 May 2021. This FCA report presents an updated version to account for the comments made.

The assessment has been undertaken in accordance with the requirements of Technical Advice Note 15 (TAN15).

1.2 Structure of the Report

The report is structured as follows:

Section 1	Introduction and report structure
Section 2	Provides background information relating to the development site, the development proposals, ground conditions, existing site access arrangements and the flood zone designation
Section 3	Presents national and local flood risk and drainage planning policy
Section 4	Assesses the potential sources of flooding to the development site
Section 5	Presents flood risk mitigation measures based on the findings of the assessment
Section 6	Addresses the effect of the proposed development on surface water runoff
Section 7	Presents a summary of key findings and the recommendations

2 SITE DETAILS AND PROPOSED DEVELOPMENT

2.1 Site Location

The approximately 0.14 hectare (ha) site is located east of Salop Road (A525) at Ordnance Survey National Grid Reference SJ 337 499, as shown in **Figure 1**.

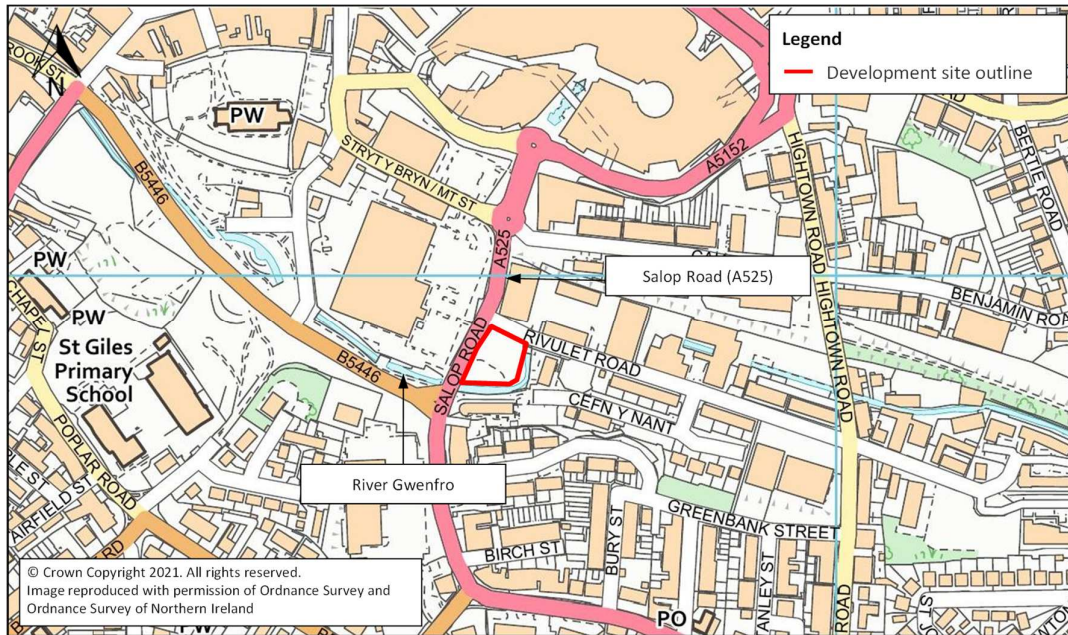


Figure 1: Site Location

2.2 Existing and Proposed Development

The site was previously occupied by the former Wrexham music theatre. Up until its closure the building continued to house performances from the Wrexham Musical Theatre Society, along with the venue also being used for lecture space¹. The building has been demolished in preparation for the re-development of the site.

Proposals are for the siting of a prefabricated unit for fitting tyres and car wash facilities (**Appendix A**).

The previous use of the site, a theatre, is not specifically classified under TAN15; however, this is considered to be a public building and would therefore have been classified as Highly Vulnerable to flood risk, whereas the proposed commercial development is classified as Less Vulnerable to flood risk. The proposed use of the site may therefore be reducing the flood risk vulnerability classification compared to the previous use.

2.3 Waterbodies in the Vicinity of the Site

The waterbodies within the vicinity of the site have been identified in **Figure 1**.

The River Gwenfro generally flows in a predominantly easterly direction in the vicinity of the site and is located adjacent to the southern and eastern site boundaries.

¹ As stated at <http://www.wrexham.com/news/demolition-begins-on-former-wrexham-music-theatre-space-109169.html>

Larger rivers and streams are usually designated as 'main river'; other rivers are called 'ordinary watercourses'. The main river map² shows which rivers in Wales are designated as 'main river'.

Natural Resources Wales carries out maintenance, improvement and construction work on main rivers to manage flood risk. Lead local flood authorities and district councils carry out flood risk management work on ordinary watercourses.

According to the main river map the River Gwenfro is classified as an 'ordinary watercourse'.

2.4 Ground Conditions

According to the Soilscape soils dataset produced by the Cranfield Soil and AgriFood Institute³, soil conditions at the site and within the surrounding area are freely draining slightly acid loamy soils.

British Geological Survey mapping of surface geology⁴ indicates the underlying bedrock formation comprises mudstone, sandstone and conglomerate forming part of the Salop Formation, overlain by clay, silt, sand and gravel forming part of the Alluvium superficial deposits.

The British Geological Survey and Natural Resources Wales aquifer designation dataset⁵ classifies the Alluvium superficial deposits and Salop bedrock at the site as a Secondary A aquifer. A Secondary A aquifer is defined by its permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

According to the Natural Resources Wales database⁶ the site is not shown to be located within a designated groundwater source protection zone.

2.5 Site Levels

A topographic survey of the site was undertaken by Battlefield Land Survey Ltd in 2016 (**Appendix B**), which indicates ground levels at the site to generally be in the region of 72.90 metres (m) Above Ordnance Datum (AOD) in the south-west, falling to 71.82 m AOD in the north-east. There is a low spot in the north of the site at an existing gully shown to be at a level of 71.65 m AOD.

2.6 Access and Egress

Access and egress will be gained via Salop Road to the west of the site. Levels along Salop Road adjacent to the site are shown to be in the region of 72.04 to 73.51 m AOD, raising to the south (**Appendix B**).

2.7 Flood Zone Designation

Figure 1 of TAN15 defines three development advice zones as follows:

- Zone A: Considered to be at little or no risk of fluvial or tidal/coastal flooding
- Zone B: Areas known to have been flooded in the past evidenced by sedimentary deposits
- Zone C: Based on [the Natural Resources Wales] flood outline, equal to or greater than 0.1% (river, tidal or coastal). Zone C is subdivided into the following two zones:
 - Zone C1: Areas of the floodplain which are developed and served by significant infrastructure, including flood defences
 - Zone C2: Areas of the floodplain without significant flood defence infrastructure

² <https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en>

³ www.landis.org.uk/soilscape/

⁴ <http://mapapps2.bgs.ac.uk/geoindex/home.html>

⁵ Footnote 4

⁶ <https://lle.gov.wales/catalogue/item/SourceProtectionZonesSPZMerged/?lang=en>

The development advice zones are shown on the Development Advice Map⁷ and are defined by the predicted extent of the 1 in 1,000 (rivers and sea) annual exceedance probability (AEP) event (zone C) and British Geological Survey drift data (zone B).

The Development Advice Map (**Figure 2**) indicates that the majority of the site is located in zone C2, with the south-western corner located in zone B.

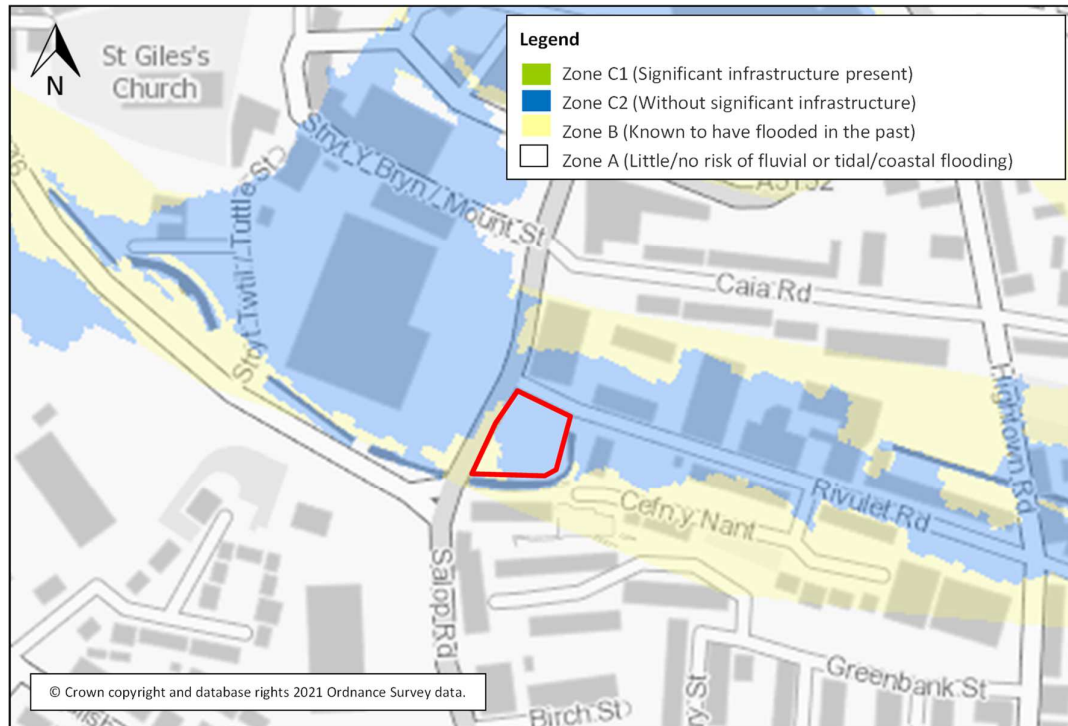


Figure 2: Development Advice Map

Source: Natural Resources Wales website; Accessed: February 2021

⁷ <https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en>

3 PLANNING POLICY AND GUIDANCE

3.1 Legislation Originating from the European Union

The Water Framework Directive (WFD) provides a legal framework for the protection, improvement and sustainable use of inland surface waters, groundwater, transitional waters, and coastal waters across Wales, and seeks to:

- Prevent deterioration in the status of aquatic ecosystems, protect them and improve the ecological condition of waters
- Achieve at least 'good' status for all waterbodies by 2015
- Promote the sustainable use of water as a natural resource
- Conserve habitats and species that depend directly on water
- Progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment
- Progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants; and
- Contribute to mitigating the effects of floods and droughts.

The WFD applies to any proposed development which has the potential to impact on a waterbody. Where this is the case, Natural Resources Wales may require evidence demonstrating that the proposed development does not compromise the aims of the WFD.

3.2 National Planning Policy and Guidance

Planning Policy Wales (PPW) sets out government's planning policies for Wales and how these are expected to be applied. TAN15 provides technical guidance which supplements the policy within PPW and seeks to ensure that flood risk is taken into account at all stages in the planning process and is appropriately addressed.

The general approach of TAN15 is to set out a precautionary framework to guide planning decisions in areas at high risk of flooding. The overarching aim of the framework is, in order of preference, to:

- Direct new development away from those areas which are at a high risk of flooding.
- Where development has to be considered in high risk areas (i.e. zone C) only those developments which can be justified should be located in such areas.

In accordance with paragraph 6 of TAN15, development will only be justified if it can be demonstrated that:

- i. Its location in zone C is necessary to assist, or be part of, a local authority regeneration initiative or a local authority strategy required to sustain an existing settlement; **or**,
- ii. Its location in zone C is necessary to contribute to key employment objectives supported by the local authority, and other key partners, to sustain an existing settlement or region;

and,

- iii. It concurs with the aims of PPW and meets the definition of previously developed land (PPW Figure 2.1); and,
- iv. The potential consequences of a flooding event for the particular type of development have been considered, and in terms of the criteria contained in sections 5 and 7 and appendix 1 found to be acceptable.

National policy requires that planning applications for new development proposals should incorporate sustainable drainage systems (SuDS) to appropriate operational standards and with maintenance arrangements in place unless there is clear evidence that this would be inappropriate.

Statutory standards for sustainable drainage were published by Welsh Government in October 2018⁸ in relation to the design, construction, operation and maintenance of sustainable drainage systems serving new developments of more than one house or where the construction area is equal to or greater than 100 square metres (m²). These standards set out how surface water runoff generated during the present day 1 in 1, 1 in 30 and 1 in 100 AEP rainfall events and for events exceeding the present day 1 in 100 AEP event should be managed, how peak runoff rates should be restricted and how runoff volumes should be controlled. Approval is subsequently required from the SuDS Approval Body (SAB) before construction can commence.

3.3 Local Planning Policy and Guidance

3.3.1 Unitary Development Plan, Wrexham County Borough Council, February 2005

The Wrexham County Borough Council Unitary Development Plan is the adopted development plan for the 15 year period running from 1996 and 2011 and remains the development plan for the county.

The following policies are relevant in respect of flood risk and drainage:

Policy GDP1; Development Objectives

- i. Ensure that development does not result in, or is subject to, flooding, soil erosion, landslides or contamination, either on or off the site.

Policy EC12; Development and Flood Risk

Development (including the raising of land) within defined flood plains will only be permitted if it:-

- a. Would not be subject to an unacceptable risk of flooding on-site; and/or
- b. Does not result in an unacceptable risk of flooding on or off-site; and/or
- c. Does not adversely affect flood management or maintenance schemes

Policy EC13; Surface Water Run-off

Development which would result in an unacceptable adverse impact on the water environment due to additional surface water run-off will not be permitted.

3.3.2 Deposit Local Development Plan, Wrexham County Borough Council, April 2019

The Wrexham County Borough Council Deposit Local Development Plan is available on the Wrexham County Borough Council website for the 15 year period between 2013 – 2028, however this has not yet been adopted by the council.

The following policies are relevant in respect of flood risk and drainage:

Policy SP19; Climate Change

To mitigate against the effects of climate change and adapt to its impacts, development proposals will need to demonstrate that they have taken into account the following:

- vi. Avoiding areas susceptible to flood risk in the first instance in accordance with the sequential approach set out in national guidance; and
- vii. Preventing development that increases flood risk and
- viii. Assesses the potential effects of climate change when preparing a Flood Consequence Assessment for the site.

Policy DM1; Development Management Considerations

⁸ Statutory Standards for Sustainable Drainage Systems – designing, constructing, operating and maintaining surface water drainage systems (<https://gov.wales/sites/default/files/publications/2019-06/statutory-national-standards-for-sustainable-drainage-systems.pdf>)

Development proposals, where relevant, must:

- i. Not increase the risk of flooding but makes adequate provision for sustainably dealing with foul and surface water drainage and not result in an unacceptable impact upon the water environment.

3.4 Environmental Permitting and Land Drainage Consent

Under the Environmental Permitting (England and Wales) Regulations 2016 an Environmental Permit for Flood Risk Activities⁹ is required from Natural Resources Wales for any permanent or temporary works:

- In, over or under a designated main river
- Within 8 m of the top of bank of a designated main river or of the landward toe of a flood defence (16 m if it is a tidal main river or a sea defence).

In addition, any permanent or temporary works within the floodplain of a designated main river may also require an Environmental Permit for Flood Risk Activities. A permit is separate to and in addition to any planning permission granted.

Land drainage consent may be required from the lead local flood authority for work to an ordinary watercourse.

If the location of an activity is on an ordinary watercourse that lies within an Internal Drainage District, land drainage consent may be required from Natural Resources Wales.

Undertaking activities controlled by local byelaws also requires the relevant consent.

⁹ <https://naturalresources.wales/permits-and-permissions/environmental-permits/?lang=en>

4 REVIEW OF FLOOD RISK

4.1 Justification Test

As the site is classified as being located in zone C2, any new development should only be permitted if the Justification Test is passed.

It is considered the redevelopment of the site will help sustain the existing settlement, meeting point (i) of the Justification Test. Point (iii) of the Justification Test is met as the site can be regarded as 'previously developed land'. This report aims to address point (iv) of the Justification Test.

It should also be noted that the proposed development will reduce the flood risk vulnerability classification at the site compared to its previous use.

4.2 Historical Records of Flooding

The Natural Resources Wales historic flood outlines database¹⁰ indicates that the site has not been impacted by historic flood events. However, the site is known to have previously flooded.

Video footage from September 2012¹¹ appears to show shallow flooding within the site itself, whilst clearing works to the River Gwenfro are being undertaken.

In addition, Figure 1-4 of the River Gwenfro Model Update report prepared by JBA Consulting on behalf of Wrexham County Borough Council in December 2016 indicates that the site was affected by flooding in May 2013 due to a capacity issue with the Rivulet Road culvert causing water to overtop the left bank and flood the theatre car park and nearby industrial units.

The Rivulet Road culvert inlet structure is noted to have a past history of blockage and flooding within the Wrexham County Borough Council Flood Risk Management Plan document (July 2016). It is understood that Wrexham County Borough Council has since replaced the trash screen at the Rivulet Road culvert inlet after it was damaged during a high flow event in 2019.

Details regarding extents and depths of flooding at the site itself during the aforementioned events are unavailable.

Weetwood has consulted¹² with Wrexham County Borough Council Lead Local Flood Authority in order to obtain information regarding historic flooding to the site; however, at the time of writing a response it awaited.

4.3 Fluvial Flood Risk

The River Gwenfro is located along the southern and eastern boundaries of the site and flows in a predominantly easterly direction.

A 1D-2D ISIS-TUFLOW hydraulic model of the River Gwenfro was developed by JBA Consulting on behalf of Wrexham County Borough Council as part of the River Gwenfro Model Update, December 2016. This assesses the risk of flooding from the River Gwenfro for the present day 1 in 100 and 1 in 1,000 AEP events and the 1 in 100 plus climate change ('central' 20%) AEP event.

Modelled flood depths are presented in **Figure 3**, with **Table 1** summarising the maximum level, depth and velocity of floodwaters expected at the site during the aforementioned scenarios.

¹⁰ <http://lle.gov.wales/catalogue/item/HistoricFI/?lang=en>

¹¹ <https://youtu.be/8GSdzwkuzfU> accessed on 17 May 2021

¹² Email to WCBC LLFA dated 18 May 2021

The modelled maximum flood depths are shown to be in the region of 200 mm for the vast majority of the site in all scenarios. In terms of the maximum flood depths, given the nature of the modelling process the lowest ground level at the site does not appear to have been recorded, which is 71.65 m AOD located at an existing gully as presented in **Appendix B**. Based on that lowest recorded ground level and the peak modelled flood levels, the maximum flood depths for the 1 in 100, 100 plus climate change (20%) and 1 in 1,000 AEP events would be expected to be 0.63, 0.66 and 0.71 m respectively; however, these are for an isolated area and do not represent maximum flood depths across the vast majority of the site.

Table 1: Site Flood Information (Baseline)

AEP Event	Max Level (m AOD)	Max Depth (m)		Max Velocity (m/s)	
		Highest	Mean	Highest	Mean
Present day 1 in 100	72.28	0.44	0.19	0.43	0.07
1 in 100 plus climate change (20%)	72.31	0.46	0.20	0.50	0.09
Present day 1 in 1,000	72.36	0.50	0.22	0.60	0.10

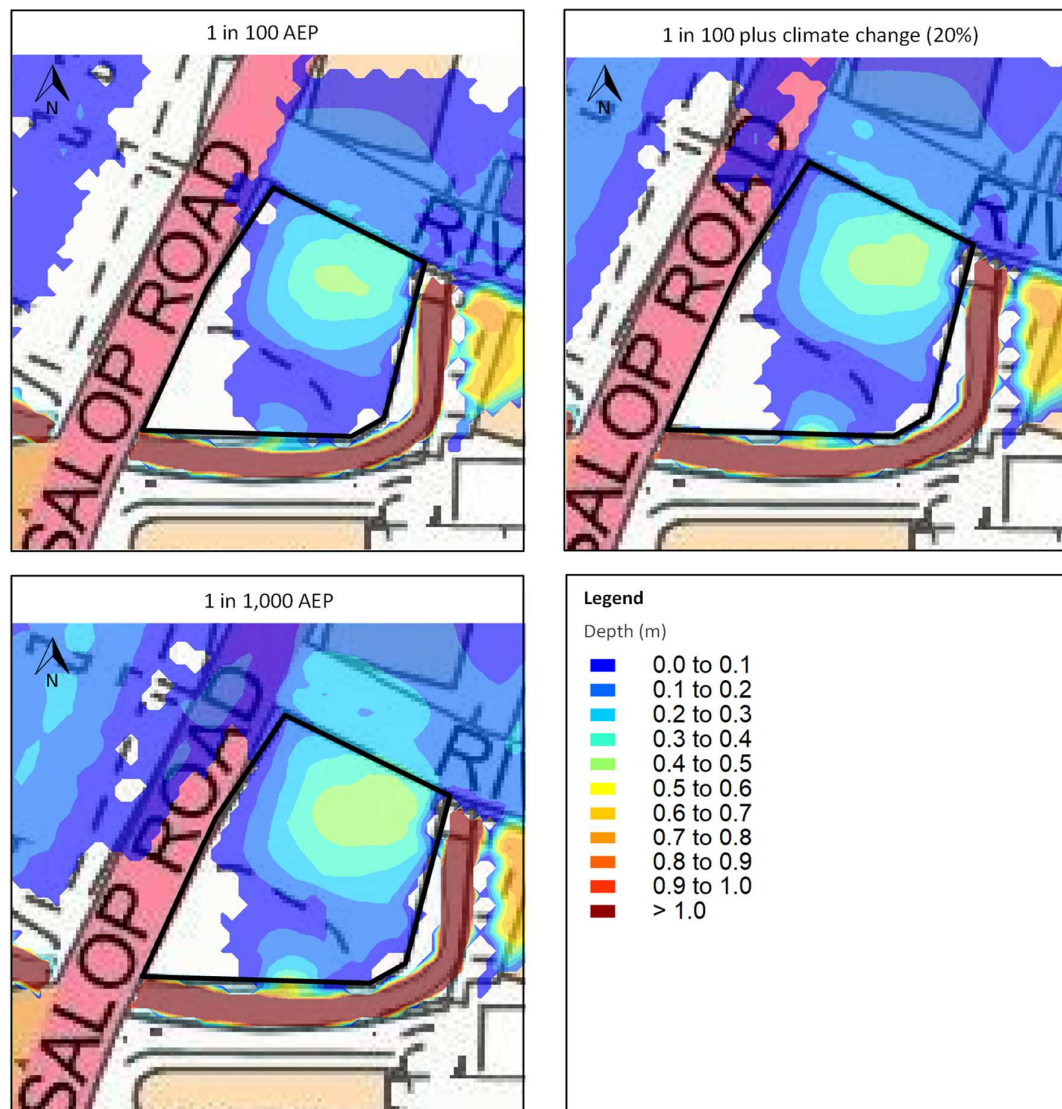


Figure 3: River Gwenfro Modelled Flood Depths

Source: River Gwenfro Model Update, JBA Consulting, December 2016

The model outputs indicate that the south-western portion of the site will remain dry during all modelled events up to a 1 in 1,000 AEP event.

Salop Road is shown to remain mostly dry adjacent to the site, with some flooding shown towards the north, which may experience flood depths in the region of 0.03, 0.05 and 0.08 m during the 1 in 100, 1 in 100 plus climate change (20%) and 1 in 1,000 AEP events respectively.

Regarding residual risk of structure blockages, the Rivulet Road culvert is located adjacent to the north-eastern corner of the site and is likely to be the 'worst-case' scenario should that hydraulic structure become blocked compared to other nearby structures. As stated in **Section 4.2** the Rivulet Road culvert inlet structure has a past history of blockages.

The River Gwenfro Model Update report, December 2016, has assessed several blockage locations, including the Rivulet Road culvert, for low (30%), medium (67%) and high (100%) proportions of blockages for the 1 in 100 plus climate change (20%) and 1 in 1,000 AEP events.

Table 2 indicates the maximum flood levels and depths at the proposed development site during culvert blockage conditions, together with the increase in flood level compared to the equivalent baseline 'free-flowing' scenarios.

Table 2: Site Flood Information (Culvert Blockage)

Blockage %	AEP Event	Max Level (m AOD)	Max Depth (m)		Increase in flood level compared to baseline scenario (m)
			Highest	Mean	
30 (low)	1 in 100 plus climate change (20%)	72.32	0.46	0.20	0.01
30 (low)	Present day 1 in 1,000	72.38	0.50	0.22	0.02
67 (medium)	1 in 100 plus climate change (20%)	72.35	0.48	0.21	0.04
67 (medium)	Present day 1 in 1,000	72.40	0.52	0.23	0.04
100 (high)	1 in 100 plus climate change (20%)	72.66	0.76	0.44	0.35
100 (high)	Present day 1 in 1,000	72.67	0.77	0.45	0.31

The model outputs indicate that there is limited impact on flood levels at the proposed development site during the 'low' and 'medium' culvert blockage scenarios when compared to the 'free-flowing' baseline scenario. During the 'high' culvert blockage scenario, maximum flood levels increase by 0.35 and 0.31 m respectively during the 1 in 100 plus climate change (20%) and 1 in 1,000 AEP events.

In light of the above, it is considered that blockages up to 67% of the Rivulet Road Culvert are unlikely to have a significant impact on maximum flood depths at the site during the 1 in 100 plus climate change (20%) and 1 in 1,000 AEP events; however, during more extreme blockages up to 100% flood level increases are anticipated.

4.4 Flood Risk from Surface Water and Small Watercourses

The Flood Risk from Surface Water and Small Watercourses map (**Figure 4**) indicates that the majority of the site is at a very low risk of surface water flooding with an area of low risk located in the north-eastern corner of the site.

Salop Road is shown to be at a very low risk north of the site and a low risk to the south of the site.

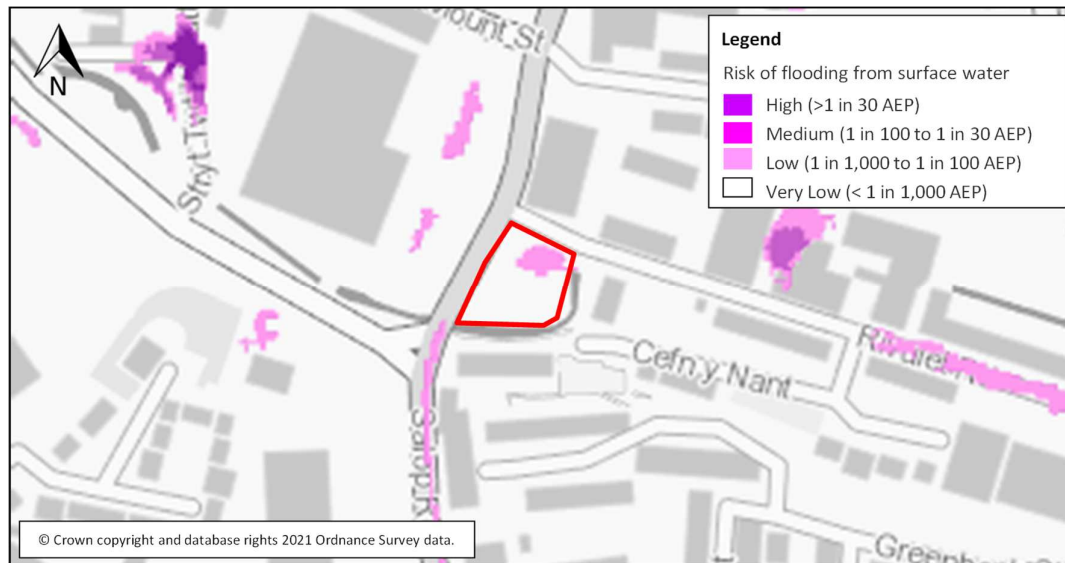


Figure 4: Flood Risk from Surface Water and Small Watercourses

Source: Natural Resources Wales website; Accessed: February 2021

Potential depths and velocities for the low risk surface water flooding event are provided in **Figure 5**. These indicate that the depths and velocities are expected to remain below 0.3 m and 1 m/s respectively. However, it should be noted that the area of flooding shown on the site is served by a drainage system (**Appendix B**) which is unlikely to be accounted for within the associated modelling and therefore the risk of flooding to that area may well be overestimated.

Flood depths and velocities along Salop Road are expected to remain below 0.15 m and 0.1 m/s respectively

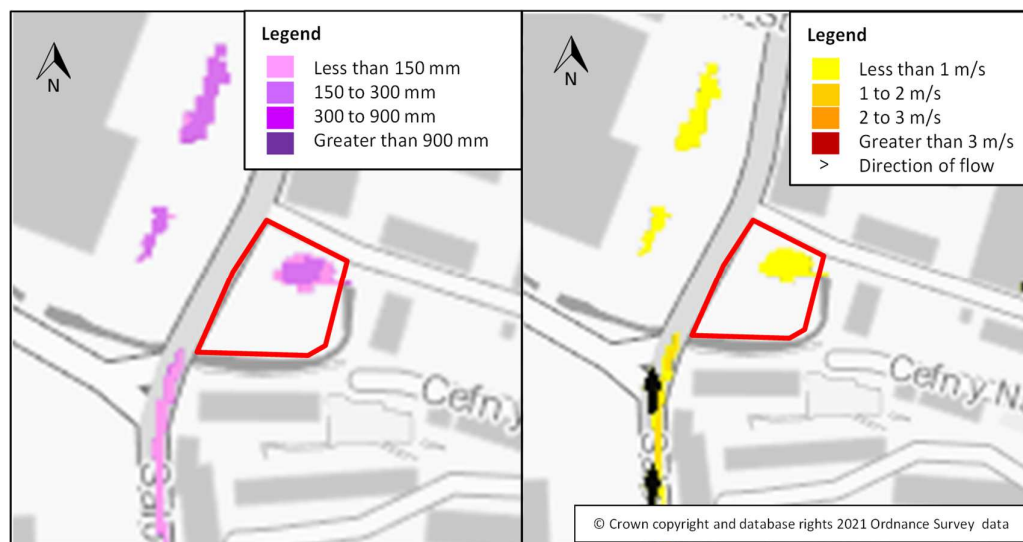


Figure 5: Flood Risk from Surface Water and Small Watercourses – Low Risk Scenario

Source: Natural Resources Wales website; Accessed: February 2021

4.5 Flood Risk from Reservoirs, Canals and Other Artificial Sources

There are no canals or other impounded waterbodies located within the immediate vicinity of the site. The Reservoir Flood Risk map indicates that the site is not at risk of flooding from such sources. The site is therefore not assessed to be at risk of flooding from reservoirs, canals or other artificial sources.

4.6 Flood Risk from Groundwater

The British Geological Survey Groundwater Flooding Hazard map (**Figure 6**) indicates that the site is at a significant susceptibility of flooding from groundwater sources.

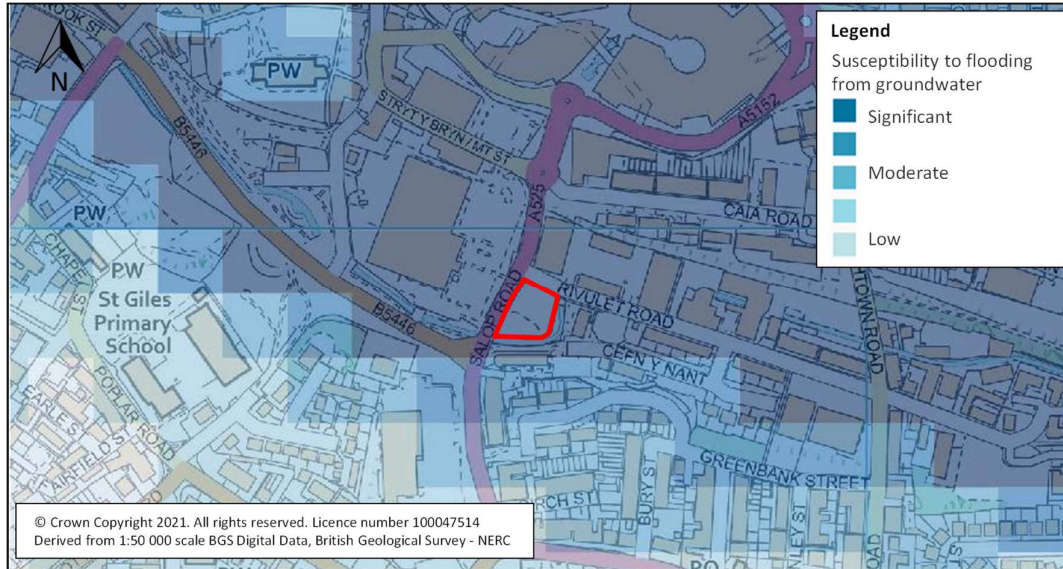


Figure 6: Groundwater Flooding Hazard Map

Source: Findmaps; Accessed: February 2021

As detailed in **Section 2.4** ground conditions at the site freely draining slightly acid loamy soils. There may therefore be the propensity for some groundwater flooding in the vicinity of the site.

5 FLOOD RISK MITIGATION MEASURES

The risk of flooding to the proposed development from fluvial and surface water sources, and the residual risk of groundwater flooding, will be mitigated through the implementation of the measures proposed within the following section of this report.

The proposed mitigation measures should be assessed in the context that the proposed commercial development (i.e. Less Vulnerable to flood risk) provides betterment over the existing/previous use of the site, a theatre/public building (i.e. Highly Vulnerable to flood risk).

5.1 Finished Floor Levels

Given the proposed use of the site, level access will be required and it would be unfeasible to raise the site. It should be noted that the proposed development will lower the vulnerability classification compared to the previous highly vulnerable use at the site, which would provide betterment.

The tyre-changing unit will be located outside of the 1 in 1,000 AEP event flood outline including a 67% blockage of the Rivulet Road culvert. The unit will be required to have level access at ground level for operational reasons so it would be unfeasible for it to be significantly raised. The finished floor level of the tyre-changing unit should be set at a minimum level of 72.67 m AOD, which is the modelled flood level during a 1 in 1,000 AEP event including a 100% blockage to the Rivulet Road culvert.

In accordance with Building Regulations Approved Document C¹³, finished floor levels of buildings should be set at a minimum of 0.15 m above adjacent ground levels following reprofiling of the site.

This will, subject to the implementation of an appropriately designed surface water drainage scheme, enable any potential overland flows to be conveyed safely across the site without affecting property.

5.2 Flood Resistant and Resilient Construction

Flood resilient construction techniques should be incorporated into the design of the development where feasible, in line with government guidance¹⁴. These include design features and finish materials to reduce the damage in the unlikely event of the development being inundated.

5.3 Flood Risk Elsewhere

Any proposal to modify ground levels should demonstrate that there is no increase in flood risk to the development itself, or to any existing buildings which are known to, or are likely to flood.

In accordance with A1.2 of TAN15 developers must ensure there will be no loss of flood flow or flood storage capacity for floods up to the severity of the 1 in 1,000 AEP event. Whilst not specified by TAN15, Natural Resources Wales generally recommends that this should be the case over the lifetime of development (i.e. should take into account climate change) and should consider breach and blockage where necessary.

There will be no land raising at the site. The tyre-changing unit will be located outside of the modelled 1 in 1,000 AEP event flood outline including a medium blockage of the Rivulet Road culvert and therefore is not expected to have any impact on flood risk elsewhere during such scenarios.

It should be noted that many of the proposed structures within the site are open with canopies, which would allow the free passage of water beneath during extreme flood conditions (refer to **Appendix A**).

According to historic satellite imagery, the previous building at the site was approximately 380 m² in area, which has already been demolished to facilitate redevelopment. The proposed tyre-changing unit (7 m x 27

¹³ Approved Document C - Site preparation and resistance to contaminants and moisture, 2004 edition (with 2010 and 2013 amendments)

¹⁴ Guidance on the Code of Practice for Property Flood Resilience, Edition 2, C790B. CIRIA London 2020.

m as outlined in **Appendix A**) and the security container (3 m x 6 m) will be located within the same location as the previous building but only equates to an area of 207 m², indicating that the impact on the floodplain in terms of flood flows would be similar to the previous development and the impact on flood storage will be significantly less than the previous development.

It is proposed to remove the existing walls that are located adjacent to Rivulet Road and Salop Road. Given that there is an existing large permeable gate into the site off Rivulet Road, it is unlikely that these walls act as *de facto* flood defences as water can currently penetrate the wall via the gate. Moreover, these existing walls are not accounted for within the Wrexham County Borough Council hydraulic model, indicating that they would have been considered insignificant to overland flow when the model was constructed in 2016.

Weetwood has consulted¹⁵ with Wrexham County Borough Council Lead Local Flood Authority in order to obtain information regarding the existing walls; however, at the time of writing a response it awaited.

In light of the above, the proposed development is unlikely to significantly impact flood risk in the locality compared to the previously developed site.

5.4 Access and Egress

Access and egress will be provided via Salop Road to the north-west of the site.

Accordingly to the modelled outputs, in up to the 1 in 1,000 AEP event including a 67% culvert blockage some shallow flooding up to approximately 85 mm is anticipated to occur adjacent to the site entrance; however, Salop Road leading south of the site is expected to remain dry in up to the 1 in 1,000 AEP event.

During the more extreme 100% culvert blockage scenario, flood depths of 320 and 340 mm may occur adjacent to the site entrance in the 1 in 100 plus 20% climate change and 1 in 1,000 AEP event respectively. Dry land along Salop Road is shown to be available only 20 m south of the site entrance.

In light of the above relatively shallow flood depths, emergency vehicular access and egress is considered to be feasible.

It is understood that frequent and 'out of hours' access is required into the site in order to clear the Rivulet Road culvert inlet structure trash screen. A set of keys will be made available to Wrexham County Borough Council to allow access into the site at all hours.

5.5 Flood Warning Signage

It is recommended that flood warning signage is placed within the site to warn site users that parts of the site is at risk of flooding during extreme events.

5.6 Flood Warning and Evacuation Plan

It is recommended that a Flood Plan is prepared in consultation with the Wrexham County Borough Council emergency planning team. The objectives of the plan would be to reduce the risk to property and life by ensuring that all residents are aware of the potential risk of flooding and the procedures that should be implemented in the event that flooding is expected or has occurred.

5.7 Land Drainage Consent

It is proposed to incorporate a suitable easement adjacent to the River Gwenfro to enable future maintenance works to be undertaken by Wrexham County Borough Council.

¹⁵ Email to WCBC LLFA dated 18 May 2021

Weetwood has consulted¹⁶ with Wrexham County Borough Council Lead Local Flood Authority in order to obtain information regarding suitable easement requirements for the site; however, at the time of writing a response it awaited.

It is suggested that a 5 m easement would be suitable; however, it is recommended that a suitably worded condition be imposed to agree a suitable easement with Wrexham County Borough Council.

¹⁶ Email to WCBC LLFA dated 18 May 2021

6 SURFACE WATER MANAGEMENT

There will be no increase in impermeable areas at the site and given the nature of the proposed units, which are prefabricated, it is assumed the site will (partly) continue to drain as existing. However, recognising that the site will generate polluted flows from the car washing facilities, large portions of the site may be required to discharge runoff into the public foul water sewer network.

7 SUMMARY AND RECOMMENDATIONS

This report has been prepared on behalf of P1 Speedyfit Ltd and relates to the proposed redevelopment of the Former Wrexham Musical Theatre, 1 Salop Road, Wrexham, LL13 7AF.

According to the Development Advice Map the proposed development site is located within zone C2.

It is considered the redevelopment of the site will help sustain the existing settlement, meeting point (i) of the Justification Test. Point (iii) of the Justification Test is met as the site can be regarded as 'previously developed land'. This report aims to address point (iv) of the Justification Test.

The site has a recent history of fluvial flooding, mainly due to blockages to the Rivulet Road culvert.

The River Gwenfro is located along the southern and eastern boundaries of the site. The modelled outputs indicate that parts of the site are at risk of flooding during the 1 in 100, 1 in 100 plus climate change (20%) and 1 in 1,000 AEP events. The model outputs indicate that the south-western portion of the site will remain dry during all modelled events up to a 1 in 1,000 AEP event. Salop Road is shown to remain mostly dry adjacent to the site, with some shallow flooding shown towards the north. During the residual risk partial blockage scenarios (to the Rivulet Road culvert), the site is not shown to be significantly impacted compared to the equivalent free-flowing events. Approximately 300 mm increase to flood levels are expected at the site when accounting for a total blockage to the culvert.

The Flood Risk from Surface Water and Small Watercourses map indicates that the majority of the site is at a very low risk of surface water flooding with an area of low risk located in the north-eastern corner of the site.

The site is not at risk of flooding from reservoirs, canals or other artificial sources.

There may be some susceptibility to groundwater flooding at the site.

This report has demonstrated that the proposed development may be completed in accordance with the requirements of planning policy subject to the following:

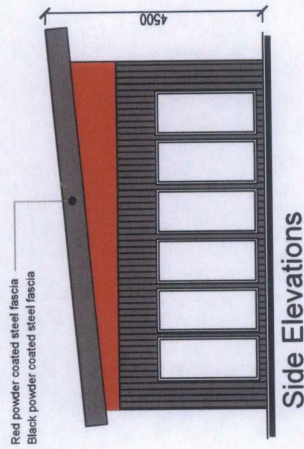
- The proposed tyre changing unit should have a minimum finished floor level set at 72.67 m AOD and be at least 0.15 m above adjacent ground levels
- Flood resilient construction to be applied to the development where feasible
- Flood warning signage to be located in the car parking areas
- Flood Warning and Evacuation Plan to be developed in consultation with Wrexham County Borough Council

The proposal is not expected to adversely impact flood risk elsewhere.

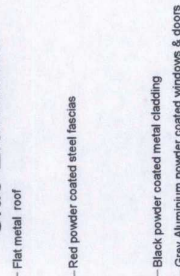
Given the relatively shallow flood depths adjacent to the proposed site entrance, emergency vehicular access and egress is considered to be feasible in up to a 1 in 1,000 AEP event including a 100% blockage to the Rivulet Road culvert.

APPENDIX A

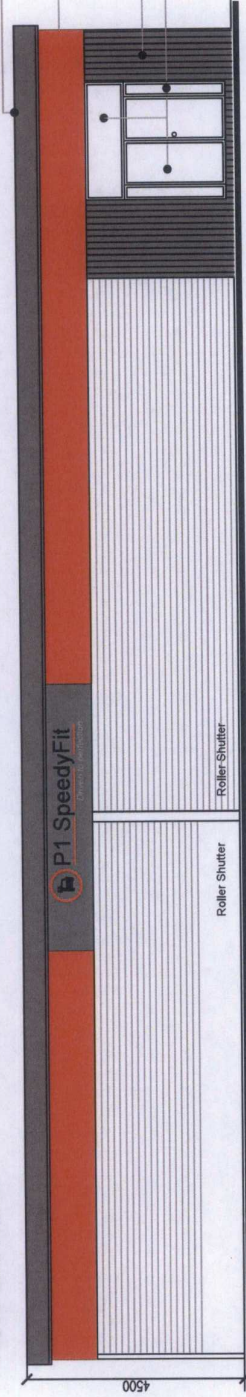
Development Proposals



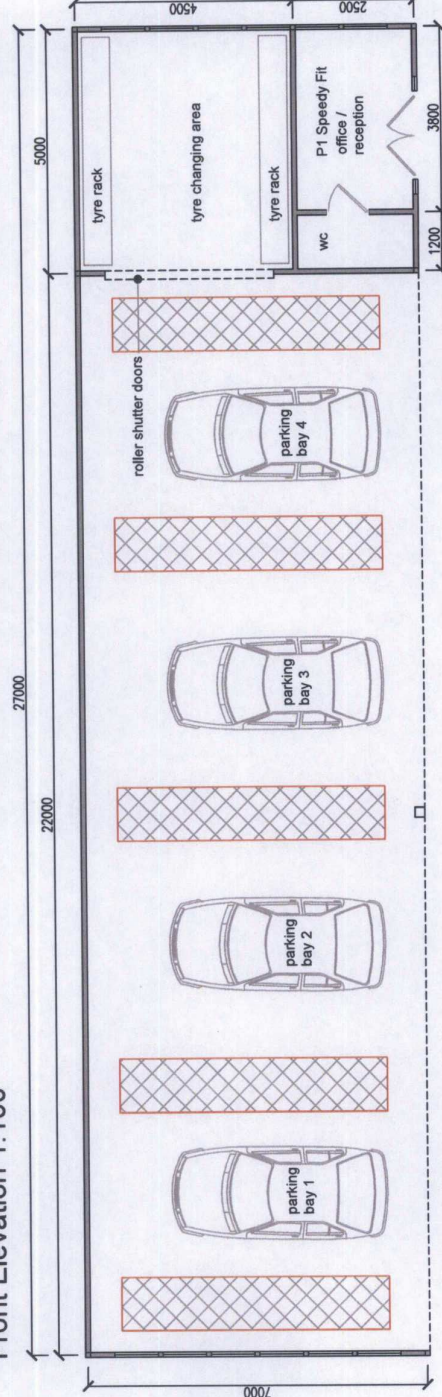
Side Elevations



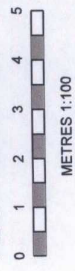
Rear Elevation



Front Elevation 1:100



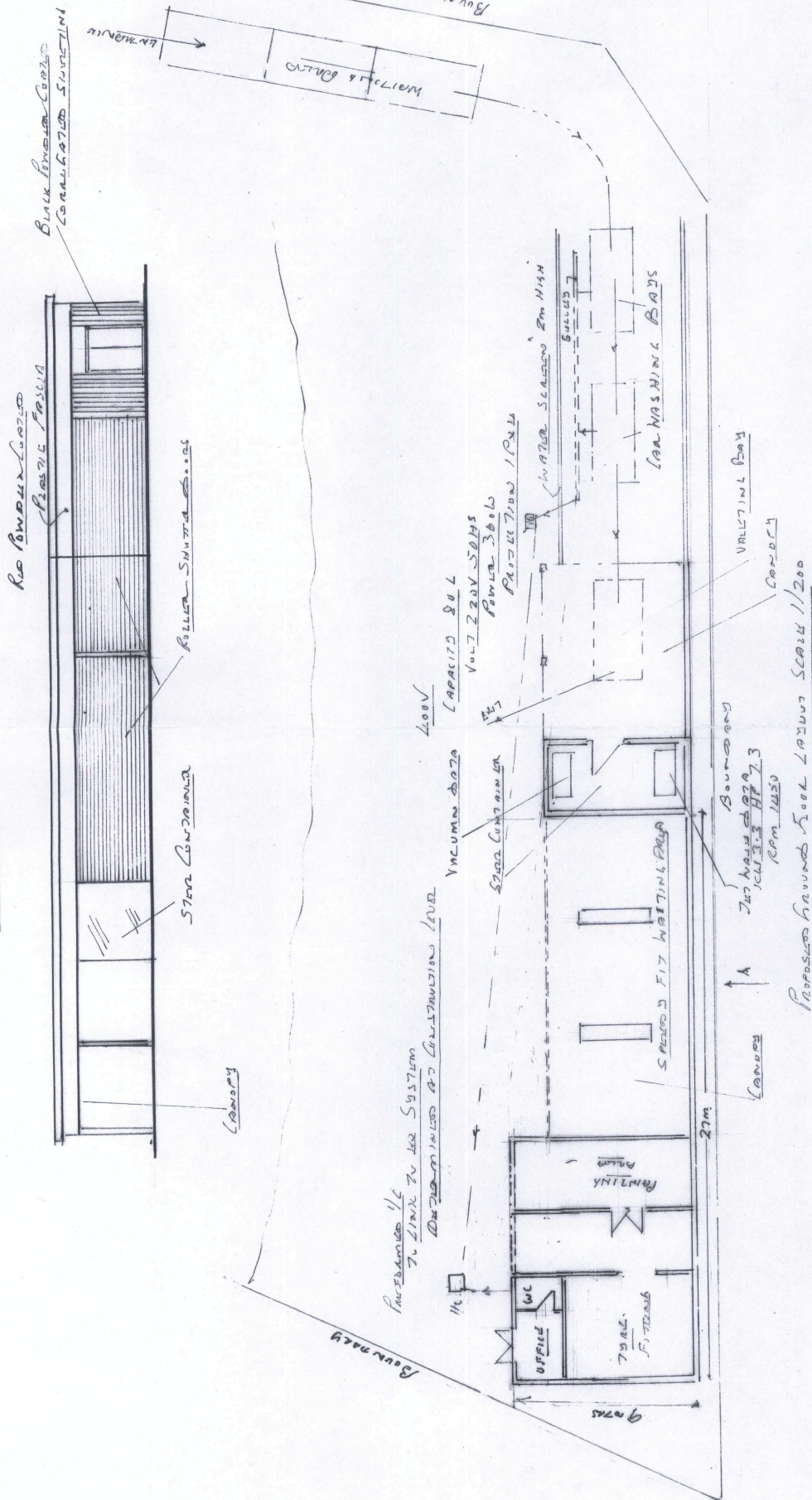
Floor Plan 1:100



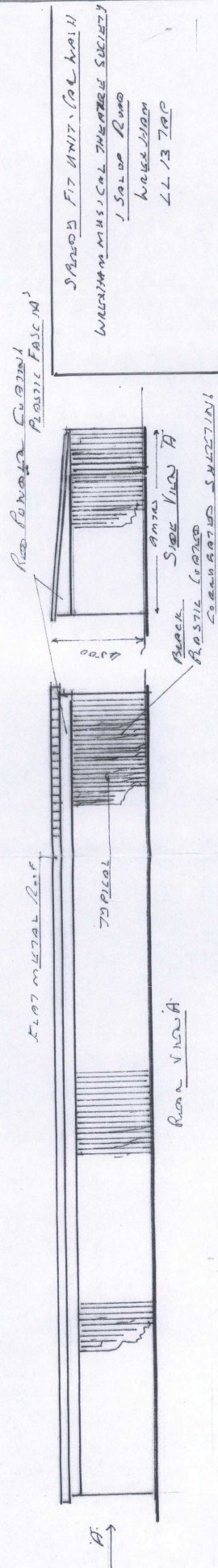
P1 Speedy Fit Vangarde Shopping Park,
Jockey Lane, Huntingdon, York YO32 9AE
Proposed Floor Plans & Elevations
Sept 2018 scale as shown @ A3
P1P / 2018.177.02

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Future View



Rosa Virginia



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UNIONING MMS, COL THEATRE OF SOCIETY
J. SALVO RUVO
Wassham
22 13 70P



APPENDIX B

Topographic Survey

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Flood Risk Assessments
Flood Consequences Assessments
Surface Water Drainage
Foul Water Drainage
Environmental Impact Assessments
River Realignment and Restoration
Water Framework Directive Assessments
Environmental Permit and Land Drainage Applications
Sequential, Justification and Exception Tests
Utility Assessments
Expert Witness and Planning Appeals
Discharge of Planning Conditions

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