



**Land off Goat Mill Road, Merthyr Tydfil
TAN15: Flood Consequence Assessment**

**For Sirius Planning
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Land off Goat Mill Road, Merthyr Tydfil

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Client	Sirius Planning
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EXECUTIVE SUMMARY

A plastic recycling and processing facility would be expected to remain dry in all but the most extreme conditions. Providing the recommendations made in this FCA are instigated, flood risk from all sources would be minimised, the consequences of flooding are acceptable, and the development would be in accordance with the requirements of TAN15.

This FCA demonstrates that the proposed development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of TAN15. The development should not therefore be precluded on the grounds of flood risk.

1.0 INTRODUCTION

1.1 Background

This Flood Consequence Assessment (FCA) has been prepared by KRS Environmental Limited to support a planning application for the proposed development at land off Goat Mill Road, Merthyr Tydfil.

This FCA has been carried out in accordance with guidance contained in Technical Advice Note 15 Development and Flood Risk (TAN15) and associated Development Advice Maps. This FCA identifies and assesses the risks of all forms of flooding to and from the development and demonstrates how these flood risks will be managed so that the development remains safe throughout the lifetime, taking climate change into account.

It is recognised that developments which are designed without regard to flood risk may endanger lives, damage property, cause disruption to the wider community, damage the environment, be difficult to insure and require additional expense on remedial works. The development design should be such that future users will not have difficulty obtaining insurance or mortgage finance, or in selling all or part of the development, as a result of flood risk issues.

1.2 Technical Advice Note 15 (TAN15)

One of the key aims of TAN15 is to ensure that flood risk is taken into account at all stages of the planning process; to avoid inappropriate development in areas at risk of flooding and to direct development away from areas of highest risk.

It advises that where new development is exceptionally necessary in areas of higher risk, this should be safe, without increasing flood risk elsewhere, and where possible, reduce flood risk overall. A risk based approach is adopted at stages of the planning process, applying a source pathway receptor model to planning and flood risk. To demonstrate this, an FCA is required and should include:

- whether a proposed development is likely to be affected by current or future flooding from all sources;
- whether it will increase flood risk elsewhere;
- whether the measures proposed to deal with these effects and risks are appropriate; and
- satisfy the justification test, including the acceptability of consequences.

1.3 Justification Test

The Justification Test sets out the details required to justify siting a new development in an area believed to be at risk of flooding and is defined in Section 6 of TAN15. The required criteria a site / development must fulfil are;

- 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; 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.

1.4 Report Structure

This FCA has the following report structure:

- Section 2 describes the location area and the existing and proposed development;
- Section 3 outlines the flood risk to the existing and proposed development;
- Section 4 outlines mitigation measures used to reduce the overall level of flood risk;
- Section 5 details the Justification Test; and
- Section 6 presents a summary and conclusions.

2.0 LOCATION & DEVELOPMENT DESCRIPTION

2.1 Site Location

The site is located at land off Goat Mill Road, Merthyr Tydfil, CF47 0TJ. The National Grid Reference (NGR) for the site is 306200, 207000. (see Figure 1).

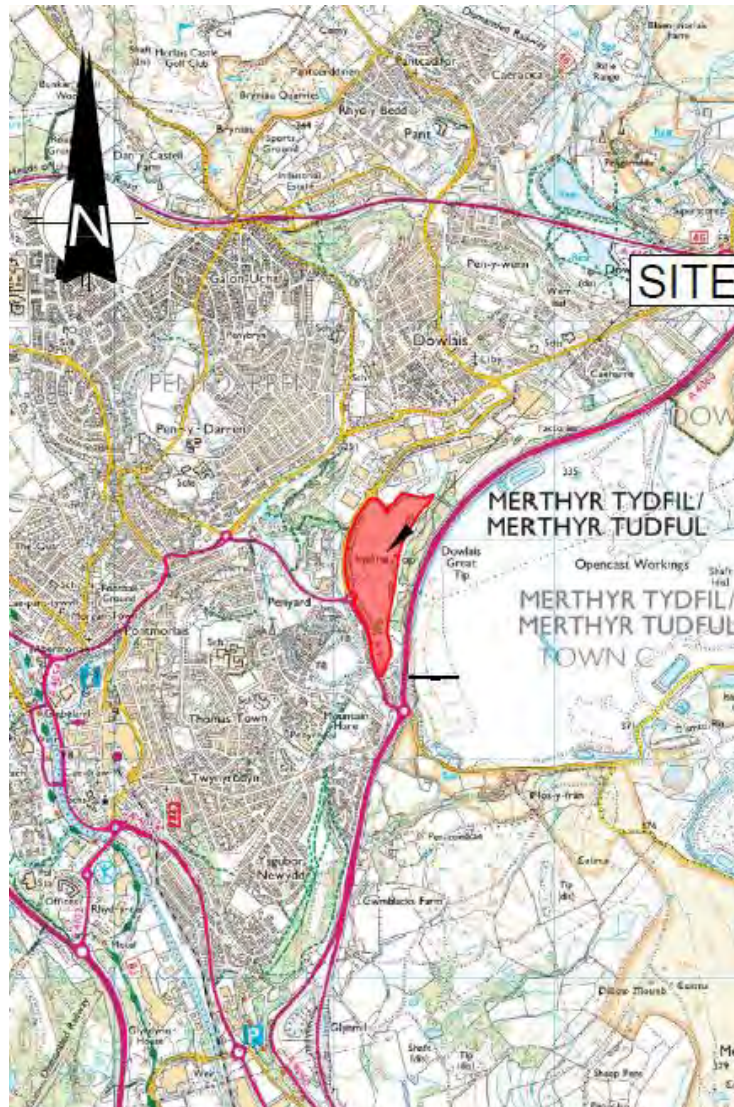


Figure 1 - Site Location

2.2 Existing Development

The site currently consists of open land. The surfacing comprises mainly open sparsely grassed gravel, with a wooded margin along the western and eastern edges of the site. The eastern flank of the site forms the shoulder of an embankment carrying the A4060 dual carriageway..

2.3 Proposed Development

The proposals are for the erection of a plastic recycling and processing facility with associated office accommodation, external storage area, car parking and weigh bridge (see Appendix 1). The proposed site layout includes two large portal frame recycling buildings amongst hard-paved areas upon which

baled plastic waste is to be stored. A surface water lagoon is also proposed in the south of the site. Wooded areas immediately east of Goat Mill Road, and to the west of the A4060 road are to remain undeveloped.

2.4 Ground Levels

A topographical survey of the site has been carried out (see Appendix 2). The site currently comprises a plateau in the western half, which slopes gently down from east to west, from circa 281-279m Above Ordnance Datum (AOD), with an overall gradient of circa 1 in 90. The eastern part of the site forms the shoulder of an embankment supporting the A4060 road, up to circa 35m high, with a slope angle of circa 1 in 3.5.

2.5 Catchment Hydrology / Drainage

There is an unnamed surface watercourse along the northern site boundary, flowing to the west; there is a small concrete bridge spanning this giving access to the site. There are also drainage ditches along the base of the embankment to the A4060 road, which discharge into the surface water course to the north of the site, and a smaller watercourse, running to the west, within the site. These appear to convey surface water from the opencast mine to the east, below the A4060 road.

There is a second small concrete bridge spanning a watercourse within the south of the site. Figure 2 shows the location of known watercourses within the vicinity of the site.



Figure 2 - Watercourse Location

2.6 Ground Conditions

The British Geological Survey (BGS) Map indicates the site to be underlain by solid strata comprising the South Wales Lower Coal Measures Formation (SWLCMF) (Carboniferous age), described as 'Mudstone, siltstone and sandstone'. Regarding the superficial deposits, the 1:10,560 and 1:50,000 scale geological mapping (produced prior to opencast mining) indicates that Boulder Clay is present in the central part of the site.

Published geological mapping shows, 'Made Ground, mainly spoil from coal and ironstone workings' covering much of the site. However, this is considered to be out of date, as it is known that a former ironworks slag heap was removed from the site and that the site is now underlain by made ground including opencast mine backfill, engineered fill and the embankment to the A4060 road.

Information from the National Soil Resources Institute details the site area as being situated on slowly permeable seasonally wet acid loamy and clayey soils. The Flood Studies Report WRAP soil map classification is Type 5: Soils of wet uplands - i) with peaty or humose surface horizons and impermeable layers at shallow depth; ii) deep raw peat associated with gentle upland slopes or basin sites; iii) bare rock cliffs and screes; iv) shallow permeable rocky soils on steep slopes.

2.7 Groundwater

The British Geological Survey (BGS) Map indicates the site to be underlain by solid strata comprising the South Wales Lower Coal Measures Formation (SWLCMF) (Carboniferous age), described as 'Mudstone, siltstone and sandstone'.

Regarding the superficial deposits, the 1:10,560 and 1:50,000 scale geological mapping (produced prior to opencast mining) indicates that Boulder Clay is present in the central part of the site.

Published geological mapping shows, 'Made Ground, mainly spoil from coal and ironstone workings' covering much of the site. However, this is considered to be out of date, as it is known that a former ironworks slag heap was removed from the site and that the site is now underlain by made ground including opencast mine backfill, engineered fill and the embankment to the A4060 road.

Under the aquifer classification system developed by the Environment Agency, the superficial deposits are classified as a Secondary Undifferentiated Aquifer. Secondary Undifferentiated Aquifers are described by the Environment Agency as, 'assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type'.

The solid strata underlying the site are classified as a Secondary A Aquifer. Secondary A Aquifers are defined by the EA as, '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'.

Information from the National Soil Resources Institute details the site area as being situated on slowly permeable seasonally wet acid loamy and clayey soils. The Flood Studies Report WRAP soil map classification is Type 5: Soils of wet uplands - i) with peaty or humose surface horizons and impermeable layers at shallow depth; ii) deep raw peat associated with gentle upland slopes or basin sites; iii) bare rock cliffs and screes; iv) shallow permeable rocky soils on steep slopes.

2.8 Groundwater

There is one BGS borehole record within the site (BGS Ref. SO00NE72). The borehole record shows that groundwater is likely to be more than 1.50 metres Below Ground Level (mBGL) and the groundwater is not expected to be especially vulnerable to contamination. Water is likely to percolate

through the unsaturated zone to the groundwater through fractures, a process which has little potential for contaminant removal and breakdown.

2.9 Source Protection Zone

The site is not located within an Environment Agency Source Protection Zone. SPZ's have been defined by the Environment Agency around major public water supplies with the intent to show the risk of contamination from any activities that might cause pollution in the area. Three zones are defined: SPZ 1 is the Inner Zone (highest risk); SPZ 2 is the Outer Zone (average risk); SPZ 3 is the Total Catchment (least risk).

2.10 Ground stability

Dissolution, sand liquefaction and landslides could be enhanced by SuDS infiltration and lead to unstable ground. Dissolution risk is low since the site does not appear to be directly underlain by chalk or other soluble rocks. Sand liquefaction risk is low since the site is not located on unconsolidated superficial sand deposits. Landslide risk is low since there are no records of landslides close to the site according to the BGS.

2.11 Permeability / Infiltration Rate

In determining the future surface runoff from the site, the potential of using infiltration devices has been considered. As no site geotechnical information on the permeability and infiltration rate at the site has been acquired at this stage it is not possible to comment definitively upon the suitability of infiltration-based systems. However, an overview of the general ground conditions may be used to gauge if there is potential for their application.

The general ground conditions suggest that the permeability and infiltration rate of the site will be low. However, the depth of Made Ground will reduce the permeability and infiltration rate further. It is also recommended that infiltration devices should not be located within 5m of any buildings or roads, or within 1m of groundwater, the availability of suitable locations on the site is very limited.

The ground conditions suggest infiltration techniques such as soakaways will not work and will not provide a suitable option at the site.

3.0 FLOOD RISK

3.1 Sources of Flooding

All sources of flooding have been considered, these are: fluvial (river) flooding, tidal (coastal) flooding, groundwater flooding, surface water (pluvial) flooding, sewer flooding and flooding from artificial drainage systems/infrastructure failure.

3.2 Climate Change

Projections of future climate change, in the UK, indicate more frequent, short-duration, high intensity rainfall and more frequent periods of long duration rainfall. Guidance included within TAN15 recommends that the effects of climate change are incorporated into FCA. Recommended precautionary sensitivity ranges for peak rainfall intensities and peak river flows are outlined in the CL-03-16 - Climate change allowances for Planning purposes.

Table 1 show the peak river flow allowances by river basin district. There is reasonable level of certainty that the future impacts of climate change will lie somewhere between the central and upper allowances. The 9th of January 2014 Welsh Government letter to all Chief Planning Officers (CPO) in Wales and CL-03-16 - Climate change allowances for Planning purposes clarifies and refers to the Natural Resources Wales recommendations that the lifetime of development for residential development is 100 years, and for other development it is considered to be 75 years i.e. 2092.

Table 1 - Peak River Flow Allowances by River Basin District (use 1961 to 1990 baseline)

River Basin District	Allowance Category	2015 to 2039	2040 to 2059	2060 to 2115
Severn	Upper end	+25%	+40%	+70%
	High central	+10%	+20%	+25%
	Central	+0%	+5%	+5%

3.3 Historic Flooding

Natural Resources Wales has no recorded history of flooding for this area. There are no records of anecdotal information of flooding at the site including within the British Hydrological Society "Chronology of British Hydrological Events". No other historical records of flooding for the site have been recorded. Therefore, it has been concluded that the site has not flooded within the recent past.

3.4 Existing and Planned Flood Defence Measures

The site is not protected against flooding by flood defence measures. Further mitigation measures will be used to protect the site from flooding these are discussed in Section 4.0.

3.5 Development Advice Map

The Development Advice Map (DAM) which accompanies TAN15 shows that the site is located within Zone A - Considered to be at little or no risk of fluvial or tidal/coastal flooding (see Figure 2). This is used to indicate that development can take place subject to application of justification test, including acceptability of consequences. Used to indicate that justification test is not applicable and no need to consider flood risk further.

Table 2 describes the composition and use of the TAN15 zones to control and manage development. Applying the Flood Risk Vulnerability Classification in Figure 2 of TAN15, the proposed development is classified as 'less vulnerable'.

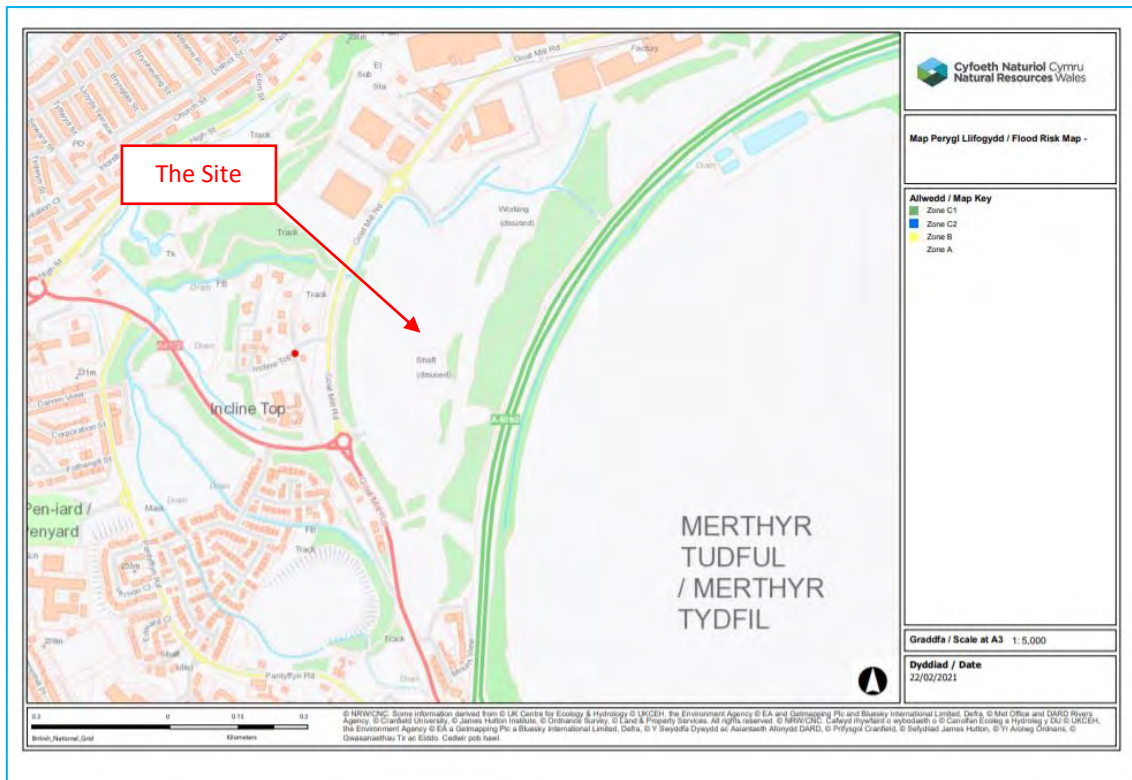


Figure 2 - Development Advice Map

Table 2 - TAN15 Flood Zones

Description of Zone	Zone	Use within the Precautionary Framework
Considered to be at little or no risk of fluvial or tidal/coastal flooding.	A	Used to indicate that justification test is not applicable and no need to consider flood risk further.
Areas known to have been flooded in the past evidenced by sedimentary deposits.	B	Used as part of a precautionary approach to indicate where site levels should be checked against the extreme (0.1%) flood level. If site levels are greater than the flood levels used to define adjacent extreme flood outline there is no need to consider flood risk further.
Based on Environment Agency extreme flood outline, equal to or greater than 0.1% (river, tidal or coastal)	C	Used to indicate that flooding issues should be considered as an integral part of decision making by the application of the justification test including assessment of consequences.
Areas of the floodplain which are developed and served by significant infrastructure, including flood defences.	C1	Used to indicate that development can take place subject to application of justification test, including acceptability of consequences.
Areas of the floodplain without significant flood defence infrastructure.	C2	Used to indicate that only less vulnerable development should be considered subject to application of justification test, including acceptability of consequences. Emergency services and highly vulnerable development should not be considered.

3.6 Flood Risk Assessment Wales Map

A review of the Flood Risk Assessment Wales Map indicates that the site is not at risk of fluvial or tidal flooding as shown in Figure 3, with less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%).

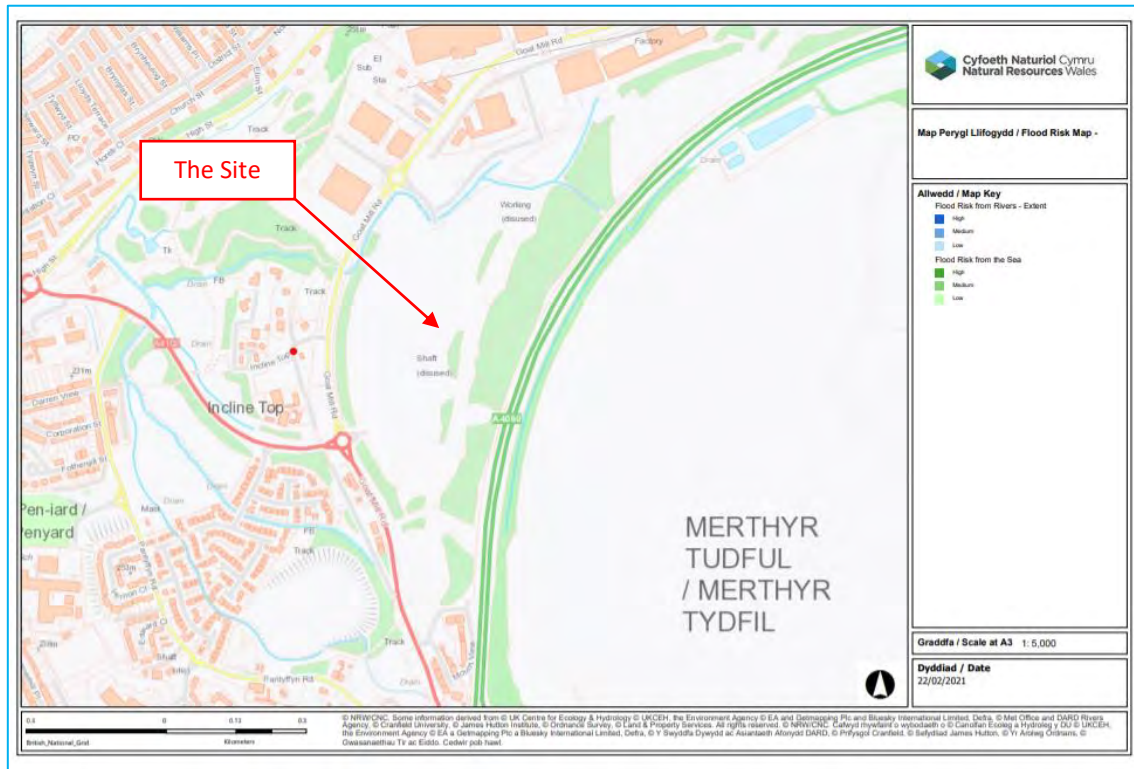


Figure 3 - Flood Risk Assessment Wales Map

3.7 Fluvial (river) Flooding

The fluvial flood risk can be considered to be limited due to the difference in elevations between the site and the identified watercourses. The ground levels of the site are a minimum of 2.00m above the normal water level of the watercourses. Flood risk to the site from the watercourse can also be considered to be limited, since the watercourses are located on the boundaries of the site well away from the proposed buildings. Any overbank flow would follow the contours of the surrounding area and would flow directly away from the site rather than flowing towards the site.

A review of the Natural Resources Wales Flood Risk Assessment Wales Map indicates that the site is not at risk of fluvial flooding, the site is located within DAM Zone A, with less than a 1 in 1000 annual probability of river flooding in any year (<0.1%). The site has an annual fluvial flood risk of less than 1 in 1000 (0.1%) years. When climate change allowances are taken in account it is not expected to increase the 1 in 1000 year flood extend beyond the current 1 in 1000 year extent by 2096 extent, so the probability of fluvial flooding at the site is likely to remain greater than 1 in 1000 (0.1%) years, for the lifetime of the development. Therefore, the risk of fluvial flooding is considered to be **not significant**.

3.8 Tidal (coastal) Flooding

The site is not located within the vicinity of tidal flooding sources and therefore, the risk of fluvial flooding is considered to be **not significant**.

3.9 Groundwater Flooding

Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

Groundwater flooding tends to occur sporadically in both location and time. When groundwater flooding does occur, it tends to mostly affect low-lying areas, below surface infrastructure and buildings (for example, tunnels, basements and car parks) underlain by permeable rocks (aquifers).

Site conditions suggest a low probability of groundwater flooding. The local geology is not considered to yield significant volumes of groundwater. No below surface infrastructure and buildings are located or are proposed for the site. The risk of flooding from groundwater flooding is considered to be **not significant**.

3.10 Surface Water (pluvial) Flooding

The site is not situated near to large areas of poor permeability or areas with the geology and/or topography which may result in surface water flooding. The soil conditions at the site and within the vicinity of the site indicate that the site may be at risk of surface water flooding. Surface water flooding tends to occur sporadically in both location and time such surface water would tend to be confined to the highways around the development.

The Natural Resources Wales Surface Water flood map shows that majority of the site has a very low risk of surface water flooding (see Figure 4) with a chance of surface water flooding of less than 1 in 1000 (0.1%) years. A small proportion of the site has a low to high risk of surface water flooding with a chance of flooding 1 in 1000 (1%) to greater than 1 in 30 (3.3%) years. Surface flooding poses a very low flood risk to the site therefore, the risk of flooding from surface water flooding is considered to be of **low significance**. The risk from this source will be further mitigated by using a number of risk management measures to manage and reduce the overall flood risk at the site (see Section 4.0).

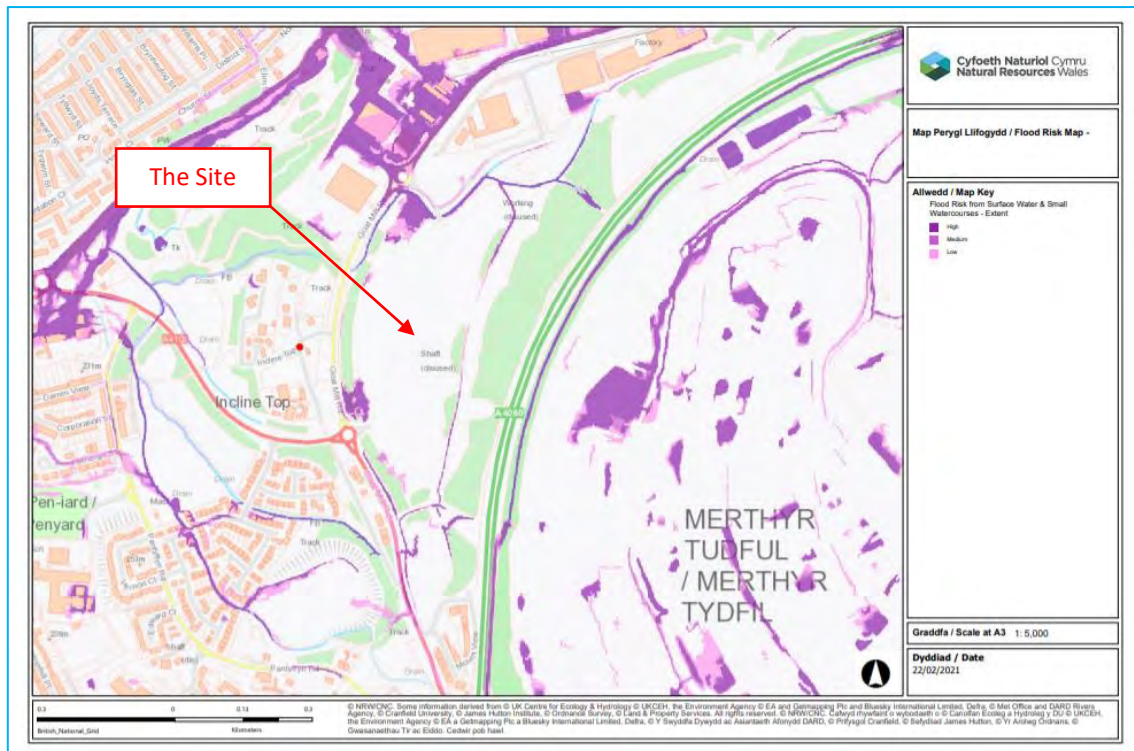


Figure 4 - Natural Resources Wales Surface Water Flood Map

3.11 Sewer Flooding

Sewer flooding occurs when urban drainage networks become overwhelmed and maximum capacity is reached. This can occur if there is a blockage in the network causing water to back up behind it or if the sheer volume of water draining into the system is too great to be handled. Sewer flooding tends to occur sporadically in both location and time such flood flows would tend to be confined to the streets around the development.

There are no public sewers located within the vicinity of the site. Flood flows could also be generated by burst water mains, but these would tend to be of a restricted and much lower volume than weather generated events and so can be discounted for the purposes of this assessment. Therefore, the risk of flooding from sewer flooding is considered to be **not significant**.

3.12 Flooding from Artificial Drainage Systems/Infrastructure Failure

There are no other nearby artificial water bodies, water channels and artificial drainage systems that could be considered a flood risk to the site. The Natural Resources Wales Reservoir flood map shows that the site is not at risk of reservoir flooding (see Figure 5). The risk of flooding from reservoir failure is considered to be **not significant**.

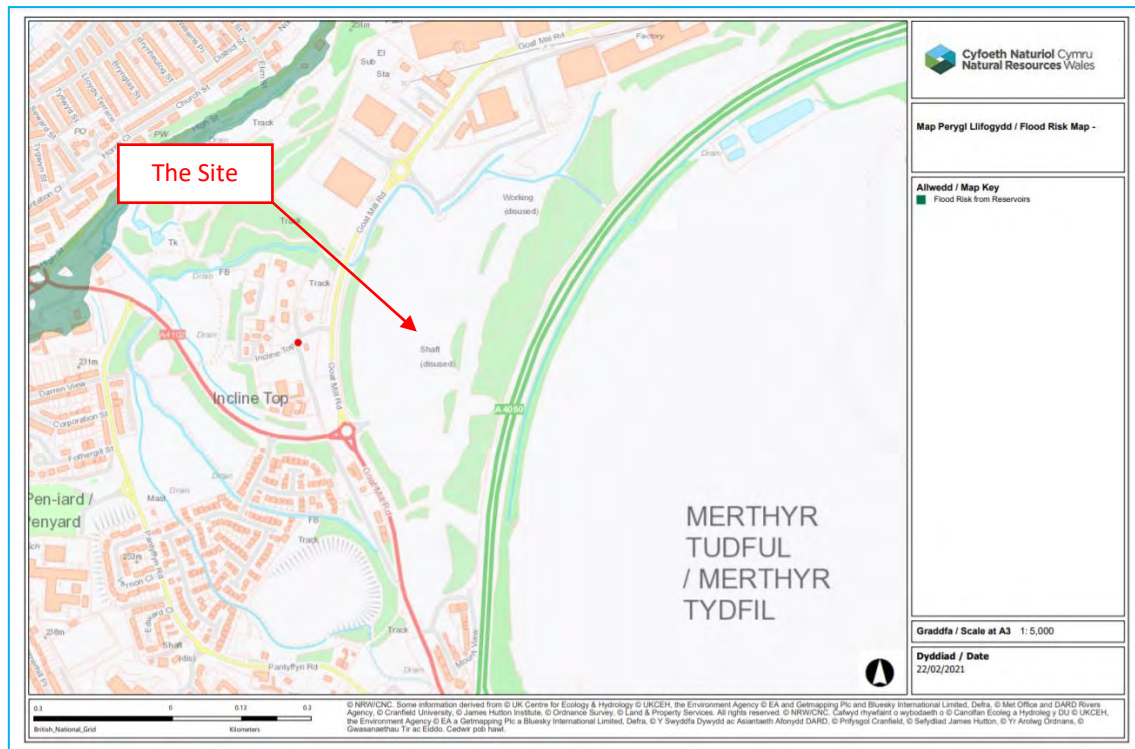


Figure 5 - Natural Resources Wales Reservoir Flood Map

3.13 Summary of Site Specific Flood Consequence Assessment

A summary of the sources of flooding and a review of the risk posed by each source at the site is shown in Table 3.

Table 3 - Risk Posed by Flooding Sources

Sources of Flooding	Potential Flood Risk	Potential Source	Probability/Significance
Fluvial Flooding	No	None Reported	None
Tidal Flooding	No	None Reported	None
Groundwater Flooding	No	None Reported	None
Surface Water Flooding	Yes	Poor Permeability	Low
Sewer Flooding	No	None Reported	None
Flooding from Artificial Drainage Systems/Infrastructure Failure	No	None Reported	None

The site is not at risk of flooding from a major source (e.g. fluvial and/or tidal). The site is not at risk of fluvial flooding, the site is located within DAM Zone A, with less than a 1 in 1000 annual probability of river flooding in any year (<0.1%). The site has an annual fluvial flood risk of less than 1 in 1000 (0.1%) years. When climate change allowances are taken in account it is not expected to increase the 1 in 1000 year flood extend beyond the current 1 in 1000 year extent by 2096 extent, so the probability of fluvial flooding at the site is likely to remain greater than 1 in 1000 (0.1%) years, for the lifetime of the development. Therefore, the risk of fluvial flooding is considered to be **not significant**. A secondary flooding source has been identified which may pose a low risk to the site. This is:

- Surface Water Flooding

Provided the buildings/structures are set above the ground level to enable the full capacity of any secondary flood conveyance to be utilised, the risk of flooding from all sources is considered to be low or not significant. The flooding sources will only inundate the site to a relatively low water depth and water velocity, will only last a short period of time, in very extreme cases and will not have an impact on the whole of the proposed development site.

There will be no net loss in flood storage capacity or impact on movement of floodwater across the site. The overall direction of the movement of water will be maintained within the developed site and surrounding area. The conveyance routes (flow paths) will not be blocked or obstructed.

The proposed use of the site is 'less vulnerable', 'less vulnerable' uses are appropriate within and DAM Zone A after the completion of a satisfactory FCA. In conclusion, the flood risk to the site can be considered to be limited; the site is situated in DAM Zone A, with a low annual probability of flooding and from all sources. The site is unlikely to flood except in very extreme conditions.

4.0 RISK MANAGEMENT

4.1 Introduction

In this flood zone, developers and local authorities should seek opportunities to reduce the overall level of flood risk in the area through the layout and form of the development and the use of flood mitigation measures. A number of techniques and mitigation strategies to manage and reduce the overall flood risk in the area will be used. This will ensure the development will be safe and there is:

- Minimal risk to life;
- Minimal disruption to people living and working in the area;
- Minimal potential damage to property;
- Minimal impact of the proposed development on flood risk generally; and;
- Minimal disruption to natural heritage.

The flood risk at the site will be reduced by using a number of risk management measures to manage and reduce the overall flood risk at the site.

4.2 Minimum Floor Level

There is no minimum finished floor level proposed as a result of flooding. However, it is recommended that all buildings are located above the back of footway of the adjacent highway by 150mm to enable the full capacity of any secondary flood conveyance to be utilised.

4.3 Flood Resilience and Resistance

The development of the layout should always consider that the site is potentially at risk from an extreme event and as such the implementation of flood resilience and resistance methods should be assessed.

To make the buildings more resistant to seepage the following measures will be incorporated. Sealant will be used around external doors and windows. All external doors and windows will be constructed from hard wearing materials.

To improve the buildings resilience to flooding the following measures will be incorporated. All electrical wiring, switches, sockets, socket outlets, electrical, and gas meters etc. will be located a minimum of 450mm above the finished floor level.

4.4 Safe Access and Egress

The site and surrounding area is located within DAM Zone A therefore a permanently safe and dry access can be maintained.

4.5 Flooding Consequences

The mitigation measures detailed above show that the flood risk can be effectively managed and therefore the consequences of flooding are acceptable. In conclusion, the flood risk to the site can be considered to be limited; the site is situated in Flood Zone 1, with a low annual probability of flooding and from all sources.

5.0 JUSTIFYING THE LOCATION OF THE DEVELOPMENT

5.1 Justification Test

New development should be directed away from Zone C and towards suitable land in Zone A, otherwise to Zone B, where river or coastal flooding will be less of an issue. For developments in Zone A, TAN 15 guidance states that the '*justification test is not applicable and there is no need to consider flood risk further*'. Therefore, no further action regarding fluvial/coastal flooding for this site is required.

6.0 SUMMARY AND CONCLUSIONS

6.1 Introduction

This report presents a FCA in accordance with TAN15 for the proposed development of a plastics recycling and processing facility on land off Goat Mill Road.

This FCA identifies and assesses the risks of all forms of flooding to and from the development and demonstrates how these flood risks will be managed so that the development remains safe throughout the lifetime, taking climate change into account.

6.2 Flood Risk

The site is not at risk of flooding from a major source (e.g. fluvial and/or tidal). The site is not at risk of fluvial flooding, the site is located within DAM Zone A, with less than a 1 in 1000 annual probability of river flooding in any year (<0.1%). The site has an annual fluvial flood risk of less than 1 in 1000 (0.1%) years. When climate change allowances are taken in account it is not expected to increase the 1 in 1000 year flood extent beyond the current 1 in 1000 year extent by 2096 extent, so the probability of fluvial flooding at the site is likely to remain greater than 1 in 1000 (0.1%) years, for the lifetime of the development. Therefore, the risk of fluvial flooding is considered to be **not significant**. A secondary flooding source has been identified which may pose a low risk to the site. This is:

- Surface Water Flooding

Provided the buildings/structures are set above the ground level to enable the full capacity of any secondary flood conveyance to be utilised, the risk of flooding from all sources is considered to be low or not significant. The flooding sources will only inundate the site to a relatively low water depth and water velocity, will only last a short period of time, in very extreme cases and will not have an impact on the whole of the proposed development site.

There will be no net loss in flood storage capacity or impact on movement of floodwater across the site. The overall direction of the movement of water will be maintained within the developed site and surrounding area. The conveyance routes (flow paths) will not be blocked or obstructed.

The proposed use of the site is 'less vulnerable', 'less vulnerable' uses are appropriate within and DAM Zone A after the completion of a satisfactory FCA. In conclusion, the flood risk to the site can be considered to be limited; the site is situated in DAM Zone A, with a low annual probability of flooding and from all sources. The site is unlikely to flood except in very extreme conditions.

6.3 Risk Management

The flood risk at the site will be reduced by using a number of risk management measures to manage and reduce the overall flood risk at the site. Measures used:

Finished Floor Levels: Minimum Floor Level: There is no minimum finished floor level proposed as a result of flooding. However, it is recommended that all buildings are located above the back of footway of the adjacent highway by 150mm to enable the full capacity of any secondary flood conveyance to be utilised.

Flood Resilience and Resistance: To make the buildings more resistant to seepage the following measures will be incorporated. Sealant will be used around external doors and windows. All windows will be located above the ground levels. All external doors and windows will be constructed from synthetic materials.

To improve the buildings resilience to flooding the following measures will be incorporated. All electrical wiring, switches, sockets, socket outlets, electrical, and gas meters etc. will be located a minimum of 450mm above the finished floor level.

Safe Access and Egress: The site and surrounding area is located within DAM Zone A therefore a permanently safe and dry access can be maintained.

6.4 Justification Test

The development proposals should be considered by the LPA to satisfy the Justification Test as set out in TAN15.

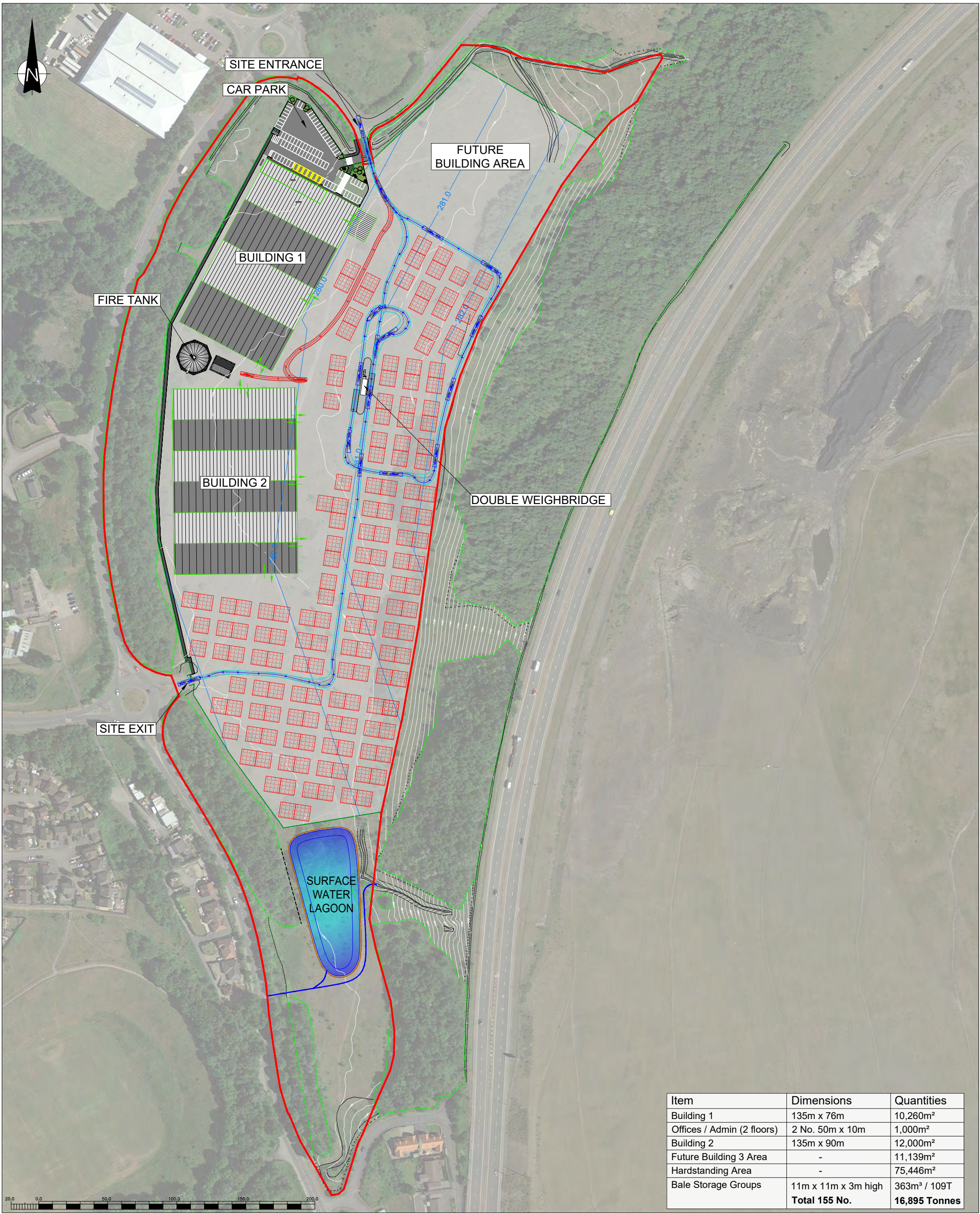
6.5 Conclusion

In conclusion, a plastic recycling and processing facility, would be expected to remain dry in all but the most extreme conditions. Providing the recommendations made in this FCA are instigated, flood risk from all sources would be minimised, the consequences of flooding are acceptable, and the development would be in accordance with the requirements of TAN15.

This FCA demonstrates that the proposed development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of TAN15. The development should not therefore be precluded on the grounds of flood risk.

APPENDICES

APPENDIX 1 – Proposed Site Layout



Item	Dimensions	Quantities
Building 1	135m x 76m	10,260m ²
Offices / Admin (2 floors)	2 No. 50m x 10m	1,000m ²
Building 2	135m x 90m	12,000m ²
Future Building 3 Area	-	11,139m ²
Hardstanding Area	-	75,446m ²
Bale Storage Groups	11m x 11m x 3m high	363m ³ / 109T
Total 155 No.		16,895 Tonnes



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JOB TITLE
GOAT MILL ROAD, MERTHYR

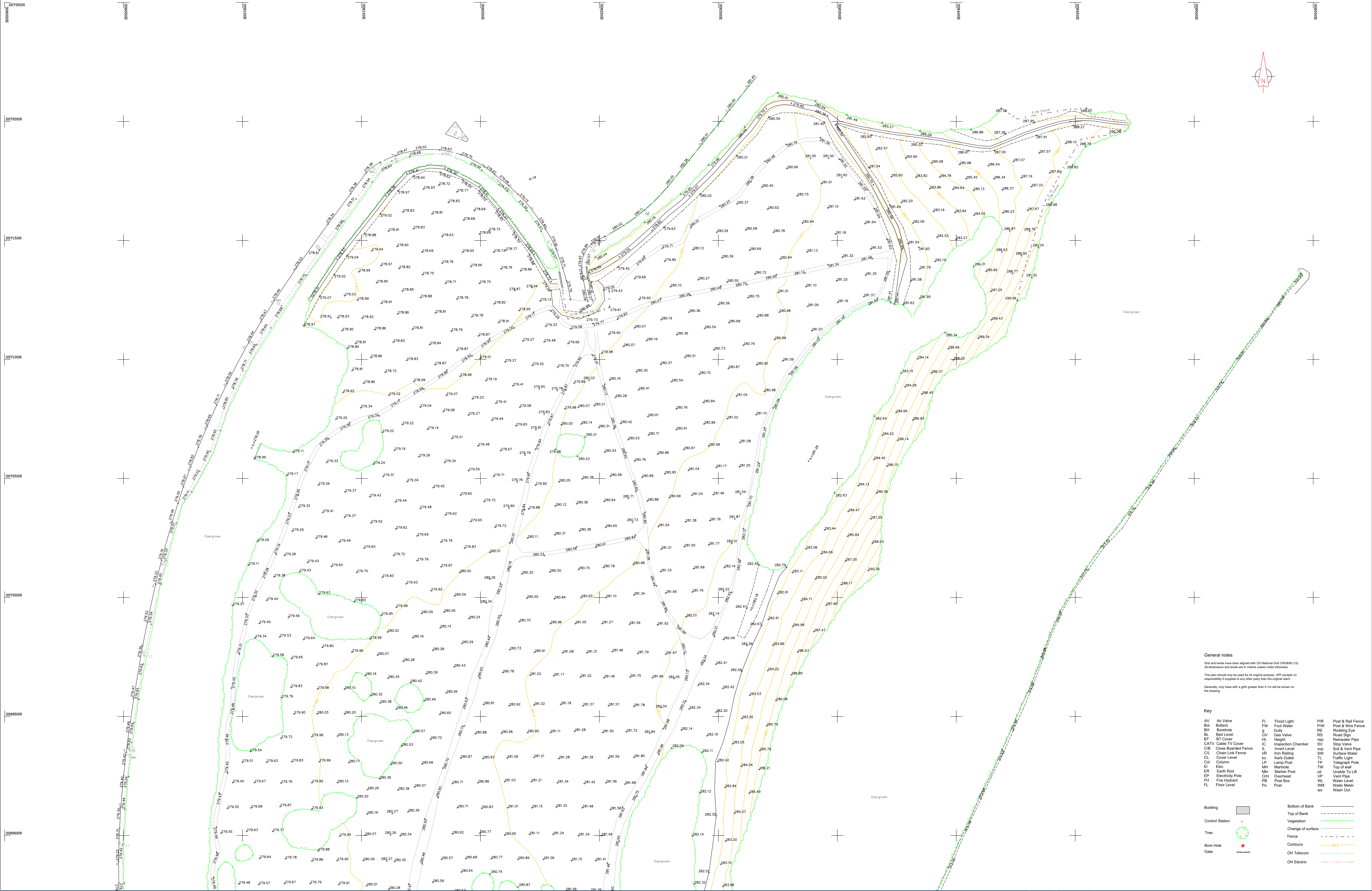
DRAWING TITLE
SITE LAYOUT

- KEY
- PLANNING APPLICATION BOUNDARY
 - PROPOSED DEVELOPMENT PLATFORM CONTOURS
 - PROPOSED PALADIN SECURITY FENCE
 - PROPOSED FOOTPATH
 - PROPOSED BALE STORAGE GROUPS

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REV	DESCRIPTION	DATE	BY
1			
DRAWN	DATE	APPROVED	DATE
S.T	30/6/2021	D.B	13/8/2021
SCALE	SHEET	DRAWING NUMBER	REVISION
1:2500	A3P	JAY1001/04/05	3

APPENDIX 2 – Topographical Survey



General notes

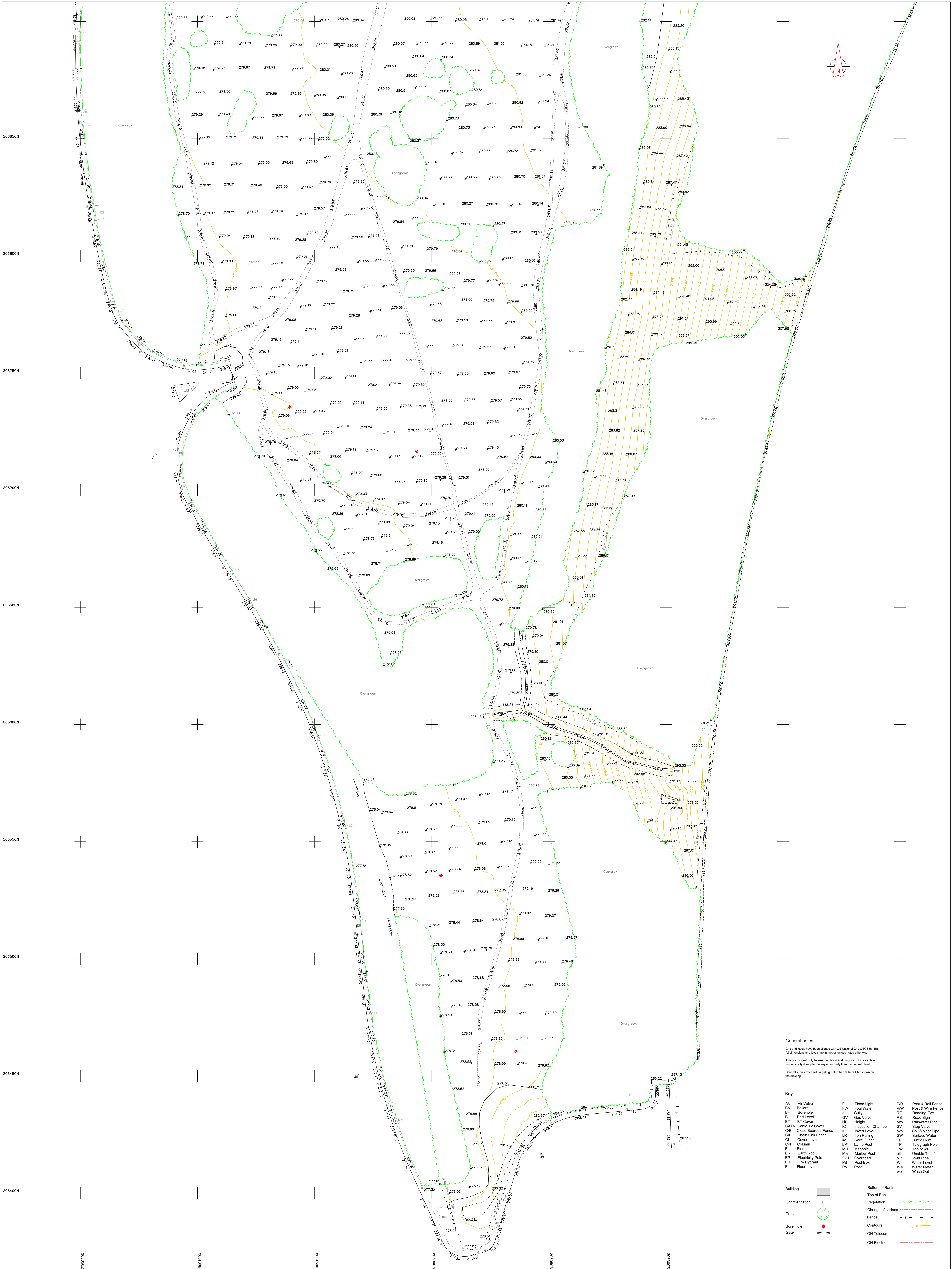
Grid and levels have been aligned with OS National Grid OSG2038 (15).
All dimensions and levels are in metres unless noted otherwise.

This plan should only be used for its original purpose. JPP accepts no responsibility if supplied to any other party than the original client.

Generally, only trees with a girth greater than 0.1m will be shown on the drawing.

Key					
AV	Air Valve	FL	Flood Light	PWR	Post & Rail Fence
Bol	Bollard	FW	Foul Water	PW	Pipe Work
BL	Borehole	G	Gully	RE	Redding Eye
BS	Bird Level	GV	Gas Valve	RS	Road Sign
BT	BT Cover	HT	Height	rwp	Rainwater Pipe
CATV	Cable TV Cover	IC	Inspection Chamber	SV	Stop Valve
C/B	Close Boarded Fence	IL	Invert Level	swp	Soil & Vent Pipe
CL	Chain Link Fence	UR	Iron Railing	TL	Traffic Light
CL	Cover Level	uo	Kent Outlet	TP	Telegraph Pole
Col	Column	LP	Lamp Post	TW	Top of Wall
EH	Electric	MH	Manhole	TW	Top of Wall
ER	Earth Rod	Mkr	Marker Post	uL	Unable To Lift
EP	Electricity Pole	OH	Overhead	VP	Vent Pipe
PH	Fire Hydrant	PB	Post Box	WL	Water Level
FL	Floor Level	Po	Post	WM	Water Meter
				wo	Wash Out

Building		Bottom of Bank	
Control Station		Top of Bank	
Tree		Vegetation	
Bore Hole		Change of surface	
Gate		Fence	
		Contours	
		OH Telecom	
		OH Electric	



General notes

Grid and levels have been aligned with OS National Grid OSG83 (15). All dimensions and levels are in metres unless noted otherwise.

This plan should only be used for its original purpose. JPP accepts no responsibility if applied to any other earth than the original client.

Generally, only trees with a girth greater than 0.1m will be shown on the drawing.

Key

AV	Air Valve	FL	Flood Light	P/R	Post & Rail Fence
Bol	Bollard	FW	Foul Water	P/W	Post & Wire Fence
BM	Bornhole	G	Gully	RE	Rodding Eye
BL	Bed Level	GV	Gas Valve	RS	Road Sign
BT	BT Cover	HL	Height	rwp	Rainwater Pipe
CATV	Cable TV Cover	IC	Inspection Chamber	SV	Stop Valve
C/B	Close Boarded Fence	IL	Invert Level	s/vp	Soil & Vent Pipe
CL	Chain Link Fence	IR	Iron Railing	SW	Surface Water
CL	Cover Level	ko	Keith Outlet	TL	Traffic Light
Col	Column	LP	Lamp Post	TP	Telegraph Pole
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FH	Fire Hydrant	PS	Post Box	WL	Water Level
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				wo	Wash Out

Building

Control Station

Tree

Bore Hole

Gate

Bottom of Bank

Top of Bank

Vegetation

Change of surface

Fence

Contours

OH Telecom

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