



Channel View, Cardiff

Flood Consequence Assessment (FCA)

Client: Cardiff City Council

Project Ref: CC2083

Report status: S1

CAMBRIA

Report Control Sheet

Client	Cardiff City Council
Project	Channel View, Cardiff
Project ref	CC2083
Document title	Flood Consequence Assessment (FCA)
Document reference	CC2083-CAM-ZZ-XX-RP-C-0002
Prepared by	B Whyman MEng (Hons) GMICE MCIHT
Reviewed and authorised by	W D W James BSc(Eng) CEng MIStructE Euring MBIFM FFB

Document naming protocol

Project Ref.	Originator	Vol.	Level	Type	Role	Number
CC2083	CAM	ZZ	XX	RP	C	0002

Current issue

Status	Date	Description	Prepared by	Authorised by
S0	17/11/20	First issue	B Whyman	W D W James
S1	22/04/21	Second Issue	B. Whyman	W D W James

Contents

1	Introduction.....	1
2	Site Description	2
2.1	Site Location.....	2
2.2	Site Topography	2
2.3	Land Use	3
2.4	Ground Conditions	3
2.5	Development proposals	4
3	Policy Context	5
3.1	Planning Policy Wales.....	5
3.2	Justification Test	7
4	Assessment of Flood Consequences	8
4.2	Access and Evacuation Routes	8
4.3	Existing Flood Alleviation Measures	9
4.4	Flood History	9
4.5	Structures Influencing Flow.....	9
4.6	Sea & River Flooding	10
4.7	Pluvial Flooding.....	11
4.8	Groundwater Flooding.....	14
4.9	Reservoir Flooding	14
4.10	Development Levels and Displacement of Flood Waters	15
4.11	Surface Water Drainage Implications	15
5	TAN15 Acceptability Criteria	16
6	Mitigation Measures	17
7	Conclusions.....	18
	Appendix A: Site Location Plan.....	19
	Appendix B: Topographical Survey.....	20
	Appendix C: Proposed Site Layout	21
	Appendix D: Envirocheck Flood Screening Report.....	22
	Appendix E: Flood Map Overlays	23

Figures

Figure 1 - Site location map (Google Earth)	2
Figure 2 – Proposed Masterplan (Powell Dobson Architect)	4
Figure 3 – Development Advice Map	6
Figure 4 – Extent of Flood Zone	8
Figure 5 – NRW Historic Flood Map (1:10,000)	9
Figure 6 – Flood Risk Assessment Wales Map	10
Figure 7 – NRW 1 in 100year Surface Water Hazard Rating Map	12
Figure 8 – Welsh Water Record Maps	13
Figure 9 – BGS Groundwater Flooding Susceptibility	14
Figure 10 – NRW Reservoir Flooding Extents	15

1 Introduction

- 1.1.1 Cambria Consulting Ltd have been appointed by Powell Dobson Architects on behalf of Cardiff City Council to produce a Flood Consequence Assessment (FCA) report in support of a planning application for the redevelopment of the Channel View area in Grangetown, Cardiff.
- 1.1.2 This FCA report appraises the justification and acceptability of flooding consequences in accordance with TAN 15 planning policy.

2 Site Description

2.1 Site Location

2.1.1 The development is located predominantly on a brownfield site, currently occupied by 188 dwellings, accessed off Channel View Road in Grangetown Cardiff. The site is bounded by the Marl to north, the Taff Trail & Cardiff Bay to the east, residential properties fronting Channel View road to the west and residential dwellings to the south fronting Constant Close, Seager Drive and Chetterton Square. The site boundary extends to South Clive Street to the south west and Ferry Road Park and Beecher Avenue to the north west. The site is centered around OS coordinates E:317994 N:173973 with a post code of CF11 7HY.

2.1.2 The site location is shown in Figure 1 below, a more detailed site location plan is included in *Appendix A*.

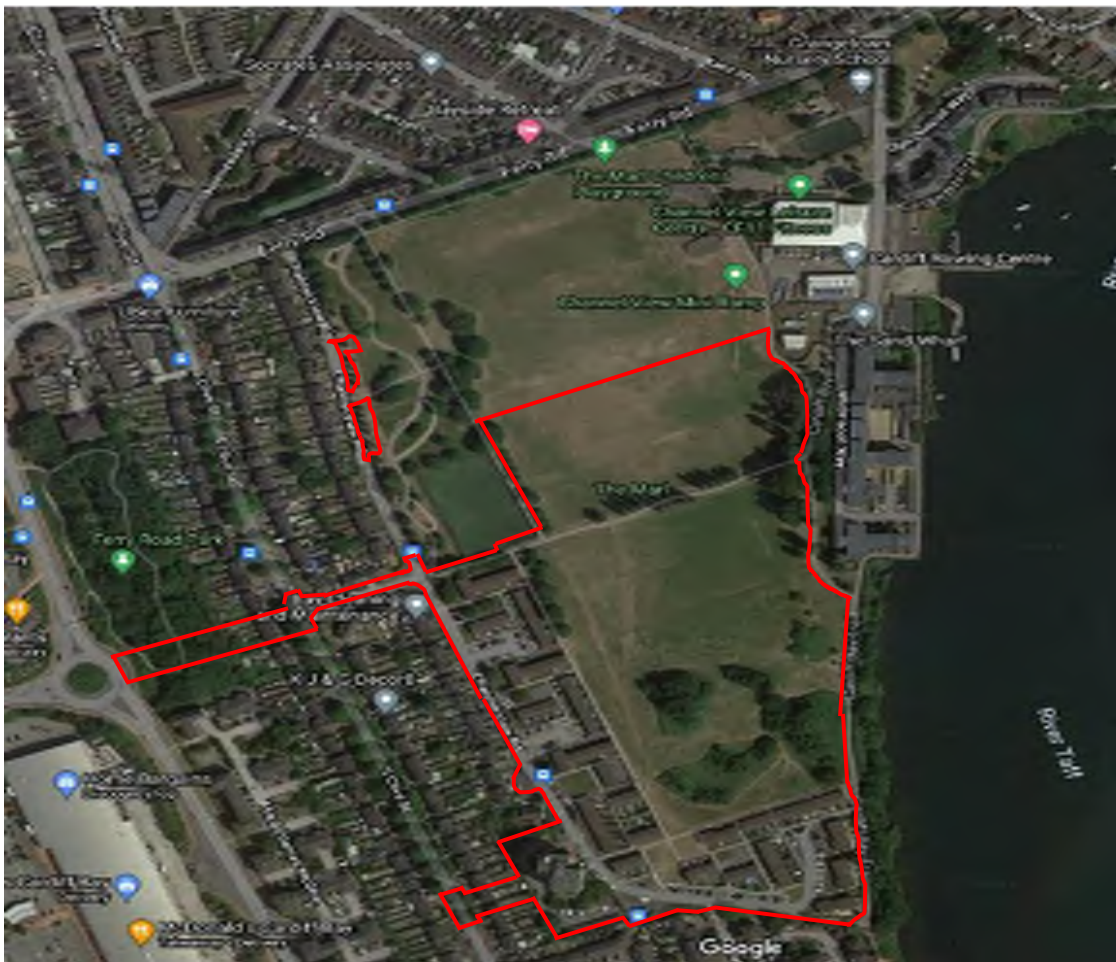


Figure 1 - Site location map (Google Earth)

2.2 Site Topography

2.2.1 A topographical survey of the site has been undertaken by 3 Point Surveys in June 2020, this extended to incorporate portions of Ferry Road and neighbouring properties along the site boundary. Due to the COVID-19 restrictions private enclosed gardens were not captured as part of the survey. A copy of the topographical survey is included in Appendix B.

- 2.2.2 The survey indicates the Marl falls gently from west to east from approximately 9.5mAOD to 7.8m AOD at the north section of the Taff Trail route. The northern and central sections of Channel View Road are relatively flat and are between 9.5m AOD – 9.8m AOD. Channel View Road levels then fall gradually to approximately 8.5mAOD to the south eastern corner of the site. The access road to the rear of existing 14 storey tower block and existing garages drops to around 7.9m AOD – 8m AOD.
- 2.2.3 Finished floor levels of the properties within the northern and central parts of the site area are generally elevated at around 9.5mAOD to 10m AOD. Properties within the south eastern corner of the site are set down lower, with finished floor levels ranging between 8.7mAOD to 9.3mAOD.

2.3 Land Use

- 2.3.1 The site currently contains 188 residential dwellings, with predominantly 2 storey properties. A 14 storey tower block exists in the south western corner of the site. The majority of the site encompasses The Marl, a public park and the adopted roads Channel View and Beecher Avenue.

2.4 Ground Conditions

- 2.4.1 An intrusive site investigation was undertaken by Terra Firma in April 2020 and a Geotechnical and Geo-Environmental Report was issued in July 2020.
- 2.4.2 The report identifies that a portion of the site, The Marl, was used as landfill between 1936 to 1945. Investigation results show the site is generally underlain by **Made Ground**. Typically the ground conditions comprised of Grass over firm brown slightly gravelly CLAY to maximum depth of 0.45m over MADE GROUND: medium dense black gravelly SAND to maximum depth of 5.3m over, soft laminated silty CLAY with occasional cobble to maximum depth of 11.80m over Loose grey clayey sandy GRAVEL to a maximum depth of 12.5m over, Medium dense to dense becoming very dense brown sandy GRAVEL with medium cobble content to a maximum depth of 19.60m over, Hard weathered brown occasionally mottled grey sandy MUDSTONE proved to a depth of 28m.
- 2.4.3 Multiple contaminants were identified within the Made Ground and a capping system has been recommended with a 600mm imported clean soil capping layer provided across landscaped areas.
- 2.4.4 Groundwater strikes were relatively deep and typically between 5m – 11m below ground level.
- 2.4.5 Due to the level of contaminants found within the site, no infiltration testing was carried out during the investigation works and infiltration solutions have been discounted within the development proposals. All SuDs features will be lined to avoid mobilising contaminants into the groundwater table and / or Cardiff Bay to the east of the site.

2.5 Development proposals

- 2.5.1 Hybrid planning application for mixed-use development. Outline planning permission is sought for: The redevelopment and extension of part of the existing Channel View Estate to provide up to 321 residential apartments and houses (Use Class C3), up to 285 sq.m of retail floorspace (Use Class A1), communal gardens incorporating allotments and picnic areas, formal and informal children's play space, landscaping, cyclepaths/footpaths, drainage infrastructure, roads and parking; The regeneration of the Marl public open space to include new/improved sports pitches, children's play space, a new 'beach', water features, landscaping, and cyclepaths/footpaths; The provision of a new bus/cycle/pedestrian link between Channel View Road and South Clive Street and a new cycle/pedestrian link between South Clive Street and Ferry Road; The provision of a new parking area; Together with associated works (all matters reserved for future consideration).
- 2.5.2 Full planning permission is sought for a first phase of development comprising of a tower block (8-12 storeys) providing 79 elderly-persons (over 55s) accommodation units, a 115sq.m community cafe, communal gardens incorporating allotments and picnic areas, landscaping, drainage infrastructure, footpaths, roads, parking, and associated works.
- 2.5.3 The proposed masterplan has been produced by Powell Dobson Architects, an extract of the layout is shown in Figure 2 below and included in *Appendix C*.



Figure 2 – Proposed Masterplan (Powell Dobson Architect)

3 Policy Context

3.1 Planning Policy Wales

3.1.1 TAN 15 was published by Welsh Government in July 2004 and advises on development and flood risk and provides a precautionary framework within which risks arising from both river and coastal flooding and from additional run-off from the development in any location can be assessed.

3.1.2 The overarching aim of TAN 15 is, in order of preference, to:-

- ▶ Direct new development away from those area which are at high risk of flooding
- ▶ Where development has to be considered in high risk areas only those developments can be justified based on the Justification Test and Acceptability of Flooding Consequences

3.1.3 The Development Advice Maps (DAM) are used within the precautionary framework and use NRW extreme flood outlines and British Geological Survey (BGS) drift data to distinguish the flood zones presented in Table 1 below;

Table 1: Flood Zones

Flood Zone	Description of Zone	Use within the precautionary framework
A	Considered to be at little or no risk of fluvial or tidal/coastal flooding	Used to indicate that justification test is not applicable and no need to consider flood risk further
B	Areas known to have been flooded in the past evidenced by sedimentary deposits	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
C	Based on NRW extreme flood outline, equal to or greater than 0.1% (river, tidal or coastal)	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
C1	Areas of floodplain which are developed and served by significant infrastructure, including flood defences	Used to indicate that development can take place subject to application of the justification test, including acceptability of consequences
C2	Areas of the floodplain without significant flood defence infrastructure	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.

3.1.4 The precautionary framework within TAN15 identifies the vulnerability of different land uses to flooding and groups them in to three different development categories as shown in Table 2 overleaf;

Table 2: Development Category

Development Category	Types
Emergency Services	Hospitals, ambulance stations, fire stations, police stations, coastguard stations, command centres, emergency depots and buildings used to provide emergency shelter in time of flood
Highly Vulnerable Development	All residential premises (including hotels and caravan parks), public buildings (e.g. schools, libraries, leisure centres), especially vulnerable industrial development (e.g. power stations, chemical plants, incinerators), and waste disposal sites.
Less Vulnerable Development	General industrial, employment, commercial and retail development, transport and utilities infrastructure, car parks, mineral extraction sites and associated processing facilities, excluding waste disposal sites

3.1.5 An extract of the Development Advice Map (DAM) is shown in Figure 3 below and shows the site to be generally within Flood Zone B. Small pockets of Flood Zone C1 are present on the site along the western boundary through the Taff Trail route, the north western corner of the Marl, and small incursions within the south east corner of the Marl and the south eastern corner of the site. The residential development would be classified as 'highly vulnerable' development within TAN 15.



Figure 3 – Development Advice Map

3.2 Justification Test

3.2.1 TAN 15 aims to direct development away from Zone C and towards Zone A, otherwise to Zone B. As the development is classified as highly vulnerable and partially situated in Flood Zone C1 the development can only be justified if it can 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 fig 2.1); and,
- IV. The potential consequence of a flooding event for the particular type of development have been considered and the relevant acceptability criteria can be met

3.2.2 The development is part of a Local Authority generation initiative and is on previously developed land with the majority of the development proposals sited within Flood Zone B. The site passes the Justification test subject to the assessment of flood consequences and flooding acceptability criteria discussed in Sections 4 & 5 of this report.

4 Assessment of Flood Consequences

4.1.1 The following assessments are based on the Envirocheck Flood Screening report contained within *Appendix D* of this report, review of the Cardiff SFCA report and NRW Flood Risk Assessment Wales map.

4.2 Access and Evacuation Routes

4.2.1 In the event of a flood event the primary egress offsite will be Ferry Road via Channel View Road. According to the Envirocheck information, Channel View Road and The Marl are in Flood Zone 1. Portions of Ferry Road, particularly at the northern and southern extents are located in are areas at risk of flooding from sea and rivers but benefit from flood defences. The immediate surrounding area of the development, particularly towards the west and south of the site will be dry and safe during extreme flood events.

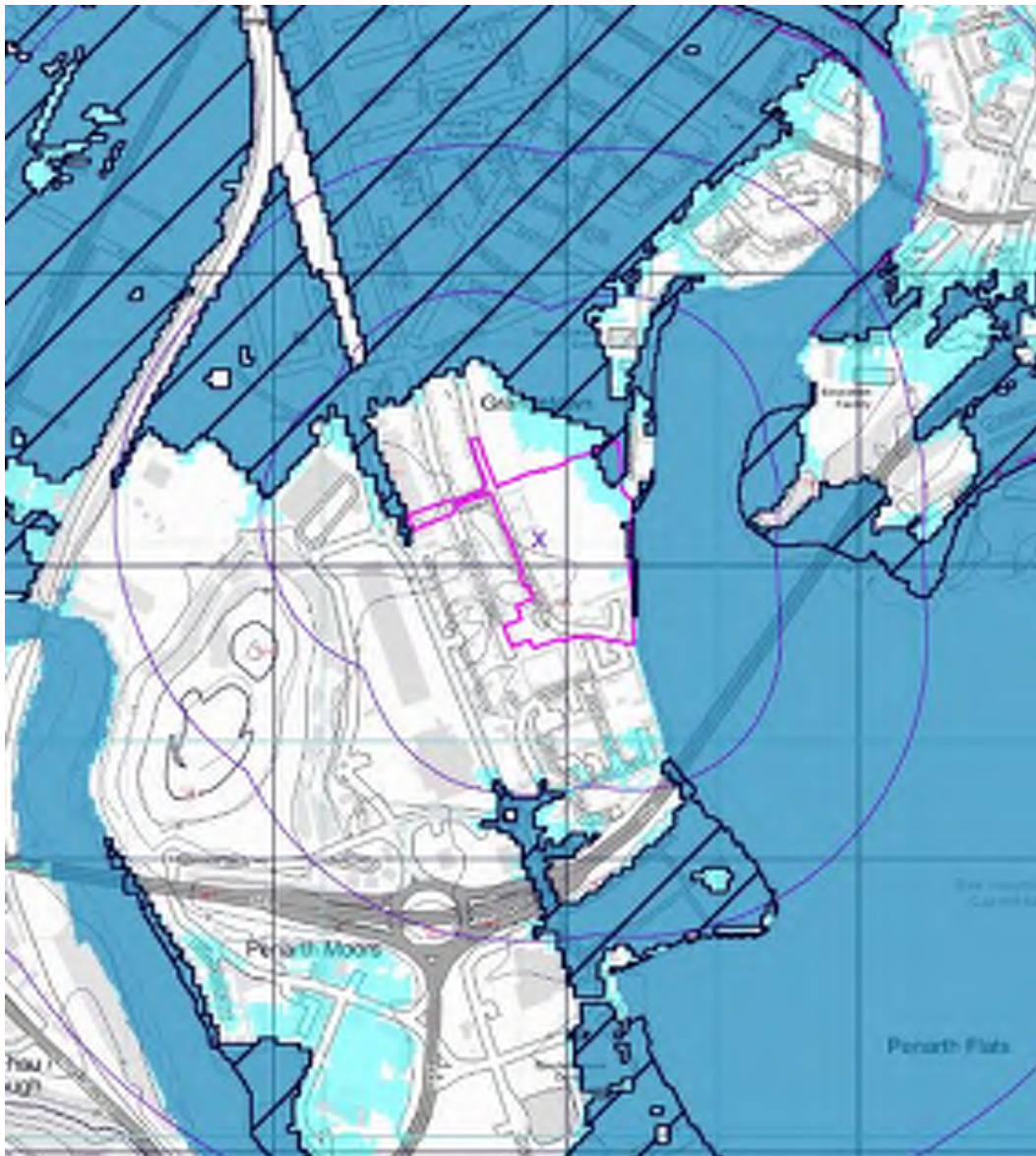


Figure 4 – Extent of Flood Zone

4.3 Existing Flood Alleviation Measures

4.3.1 The site and surrounding area benefit from the river defenses that follow along the banks of the Taff River. The site also benefits from the protection given by the Cardiff Bay Barrage, which is thought to offer in excess of 1:1000 year standard of protection.

4.4 Flood History

4.4.1 There are no known historic flooding incidents on the site. The NRW Historic Flood Map, shown in Figure 5 below, shows the only recorded flood incident is approximately 1km north west of the site, along North Clive Street.

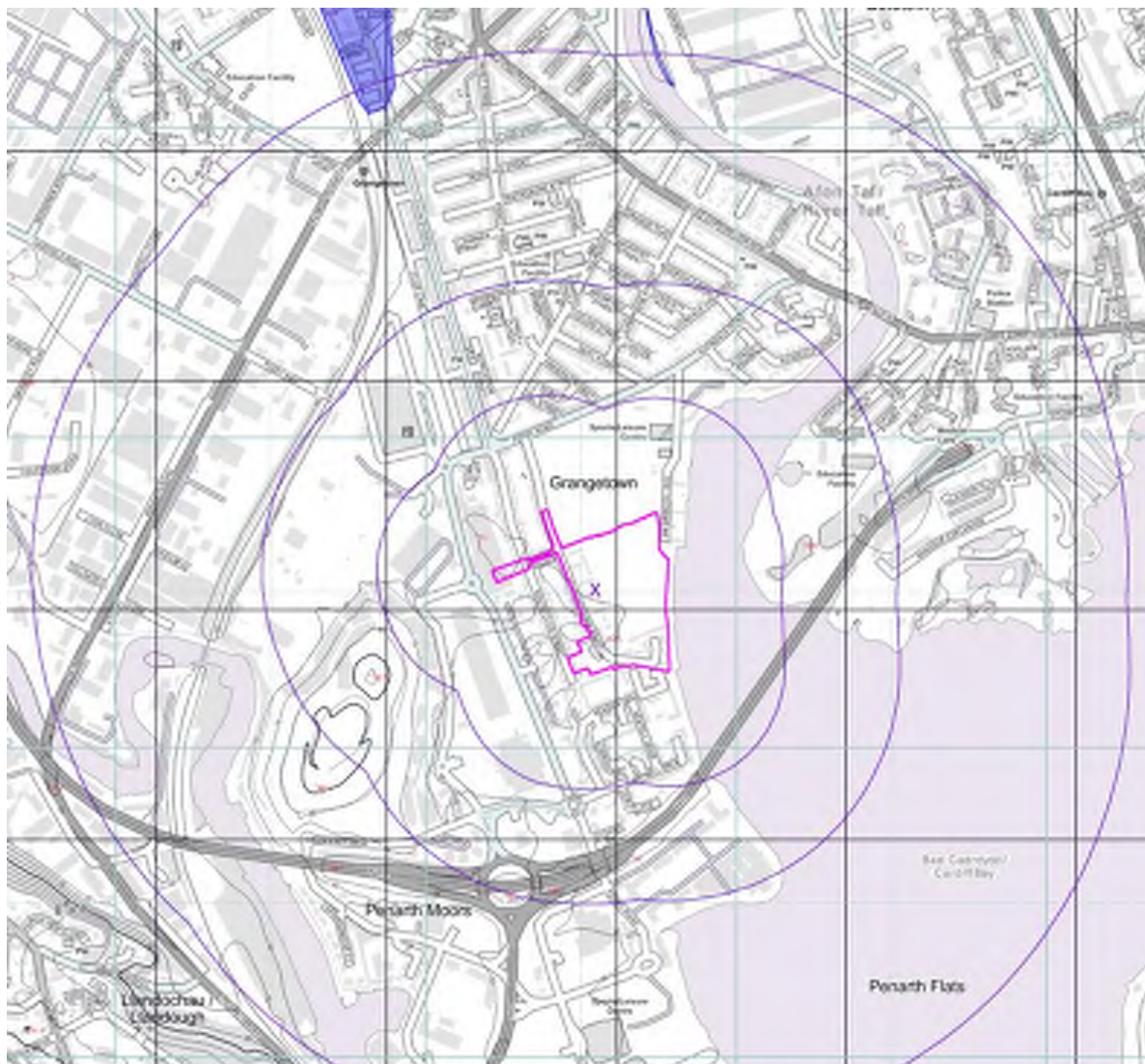


Figure 5 – NRW Historic Flood Map (1:10,000)

4.5 Structures Influencing Flow

4.5.1 There are no known structures that restrict flows in the vicinity of the site.

4.6 Sea & River Flooding

4.6.1 According to the Flood Risk Wales Map, extract shown in Figure 6 below, the development proposals are outside the high risk flood extents from both sea and river flooding. The site also benefits from flood defences. The overlay mapping shows generally sea flooding to be the greatest to the site with this extending further into the Marl.



Figure 6 – Flood Risk Assessment Wales Map

4.6.2 Both the DAM map and Flood Risk Assessment Wales maps have been overlaid into the development proposals and topographical survey, copies of these drawings are included in *Appendix E*. The extreme flood outlines generally coordinate with a level of 8.2m AOD, which is some 800mm lower than the lowest areas along eastern boundary of the proposed properties.

4.6.3 The risk of flooding from Sea or Rivers is therefore deemed low.

4.7 Pluvial Flooding

- 4.7.1 NRW 1 in 100 Year Surface Water Hazard Rating Map, as shown in Figure 7 overleaf, shows there are some small areas that are at moderate risk of surface water flooding. However, these areas are very small and are not impacted by the development proposals.
- 4.7.2 The 1 in 1 in 75 year JBA flood map received from Envirocheck indicates that there is little pluvial flooding on site. This is located near the North Eastern boundary of the site and is in the range of 0.05m-0.1m.
- 4.7.3 The 1 in 200 year JBA flood map indicates that there is no major increase in pluvial flooding on site with the range of depths remaining the same.
- 4.7.4 The 1 in 1000 year flood map shows that pluvial flooding occurs in other areas of the site as opposed to just the North Eastern boundary. Pluvial flooding occurs near the Southern boundary with a depth varying from 0.1m – 0.3m. There is pluvial flooding ranging in depth from 0.3m-1m on Seager Drive which is adjacent to the Southern boundary of the site.
- 4.7.5 The surface water flood risk mapping generally indicates the site is at low risk of pluvial flooding.

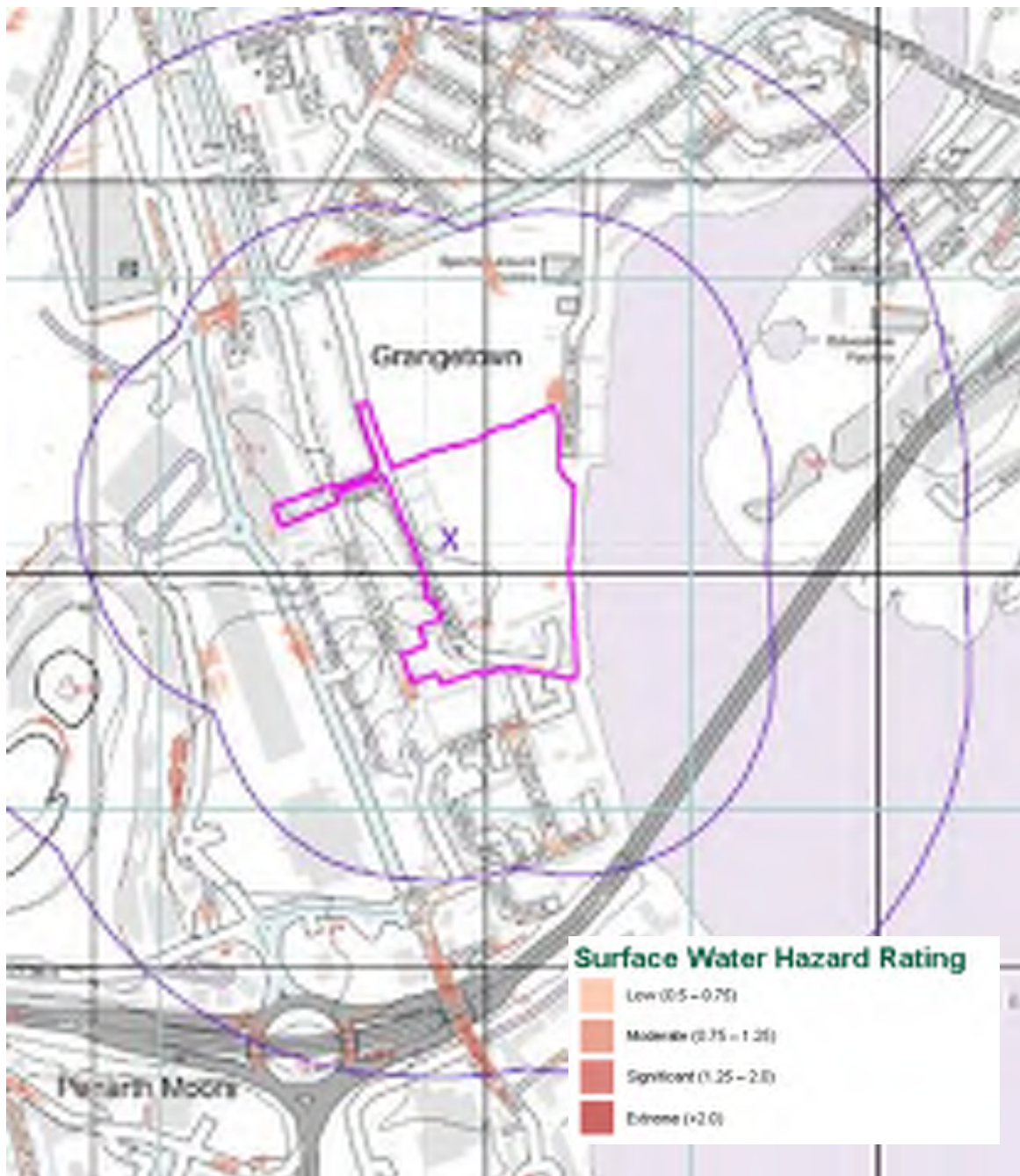


Figure 7 – NRW 1 in 100year Surface Water Hazard Rating Map

- 4.7.6 Welsh Water records maps, shown in Figure 8 overleaf, show a 450/600mm diameter surface water sewer running along Channel View Road and outfalling into the River Taff. A 225mm combined sewer serves the development and runs south to north, primarily through the Marl.
- 4.7.7 The development proposals will assist in alleviating the risk of pluvial flooding from the existing public sewers on site. The proposed surface water system on site will include numerous SUDS features which will reduce the speed of runoff and peak discharges from the site. The drainage network will reduce the peak runoff exiting the site by 30% and provide attenuation storage for the 1 in 100 year +40% storm event. The combined sewer will be diverted further into the Marl and any existing surface water connections from the existing properties to be demolished will be removed.



Figure 8 – Welsh Water Record Maps

4.8 Groundwater Flooding

4.8.1 BGS groundwater flood susceptibility maps, shown in Figure 9 below, indicate there is potential for flooding of properties that are below ground level. The proposed development does not include lowering of ground levels or the installation of basements.

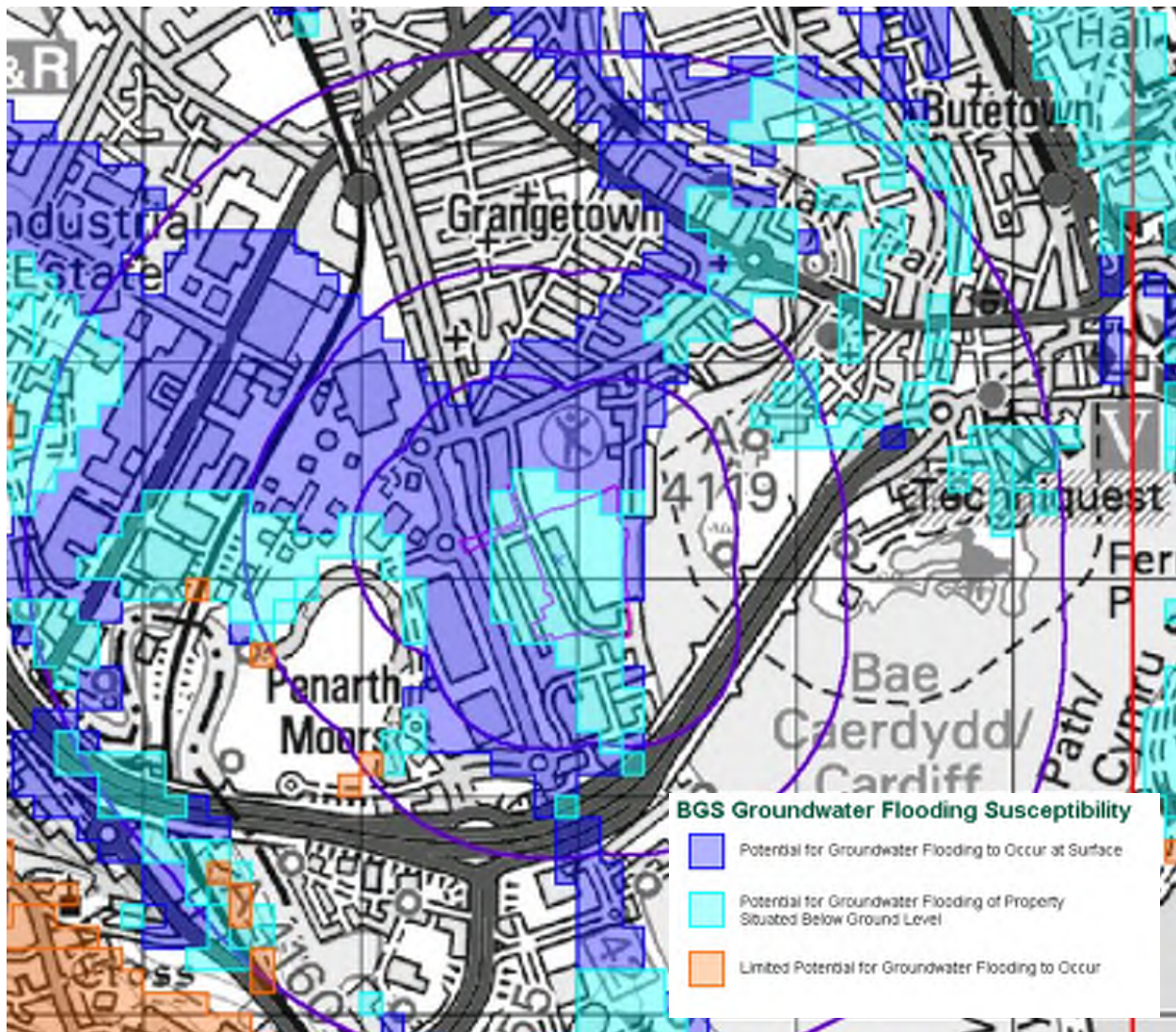


Figure 9 – BGS Groundwater Flooding Susceptibility

4.8.2 The ground investigations undertaken by Terra Firma did not identify any shallow water strikes, as discussed in Section 2.4. It is therefore deemed that the flooding risk from groundwater to the development is low.

4.9 Reservoir Flooding

4.9.1 NRW flood mapping indicates the site is minorly affected by reservoir flooding with a small proportion of the proposed development located in the flood area.

5 TAN15 Acceptability Criteria

Following the justification test and assessment of flood consequences, Table 5 below appraises the proposed development against the acceptability criteria outlined within TAN 15 policy.

Table 5: TAN15 Acceptability Criteria

Criteria	Comments	Achievable
Table A1.14 defines the frequency flood threshold for various development types. A Residential development needs to be flood free within the 1 in 100year fluvial event or 1 in 200 year tidal event inclusive of climate change.	The Flood Risk Assessment Wales Map shows the development is not within the sea or river flood extents.	✓
Table A1.15 provides guidance on the acceptable levels of flooding beyond the threshold frequency. For Industrial developments a maximum depth of flooding of 0.6m is recommended, with a max. rise of floodwaters of 0.1m/hr, max. inundation of flood risk area of 5 hrs and max. velocities of 0.15m/s within the property and 0.30m/s within the access.	The Flood Risk Assessment Wales Map shows the development is outside the extreme flood extents.	✓
Flood defences must be structurally adequate particularly under extreme overtopping conditions (i.e. that flood with a probability of occurrence of 0.1%)	The Cardiff Bay Barrage provides in excess of 1:1000 year standard of protection.	✓
The developer must ensure that future occupiers of development are aware of the flooding risks and consequences.	A Flood Action plan will be developed and implemented for occupiers of the site.	✓
Effective flood warnings are provided at the site	A portion of the site is situated in the Flood Warning Area 'River Taff at Cardiff City'. The majority of the site in the Flood Alert Area 'Coast from Aberthaw to Severn Bridge'	✓
Escape/evacuation routes are shown by the developer must be in place	Access and egress can be made via Channel View Road and Ferry Road. If Ferry Road becomes impassible during extreme storm events there is ample dry refuge within the site, including the Marl.	✓
Development is designed by the developer to allow the occupier the facility for rapid movement of goods/possessions to areas away from the floodwaters	Access should be available through Channel View Road during extreme flood events.	✓
Development is designed to minimize flood damage and is flood proofed	Flood Resilient design measures should be considered during the detailed design stage of the project.	✓
No flooding elsewhere	The development does not propose any level changes within the floodplain.	✓

6 Mitigation Measures

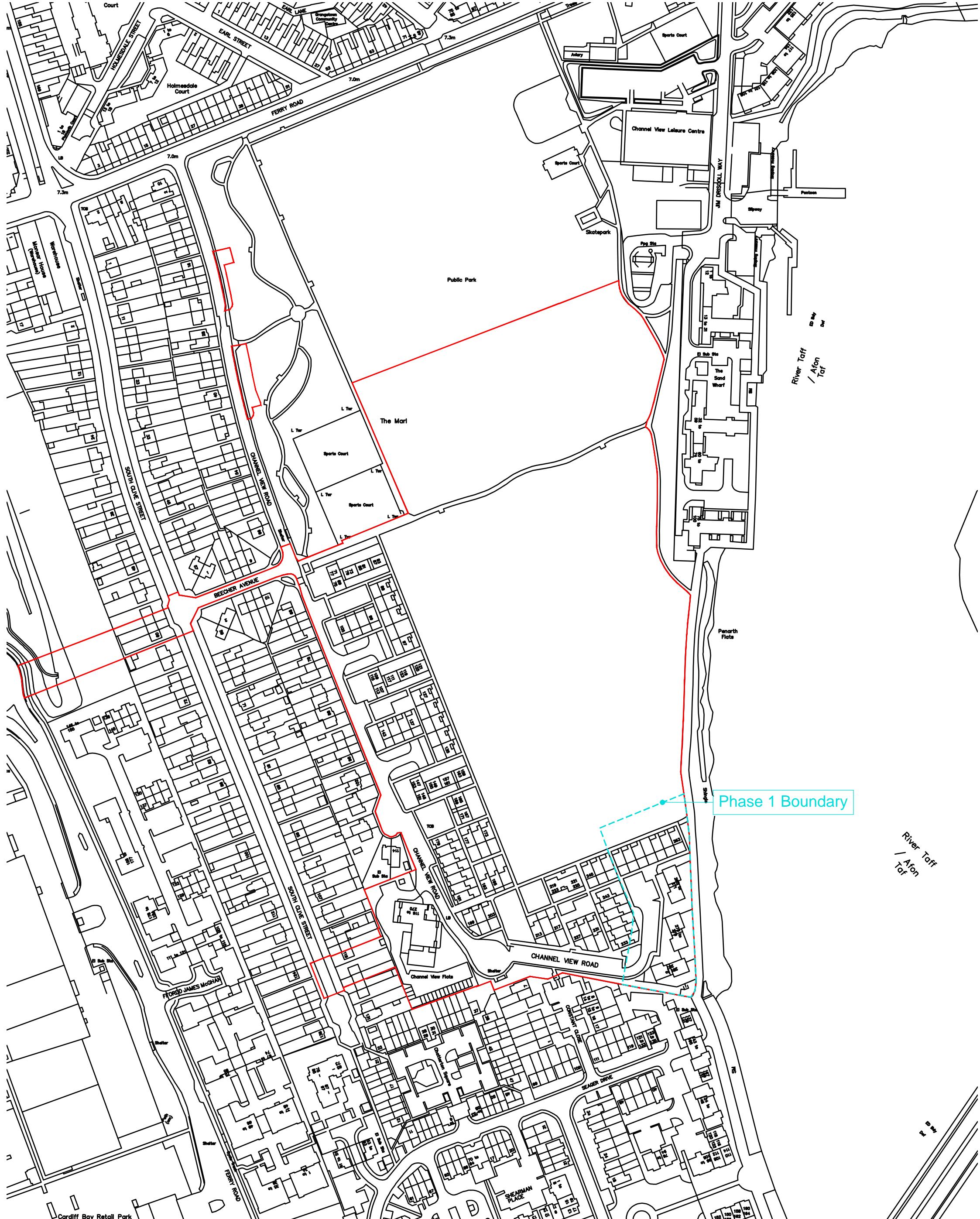
6.1.1 To mitigate the residual flood risks resulting from the proposals, the following mitigation measures are recommended;

- ▶ The occupiers of the site should sign up to the NRW flood warning service.
- ▶ A Flood Action Plan should be developed and implemented during a flood alert.
- ▶ Flood Resilient design measures should be considered during the detailed design of the development.
- ▶ A SUDS design solution should be progressed and detailed in consultation with the SAB
- ▶ Exceedance Overland Flow flood route plans shall be produced and agreed with the SAB.
- ▶ Proposed properties shall not be lowered below existing ground levels.

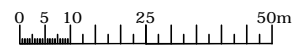
7 Conclusions

- 7.1.1 The Development Advice Maps show that the site is predominantly situated within Flood Zone B. A small proportion of the site is situated within Flood Zone C1 and benefits from the Cardiff Bay Barrage flood defence.
- 7.1.2 An appraisal of Envirocheck Flood Study Screening report and NRW flood mapping shows the site is at low risk of Tidal / Sea flooding. Other sources of flooding were generally considered low to negligible risk without any proposed mitigation measures.
- 7.1.3 The FFLs of the proposed dwellings should not be lowered below existing ground levels. Conservatively a minimum FFL of 8.8mAOD should be adopted across the site, where possible.
- 7.1.4 With consideration of the type of development, the level of residual flood risk to the development is considered acceptable subject to the adoption of the mitigation measures proposed within Section 6.
- 7.1.5 The site meets the justification and acceptability criteria for highly vulnerable development outlined in TAN 15 planning policy.

Appendix A: Site Location Plan



Phase 1 Boundary



This drawing must not be scaled. Figured dimensions and levels to be used. Any inaccuracies must be notified to the architect. Detail drawings and large scale drawings take precedence over smaller drawings.

Rev:	Chk'd:	Rev:
A Redline Amended.	AF 31.03.21	-
B Redline Amended.	RF 16.04.21	-

Chk'd:

PRELIMINARY	✓
PLANNING	
DESIGN	
TENDER	
CONSTRUCTION	

powelldobson
ARCHITECTS

Cardiff Office: Suite 1F, Building One, Eastern Business Park, Wern Fawr Lane, Old St Mellons, Cardiff CF3 5EA
Tel: +44 (0)33 33 201 001 www.powelldobson.com

Contract: Channel View, Cardiff
For: Cardiff Council

Title: Site Location Plan

Drawing No.	Rev.
20004 (05) 090	B

Scale: 1:1500 @ A3
Date: April 2020
Drawn: AF
Checked:

THIS DRAWING IS COPYRIGHT ©

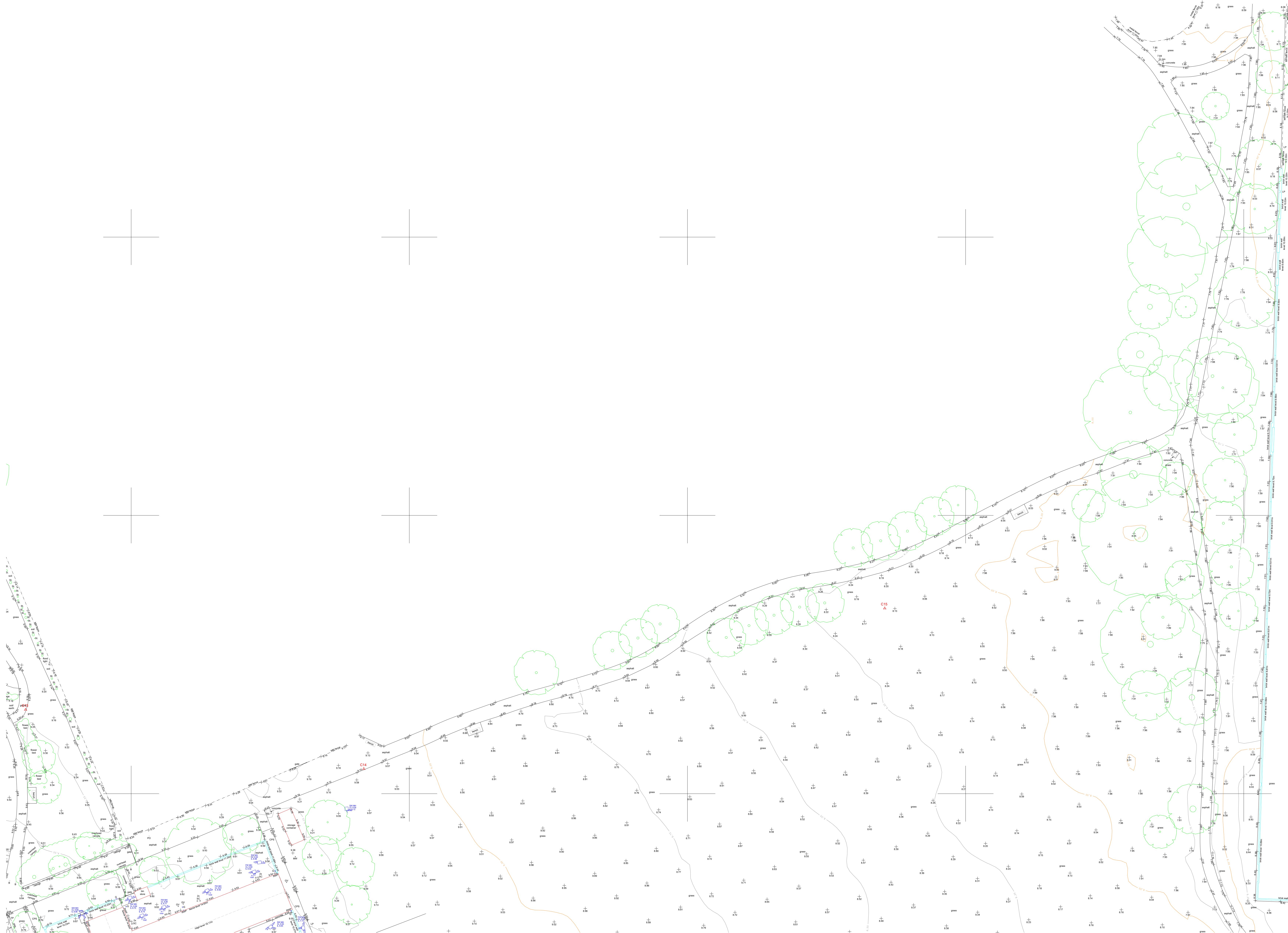
Appendix B: Topographical Survey

174300N

174250N

174200N

174150N



KEY TO ABBREVIATIONS

Asp	Asphalt	JB	Junction Box
B	Bolted	KO	Kerb Outlet
BH	Bench	LP	Lamp Post
BS	Bus Stop	MH	Manhole
BT	British Telecom Cover	MSF	Monitoring Well
BU	Bus/Shrub	NB	Name Board
CB	Telephone Control Cabinet	OHC	Overhead Cable
CA	Cable Television Cover	PO	Post
Conc.	Concrete	PB	Post Box
CPS	Concrete Paving Slabs	RE	Roading Eye
DK	Drop Kerb	RG	Road Gully
Elc.	Electricity Inspection Cover	RS	Road Sign
EP	Electricity Pole	RWP	Rain Water Pipe
ER	Earth Road	SC	Stop Cock
FEL	Finished Floor Level	SW	Stop Valve
FH	Fire Hydrant	St.	Stump
FP	Flag Pole	SV	Stop Valve
G	Gully	SVP	Soil Vent Pipe
GP	Gate Post	TCS	Telephone Box
GV	Gas Valve	TL	Traffic Light
IC	Inspection Cover	TP	Telegraph Pole

Fence And Wall Features:

BURW	Block Retaining Wall
BW	Barbed Wire
BW	Block Wall
CRW	Concrete Retaining Wall
CB	Chain Barbed
CM	Corrugated Metal
CRBW	Concrete Post & Barbed Wire
CPCL	Concrete Post & Chainlink
CPCP	Concrete Post & Post
CPW	Concrete Post & Wire
GW	Gaeson Wall
HR	Hand Rail
I	Iron
M	Metal Railings
MW	Interwoven Wood Slat
MM	Metal Mesh
MPMR	Metal Post and Metal Rail
SRW	Stone Retaining Wall
WPBW	Wood Post & Barbed Wire
WPMR	Wood Post & Metal Rail
WPW	Wood Post & Wire
WPWR	Wood Post & Wood Rail

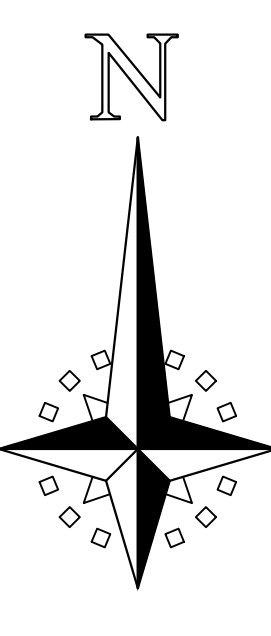
Drainage Features:

CL	Cover Level
F	Invert Level
FWS	Foul Water Sewer
SWS	Storm Water Sewer
CWS	Combined Water Sewer
U/L	Unroute To L/R
D	Pipe Diameter (mm)
SL	Soil Level
→	Arrow indicates direction of flow
WL	Water Level with date and time taken

Notes:

- All levels and grid relate to Ordnance Survey Datum derived by GPS.
- Do not scale from this drawing.

BENCH DATA			
Code	Easting	Northing	Level
C1	174115.00	173861.00	8.205
C2	174117.00	173861.00	8.205
C3	174119.00	173861.00	8.205
C4	174121.00	173861.00	8.205
C5	174123.00	173861.00	8.205
C6	174125.00	173861.00	8.205
C7	174127.00	173861.00	8.205
C8	174129.00	173861.00	8.205
C9	174131.00	173861.00	8.205
C10	174133.00	173861.00	8.205
C11	174135.00	173861.00	8.205
C12	174137.00	173861.00	8.205
C13	174139.00	173861.00	8.205
C14	174141.00	173861.00	8.205
C15	174143.00	173861.00	8.205
C16	174145.00	173861.00	8.205
C17	174147.00	173861.00	8.205
C18	174149.00	173861.00	8.205
C19	174151.00	173861.00	8.205
C20	174153.00	173861.00	8.205
C21	174155.00	173861.00	8.205
C22	174157.00	173861.00	8.205
C23	174159.00	173861.00	8.205
C24	174161.00	173861.00	8.205
C25	174163.00	173861.00	8.205
C26	174165.00	173861.00	8.205
C27	174167.00	173861.00	8.205
C28	174169.00	173861.00	8.205
C29	174171.00	173861.00	8.205
C30	174173.00	173861.00	8.205
C31	174175.00	173861.00	8.205
C32	174177.00	173861.00	8.205
C33	174179.00	173861.00	8.205
C34	174181.00	173861.00	8.205
C35	174183.00	173861.00	8.205
C36	174185.00	173861.00	8.205
C37	174187.00	173861.00	8.205
C38	174189.00	173861.00	8.205
C39	174191.00	173861.00	8.205
C40	174193.00	173861.00	8.205
C41	174195.00	173861.00	8.205
C42	174197.00	173861.00	8.205
C43	174199.00	173861.00	8.205
C44	174201.00	173861.00	8.205
C45	174203.00	173861.00	8.205
C46	174205.00	173861.00	8.205
C47	174207.00	173861.00	8.205
C48	174209.00	173861.00	8.205
C49	174211.00	173861.00	8.205
C50	174213.00	173861.00	8.205
C51	174215.00	173861.00	8.205
C52	174217.00	173861.00	8.205
C53	174219.00	173861.00	8.205
C54	174221.00	173861.00	8.205
C55	174223.00	173861.00	8.205
C56	174225.00	173861.00	8.205
C57	174227.00	173861.00	8.205
C58	174229.00	173861.00	8.205
C59	174231.00	173861.00	8.205
C60	174233.00	173861.00	8.205
C61	174235.00	173861.00	8.205
C62	174237.00	173861.00	8.205
C63	174239.00	173861.00	8.205
C64	174241.00	173861.00	8.205
C65	174243.00	173861.00	8.205
C66	174245.00	173861.00	8.205
C67	174247.00	173861.00	8.205
C68	174249.00	173861.00	8.205
C69	174251.00	173861.00	8.205
C70	174253.00	173861.00	8.205
C71	174255.00	173861.00	8.205
C72	174257.00	173861.00	8.205
C73	174259.00	173861.00	8.205
C74	174261.00	173861.00	8.205
C75	174263.00	173861.00	8.205
C76	174265.00	173861.00	8.205
C77	174267.00	173861.00	8.205
C78	174269.00	173861.00	8.205
C79	174271.00	173861.00	8.205
C80	174273.00	173861.00	8.205
C81	174275.00	173861.00	8.205
C82	174277.00	173861.00	8.205
C83	174279.00	173861.00	8.205
C84	174281.00	173861.00	8.205
C85	174283.00	173861.00	8.205
C86	174285.00	173861.00	8.205
C87	174287.00	173861.00	8.205
C88	174289.00	173861.00	8.205
C89	174291.00	173861.00	8.205
C90	174293.00	173861.00	8.205
C91	174295.00	173861.00	8.205
C92	174297.00	173861.00	8.205
C93	174299.00	173861.00	8.205
C94	174301.00	173861.00	8.205
C95	174303.00	173861.00	8.205
C96	174305.00	173861.00	8.205
C97	174307.00	173861.00	8.205
C98	174309.00	173861.00	8.205
C99	174311.00	173861.00	8.205
C100	174313.00	173861.00	8.205



D	Additional detail added	10/09/20
C	Additional detail added	08/09/20
B	Additional detail added	05/08/20
A	Additional detail added	25/06/20

Rev	Description	Date

.....\3point surveys edited.png

10 Goldtops, Newport, NP20 4PH.
tel:01633 844984
email:info@3point surveys.co.uk
www.3point surveys.co.uk.

Client: Cambria Consulting Limited.
Site: Channell View Road, Cardiff.

Drawing: Topographic Survey Sheet 1 of 9.

Scale: A0@1:250 Date: June 2020
Designed By: C.M.K

Drawing No.: E1024-1-1 Rev D

174150N

174100N

174050N

174000N



KEY TO ABBREVIATIONS

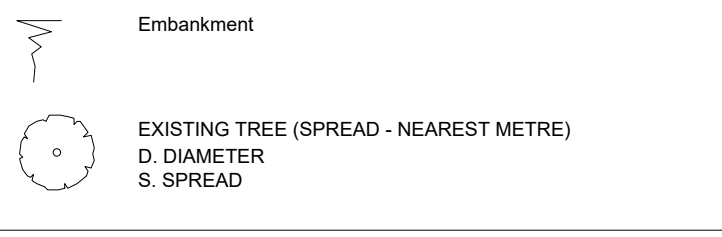
Asp	Asphalt	JB	Junction Box
B	Bollard	KO	Kerb Outlet
BH	Benches	LP	Lamp Post
BS	Bus Stop	MH	Manhole
BT	British Telecom Cover	MSF	Monitoring Well
BU	Bulk/Bulkhead	NB	Name Board
CB	Telephone Control Cabinet	DN	Downhead Cable
CA	Cable Television Cover	PO	Post
Conc.	Concrete	PB	Post Box
CPS	Concrete Paving Slabs	RE	Roading Eye
DK	Drop Kerb	RG	Road Gully
Elec.	Electricity Inspection Cover	Rd	Road Sign
EP	Electricity Pole	RWP	Road Water Pipe
ER	Earth Road	SC	Stop Cock
FEL	Finished Floor Level	SW	Stop Valve
FH	Fire Hydrant	St	Stump
FP	Flag Pole	SV	Stop Valve
G	Gully	SVP	Soil Vent Pipe
GP	Gate Post	TCS	Telephone Box
GV	Gas Valve	TL	Traffic Light
IC	Inspection Cover	TP	Telegraph Pole

Fence And Wall Features:

BURW	Block Retaining Wall
BW	Barbed Wire
EW	Electric Fence
CRW	Concrete Retaining Wall
CB	Chain Barrier
CM	Corrugated Metal
CRWB	Concrete Post & Barbed Wire
CPCL	Concrete Post & Chainlink
CPWP	Concrete Post & Post
CPW	Concrete Post & Wire
GW	Garden Wall
HR	Hand Rail
M	Metal Railings
IM	Interwoven Wood Slat
MM	Metall Mesh
MPMR	Metal Post and Metal Rail
SWW	Stone Retaining Wall
WPBW	Wood Post and Barbed Wire
WPMR	Wood Post & Metal Rail
WPRW	Wood Post & Wire
WPRR	Wood Post & Wood Rail

Drainage Features:

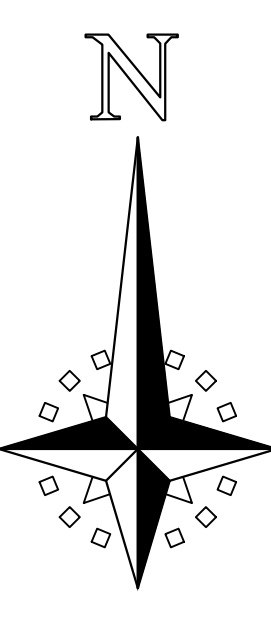
CL	Cover Level
I	Invert Level
FWS	Foul Water Sewer
SWS	Storm Water Sewer
CWS	Combined Water Sewer
UTL	Untraced To L/R
D	Pipe Diameter (mm)
SL	Soil Level
A	Arrow indicates direction of flow
WL	Water Level with date and time taken



- Notes:**
- All levels and grid relate to Ordnance Survey Datum derived by GPS.
 - Do not scale from this drawing.

REVISIONS

NO.	DATE	DESCRIPTION
1	10/09/20	Issue for construction
2	08/08/20	Issue for construction
3	05/08/20	Issue for construction
4	25/06/20	Issue for construction



D	Additional detail added	10/09/20
C	Additional detail added	08/08/20
B	Additional detail added	05/08/20
A	Additional detail added	25/06/20

Rev	Description	Date
-----	-------------	------

.....3point surveys edited.png

10 Goldtops, Newport, NP20 4PH.
tel: 01633 844984
email: info@3pointsurveys.co.uk
www.3pointsurveys.co.uk

Client: Cambria Consulting Limited.
Site: Channel View Road, Cardiff.

Drawing: Topographic Survey Sheet 2 of 9.

Scale: A0@1:250 Date: June 2020

Designed By: C.M.K

Drawing No.: E1024-1-2 Rev D



KEY TO ABBREVIATIONS

Ap	Asphalt	JB	Junction Box
B	Ballast	KO	Kerb Outlet
BH	Benhole	LP	Lamp Post
BS	Bus Stop	MH	Manhole
BT	British Telecom Cover	MSF	Monitoring Well
BU	Busk/Busk	NB	Name Board
CB	Telephone Control Cabinet	OC	Overhead Cable
CA	Cable Television Cover	PO	Post
Conc.	Concrete	PB	Post Box
CPS	Concrete Paving Slabs	RE	Roading Eye
DK	Drop Kerb	RG	Road Gully
Elc.	Electricity Inspection Cover	RS	Road Sign
EP	Electric Pole	RWP	Road Water Pipe
ER	Earth Road	SC	Stop Cock
FEL	Freshed Floor Level	SW	Stop Valve
FH	Fire Hydrant	St	Stamp
FP	Flag Pole	SV	Stop Valve
G	Gully	SVP	Sid Vent Pipe
GP	Gate Post	TCS	Telephone Box
GV	Gas Valve	TL	Traffic Light
IC	Inspection Cover	TP	Telegraph Pole

Fence And Wall Features

BURW	Block Retaining Wall
BW	Barbed Wire
BW	Block Wall
CRW	Concrete Retaining Wall
CS	Chain Sided
CM	Corrugated Metal
CPBW	Concrete Post & Barbed Wire
CPCL	Concrete Post & Chainlink
CPCP	Concrete Post & Post
CPW	Concrete Post & Wire
GW	Garden Wall
HFR	Hand Rail
I	Iron
IR	Iron Railings
IM	Intervenor Wood Slat
MM	Metal Mesh
MPMR	Metal Post and Metal Rail
SRW	Stone Retaining Wall
WPBW	Wood Post & Barbed Wire
WPMR	Wood Post & Metal Rail
WPRW	Wood Post & Wire Rail
WPWR	Wood Post & Wood Rail

Drainage Features

CL	Cover Level
I	Invert Level
FWWS	Foul Water Sewer
SWS	Storm Water Sewer
CWS	Combined Water Sewer
UTL	Unstable To L/R
D	Pipe Diameter (mm)
SL	Soil Level
→	Arrow indicates direction of flow
WL	Water Level with date and time taken
—	Embankment
○	EXISTING TREE (SPREAD - NEAREST METRE)
D	D. DIAMETER
S	S. SPREAD

Notes:

- All levels and grid relate to Ordnance Survey Datum derived by GPS.
- Do not scale from this drawing.

Point	Code	Easting	Northing	Level
1	CI	318113.83	173950.38	8.265
2	CI	318117.81	173950.38	8.265
3	CI	318121.79	173950.38	8.265
4	CI	318125.77	173950.38	8.265
5	CI	318129.75	173950.38	8.265
6	CI	318133.73	173950.38	8.265
7	CI	318137.71	173950.38	8.265
8	CI	318141.69	173950.38	8.265
9	CI	318145.67	173950.38	8.265
10	CI	318149.65	173950.38	8.265
11	CI	318153.63	173950.38	8.265
12	CI	318157.61	173950.38	8.265
13	CI	318161.59	173950.38	8.265
14	CI	318165.57	173950.38	8.265
15	CI	318169.55	173950.38	8.265
16	CI	318173.53	173950.38	8.265
17	CI	318177.51	173950.38	8.265
18	CI	318181.49	173950.38	8.265
19	CI	318185.47	173950.38	8.265
20	CI	318189.45	173950.38	8.265
21	CI	318193.43	173950.38	8.265
22	CI	318197.41	173950.38	8.265
23	CI	318201.39	173950.38	8.265
24	CI	318205.37	173950.38	8.265
25	CI	318209.35	173950.38	8.265
26	CI	318213.33	173950.38	8.265
27	CI	318217.31	173950.38	8.265
28	CI	318221.29	173950.38	8.265
29	CI	318225.27	173950.38	8.265
30	CI	318229.25	173950.38	8.265
31	CI	318233.23	173950.38	8.265
32	CI	318237.21	173950.38	8.265
33	CI	318241.19	173950.38	8.265
34	CI	318245.17	173950.38	8.265
35	CI	318249.15	173950.38	8.265
36	CI	318253.13	173950.38	8.265
37	CI	318257.11	173950.38	8.265
38	CI	318261.09	173950.38	8.265
39	CI	318265.07	173950.38	8.265
40	CI	318269.05	173950.38	8.265
41	CI	318273.03	173950.38	8.265
42	CI	318277.01	173950.38	8.265
43	CI	318280.99	173950.38	8.265
44	CI	318284.97	173950.38	8.265
45	CI	318288.95	173950.38	8.265
46	CI	318292.93	173950.38	8.265
47	CI	318296.91	173950.38	8.265
48	CI	318300.89	173950.38	8.265
49	CI	318304.87	173950.38	8.265
50	CI	318308.85	173950.38	8.265
51	CI	318312.83	173950.38	8.265
52	CI	318316.81	173950.38	8.265
53	CI	318320.79	173950.38	8.265
54	CI	318324.77	173950.38	8.265
55	CI	318328.75	173950.38	8.265
56	CI	318332.73	173950.38	8.265
57	CI	318336.71	173950.38	8.265
58	CI	318340.69	173950.38	8.265
59	CI	318344.67	173950.38	8.265
60	CI	318348.65	173950.38	8.265
61	CI	318352.63	173950.38	8.265
62	CI	318356.61	173950.38	8.265
63	CI	318360.59	173950.38	8.265
64	CI	318364.57	173950.38	8.265
65	CI	318368.55	173950.38	8.265
66	CI	318372.53	173950.38	8.265
67	CI	318376.51	173950.38	8.265
68	CI	318380.49	173950.38	8.265
69	CI	318384.47	173950.38	8.265
70	CI	318388.45	173950.38	8.265
71	CI	318392.43	173950.38	8.265
72	CI	318396.41	173950.38	8.265
73	CI	318400.39	173950.38	8.265
74	CI	318404.37	173950.38	8.265
75	CI	318408.35	173950.38	8.265
76	CI	318412.33	173950.38	8.265
77	CI	318416.31	173950.38	8.265
78	CI	318420.29	173950.38	8.265
79	CI	318424.27	173950.38	8.265
80	CI	318428.25	173950.38	8.265
81	CI	318432.23	173950.38	8.265
82	CI	318436.21	173950.38	8.265
83	CI	318440.19	173950.38	8.265
84	CI	318444.17	173950.38	8.265
85	CI	318448.15	173950.38	8.265
86	CI	318452.13	173950.38	8.265
87	CI	318456.11	173950.38	8.265
88	CI	318460.09	173950.38	8.265
89	CI	318464.07	173950.38	8.265
90	CI	318468.05	173950.38	8.265
91	CI	318472.03	173950.38	8.265
92	CI	318476.01	173950.38	8.265
93	CI	318480.00	173950.38	8.265
94	CI	318483.98	173950.38	8.265
95	CI	318487.96	173950.38	8.265
96	CI	318491.94	173950.38	8.265
97	CI	318495.92	173950.38	8.265
98	CI	318499.90	173950.38	8.265
99	CI	318503.88	173950.38	8.265
100	CI	318507.86	173950.38	8.265

D	Additional detail added	10/09/20
C	Additional detail added	08/09/20
B	Additional detail added	05/08/20
A	Additional detail added	25/06/20

Rev	Description	Date
-----	-------------	------

.....\3pointsurveys edited.png

10 Goldtops, Newport, NP20 4PH.
tel:01633 844984
email:info@3pointsurveys.co.uk
www.3pointsurveys.co.uk.

Client: Cambria Consulting Limited.

Site: Channel View Road, Cardiff.

Drawing: Topographic Survey Sheet 3 of 9.

Scale: A0@1:250 Date: June 2020

Designed By: C.M.K

Drawing No.: E1024-1-3 Rev D

173950N

173900N

173850N

173800N

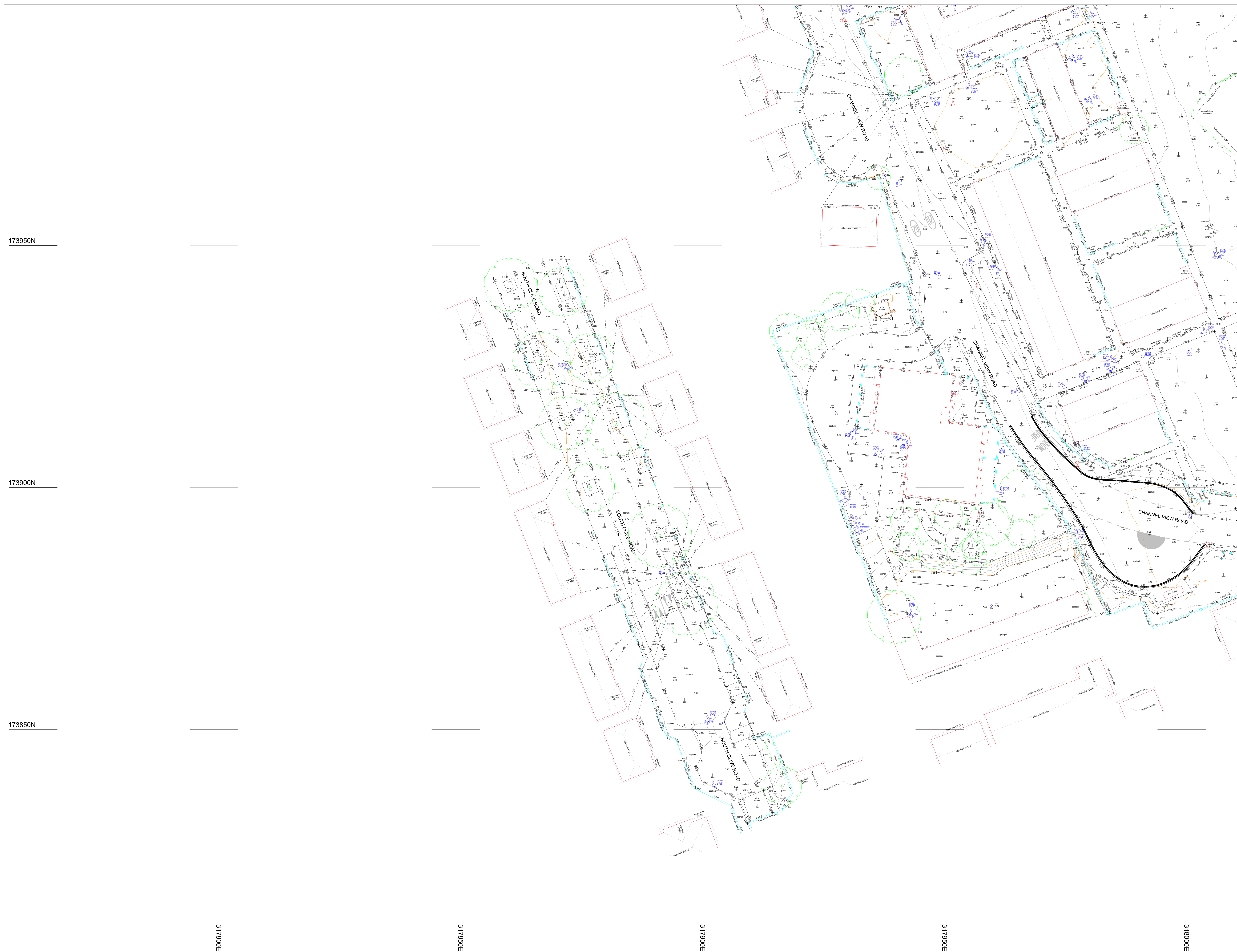
317950E

318000E

318050E

318100E

318150E



KEY TO ABBREVIATIONS

Ap	Asphalt	JB	Junction Box
B	Ballast	KO	Kerb Outlet
BH	Benches	LP	Lamp Post
BS	Bus Stop	MH	Manhole
BT	British Telecom Cover	MMF	Monitoring Well
BU	Bus/Shrub	NB	Name Board
CB	Telephone Control Cabinet	OC	Overhead Cable
CA	Cable Television Cover	PO	Post
Conc.	Concrete	PB	Post Box
CPS	Concrete Paving Slabs	RE	Reading Eye
DK	Drop Kerb	RG	Road Gully
ELC	Electricity Inspection Cover	RGS	Road Sign
EP	Electricity Pole	RWP	Road Water Pipe
ER	Earth Road	SC	Stop Cock
FEL	Finished Floor Level	SW	Stop Valve
FH	Fire Hydrant	St	Shump
FP	Flag Pole	SV	Stop Valve
G	Gully	SVP	Sid Vent Pipe
GP	Gate Post	TCS	Telephone Box
GV	Gas Valve	TL	Traffic Light
IC	Inspection Cover	TP	Telegraph Pole

Fence And Wall Features:

BURW	Block Retaining Wall
BW	Barbed Wire
BW	Block Wall
CRW	Concrete Retaining Wall
CS	Chain Slabbed
CM	Corrugated Metal
CRWB	Concrete Post & Barbed Wire
CPCL	Concrete Post & Chainlink
CPWP	Concrete Post & Post
CPW	Concrete Post & Wire
GW	Garden Wall
HR	Hand Rail
M	Metal Railings
MW	Interwoven Wood Slat
MM	Metal Mesh
MPMR	Metal Post and Metal Rail
SRW	Stone Retaining Wall
WPBW	Wood Post and Barbed Wire
WPMR	Wood Post and Metal Rail
WPW	Wood Post & Wire
WPWR	Wood Post & Wood Rail

Drainage Features:

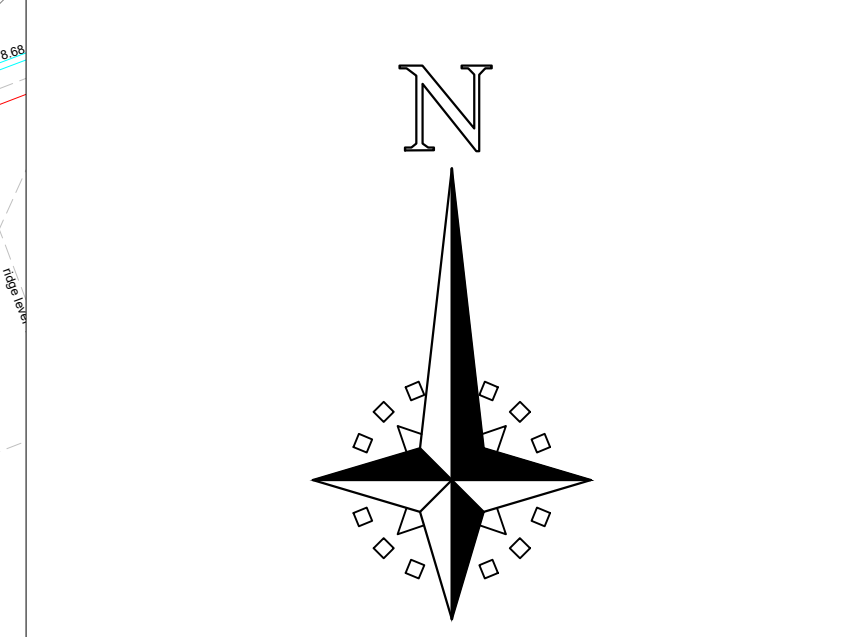
CL	Cover Level
L	Invert Level
FWS	Foul Water Sewer
SWS	Storm Water Sewer
CWS	Combined Water Sewer
UTL	Utility To L/R
D	Pipe Diameter (mm)
SL	Soil Level
WL	Water Level with date and time taken

Notes:

- All levels and grid relate to Ordnance Survey Datum derived by GPS.
- Do not scale from this drawing.

Point Coordinates

Point	Easting	Northing	Level
CI	174113.83	173861.38	8.555
CI	174117.81	173861.38	8.565
CI	174121.79	173861.38	8.575
CI	174125.77	173861.38	8.585
CI	174129.75	173861.38	8.595
CI	174133.73	173861.38	8.605
CI	174137.71	173861.38	8.615
CI	174141.69	173861.38	8.625
CI	174145.67	173861.38	8.635
CI	174149.65	173861.38	8.645
CI	174153.63	173861.38	8.655
CI	174157.61	173861.38	8.665
CI	174161.59	173861.38	8.675
CI	174165.57	173861.38	8.685
CI	174169.55	173861.38	8.695
CI	174173.53	173861.38	8.705
CI	174177.51	173861.38	8.715
CI	174181.49	173861.38	8.725
CI	174185.47	173861.38	8.735
CI	174189.45	173861.38	8.745
CI	174193.43	173861.38	8.755
CI	174197.41	173861.38	8.765
CI	174201.39	173861.38	8.775
CI	174205.37	173861.38	8.785
CI	174209.35	173861.38	8.795
CI	174213.33	173861.38	8.805
CI	174217.31	173861.38	8.815
CI	174221.29	173861.38	8.825
CI	174225.27	173861.38	8.835
CI	174229.25	173861.38	8.845
CI	174233.23	173861.38	8.855
CI	174237.21	173861.38	8.865
CI	174241.19	173861.38	8.875
CI	174245.17	173861.38	8.885
CI	174249.15	173861.38	8.895
CI	174253.13	173861.38	8.905
CI	174257.11	173861.38	8.915
CI	174261.09	173861.38	8.925
CI	174265.07	173861.38	8.935
CI	174269.05	173861.38	8.945
CI	174273.03	173861.38	8.955
CI	174277.01	173861.38	8.965
CI	174280.99	173861.38	8.975
CI	174284.97	173861.38	8.985
CI	174288.95	173861.38	8.995
CI	174292.93	173861.38	9.005
CI	174296.91	173861.38	9.015
CI	174300.89	173861.38	9.025
CI	174304.87	173861.38	9.035
CI	174308.85	173861.38	9.045
CI	174312.83	173861.38	9.055
CI	174316.81	173861.38	9.065
CI	174320.79	173861.38	9.075
CI	174324.77	173861.38	9.085
CI	174328.75	173861.38	9.095
CI	174332.73	173861.38	9.105
CI	174336.71	173861.38	9.115
CI	174340.69	173861.38	9.125
CI	174344.67	173861.38	9.135
CI	174348.65	173861.38	9.145
CI	174352.63	173861.38	9.155
CI	174356.61	173861.38	9.165
CI	174360.59	173861.38	9.175
CI	174364.57	173861.38	9.185
CI	174368.55	173861.38	9.195
CI	174372.53	173861.38	9.205
CI	174376.51	173861.38	9.215
CI	174380.49	173861.38	9.225
CI	174384.47	173861.38	9.235
CI	174388.45	173861.38	9.245
CI	174392.43	173861.38	9.255
CI	174396.41	173861.38	9.265
CI	174400.39	173861.38	9.275
CI	174404.37	173861.38	9.285
CI	174408.35	173861.38	9.295
CI	174412.33	173861.38	9.305
CI	174416.31	173861.38	9.315
CI	174420.29	173861.38	9.325
CI	174424.27	173861.38	9.335
CI	174428.25	173861.38	9.345
CI	174432.23	173861.38	9.355
CI	174436.21	173861.38	9.365
CI	174440.19	173861.38	9.375
CI	174444.17	173861.38	9.385
CI	174448.15	173861.38	9.395
CI	174452.13	173861.38	9.405
CI	174456.11	173861.38	9.415
CI	174460.09	173861.38	9.425
CI	174464.07	173861.38	9.435
CI	174468.05	173861.38	9.445
CI	174472.03	173861.38	9.455
CI	174476.01	173861.38	9.465
CI	174480.00	173861.38	9.475
CI	174483.98	173861.38	9.485
CI	174487.96	173861.38	9.495
CI	174491.94	173861.38	9.505
CI	174495.92	173861.38	9.515
CI	174499.90	173861.38	9.525
CI	174503.88	173861.38	9.535
CI	174507.86	173861.38	9.545
CI	174511.84	173861.38	9.555
CI	174515.82	173861.38	9.565
CI	174519.80	173861.38	9.575
CI	174523.78	173861.38	9.585
CI	174527.76	173861.38	9.595
CI	174531.74	173861.38	9.605
CI	174535.72	173861.38	9.615
CI	174539.70	173861.38	9.625
CI	174543.68	173861.38	9.635
CI	174547.66	173861.38	9.645
CI	174551.64	173861.38	9.655
CI	174555.62	173861.38	9.665
CI	174559.60	173861.38	9.675
CI	174563.58	173861.38	9.685
CI	174567.56	173861.38	9.695
CI	174571.54	173861.38	9.705
CI	174575.52	173861.38	9.715
CI	174579.50	173861.38	9.725
CI	174583.48	173861.38	9.735
CI	174587.46	173861.38	9.745
CI	174591.44	173861.38	9.755
CI	174595.42	173861.38	9.765
CI	174599.40	173861.38	9.775
CI	174603.38	173861.38	9.785
CI	174607.36	173861.38	9.795
CI	174611.34	173861.38	9.805
CI	174615.32	173861.38	9.815
CI	174619.30	173861.38	9.825
CI	174623.28	173861.38	9.835
CI	174627.26	173861.38	9.845
CI	174631.24	173861.38	9.855
CI	174635.22	173861.38	9.865
CI	174639.20	173861.38	9.875
CI	174643.18	173861.38	9.885
CI	174647.16	173861.38	9.895
CI	174651.14	173861.38	9.905
CI	174655.12	173861.38	9.915
CI	174659.10	173861.38	9.925
CI	174663.08	173861.38	9.935
CI	174667.06	173861.38	9.945
CI	174671.04	173861.38	9.955
CI	174675.02	173861.38	9.965
CI	174679.00	173861.38	9.975
CI	174682.98	173861.38	9.985
CI	174686.96	173861.38	9.995
CI	174690.94	173861.38	10.005



D	Additional detail added	10/09/20
C	Additional detail added	08/09/20
B	Additional detail added	05/08/20
A	Additional detail added	25/06/20
Rev	Description	Date

.....\3pointsurveys edited.png

10 Goldtops, Newport, NP20 4PH.
tel:01633 844984
email:info@3pointsurveys.co.uk
www.3pointsurveys.co.uk.

Client: Cambria Consulting Limited.

Site: Channel View Road, Cardiff.

Drawing: Topographic Survey Sheet 4 of 9.

Scale: A0@1:250 Date: June 2020

Designed By: C.M.K

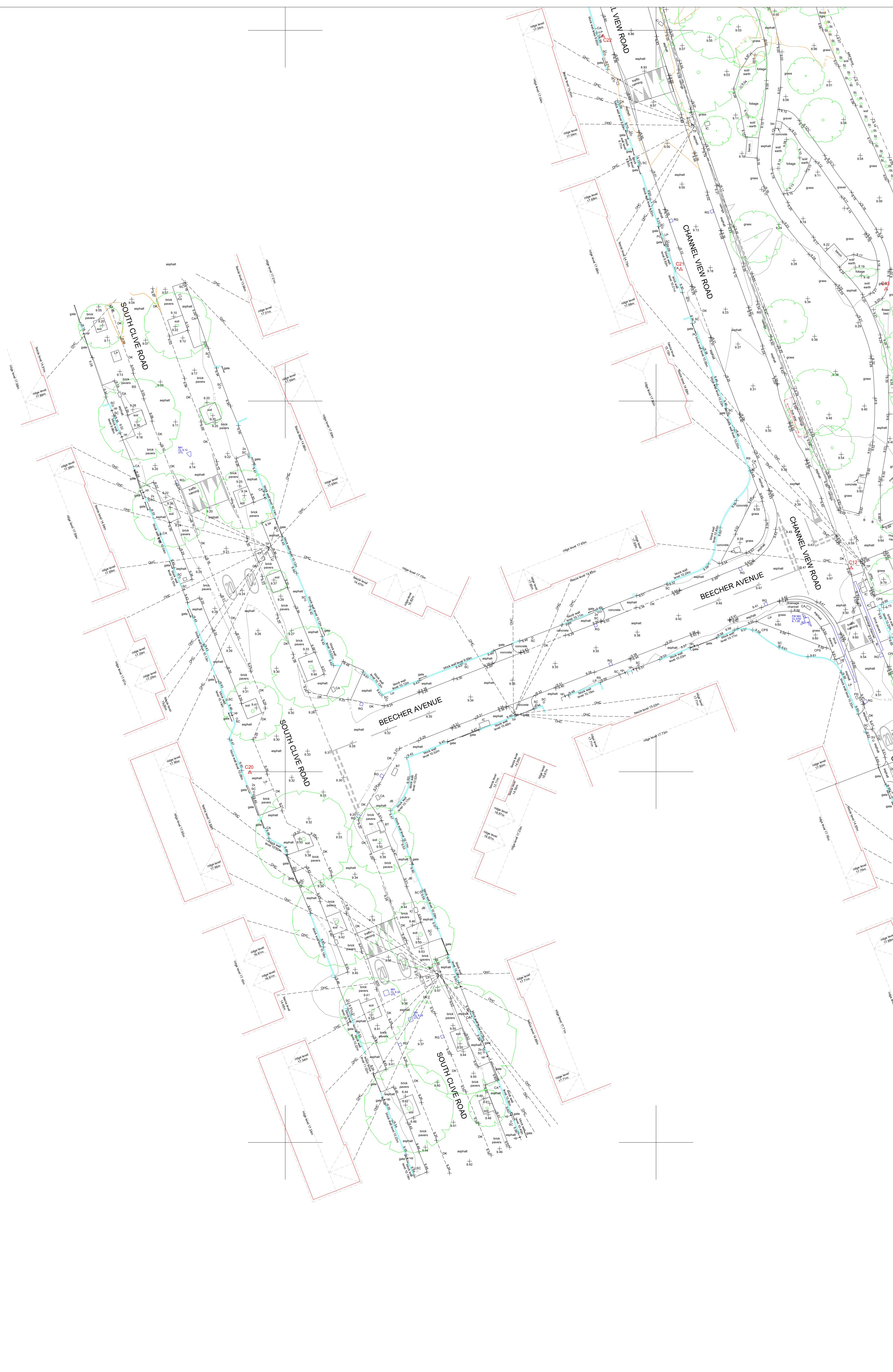
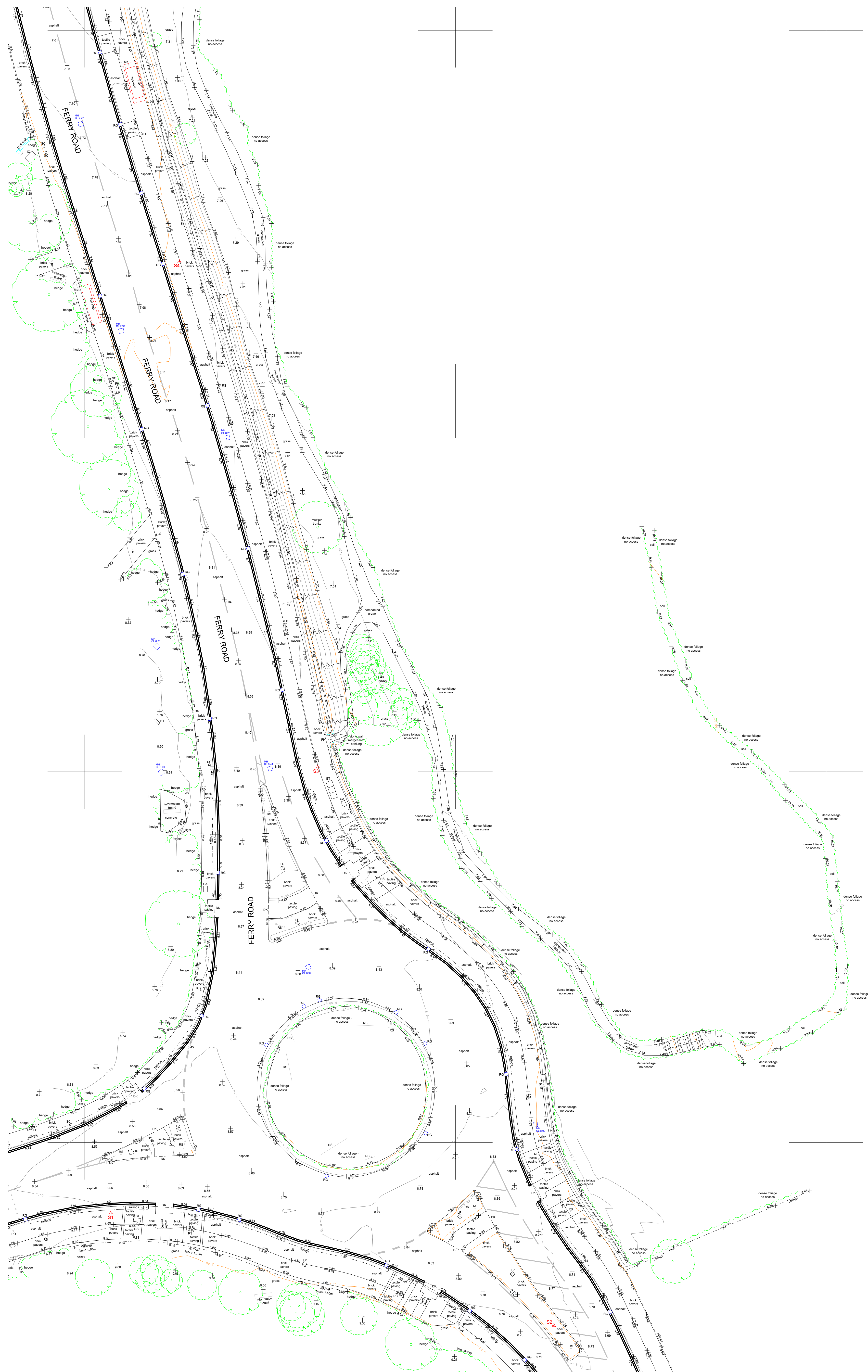
Drawing No.: E1024-1-4 Rev D

174200N

174150N

174100N

174050N



KEY TO ABBREVIATIONS

AP	Asphalt	JB	Junction Box
B	Bolted	KO	Kerb Outlet
BH	Bench	LP	Lamp Post
BS	Bus Stop	MH	Manhole
BT	British Telecom Cover	MW	Monitoring Well
BU	Bulk/Strut	NB	Name Board
CB	Telephone Control Cabinet	OH	Overhead Cable
CA	Cable Television Cover	PO	Post
Conc.	Concrete	PS	Post Box
CPS	Concrete Paving Slabs	RE	Road Edge
DK	Drop Kerb	RG	Road Gully
Elec.	Electricity Inspection Cover	Rd	Road Sign
EP	Electric Pole	RWP	Rain Water Pipe
ER	Earth Road	SC	Stop Cock
FEL	Finished Floor Level	SW	Stop Valve
FH	Fire Hydrant	Sr	Shump
FP	Flag Pole	SV	Stop Valve
G	Gully	SVP	Sid Vent Pipe
GP	Gate Post	TCS	Telephone Box
GV	Gas Valve	TL	Traffic Light
IC	Inspection Cover	TP	Telegraph Pole

Fence And Wall Features:

BURW	Block Retaining Wall
BW	Barbed Wire
BW	Brick Wall
CRW	Concrete Retaining Wall
CS	Chain Sided
CM	Corrugated Metal
CRBW	Concrete Post & Barbed Wire
CPCL	Concrete Post & Chainlink
CPWP	Concrete Post & Post
CPW	Concrete Post & Wire
GW	Garrison Wall
HR	Hand Rail
M	Metal Railings
MW	Interwoven Wood Slat
MM	Metal Mesh
MPMR	Metal Post and Metal Rail
SRW	Stone Retaining Wall
WPBW	Wood Post & Barbed Wire
WPMR	Wood Post & Metal Rail
WPRW	Wood Post & Wire
WPMR	Wood Post & Wood Rail

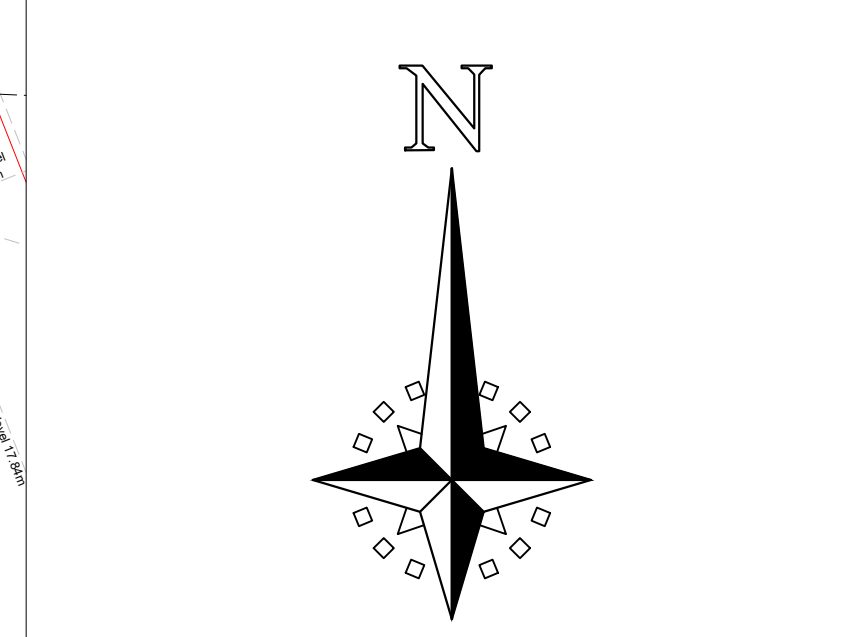
Drainage Features:

CL	Cover Level
L	Level
FWS	Foul Water Sewer
SWS	Storm Water Sewer
CWS	Combined Water Sewer
UTL	Unstable To LR
D	Pipe Diameter (mm)
SL	Soil Level
A	Arrow indicates direction of flow
WL	Water Level with date and time taken

Notes:

- All levels and grid relate to Ordnance Survey Datum derived by GPS.
- Do not scale from this drawing.

Point	Northing	Easting	Level
CA1	174133.83	174083.38	8.55
CA2	174133.83	174083.38	8.55
CA3	174133.83	174083.38	8.55
CA4	174133.83	174083.38	8.55
CA5	174133.83	174083.38	8.55
CA6	174133.83	174083.38	8.55
CA7	174133.83	174083.38	8.55
CA8	174133.83	174083.38	8.55
CA9	174133.83	174083.38	8.55
CA10	174133.83	174083.38	8.55
CA11	174133.83	174083.38	8.55
CA12	174133.83	174083.38	8.55
CA13	174133.83	174083.38	8.55
CA14	174133.83	174083.38	8.55
CA15	174133.83	174083.38	8.55
CA16	174133.83	174083.38	8.55
CA17	174133.83	174083.38	8.55
CA18	174133.83	174083.38	8.55
CA19	174133.83	174083.38	8.55
CA20	174133.83	174083.38	8.55
CA21	174133.83	174083.38	8.55
CA22	174133.83	174083.38	8.55
CA23	174133.83	174083.38	8.55
CA24	174133.83	174083.38	8.55
CA25	174133.83	174083.38	8.55
CA26	174133.83	174083.38	8.55
CA27	174133.83	174083.38	8.55
CA28	174133.83	174083.38	8.55
CA29	174133.83	174083.38	8.55
CA30	174133.83	174083.38	8.55
CA31	174133.83	174083.38	8.55
CA32	174133.83	174083.38	8.55
CA33	174133.83	174083.38	8.55
CA34	174133.83	174083.38	8.55
CA35	174133.83	174083.38	8.55
CA36	174133.83	174083.38	8.55
CA37	174133.83	174083.38	8.55
CA38	174133.83	174083.38	8.55
CA39	174133.83	174083.38	8.55
CA40	174133.83	174083.38	8.55
CA41	174133.83	174083.38	8.55
CA42	174133.83	174083.38	8.55
CA43	174133.83	174083.38	8.55
CA44	174133.83	174083.38	8.55
CA45	174133.83	174083.38	8.55
CA46	174133.83	174083.38	8.55
CA47	174133.83	174083.38	8.55
CA48	174133.83	174083.38	8.55
CA49	174133.83	174083.38	8.55
CA50	174133.83	174083.38	8.55
CA51	174133.83	174083.38	8.55
CA52	174133.83	174083.38	8.55
CA53	174133.83	174083.38	8.55
CA54	174133.83	174083.38	8.55
CA55	174133.83	174083.38	8.55
CA56	174133.83	174083.38	8.55
CA57	174133.83	174083.38	8.55
CA58	174133.83	174083.38	8.55
CA59	174133.83	174083.38	8.55
CA60	174133.83	174083.38	8.55
CA61	174133.83	174083.38	8.55
CA62	174133.83	174083.38	8.55
CA63	174133.83	174083.38	8.55
CA64	174133.83	174083.38	8.55
CA65	174133.83	174083.38	8.55
CA66	174133.83	174083.38	8.55
CA67	174133.83	174083.38	8.55
CA68	174133.83	174083.38	8.55
CA69	174133.83	174083.38	8.55
CA70	174133.83	174083.38	8.55
CA71	174133.83	174083.38	8.55
CA72	174133.83	174083.38	8.55
CA73	174133.83	174083.38	8.55
CA74	174133.83	174083.38	8.55
CA75	174133.83	174083.38	8.55
CA76	174133.83	174083.38	8.55
CA77	174133.83	174083.38	8.55
CA78	174133.83	174083.38	8.55
CA79	174133.83	174083.38	8.55
CA80	174133.83	174083.38	8.55
CA81	174133.83	174083.38	8.55
CA82	174133.83	174083.38	8.55
CA83	174133.83	174083.38	8.55
CA84	174133.83	174083.38	8.55
CA85	174133.83	174083.38	8.55
CA86	174133.83	174083.38	8.55
CA87	174133.83	174083.38	8.55
CA88	174133.83	174083.38	8.55
CA89	174133.83	174083.38	8.55
CA90	174133.83	174083.38	8.55
CA91	174133.83	174083.38	8.55
CA92	174133.83	174083.38	8.55
CA93	174133.83	174083.38	8.55
CA94	174133.83	174083.38	8.55
CA95	174133.83	174083.38	8.55
CA96	174133.83	174083.38	8.55
CA97	174133.83	174083.38	8.55
CA98	174133.83	174083.38	8.55
CA99	174133.83	174083.38	8.55
CA100	174133.83	174083.38	8.55



D	Additional detail added	10/09/20
C	Additional detail added	08/09/20
B	Additional detail added	05/08/20
A	Additional detail added	25/06/20

Rev	Description	Date
-----	-------------	------

.....\3pointsurveys edited.png

10 Goldtops, Newport, NP20 4PH.
tel:01633 844984
email:info@3pointsurveys.co.uk
www.3pointsurveys.co.uk.

Client: Cambria Consulting Limited.

Site: Channel View Road, Cardiff.

Drawing: Topographic Survey Sheet 5 of 9.

Scale: A0@1:250 Date: June 2020

Designed By: C.M.K

Drawing No: E1024-1-5 Rev D

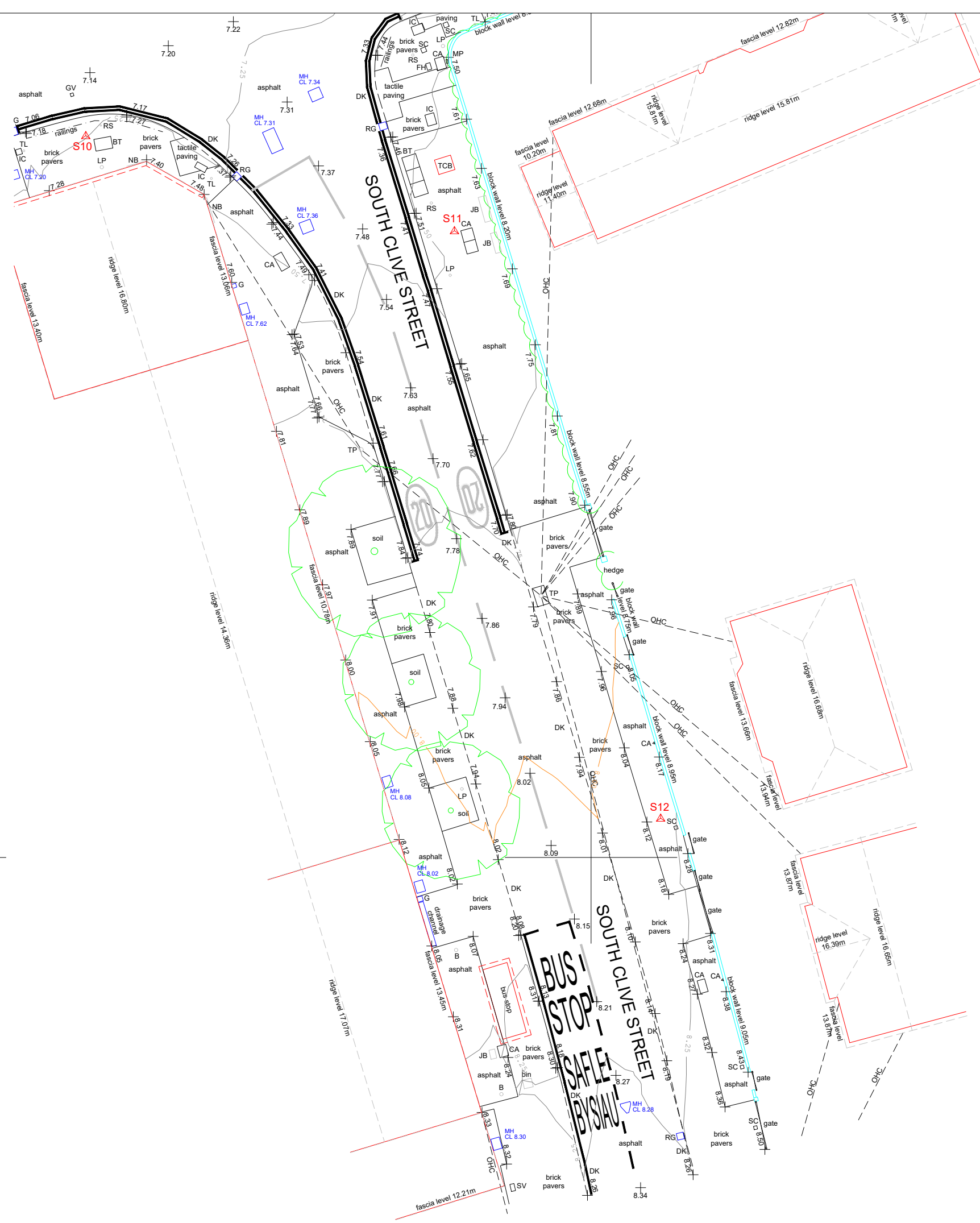
3177850E

3177850E

3177850E

317800E

317850E



174300N

174250N

174200N

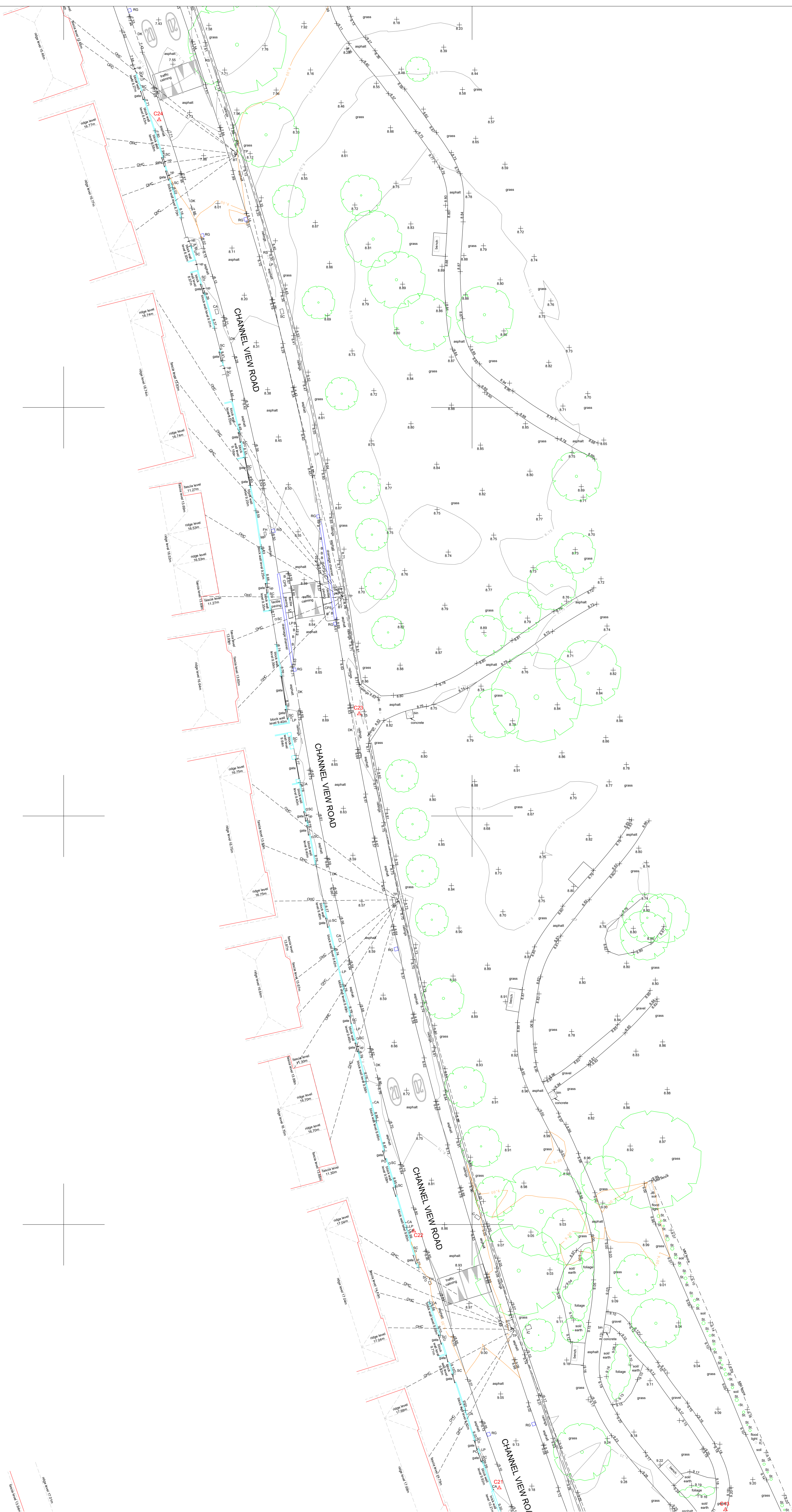
317750E

317800E

317850E

317900E

317950E



KEY TO ABBREVIATIONS

Ap	Asphalt	JB	Junction Box
B	Bolted	KO	Kerb Outlet
BH	Bench	LP	Lamp Post
BS	Bus Stop	MH	Manhole
BT	British Telecom Cover	MSF	Monitoring Well
BU	Bulk/Strut	NB	Name Board
CB	Telephone Control Cabinet	DHC	Overhead Cable
CA	Cable Television Cover	PO	Post
Conc.	Concrete	FB	Foot Box
CPS	Concrete Paving Slabs	RE	Roading Eye
DK	Drop Kerb	RG	Road Gully
Elc.	Electricity Inspection Cover	RS	Road Sign
EP	Electric Pole	RWP	Road Water Pipe
ER	Earth Road	SC	Stop Cock
FEL	Finished Floor Level	SW	Stop Valve
FH	Fire Hydrant	St	Stump
FP	Flag Pole	SV	Stop Valve
G	Gully	SVP	Soil Vent Pipe
GP	Gate Post	TCS	Telephone Box
GV	Gas Valve	TL	Traffic Light
IC	Inspection Cover	TP	Telegraph Pole

Fence And Wall Features:

BURW	Block Retaining Wall
BW	Barbed Wire
BW	Block Wall
CRW	Concrete Retaining Wall
CS	Chain Sided
CM	Corrugated Metal
CPBW	Concrete Post & Barbed Wire
CPCL	Concrete Post & Chainlink
CPCP	Concrete Post & Post
CPW	Concrete Post & Wire
GW	Garden Wall
HR	Hand Rail
I	Iron
M	Metal Railings
MW	Interwoven Wood Slat
MM	Metal Mesh
MPMR	Metal Post and Metal Rail
SRW	Stone Retaining Wall
WPBW	Wood Post & Barbed Wire
WPMR	Wood Post & Metal Rail
WPW	Wood Post & Wire
WPR	Wood Post & Wood Rail

Drainage Features:

CL	Cover Level
L	Invert Level
FWS	Foul Water Sewer
SWS	Storm Water Sewer
CWS	Combined Water Sewer
UTL	Unstable To L/R
D	Pipe Diameter (mm)
SL	Soil Level
→	Arrow indicates direction of flow
WL	Water Level with date and time taken

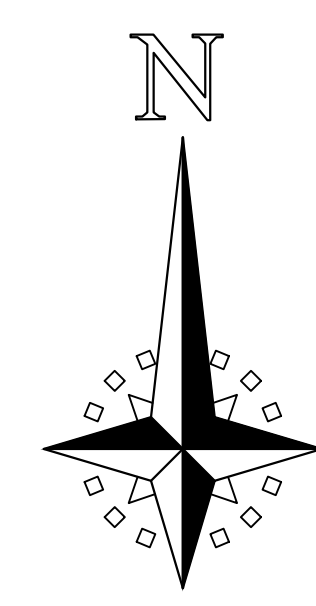
Embankment

EXISTING TREE (SPREAD - NEAREST METRE)
D. DIAMETER
S. SPREAD

Notes:

- All levels and grid relate to Ordnance Survey Datum derived by GPS.
- Do not scale from this drawing.

Point	Northings	Eastings	Height
CI	174115.343	173861.36	8.855
CI	174117.361	173861.36	8.860
CI	174055.147	173867.68	8.768
CA	174058.885	173867.675	8.801
CA	174060.48	173867.68	8.803
CA	174062.98	173867.68	8.808
CA	174065.48	173867.68	8.813
CA	174067.98	173867.68	8.818
CA	174070.48	173867.68	8.823
CA	174072.98	173867.68	8.828
CA	174075.48	173867.68	8.833
CA	174077.98	173867.68	8.838
CA	174080.48	173867.68	8.843
CA	174082.98	173867.68	8.848
CA	174085.48	173867.68	8.853
CA	174087.98	173867.68	8.858
CA	174090.48	173867.68	8.863
CA	174092.98	173867.68	8.868
CA	174095.48	173867.68	8.873
CA	174097.98	173867.68	8.878
CA	174100.48	173867.68	8.883
CA	174102.98	173867.68	8.888
CA	174105.48	173867.68	8.893
CA	174107.98	173867.68	8.898
CA	174110.48	173867.68	8.903
CA	174112.98	173867.68	8.908
CA	174115.48	173867.68	8.913
CA	174117.98	173867.68	8.918
CA	174120.48	173867.68	8.923
CA	174122.98	173867.68	8.928
CA	174125.48	173867.68	8.933
CA	174127.98	173867.68	8.938
CA	174130.48	173867.68	8.943
CA	174132.98	173867.68	8.948
CA	174135.48	173867.68	8.953
CA	174137.98	173867.68	8.958
CA	174140.48	173867.68	8.963
CA	174142.98	173867.68	8.968
CA	174145.48	173867.68	8.973
CA	174147.98	173867.68	8.978
CA	174150.48	173867.68	8.983
CA	174152.98	173867.68	8.988
CA	174155.48	173867.68	8.993
CA	174157.98	173867.68	8.998
CA	174160.48	173867.68	9.003
CA	174162.98	173867.68	9.008
CA	174165.48	173867.68	9.013
CA	174167.98	173867.68	9.018
CA	174170.48	173867.68	9.023
CA	174172.98	173867.68	9.028
CA	174175.48	173867.68	9.033
CA	174177.98	173867.68	9.038
CA	174180.48	173867.68	9.043
CA	174182.98	173867.68	9.048
CA	174185.48	173867.68	9.053
CA	174187.98	173867.68	9.058
CA	174190.48	173867.68	9.063
CA	174192.98	173867.68	9.068
CA	174195.48	173867.68	9.073
CA	174197.98	173867.68	9.078
CA	174200.48	173867.68	9.083
CA	174202.98	173867.68	9.088
CA	174205.48	173867.68	9.093
CA	174207.98	173867.68	9.098
CA	174210.48	173867.68	9.103
CA	174212.98	173867.68	9.108
CA	174215.48	173867.68	9.113
CA	174217.98	173867.68	9.118
CA	174220.48	173867.68	9.123
CA	174222.98	173867.68	9.128
CA	174225.48	173867.68	9.133
CA	174227.98	173867.68	9.138
CA	174230.48	173867.68	9.143
CA	174232.98	173867.68	9.148
CA	174235.48	173867.68	9.153
CA	174237.98	173867.68	9.158
CA	174240.48	173867.68	9.163
CA	174242.98	173867.68	9.168
CA	174245.48	173867.68	9.173
CA	174247.98	173867.68	9.178
CA	174250.48	173867.68	9.183
CA	174252.98	173867.68	9.188
CA	174255.48	173867.68	9.193
CA	174257.98	173867.68	9.198
CA	174260.48	173867.68	9.203
CA	174262.98	173867.68	9.208
CA	174265.48	173867.68	9.213
CA	174267.98	173867.68	9.218



D	Additional detail added	10/09/20
C	Additional detail added	08/09/20
B	Additional detail added	05/08/20
A	Additional detail added	25/06/20

Rev	Description	Date
-----	-------------	------

.....\3pointsurveys edited.png

10 Goldtops, Newport, NP20 4PH.
tel:01633 844984
email:info@3pointsurveys.co.uk
www.3pointsurveys.co.uk.

Client: Cambria Consulting Limited.

Site: Channel View Road, Cardiff.

Drawing: Topographic Survey Sheet 6 of 9.

Scale: A0@1:250 Date: June 2020

Designed By: C.M.K

Drawing No: E1024-1-6 Rev D

174450N

174400N

174350N

174300N



KEY TO ABBREVIATIONS

Asp	Asphalt	JB	Junction Box
B	Bolted	KO	Kerb Outlet
BH	Bench	LP	Lamp Post
BS	Bus Stop	MH	Manhole
BT	British Telecom Cover	MSF	Monitoring Well
BU	Bulk/Bush	NB	Name Board
CB	Telephone Control Cabinet	ODC	Overhead Cable
CA	Cable Television Cover	PO	Post
CoC	Concrete	PS	Post Box
CPS	Concrete Paving Slabs	RE	Reading Eye
DK	Drop Kerb	RG	Road Gully
EIc	Electricity Inspection Cover	RS	Road Sign
EP	Electricity Pole	RWP	Rain Water Pipe
ER	Earth Road	SC	Stop Cock
FEL	Finished Floor Level	SW	Stop Valve
FH	Fire Hydrant	St	Shump
FP	Flag Pole	SV	Stop Valve
G	Gully	SVP	Soil Vent Pipe
GP	Gate Post	TCS	Telephone Box
GV	Gas Valve	TL	Traffic Light
IC	Inspection Cover	TP	Telegraph Pole

Fence And Wall Features

BURW	Block Retaining Wall
BW	Barbed Wire
BW	Brick Wall
CRW	Concrete Retaining Wall
CS	Chain Sashed
CM	Corrugated Metal
CRFBW	Concrete Post & Barbed Wire
CPCL	Concrete Post & Chainlink
CPCP	Concrete Post & Post
CPW	Concrete Post & Wire
GW	Garden Wall
HR	Hand Rail
I	Iron
M	Metal Railings
MW	Interwoven Wood Slat
MM	Metal Mesh
MPMR	Metal Post and Metal Rail
SRW	Stone Retaining Wall
WPBW	Wood Post & Barbed Wire
WPMR	Wood Post & Metal Rail
WPWR	Wood Post & Wire
WPWR	Wood Post & Wood Rail

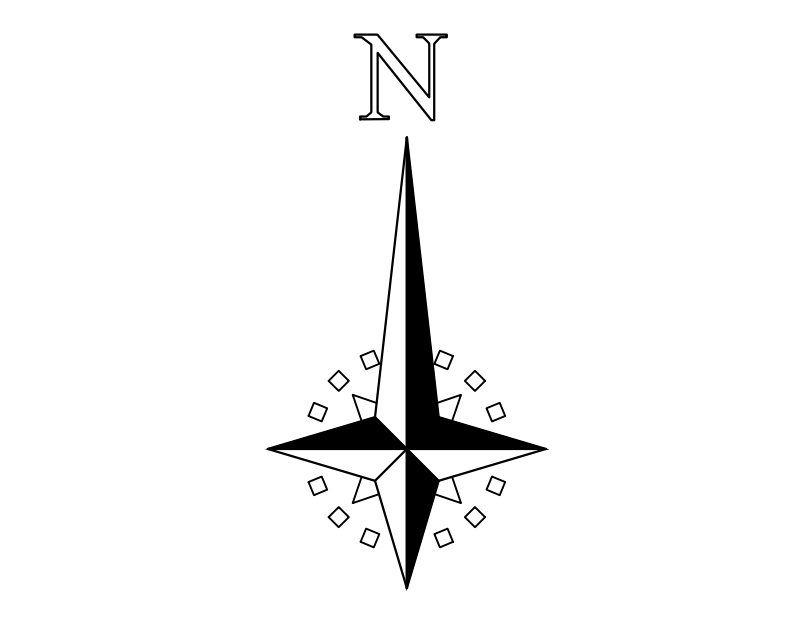
Drainage Features

CL	Cover Level
L	Invert Level
FWS	Foul Water Sewer
SWS	Storm Water Sewer
CWS	Combined Water Sewer
UTL	Untraced To LIR
D	Pipe Diameter (mm)
SL	Soil Level
→	Arrow indicates direction of flow
WL	Water Level with date and time taken

Notes:

- All levels and grid relate to Ordnance Survey Datum derived by GPS.
- Do not scale from this drawing.

Point	Easting	Northing	Level
C1	214113.843	173661.36	8.265
C2	214117.281	173661.36	8.265
C3	214120.719	173661.36	8.265
C4	214124.157	173661.36	8.265
C5	214127.595	173661.36	8.265
C6	214131.033	173661.36	8.265
C7	214134.471	173661.36	8.265
C8	214137.909	173661.36	8.265
C9	214141.347	173661.36	8.265
C10	214144.785	173661.36	8.265
C11	214148.223	173661.36	8.265
C12	214151.661	173661.36	8.265
C13	214155.099	173661.36	8.265
C14	214158.537	173661.36	8.265
C15	214161.975	173661.36	8.265
C16	214165.413	173661.36	8.265
C17	214168.851	173661.36	8.265
C18	214172.289	173661.36	8.265
C19	214175.727	173661.36	8.265
C20	214179.165	173661.36	8.265
C21	214182.603	173661.36	8.265
C22	214186.041	173661.36	8.265
C23	214189.479	173661.36	8.265
C24	214192.917	173661.36	8.265
C25	214196.355	173661.36	8.265
C26	214199.793	173661.36	8.265
C27	214203.231	173661.36	8.265
C28	214206.669	173661.36	8.265
C29	214210.107	173661.36	8.265
C30	214213.545	173661.36	8.265
C31	214216.983	173661.36	8.265
C32	214220.421	173661.36	8.265
C33	214223.859	173661.36	8.265
C34	214227.297	173661.36	8.265
C35	214230.735	173661.36	8.265
C36	214234.173	173661.36	8.265
C37	214237.611	173661.36	8.265
C38	214241.049	173661.36	8.265
C39	214244.487	173661.36	8.265
C40	214247.925	173661.36	8.265
C41	214251.363	173661.36	8.265
C42	214254.801	173661.36	8.265
C43	214258.239	173661.36	8.265
C44	214261.677	173661.36	8.265
C45	214265.115	173661.36	8.265
C46	214268.553	173661.36	8.265
C47	214271.991	173661.36	8.265
C48	214275.429	173661.36	8.265
C49	214278.867	173661.36	8.265
C50	214282.305	173661.36	8.265
C51	214285.743	173661.36	8.265
C52	214289.181	173661.36	8.265
C53	214292.619	173661.36	8.265
C54	214296.057	173661.36	8.265
C55	214299.495	173661.36	8.265
C56	214302.933	173661.36	8.265
C57	214306.371	173661.36	8.265
C58	214309.809	173661.36	8.265
C59	214313.247	173661.36	8.265
C60	214316.685	173661.36	8.265
C61	214320.123	173661.36	8.265
C62	214323.561	173661.36	8.265
C63	214327.000	173661.36	8.265
C64	214330.438	173661.36	8.265
C65	214333.876	173661.36	8.265
C66	214337.314	173661.36	8.265
C67	214340.752	173661.36	8.265
C68	214344.190	173661.36	8.265
C69	214347.628	173661.36	8.265
C70	214351.066	173661.36	8.265
C71	214354.504	173661.36	8.265
C72	214357.942	173661.36	8.265
C73	214361.380	173661.36	8.265
C74	214364.818	173661.36	8.265
C75	214368.256	173661.36	8.265
C76	214371.694	173661.36	8.265
C77	214375.132	173661.36	8.265
C78	214378.570	173661.36	8.265
C79	214382.008	173661.36	8.265
C80	214385.446	173661.36	8.265
C81	214388.884	173661.36	8.265
C82	214392.322	173661.36	8.265
C83	214395.760	173661.36	8.265
C84	214399.198	173661.36	8.265
C85	214402.636	173661.36	8.265
C86	214406.074	173661.36	8.265
C87	214409.512	173661.36	8.265
C88	214412.950	173661.36	8.265
C89	214416.388	173661.36	8.265
C90	214419.826	173661.36	8.265
C91	214423.264	173661.36	8.265
C92	214426.702	173661.36	8.265
C93	214430.140	173661.36	8.265
C94	214433.578	173661.36	8.265
C95	214437.016	173661.36	8.265
C96	214440.454	173661.36	8.265
C97	214443.892	173661.36	8.265
C98	214447.330	173661.36	8.265
C99	214450.768	173661.36	8.265
C100	214454.206	173661.36	8.265



D	Additional detail added	10/09/20
C	Additional detail added	08/09/20
B	Additional detail added	05/08/20
A	Additional detail added	25/06/20

Rev	Description	Date

.....\3pointsurveys edited.png

10 Goldtops, Newport, NP20 4PH.
tel:01633 844984
email:info@3pointsurveys.co.uk
www.3pointsurveys.co.uk.

Client: Cambria Consulting Limited.
Site: Channel View Road, Cardiff.

Drawing: Topographic Survey
Sheet 7 of 9.

Scale: A0@1:250 Date: June 2020
Designed By: C.M.K

Drawing No.: E1024-1-7 Rev D

174350N

174300N

174250N

174200N

317500E

317600E

317700E

317800E

317900E



KEY TO ABBREVIATIONS

AP	Asphalt	JB	Junction Box
B	Ballard	KO	Kerb Outlet
BH	Benches	LP	Lamp Post
BS	Bus Stop	MH	Manhole
BT	British Telecom Cover	MW	Manhole
BU	Bus/Shrub	NB	Name Board
CB	Telephone Control Cabinet	OHC	Overhead Cable
CA	Cable Television Cover	PO	Post
Conc	Concrete	PB	Post Box
CPS	Concrete Paving Slabs	RE	Roading Eye
DK	Drop Kerb	RG	Road Gully
Elc	Electricity Inspection Cover	RG	Road Sign
EP	Electric Pole	RWP	Rain Water Pipe
ER	Earth Road	SC	Stop Cock
FFL	Finished Floor Level	SW	Stop Wire
FH	Fire Hydrant	St	Stamp
FP	Flag Pole	SV	Stop Valve
G	Gully	SVP	Sid Vent Pipe
GP	Gate Post	TCS	Telephone Box
GV	Gas Valve	TL	Traffic Light
IC	Inspection Cover	TP	Telegraph Pole

Fence And Wall Features

BURW	Block Retaining Wall
BW	Barbed Wire
BW	Block Wall
CRW	Concrete Retaining Wall
CB	Chain Bordered
CM	Corrugated Metal
CRBW	Concrete Post & Barbed Wire
CPCL	Concrete Post & Chainlink
CPW	Concrete Post & Post
CPW	Concrete Post & Wire
GW	Garden Wall
HR	Hand Rail
M	Metal Railings
MM	Interwoven Wood Slat
MM	Metal Mesh
MPMR	Metal Post and Metal Rail
SRW	Stone Retaining Wall
WPBW	Wood Post & Barbed Wire
WPMR	Wood Post & Metal Rail
WPRW	Wood Post & Wire
WPRW	Wood Post & Wood Rail

Drainage Features

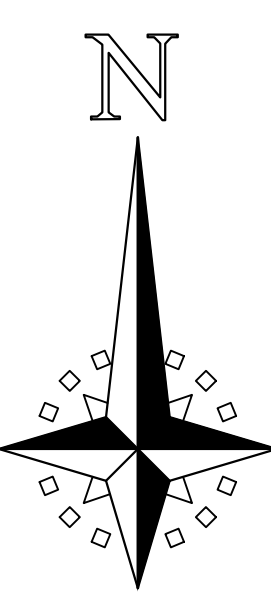
CL	Cover Level
I	Invert Level
FWSS	Food Waste Sewer
SWS	Storm Water Sewer
CWS	Combined Water Sewer
UTL	Unstable To LR
D	Pipe Diameter (mm)
SL	Soil Level
A	Arrow indicates direction of flow
WL	Water Level with date and time taken

Notes:

- All levels and grid relate to Ordnance Survey Datum derived by GPS.
- Do not scale from this drawing.

Point Coordinates

Point	Easting	Northing	Level
CP1	318152.843	174298.136	8.555
CP2	318157.667	174298.136	8.565
CP3	318055.147	174297.688	8.758
CP4	318058.985	174297.675	8.921
CP5	317916.668	174298.488	8.303
CP6	317922.286	174297.888	8.628
CP7	317922.286	174297.888	8.628
CP8	317922.286	174297.888	8.628
CP9	317922.286	174297.888	8.628
CP10	317922.286	174297.888	8.628
CP11	317922.286	174297.888	8.628
CP12	317922.286	174297.888	8.628
CP13	317922.286	174297.888	8.628
CP14	317922.286	174297.888	8.628
CP15	317922.286	174297.888	8.628
CP16	317922.286	174297.888	8.628
CP17	317922.286	174297.888	8.628
CP18	317922.286	174297.888	8.628
CP19	317922.286	174297.888	8.628
CP20	317922.286	174297.888	8.628
CP21	317922.286	174297.888	8.628
CP22	317922.286	174297.888	8.628
CP23	317922.286	174297.888	8.628
CP24	317922.286	174297.888	8.628
CP25	317922.286	174297.888	8.628
CP26	317922.286	174297.888	8.628
CP27	317922.286	174297.888	8.628
CP28	317922.286	174297.888	8.628
CP29	317922.286	174297.888	8.628
CP30	317922.286	174297.888	8.628
CP31	317922.286	174297.888	8.628
CP32	317922.286	174297.888	8.628
CP33	317922.286	174297.888	8.628
CP34	317922.286	174297.888	8.628
CP35	317922.286	174297.888	8.628
CP36	317922.286	174297.888	8.628
CP37	317922.286	174297.888	8.628
CP38	317922.286	174297.888	8.628
CP39	317922.286	174297.888	8.628
CP40	317922.286	174297.888	8.628
CP41	317922.286	174297.888	8.628
CP42	317922.286	174297.888	8.628
CP43	317922.286	174297.888	8.628
CP44	317922.286	174297.888	8.628
CP45	317922.286	174297.888	8.628
CP46	317922.286	174297.888	8.628
CP47	317922.286	174297.888	8.628
CP48	317922.286	174297.888	8.628
CP49	317922.286	174297.888	8.628
CP50	317922.286	174297.888	8.628
CP51	317922.286	174297.888	8.628
CP52	317922.286	174297.888	8.628
CP53	317922.286	174297.888	8.628
CP54	317922.286	174297.888	8.628
CP55	317922.286	174297.888	8.628
CP56	317922.286	174297.888	8.628
CP57	317922.286	174297.888	8.628
CP58	317922.286	174297.888	8.628
CP59	317922.286	174297.888	8.628
CP60	317922.286	174297.888	8.628
CP61	317922.286	174297.888	8.628
CP62	317922.286	174297.888	8.628
CP63	317922.286	174297.888	8.628
CP64	317922.286	174297.888	8.628
CP65	317922.286	174297.888	8.628
CP66	317922.286	174297.888	8.628
CP67	317922.286	174297.888	8.628
CP68	317922.286	174297.888	8.628
CP69	317922.286	174297.888	8.628
CP70	317922.286	174297.888	8.628
CP71	317922.286	174297.888	8.628
CP72	317922.286	174297.888	8.628
CP73	317922.286	174297.888	8.628
CP74	317922.286	174297.888	8.628
CP75	317922.286	174297.888	8.628
CP76	317922.286	174297.888	8.628
CP77	317922.286	174297.888	8.628
CP78	317922.286	174297.888	8.628
CP79	317922.286	174297.888	8.628
CP80	317922.286	174297.888	8.628
CP81	317922.286	174297.888	8.628
CP82	317922.286	174297.888	8.628
CP83	317922.286	174297.888	8.628
CP84	317922.286	174297.888	8.628
CP85	317922.286	174297.888	8.628
CP86	317922.286	174297.888	8.628
CP87	317922.286	174297.888	8.628
CP88	317922.286	174297.888	8.628
CP89	317922.286	174297.888	8.628
CP90	317922.286	174297.888	8.628
CP91	317922.286	174297.888	8.628
CP92	317922.286	174297.888	8.628
CP93	317922.286	174297.888	8.628
CP94	317922.286	174297.888	8.628
CP95	317922.286	174297.888	8.628
CP96	317922.286	174297.888	8.628
CP97	317922.286	174297.888	8.628
CP98	317922.286	174297.888	8.628
CP99	317922.286	174297.888	8.628
CP100	317922.286	174297.888	8.628



D	Additional detail added	10/09/20
C	Additional detail added	08/09/20
B	Additional detail added	05/08/20
A	Additional detail added	25/06/20

Rev	Description	Date
-----	-------------	------

.....\3pointsurveys edited.png

10 Goldtops, Newport, NP20 4PH.
tel:01633 844984
email:info@3pointsurveys.co.uk
www.3pointsurveys.co.uk.

Client: Cambria Consulting Limited.

Site: Channel View Road, Cardiff.

Drawing: Topographic Survey Sheet 8 of 9.

Scale: A0@1:250 Date: June 2020

Designed By: C.M.K

Drawing No.: E1024-1-8 Rev D

174150N

174100N

174050N

174000N

317600E

317500E

317700E

317750E

KEY TO ABBREVIATIONS

Ap	Asphalt	JB	Junction Box
B	Ballast	KO	Kerb Outlet
BH	Benchmark	LP	Lamp Post
BS	Bus Stop	MH	Manhole
BT	British Telecom Cover	MSF	Monitoring Well
BU	Bulk/Storage	NB	Name Board
CB	Telephone Control Cabinet	ODC	Overhead Cable
CA	Cable Television Cover	PO	Post
CC	Concrete	PB	Post Box
CPS	Concrete Paving Slabs	RE	Reading Eye
DK	Drop Kerb	RG	Road Gully
EIC	Electricity Inspection Cover	RS	Road Sign
EP	Electricity Pole	RWP	Rain Water Pipe
ER	Earth Road	SC	Stop Cock
FEL	Finished Floor Level	SW	Stop Valve
FH	Fire Hydrant	St	Stamp
FP	Flag Pole	SV	Stop Valve
G	Gully	SVP	Sid Vent Pipe
GP	Gate Post	TCS	Telephone Box
GV	Gas Valve	TL	Traffic Light
IC	Inspection Cover	TP	Telegraph Pole

Fence And Wall Features:

BURW	Block Retaining Wall
BW	Barbed Wire
BW	Block Wall
CRW	Concrete Retaining Wall
CB	Chain Barbed
CM	Corrugated Metal
CPBW	Concrete Post & Barbed Wire
CPCL	Concrete Post & Chainlink
CPCP	Concrete Post & Post
CPW	Concrete Post & Wire
GW	Garrison Wall
H	Hand Rail
M	Metal Railings
MW	Interwoven Wood Slat
MM	Metal Mesh
MPMR	Metal Post and Metal Rail
SRW	Stone Retaining Wall
WPBW	Wood Post & Barbed Wire
WPMR	Wood Post & Metal Rail
WPW	Wood Post & Wire
WPMR	Wood Post & Wood Rail

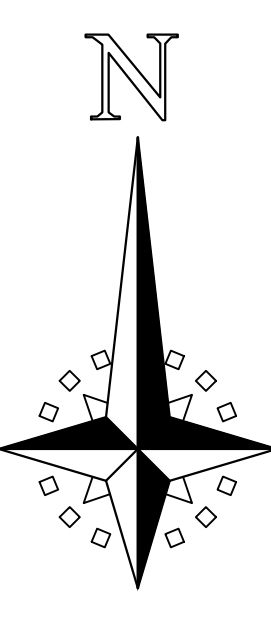
Drainage Features:

CL	Cover Level
EL	Level
FXS	Foul Water Sewer
SWS	Storm Water Sewer
CWS	Combined Water Sewer
UTL	Utility To L/R
D	Pipe Diameter (mm)
SL	Soil Level
W	Water Level with date and time taken
WL	Water Level with date and time taken
E	Embankment

Notes:

- All levels and grid relate to Ordnance Survey Datum derived by GPS.
- Do not scale from this drawing.

Point	Easting	Northing	Level
C1	174115.843	173661.36	8.265
C2	174117.861	173661.36	8.265
C3	174119.879	173661.36	8.265
C4	174121.897	173661.36	8.265
C5	174123.915	173661.36	8.265
C6	174125.933	173661.36	8.265
C7	174127.951	173661.36	8.265
C8	174129.969	173661.36	8.265
C9	174131.987	173661.36	8.265
C10	174133.005	173661.36	8.265
C11	174135.023	173661.36	8.265
C12	174137.041	173661.36	8.265
C13	174139.059	173661.36	8.265
C14	174141.077	173661.36	8.265
C15	174143.095	173661.36	8.265
C16	174145.113	173661.36	8.265
C17	174147.131	173661.36	8.265
C18	174149.149	173661.36	8.265
C19	174151.167	173661.36	8.265
C20	174153.185	173661.36	8.265
C21	174155.203	173661.36	8.265
C22	174157.221	173661.36	8.265
C23	174159.239	173661.36	8.265
C24	174161.257	173661.36	8.265
C25	174163.275	173661.36	8.265
C26	174165.293	173661.36	8.265
C27	174167.311	173661.36	8.265
C28	174169.329	173661.36	8.265
C29	174171.347	173661.36	8.265
C30	174173.365	173661.36	8.265
C31	174175.383	173661.36	8.265
C32	174177.401	173661.36	8.265
C33	174179.419	173661.36	8.265
C34	174181.437	173661.36	8.265
C35	174183.455	173661.36	8.265
C36	174185.473	173661.36	8.265
C37	174187.491	173661.36	8.265
C38	174189.509	173661.36	8.265
C39	174191.527	173661.36	8.265
C40	174193.545	173661.36	8.265
C41	174195.563	173661.36	8.265
C42	174197.581	173661.36	8.265
C43	174199.599	173661.36	8.265
C44	174201.617	173661.36	8.265
C45	174203.635	173661.36	8.265
C46	174205.653	173661.36	8.265
C47	174207.671	173661.36	8.265
C48	174209.689	173661.36	8.265
C49	174211.707	173661.36	8.265
C50	174213.725	173661.36	8.265
C51	174215.743	173661.36	8.265
C52	174217.761	173661.36	8.265
C53	174219.779	173661.36	8.265
C54	174221.797	173661.36	8.265
C55	174223.815	173661.36	8.265
C56	174225.833	173661.36	8.265
C57	174227.851	173661.36	8.265
C58	174229.869	173661.36	8.265
C59	174231.887	173661.36	8.265
C60	174233.905	173661.36	8.265
C61	174235.923	173661.36	8.265
C62	174237.941	173661.36	8.265
C63	174239.959	173661.36	8.265
C64	174241.977	173661.36	8.265
C65	174243.995	173661.36	8.265
C66	174246.013	173661.36	8.265
C67	174248.031	173661.36	8.265
C68	174250.049	173661.36	8.265
C69	174252.067	173661.36	8.265
C70	174254.085	173661.36	8.265
C71	174256.103	173661.36	8.265
C72	174258.121	173661.36	8.265
C73	174260.139	173661.36	8.265
C74	174262.157	173661.36	8.265
C75	174264.175	173661.36	8.265
C76	174266.193	173661.36	8.265
C77	174268.211	173661.36	8.265
C78	174270.229	173661.36	8.265
C79	174272.247	173661.36	8.265
C80	174274.265	173661.36	8.265
C81	174276.283	173661.36	8.265
C82	174278.301	173661.36	8.265
C83	174280.319	173661.36	8.265
C84	174282.337	173661.36	8.265
C85	174284.355	173661.36	8.265
C86	174286.373	173661.36	8.265
C87	174288.391	173661.36	8.265
C88	174290.409	173661.36	8.265
C89	174292.427	173661.36	8.265
C90	174294.445	173661.36	8.265
C91	174296.463	173661.36	8.265
C92	174298.481	173661.36	8.265
C93	174300.499	173661.36	8.265
C94	174302.517	173661.36	8.265
C95	174304.535	173661.36	8.265
C96	174306.553	173661.36	8.265
C97	174308.571	173661.36	8.265
C98	174310.589	173661.36	8.265
C99	174312.607	173661.36	8.265
C100	174314.625	173661.36	8.265



D	Additional detail added	10/09/20
C	Additional detail added	08/09/20
B	Additional detail added	05/08/20
A	Additional detail added	25/06/20
Rev	Description	Date

.....\3pointsurveys edited.png

10 Goldtops, Newport, NP20 4PH.
tel:01633 844984
email:info@3pointsurveys.co.uk
www.3pointsurveys.co.uk.

Client: Cambria Consulting Limited.
Site: Channel View Road, Cardiff.

Drawing: Topographic Survey
Sheet 9 of 9.

Scale: A0@1:250 Date: June 2020
Designed By: C.M.K

Drawing No.: E1024-1-9 Rev D

Appendix C: Proposed Site Layout

Channel View Road Visitor Parking
(See extract below)

Channel View Road Visitor Parking

Phase 1 Boundary

This drawing must not be scaled. Figured dimensions and levels to be used. Any inaccuracies must be notified to the architect. Detail drawings and large scale drawings take precedence over smaller drawings.

Rev:	Chk'd:	Rev:	Chk'd:	Rev:	Chk'd:	Rev:	Chk'd:
A	AF	25.04.20					
B	AF	07.05.20					
C	AF	29.05.20					
D	AF	01.02.21					
E	AF	01.02.21					
F	AF	16.04.21					
G	AF	16.04.21					

PRELIMINARY	✓
PLANNING	
DESIGN	
TENDER	
CONSTRUCTION	

powelldobson
ARCHITECTS

Contract: Channel View, Cardiff
For: Cardiff Council
Title: Site Development Layout

Drawing No. 20004(05) 100
Rev. G

Scale: 1:500 @ A0
Date: March 2020
Drawn: AF
Checked: BK

Cardiff Office: Suite 11, Building One, Eastern Business Park, Wern Fawr Lane, Old St. Mellons, Cardiff CF23 5BA. Tel: +44 (0)1352 301 001. www.powelldobson.com

Appendix D: Envirocheck Flood Screening Report

EANRW Flood Data Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

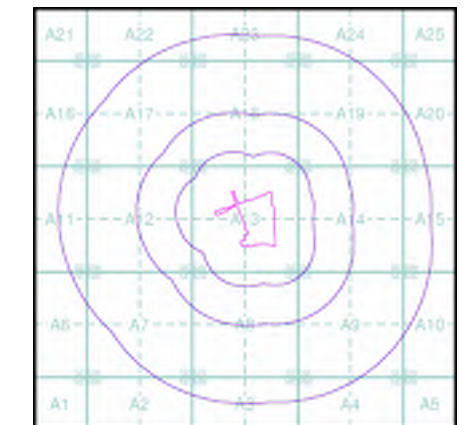
Flood Data

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Contours (height in metres)

- Standard Contour 105 MLW Mean Low Water
- Master Contour 100 MHW Mean High Water
- Spot Height 167.8

EANRW Flood Data Map - Slice A

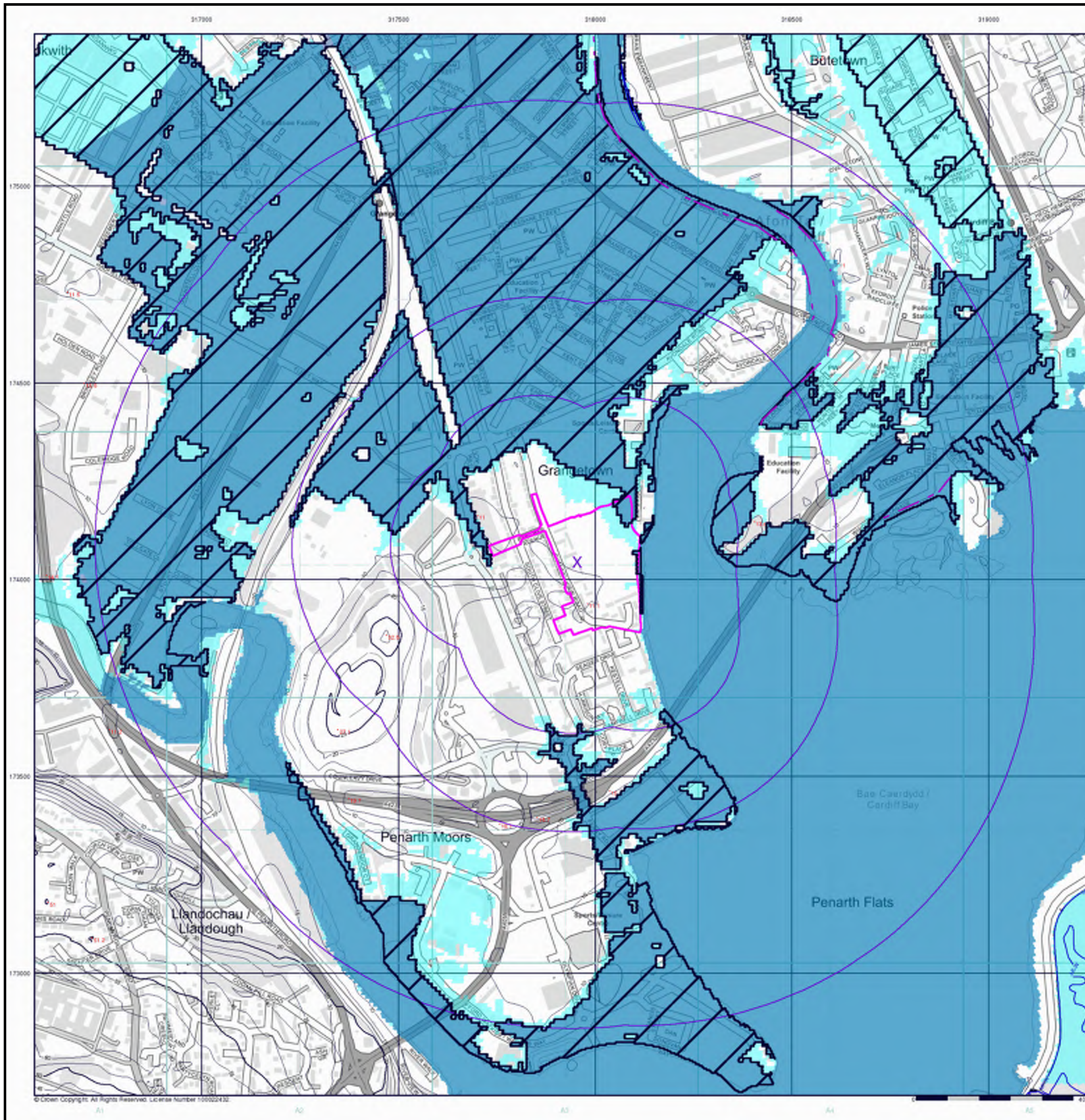


Order Details

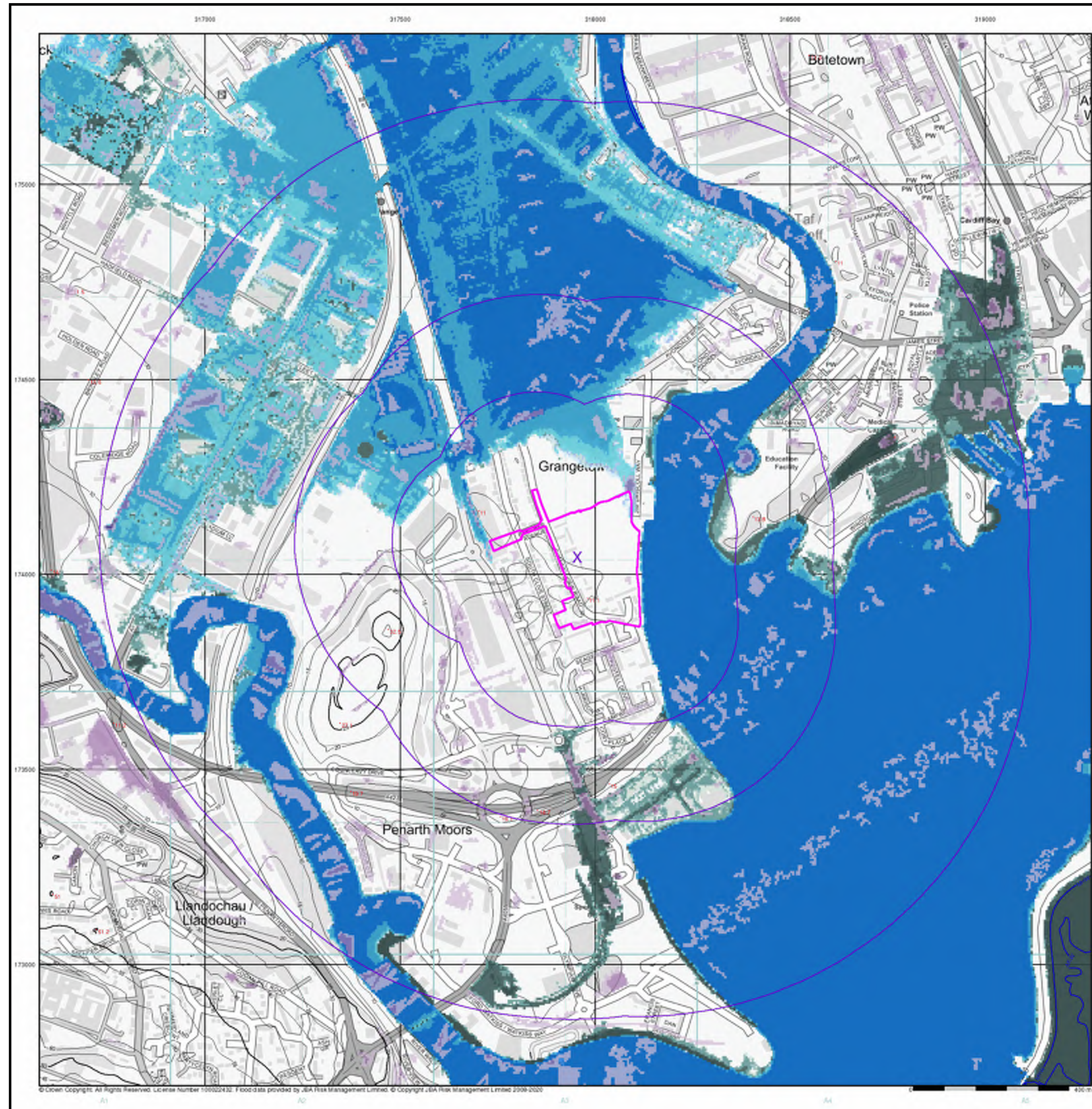
Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG



© Crown Copyright. All Rights Reserved. License Number 100022432



Envirocheck®

LANDMARK INFORMATION GROUP®

JBA 75 Year Return Flood Map (Undefended) (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

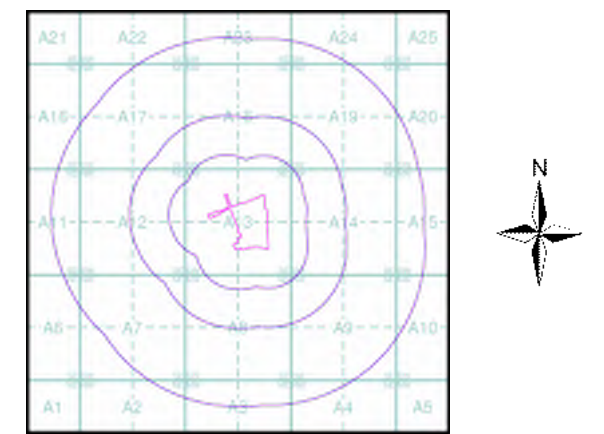
Modelled Flood Depth

Pluvial Depth	Fluvial Depth	Coastal Depth
0.1m	0.01m - 0.05m	0.01m - 0.05m
0.1m - 0.3m	0.05m - 0.1m	0.05m - 0.1m
0.3m - 1m	0.1m - 0.3m	0.1m - 0.3m
>1m	0.3m - 1m	0.3m - 1m
	>1m	>1m

Contours (height in metres)

- Standard Contour
- Master Contour
- Spot Height
- MLLW — Mean Low Water
- MHW — Mean High Water

JBA 75 Year Return Flood Map (Undefended) - Slice A



Order Details

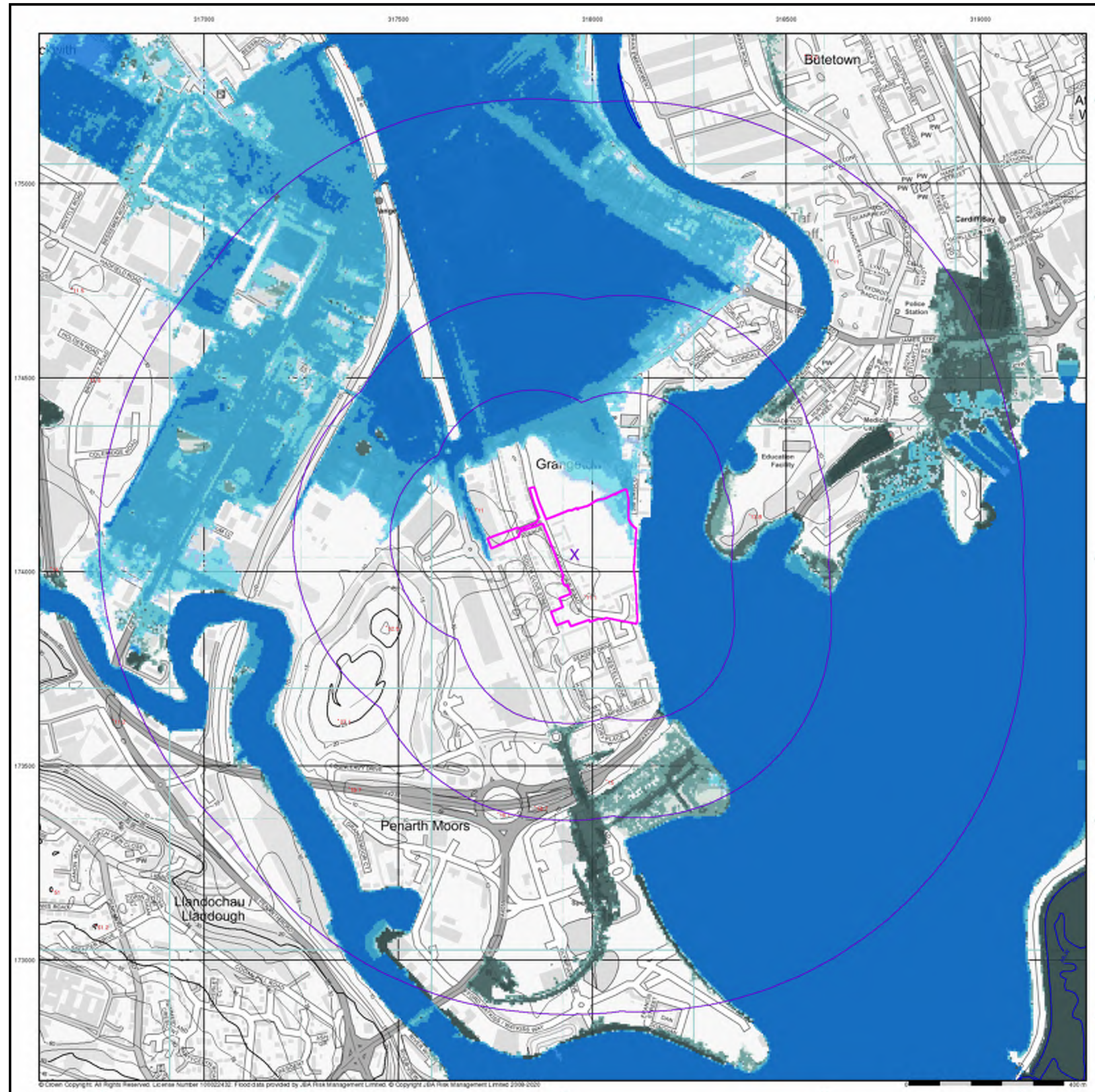
Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



Envirocheck®

LANDMARK INFORMATION GROUP®

JBA 100 Year Return Flood Map (Undefended) (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

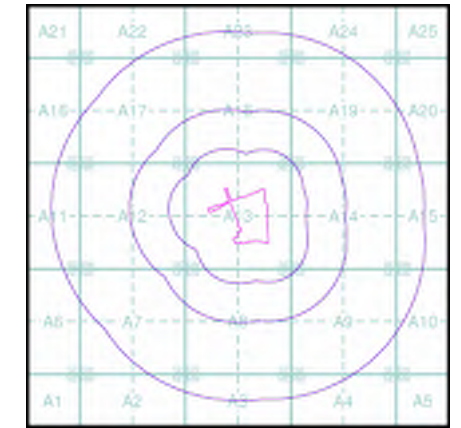
Modelled Flood Depth

Fluvial Depth	Coastal Depth
0.01m - 0.05m	0.01m - 0.05m
0.05m - 0.1m	0.05m - 0.1m
0.1m - 0.3m	0.1m - 0.3m
0.3m - 1m	0.3m - 1m
>1m	>1m

Contours (height in metres)

- Standard Contour 0.5
- Master Contour 1.0
- Spot Height 7.67.8
- Mean Low Water
- Mean High Water

JBA 100 Year Return Flood Map (Undefended) - Slice A



Order Details

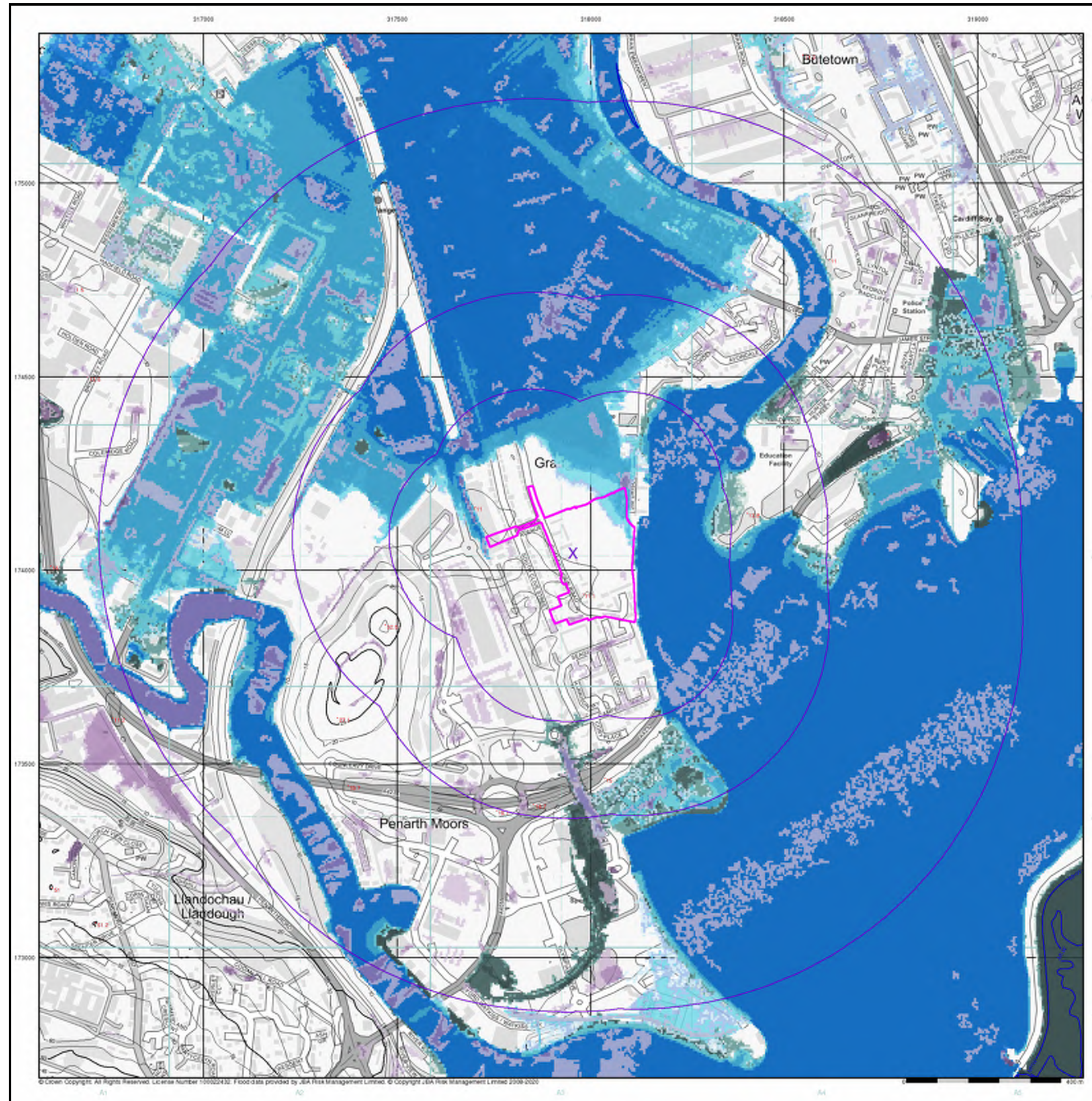
Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



Envirocheck®

LANDMARK INFORMATION GROUP®

JBA 200 Year Return Flood Map (Undefended) (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

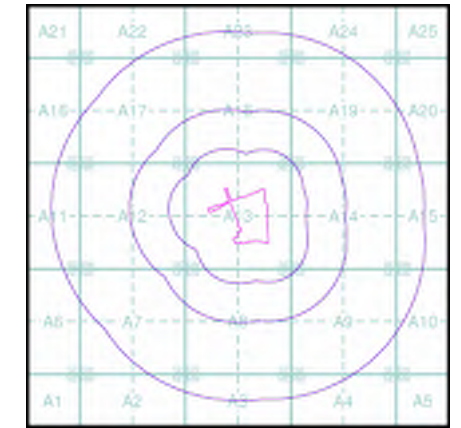
Modelled Flood Depth

Pluvial Depth	Fluvial Depth	Coastal Depth
0.1m	0.01m - 0.05m	0.01m - 0.05m
0.1m - 0.3m	0.05m - 0.1m	0.05m - 0.1m
0.3m - 1m	0.1m - 0.3m	0.1m - 0.3m
>1m	0.3m - 1m	0.3m - 1m
	>1m	>1m

Contours (height in metres)

- Standard Contour
- Master Contour
- Spot Height
- MW — Mean Low Water
- MH — Mean High Water

JBA 200 Year Return Flood Map (Undefended) - Slice A



Order Details

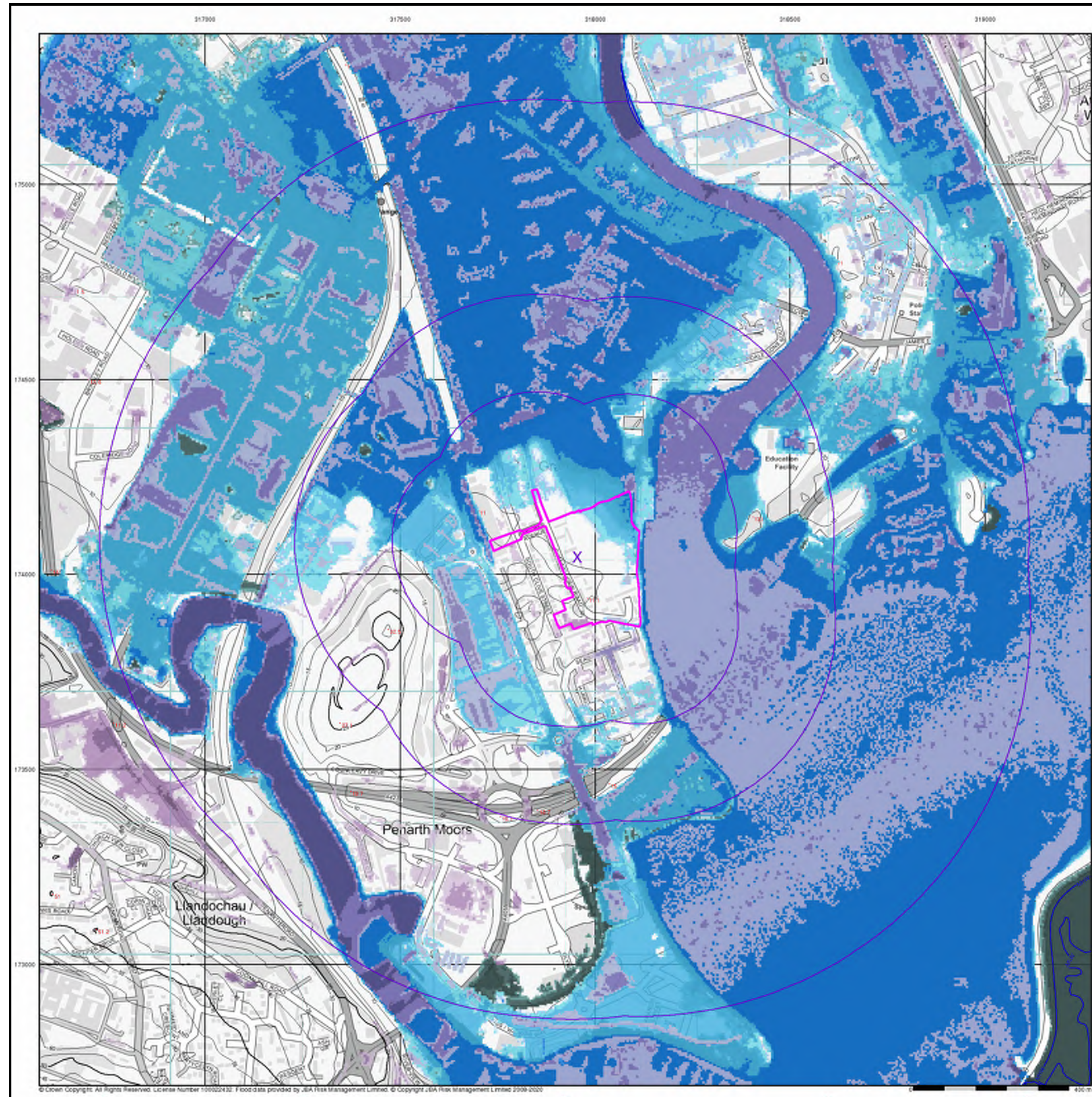
Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



Envirocheck®

LANDMARK INFORMATION GROUP®

JBA 1000 Year Return Flood Map (Undefended) (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

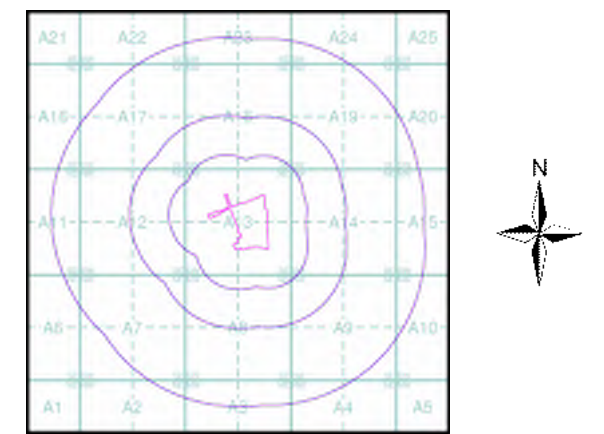
Modelled Flood Depth

Pluvial Depth	Fluvial Depth	Coastal Depth
0.1m	0.01m - 0.05m	0.01m - 0.05m
0.1m - 0.3m	0.05m - 0.1m	0.05m - 0.1m
0.3m - 1m	0.1m - 0.3m	0.1m - 0.3m
>1m	0.3m - 1m	0.3m - 1m
	>1m	>1m

Contours (height in metres)

- Standard Contour
- Master Contour
- Spot Height
- MLW Mean Low Water
- MHW Mean High Water

JBA 1000 Year Return Flood Map (Undefended) - Slice A



Order Details

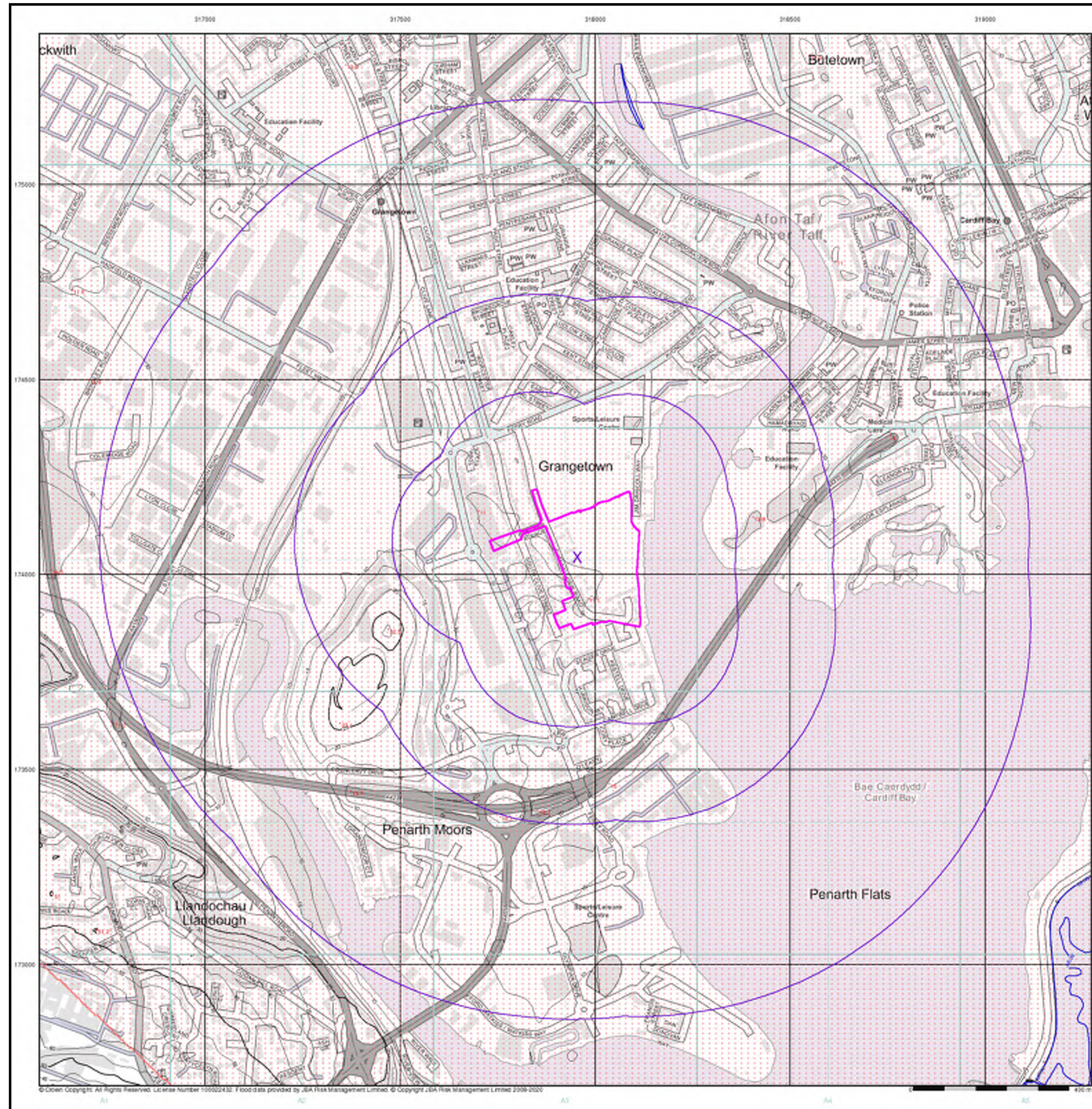
Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



JBA Canal Failure Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

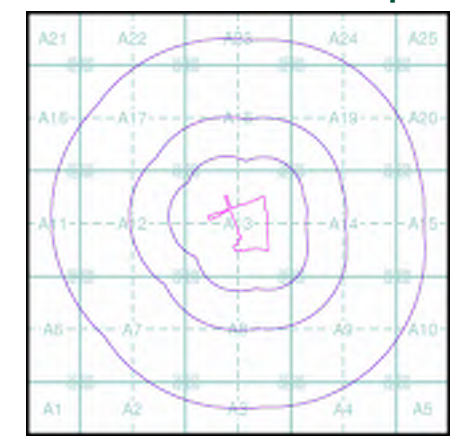
Flood Data

- Canal Failure
- Coverage

Contours (height in metres)

- Standard Contour 105
- Master Contour 100
- Spot Height 167.8
- Mean Low Water
- Mean High Water

JBA Canal Failure Flood Map - Slice A



Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG

EANRW Surface Water 30 Year Return Depth Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Surface Water Depth

- 0 - 0.15m
- 0.15 - 0.30m
- 0.30 - 0.60m
- 0.60 - 0.90m
- 0.90 - 1.20m
- > 1.20m

Contours (height in metres)

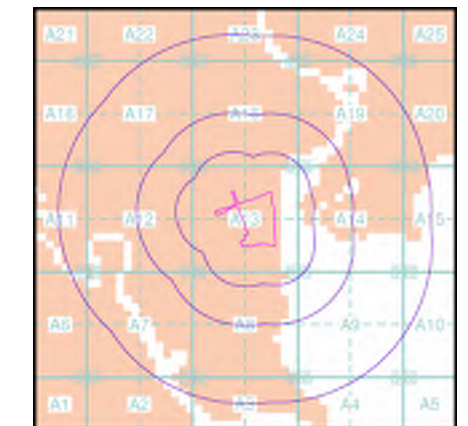
- Standard Contour
- Master Contour
- Spot Height: *167.8
- MLW - Mean Low Water
- MHW - Mean High Water

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EANRW Suitability Map - Slice A

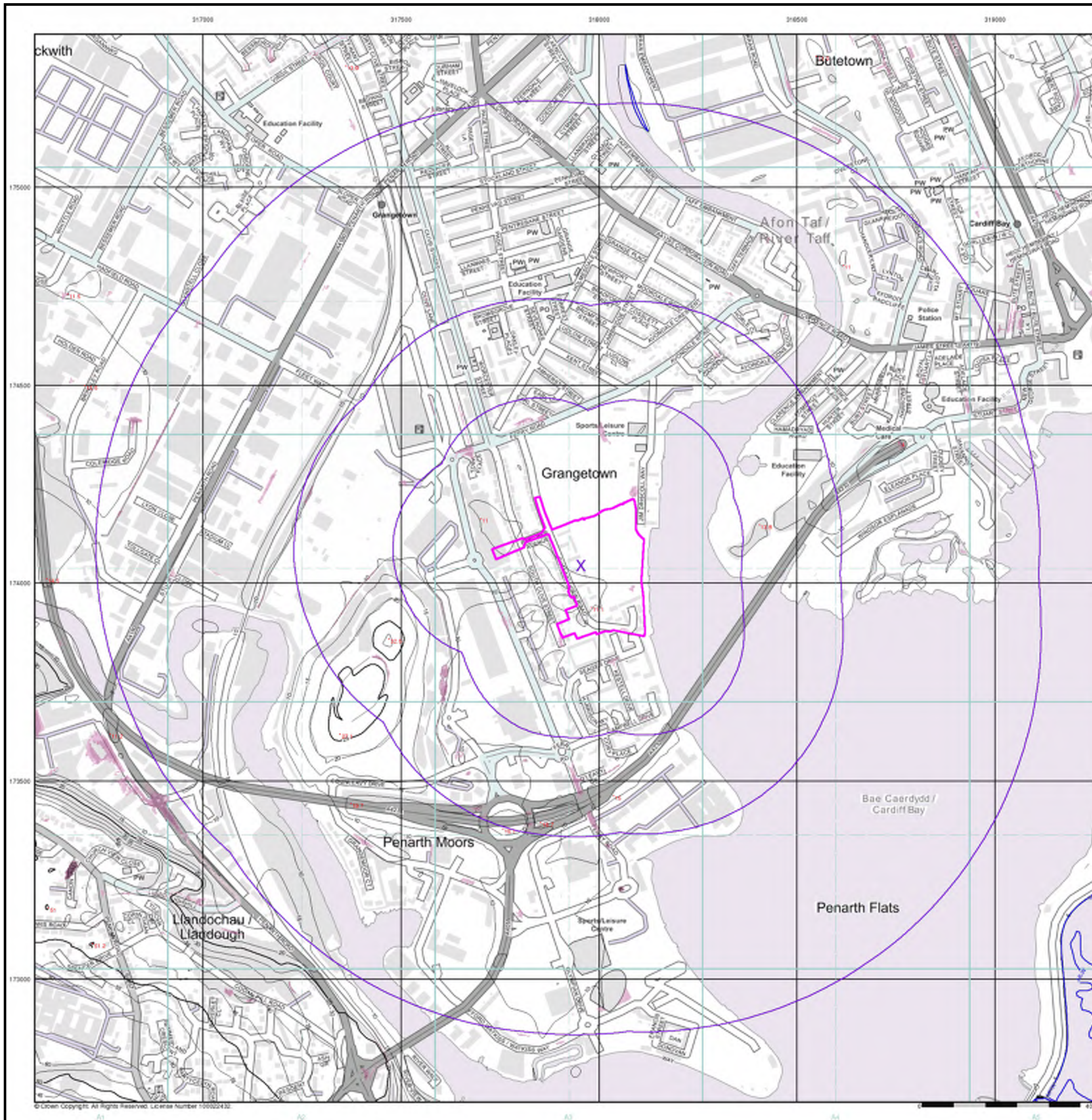


Order Details

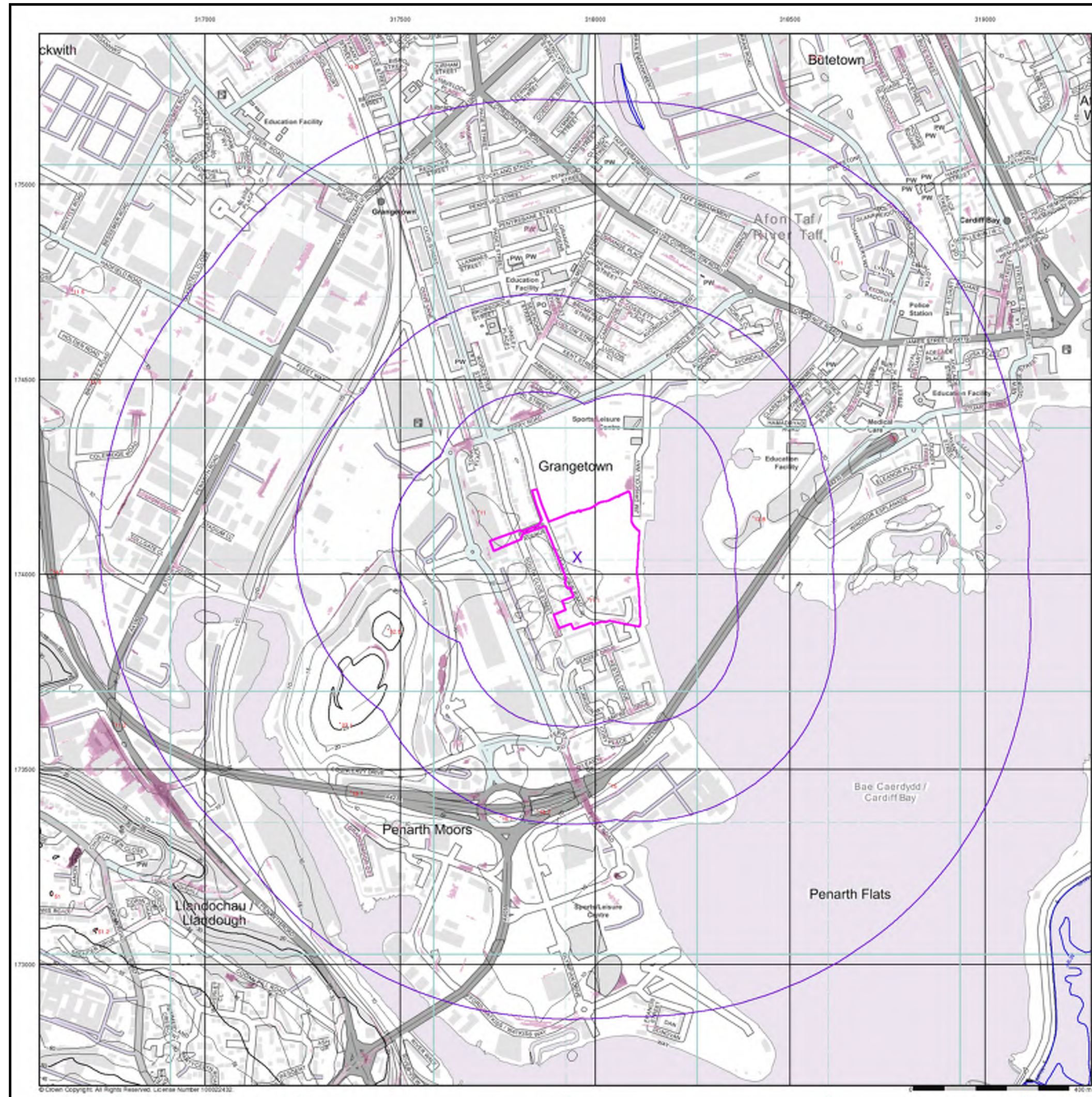
Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG



© Crown Copyright. All Rights Reserved. License Number 100022432



EANRW Surface Water 100 Year Return Depth Map

General
 Specified Site (Pink Polygon) Specified Buffer(s) (Purple Circle) Bearing Reference Point (X)

Surface Water Depth

- 0 - 0.15m
- 0.15 - 0.30m
- 0.30 - 0.60m
- 0.60 - 0.90m
- 0.90 - 1.20m
- > 1.20m

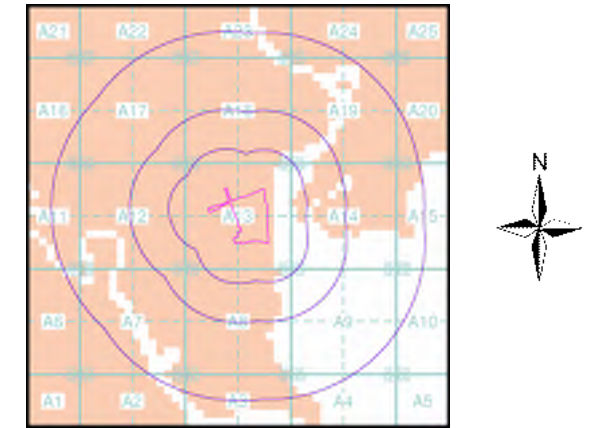
Contours (height in metres)

- Standard Contour: 105, 100, 95
- Master Contour: 100
- Spot Height: *167.8
- MLW: Mean Low Water
- MHW: Mean High Water

Suitability
 See the suitability map below

- National to county (Light Green)
- County to town (Orange)
- Town to street (Blue)
- Street to parcels of land (Pink)
- Property (Yellow)

EANRW Suitability Map - Slice A



Order Details

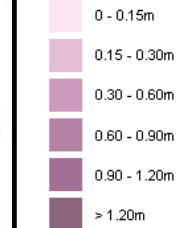
Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details
 , 67, Windsor Esplanade, Cardiff, CF10 5BG

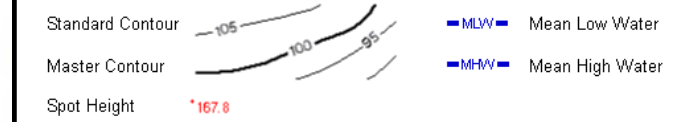
EANRW Surface Water 1000 Year Return Depth Map (1:10,000)

General
 Specified Site (Pink outline) Specified Buffer(s) (Purple outline) Bearing Reference Point (X)

Surface Water Depth



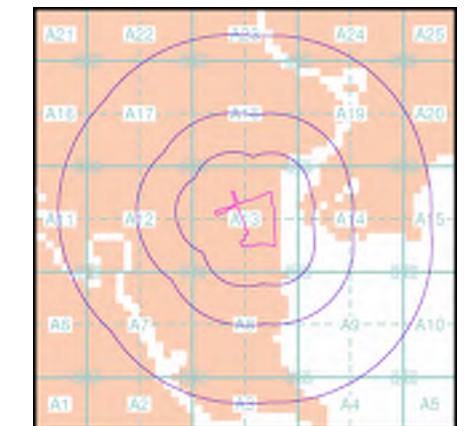
Contours (height in metres)



Suitability



EANRW Suitability Map - Slice A



Order Details

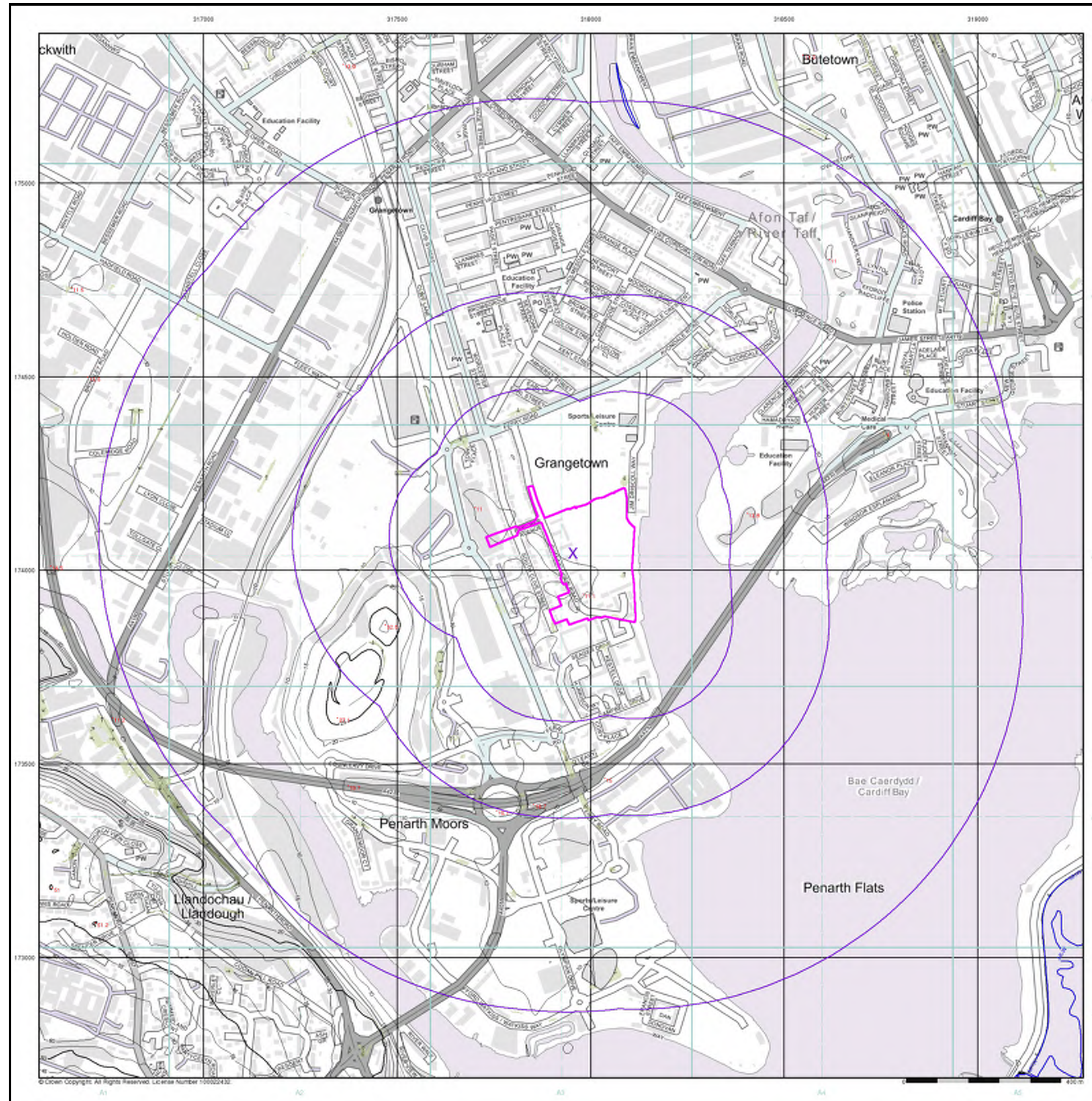
Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG



© Crown Copyright. All Rights Reserved. License Number 100022432



Envirocheck®

LANDMARK INFORMATION GROUP®

EANRW Surface Water 30 Year Return Velocity and Flow Direction Map (1:10,000)

General
 Specified Site (pink polygon) Specified Buffer(s) (purple circles) Bearing Reference Point (pink X)

Surface Water Velocity and Direction

0.00 - 0.25m/s	↑ Flow Direction at maximum velocity
0.25 - 0.50m/s	
0.50 - 1.00m/s	
1.00 - 2.00m/s	
> 2.00m/s	

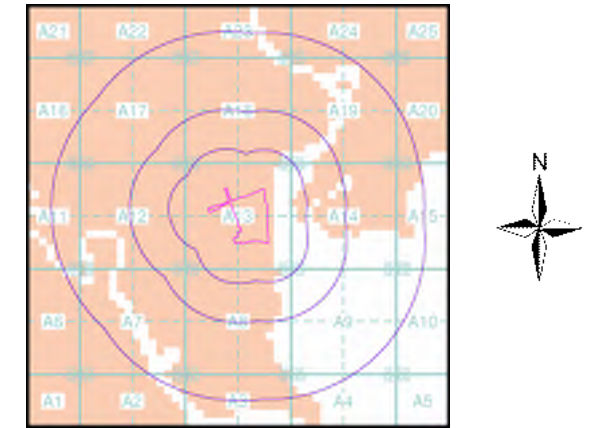
Contours (height in metres)

Standard Contour	105, 100, 95	MLW Mean Low Water
Master Contour		MHW Mean High Water
Spot Height	*167.8	

Suitability
 See the suitability map below

National to county	Street to parcels of land
County to town	Property
Town to street	

EANRW Suitability Map - Slice A

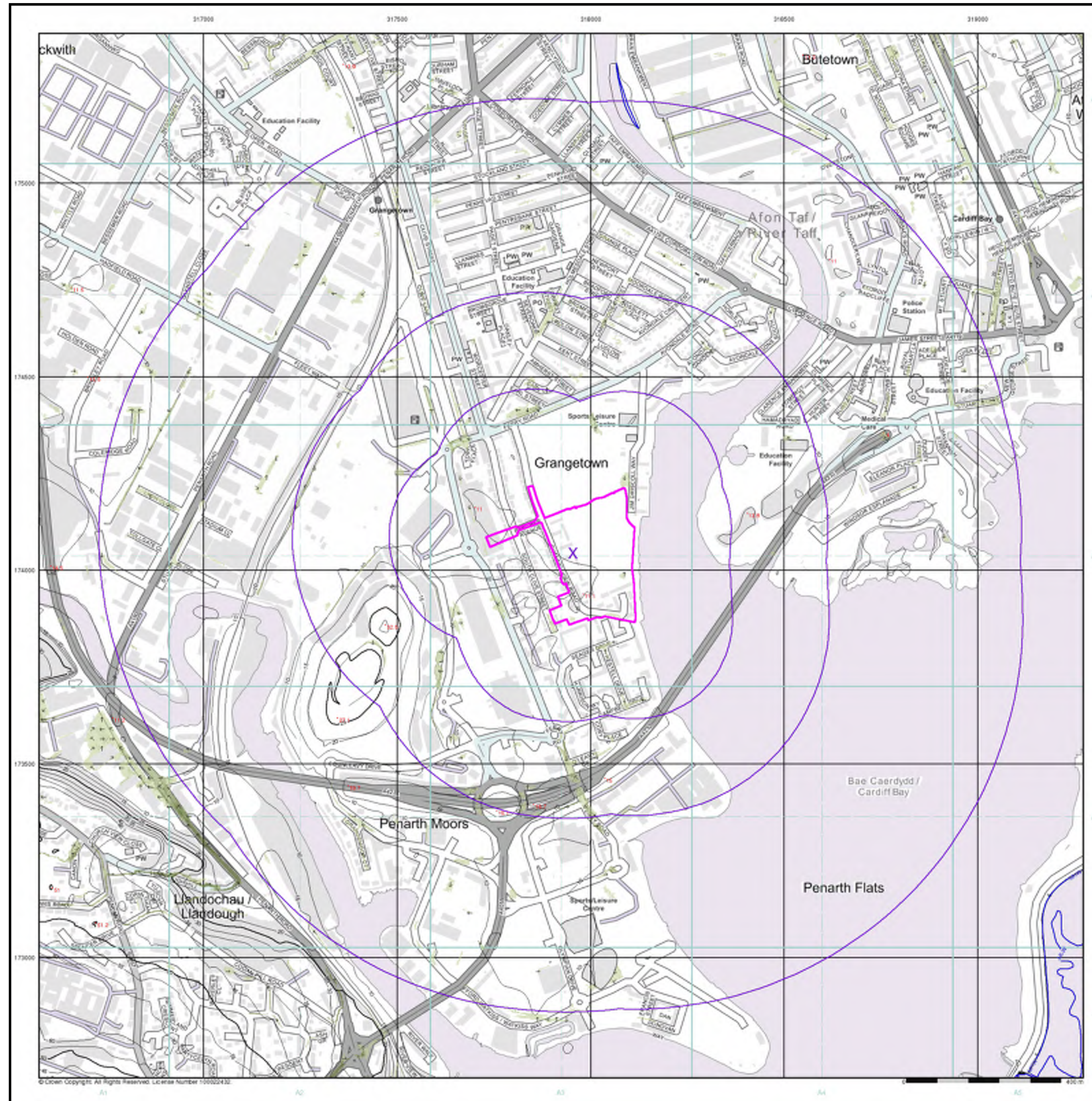


Order Details

Order Number:	267042464_1_1
Customer Ref:	CC2083
National Grid Reference:	317950, 174040
Slice:	A
Site Area (Ha):	6.57
Search Buffer (m):	1000

Site Details
 , 67, Windsor Esplanade, Cardiff, CF10 5BG

Landmark INFORMATION GROUP
 Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



Envirocheck®

LANDMARK INFORMATION GROUP®

EANRW Surface Water 100 Year Return Velocity and Flow Direction Map (1:10,000)

General
 Specified Site (pink polygon) Specified Buffer(s) (purple circles) Bearing Reference Point (pink X)

Surface Water Velocity and Direction

0.00 - 0.25m/s	↑ Flow Direction at maximum velocity
0.25 - 0.50m/s	
0.50 - 1.00m/s	
1.00 - 2.00m/s	
> 2.00m/s	

Contours (height in metres)

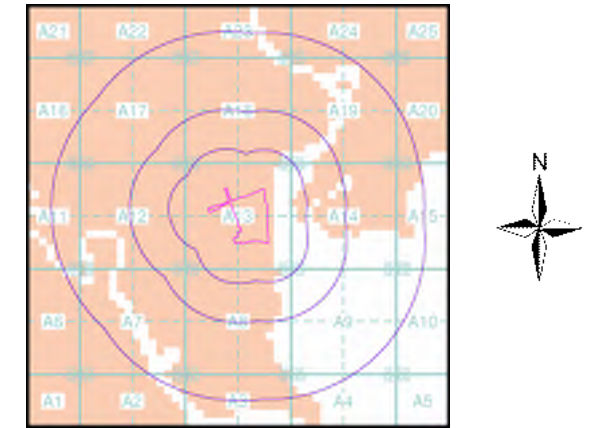
Standard Contour: 105, 100, 95
 Master Contour: 105, 100, 95
 Spot Height: *167.8

MLW Mean Low Water (blue line)
 MHW Mean High Water (blue line)

Suitability
 See the suitability map below

National to county	Street to parcels of land
County to town	Property
Town to street	

EANRW Suitability Map - Slice A

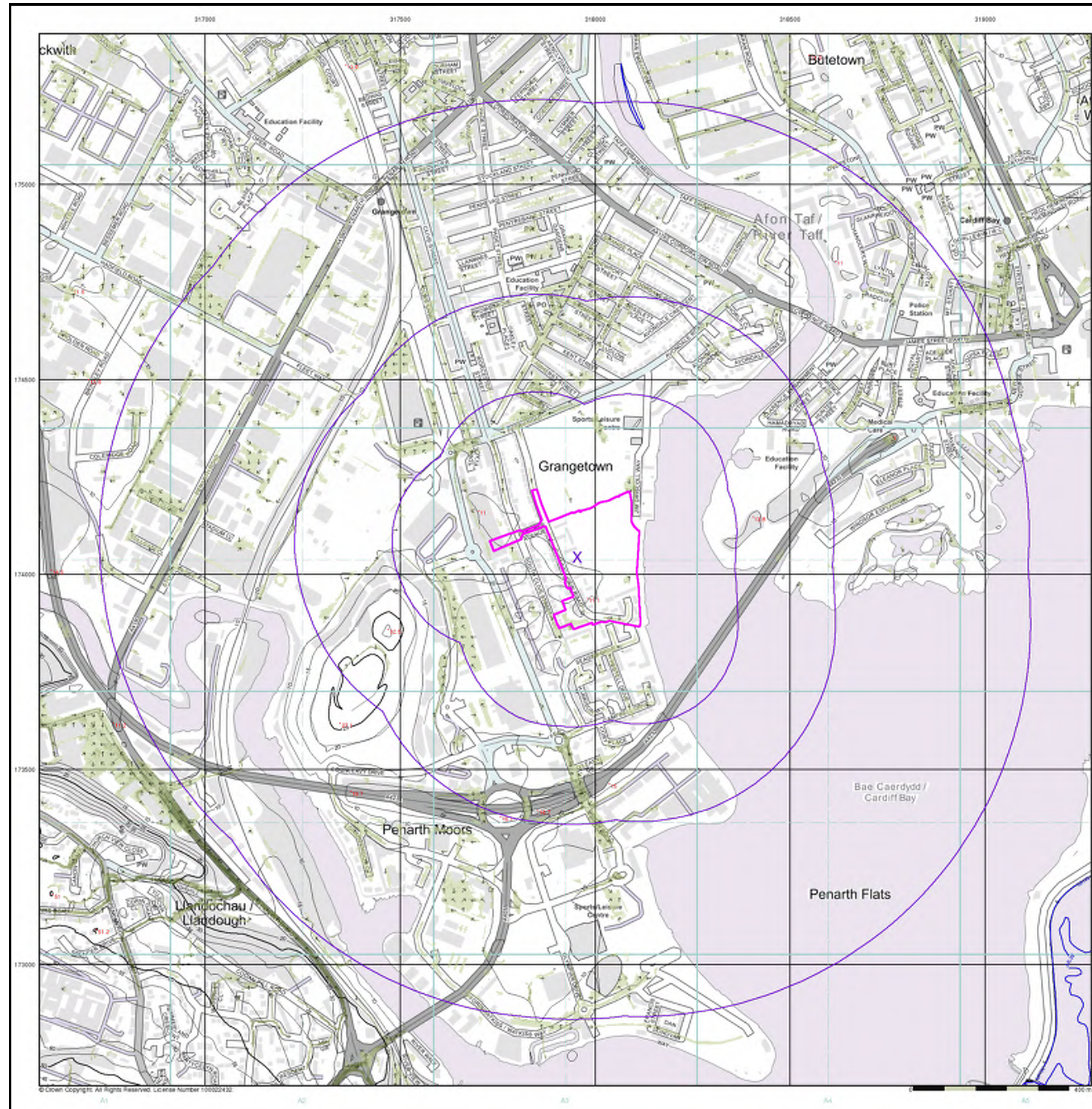


Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details
 , 67, Windsor Esplanade, Cardiff, CF10 5BG

Landmark INFORMATION GROUP
 Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



EANRW Surface Water 1000 Year Return Velocity and Flow Direction Map (1:10,000)

General
 Specified Site (Pink Polygon) Specified Buffer(s) (Purple Circles) Bearing Reference Point (Blue X)

Surface Water Velocity and Direction

0.00 - 0.25m/s	↑ Flow Direction at maximum velocity
0.25 - 0.50m/s	
0.50 - 1.00m/s	
1.00 - 2.00m/s	
> 2.00m/s	

Contours (height in metres)

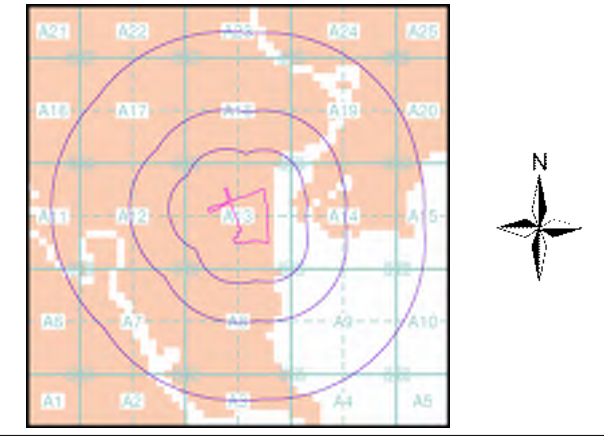
Standard Contour: 105, 100, 95
 Master Contour: 105, 100, 95
 Spot Height: *167.8

MLW Mean Low Water (Blue line)
 MHW Mean High Water (Blue line)

Suitability
 See the suitability map below

National to county	Street to parcels of land
County to town	Property
Town to street	

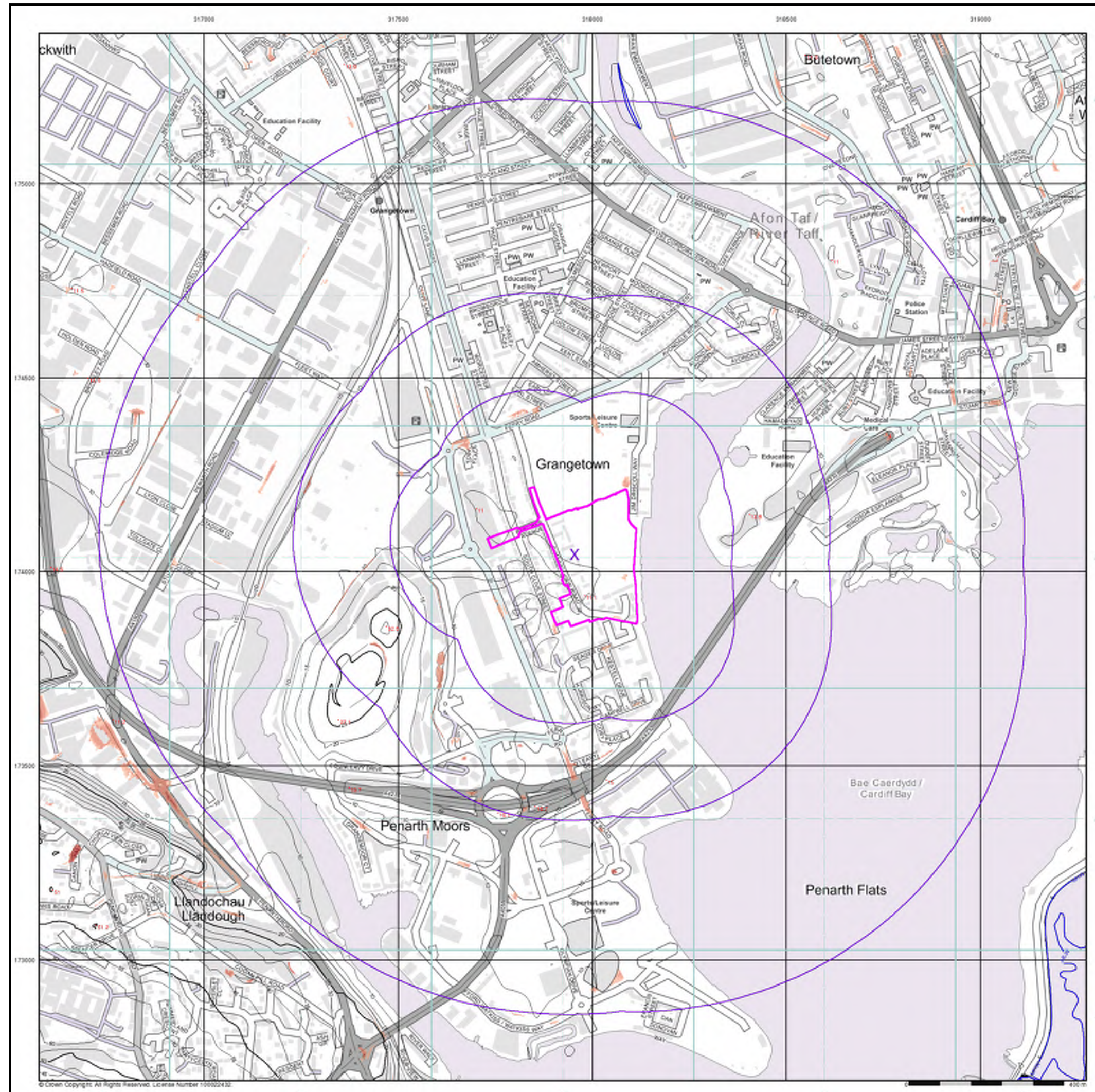
EANRW Suitability Map - Slice A



Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details
 , 67, Windsor Esplanade, Cardiff, CF10 5BG



E/NRW Surface Water 30 Year Return Hazard Rating Map (1:10,000)

General
 Specified Site (pink polygon) Specified Buffer(s) (purple circle) Bearing Reference Point (purple X)

Surface Water Hazard Rating

- Low (0.5 – 0.75)
- Moderate (0.75 – 1.25)
- Significant (1.25 – 2.0)
- Extreme (>2.0)

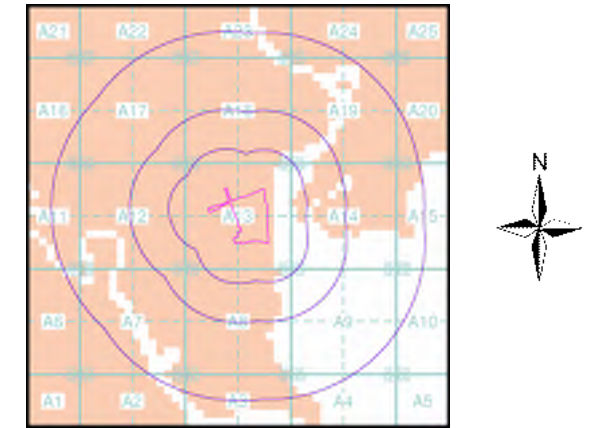
Contours (height in metres)

- Standard Contour: 105, 100, 95
- Master Contour: 105, 100, 95
- Spot Height: *167.8
- MLW: Mean Low Water
- MHW: Mean High Water

Suitability
 See the suitability map below

- National to county (light green)
- County to town (orange)
- Town to street (blue)
- Street to parcels of land (pink)
- Property (yellow)

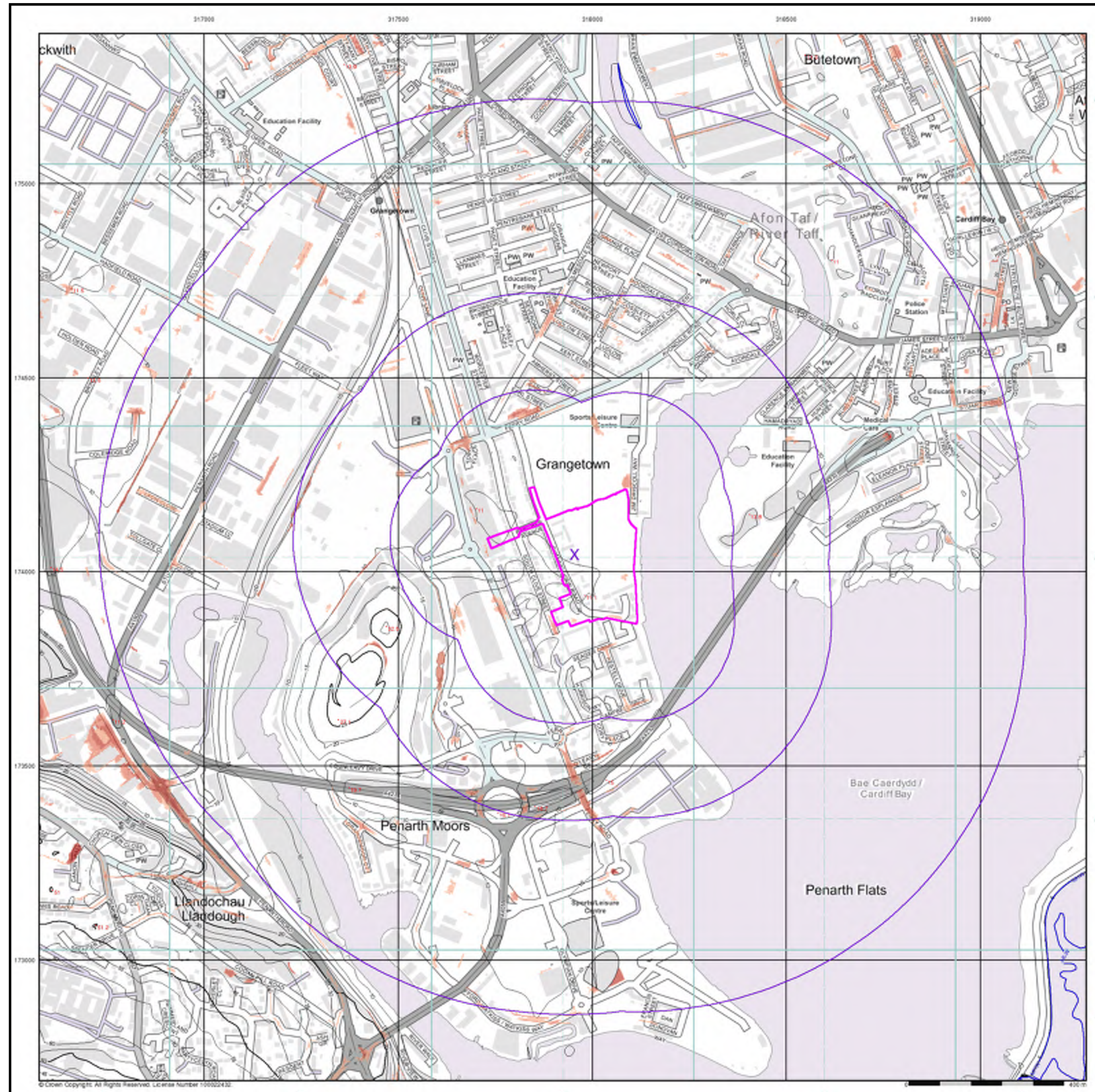
E/NRW Suitability Map - Slice A



Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details
 , 67, Windsor Esplanade, Cardiff, CF10 5BG



E/ANRW Surface Water 100 Year Return Hazard Rating Map (1:10,000)

General
 ● Specified Site ○ Specified Buffer(s) X Bearing Reference Point

Surface Water Hazard Rating

- Low (0.5 – 0.75)
- Moderate (0.75 – 1.25)
- Significant (1.25 – 2.0)
- Extreme (>2.0)

Contours (height in metres)

Standard Contour — 105 — — 100 — — 95 —

Master Contour — 105 — — 100 — — 95 —

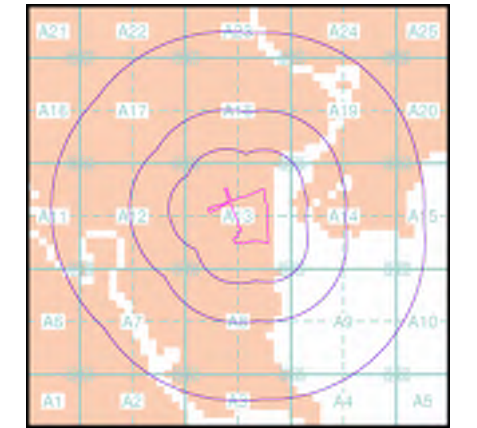
Spot Height *167.8

— MLW — Mean Low Water
 — MHW — Mean High Water

Suitability
 See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

E/ANRW Suitability Map - Slice A



Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details
 , 67, Windsor Esplanade, Cardiff, CF10 5BG



E/ANRW Surface Water 1000 Year Return Hazard Rating Map (1:10,000)

General
 Specified Site (Pink X) Specified Buffer(s) (Purple outline) Bearing Reference Point (Blue X)

Surface Water Hazard Rating

- Low (0.5 – 0.75)
- Moderate (0.75 – 1.25)
- Significant (1.25 – 2.0)
- Extreme (>2.0)

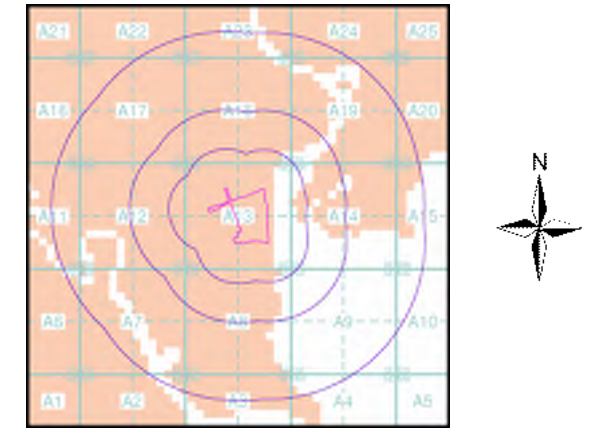
Contours (height in metres)

- Standard Contour (105, 100, 95)
- Master Contour
- Spot Height (*167.8)
- MLW (Mean Low Water)
- MHW (Mean High Water)

Suitability
 See the suitability map below

- National to county (Light Green)
- County to town (Orange)
- Town to street (Blue)
- Street to parcels of land (Pink)
- Property (Yellow)

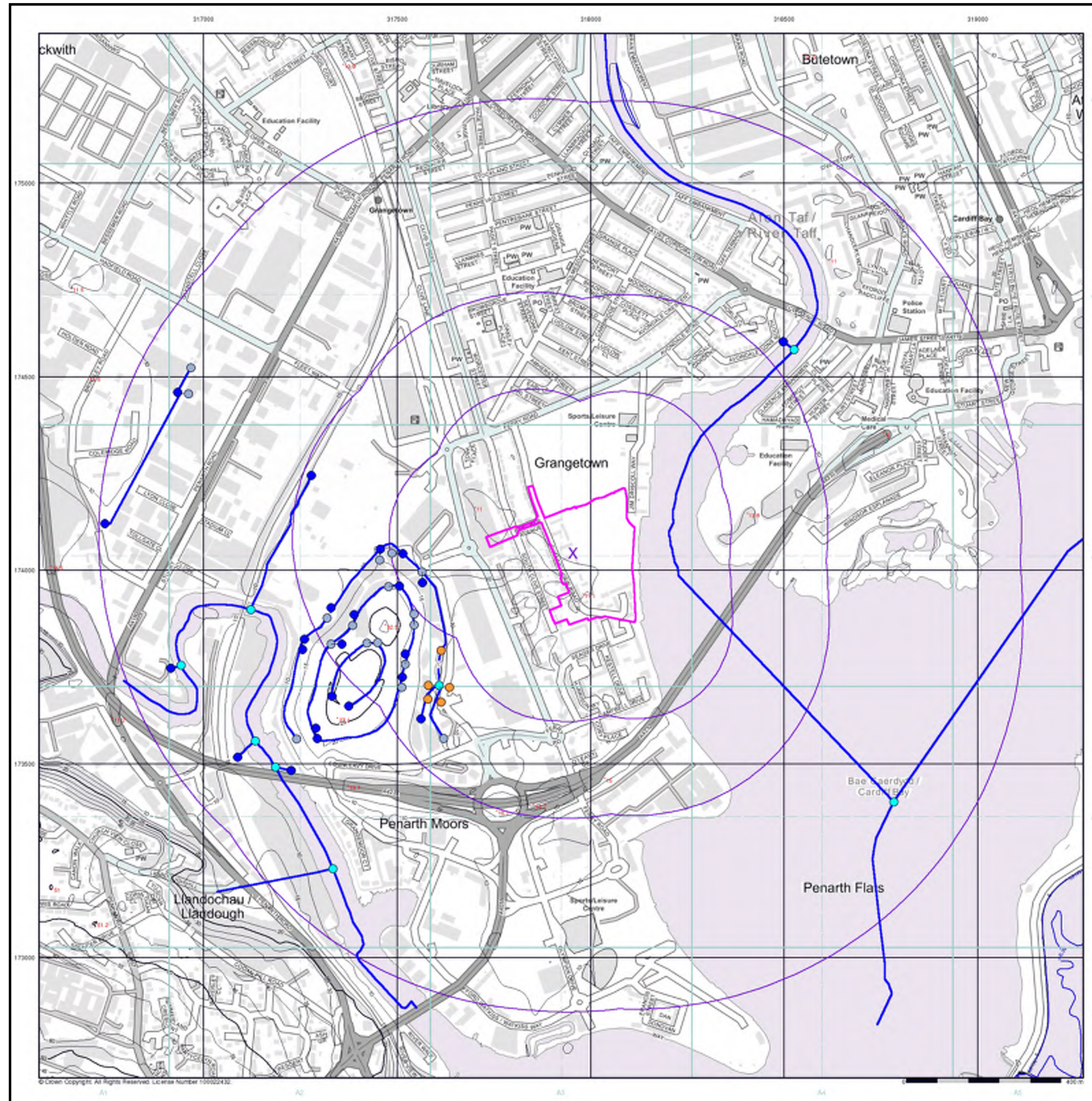
E/ANRW Suitability Map - Slice A



Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details
 , 67, Windsor Esplanade, Cardiff, CF10 5BG



OS Water Network Lines Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

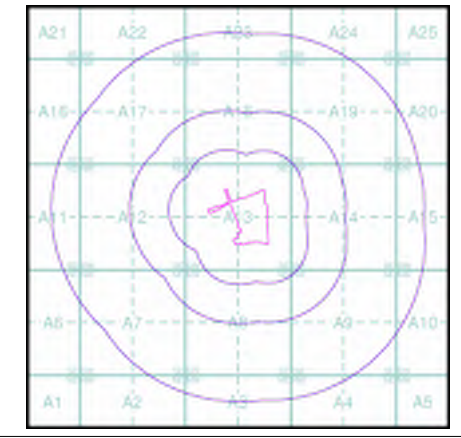
OS Water Network Data

- | | |
|----------------|---------------------------|
| — Canal | — Drain |
| — Reservoir | — Other |
| — Foreshore | — Lake |
| — Marsh | — Transfer |
| — Tidal River | — Lock Or Flight Of Locks |
| — Inland River | — Sea |
| ● Junction | ● Source |
| ● Outlet | ● Other |
| ● Pseudo | |

Contours (height in meters)

- Standard Contour — 105
- Master Contour — 100
- Spot Height *107.3
- MHW — Mean Low Water
- MHW — Mean High Water

OS Water Network Map - Slice A

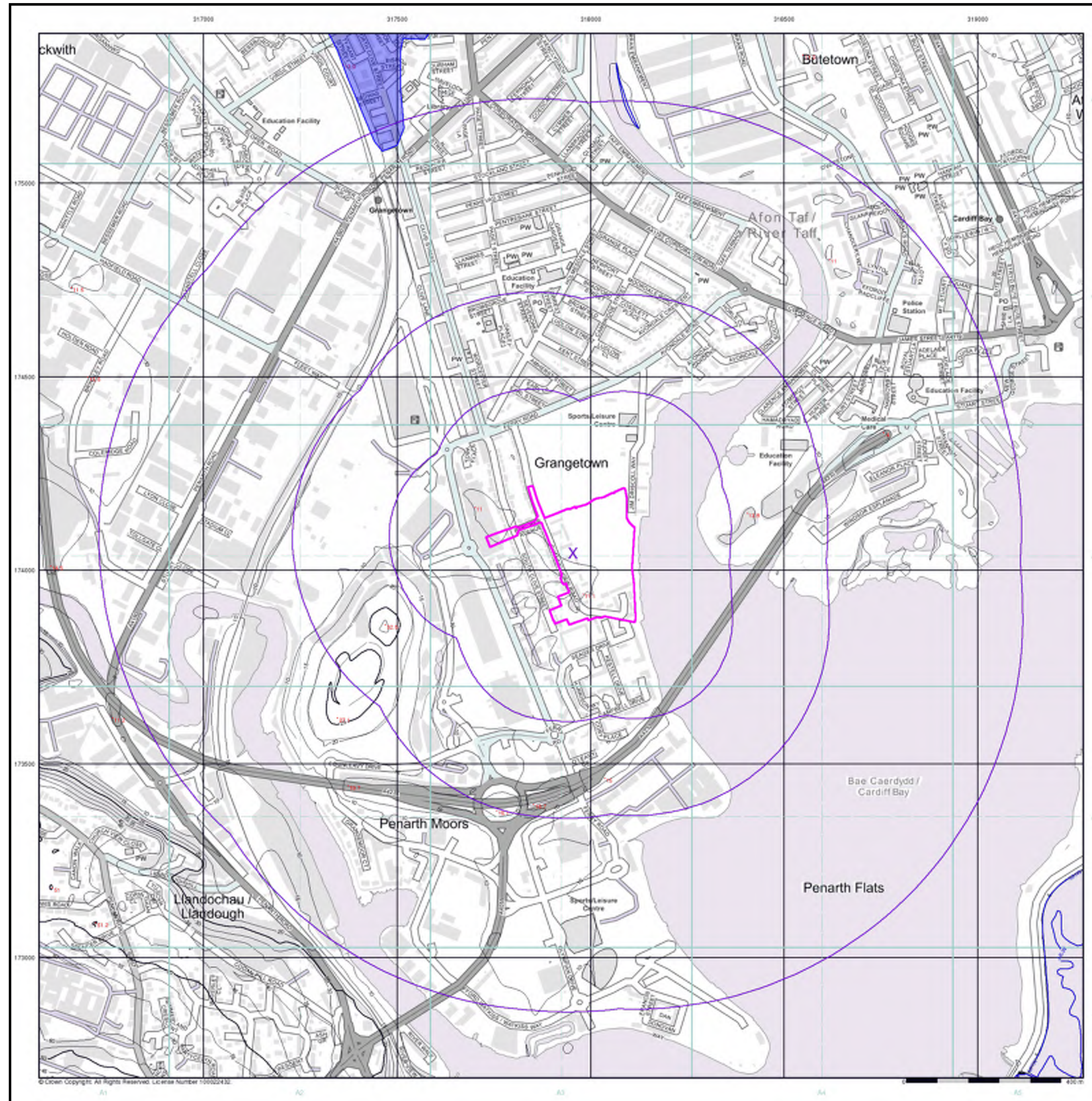


Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG



EANRW Historic Flood Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID

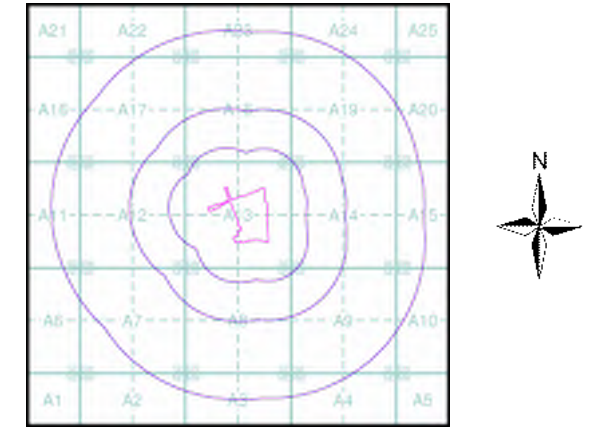
Historic Flood Events Data

- | | |
|--|---------------------------------------|
| Channel Capacity Exceeded (no raised defences) | Obstruction/Blockage - Culvert |
| Channel Capacity Exceeded /Surface Water | Obstruction/Blockage - Debris Screen |
| Groundwater/High Water Table | Operational Failure/Breach of Defence |
| Local Drainage/Surface Water | Other |
| Mechanical Failure | Overtopping of Defences |
| Obstruction/Blockage - Bridge | Surface Water |
| Obstruction/Blockage - Channel | Unknown |
| Historical Flood Liabilities | |

Contours (height in metres)

- Standard Contour 105 Mean Low Water
- Master Contour 100 Mean High Water
- Spot Height 167.8

EANRW Historic Flood Map - Slice A

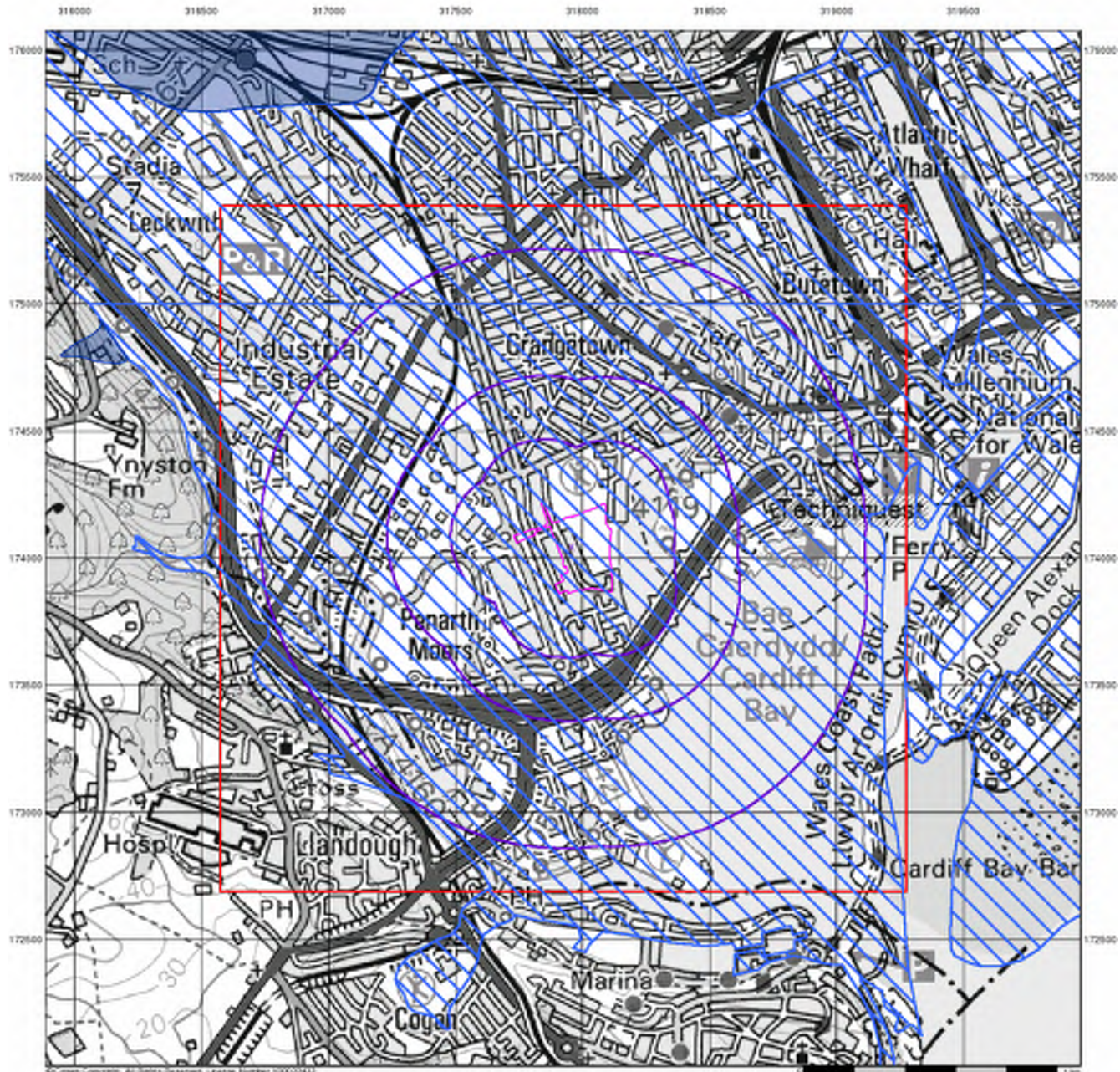


Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000






Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG



BGS Flood Data (1:50,000)

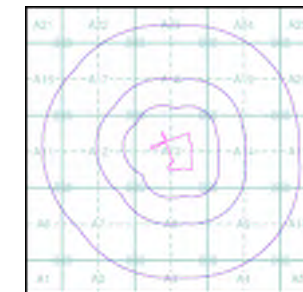
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Slice
-  Map ID

BGS Geological Indicators of Flooding

-  Coastal
-  Inland
-  Bodies of Water

BGS Flood Data Map - Slice A

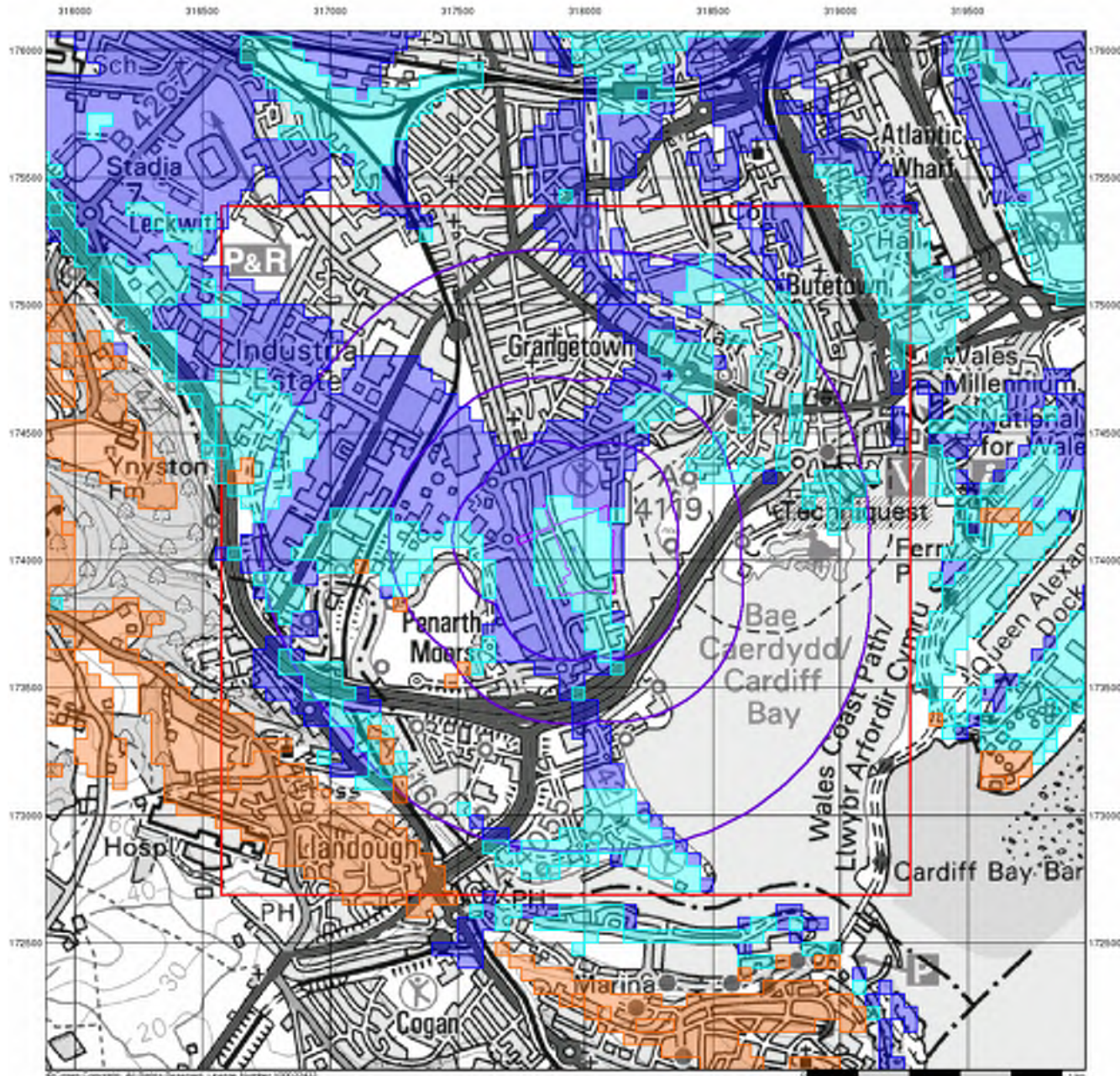


Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000






Site Details

67, Windsor Esplanade, Cardiff, CF10 5BG






BGS Flood Data (1:50,000)

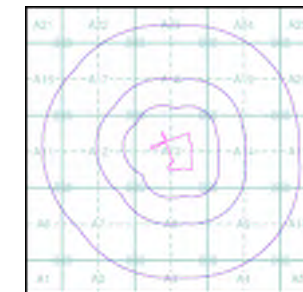
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Slice
-  Map ID

BGS Groundwater Flooding Susceptibility

-  Potential for Groundwater Flooding to Occur at Surface
-  Potential for Groundwater Flooding of Property Situated Below Ground Level
-  Limited Potential for Groundwater Flooding to Occur

BGS Flood Data Map - Slice A

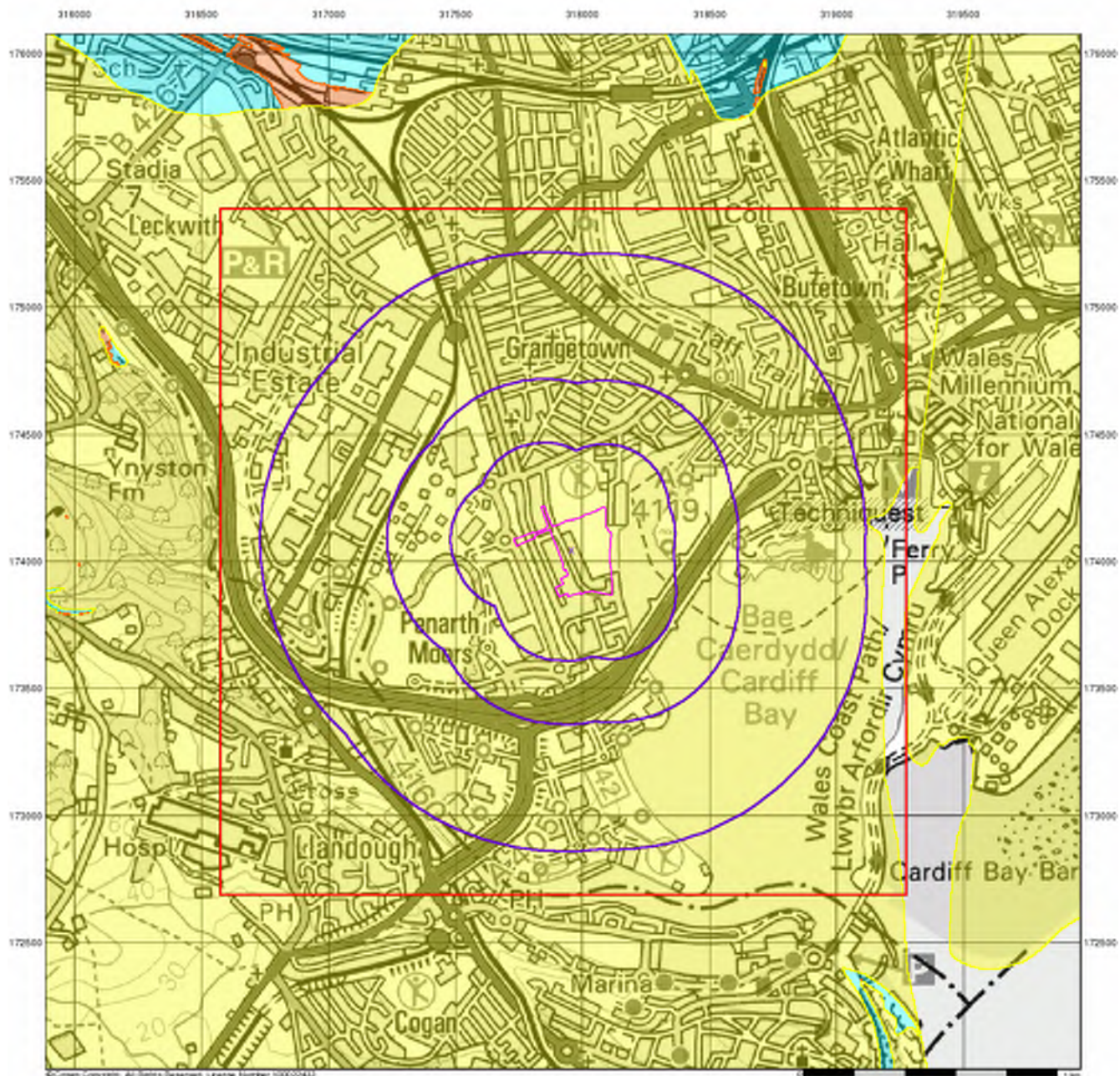


Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG



Envirocheck®

LANDMARK INFORMATION GROUP®

GeoSmart Information Groundwater Flood Map (1:50,000)

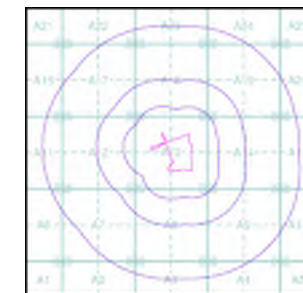
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

GeoSmart Information Groundwater Flooding Risk

- High Risk
- Moderate Risk
- Low Risk
- Negligible Risk

GeoSmart Information Groundwater Flood Map - Slice A



Order Details

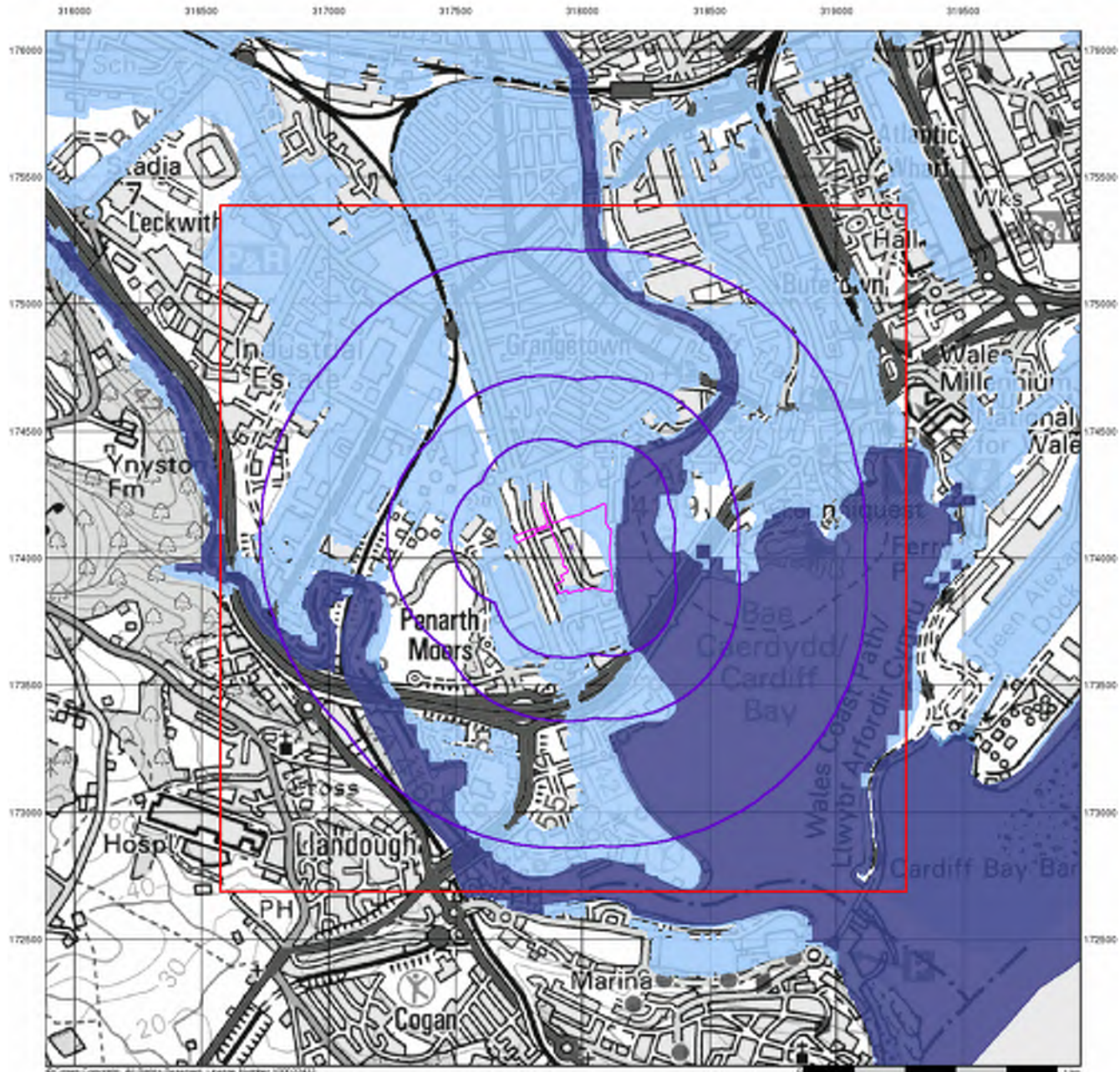
Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



EA/NRW RoFRS Data (1:50,000)

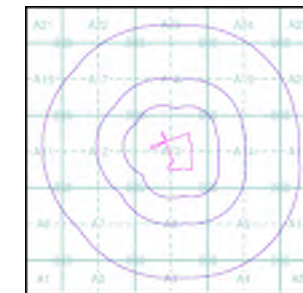
General

- ▭ Specified Site
- Specified Buffer(s)
- ✕ Bearing Reference Point
- ▭ Slice
- Map ID

Risk of Flooding from Rivers and Sea (RoFRS)

- High Risk
- Medium Risk
- Low Risk
- Very Low Risk

EA/NRW RoFRS Data Map - Slice A



Order Details

Order Number: 267042464_1_1
 Customer Ref: CC2083
 National Grid Reference: 317950, 174040
 Slice: A
 Site Area (Ha): 6.57
 Search Buffer (m): 1000

Site Details

, 67, Windsor Esplanade, Cardiff, CF10 5BG

Appendix E: Flood Map Overlays



THIS DRAWING IS COPYRIGHT © CAMBRIA CONSULTING LTD.
 DO NOT SCALE FROM THIS DRAWING.
 CONTRACTORS MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO CAMBRIA CONSULTING LIMITED BEFORE PROCEEDING.
 THE CONTRACTOR IS TO REFER TO THE SPECIFICATION, FULL SCHEDULE OF RESIDUAL RISKS IN THE CONTRACT DOCUMENTATION AND ALSO TO INFORMATION FROM OTHER DESIGNERS, IN PARTICULAR THE M&E CONSULTANT REGARDING EXISTING LIVE SERVICES.
 THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.
 ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

- Flood Risk from Rivers - Extent**
- High
 - Medium
 - Low
- Flood Risk from the Sea - Extent**
- High
 - Medium
 - Low
- Flood Risk from Surface Water & Small Watercourses - Extent**
- High
 - Medium
 - Low

P03	REVISED TO SUIT NEW SITE BOUNDARY.	AR	BW	WJ	21/04/21
P02	REVISED TO SUIT NEW SITE BOUNDARY.	AR	BW	WJ	14/04/21
P01	FIRST ISSUE FOR COMMENT	JM	BW	WJ	17/11/20
Rev.	Description	By	Chk	App	

Client:

Project:
**CHANNEL VIEW,
 CARDIFF**

Drawing Title:
**NRW FLOOD RISK MAP
 OVERLAY**

Drawing No.
CC2083 CAM ZZ 00 SK C 52 0015

Project No.	Org.	Vol.	Level	Type	Dis.	Class	No.

Suitability Status:	Scale @A1:	Rev.
PRELIMINARY	1:1000	P03

CAMBRIA
 Constructive Thinking

Civil & Structural Engineers
 Cambria House
 16 Plas St. Pol de Leon
 Penarth Marina
 Cardiff, CF64 1TR

T 029 2099 3333
 E admin@cambria.co.uk
 W www.cambria.co.uk
 @cambriauk
 uk.linkedin.com/in/cambriauk



THIS DRAWING IS COPYRIGHT © CAMBRIA CONSULTING LTD.
 DO NOT SCALE FROM THIS DRAWING.
 CONTRACTORS MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO CAMBRIA CONSULTING LIMITED BEFORE PROCEEDING.
 THE CONTRACTOR IS TO REFER TO THE SPECIFICATION, FULL SCHEDULE OF RESIDUAL RISKS IN THE CONTRACT DOCUMENTATION AND ALSO TO INFORMATION FROM OTHER DESIGNERS, IN PARTICULAR THE M&E CONSULTANT REGARDING EXISTING LIVE SERVICES.
 THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.
 ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

- Zone C1
- Zone C2
- Zone B
- Zone A

P03	REVISED TO SUIT NEW SITE BOUNDARY	AR	BW	WJ	21/04/21
P02	REVISED TO SUIT NEW SITE BOUNDARY	AR	BW	WJ	14/04/21
P01	FIRST ISSUE FOR COMMENT	JM	BW	WJ	17/11/20
Rev.	Description	By	Chk	App	



Project:
**CHANNEL VIEW,
 CARDIFF**

Drawing Title:
**DEVELOPMENT ADVICE MAP
 OVERLAY**

Drawing No.
CC2083 CAM ZZ 00 SK C 52 0016

Project No.	Org.	Vol.	Level	Type	Dis.	Class	No.

Suitability Status: PRELIMINARY	Scale @A1: 1:1000	Rev. P03
------------------------------------	----------------------	-------------

CAMBRIA
 Constructive Thinking

Civil & Structural Engineers T 029 2099 3333
 Cambria House E admin@cambria.co.uk
 16 Plas St. Pol de Leon W www.cambria.co.uk
 Penarth Marina @cambriauk
 Cardiff, CF64 1TR uk.linkedin.com/in/cambriauk