

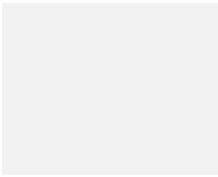
ISLES OF SCILLY DUNE & FLOOD DEFENCE SCHEME

Site Information- Porth Mellon

APRIL 2019



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Isles of Scilly Dune & Flood Defence Scheme

Site Information- Porth Mellon- Porth Mellon

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Report No UA008878-ARC-XX-XX-SP-CE-0802

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VERSION CONTROL

Version	Date	Author	Changes
P1	05-04-2019	MC	First Issue

This report dated 05 April 2019 has been prepared for Council of the Isles of Scilly (the "Client") in accordance with the terms and conditions of appointment dated 28 October 2016(the "Appointment") between the Client and **Arcadis (UK) Limited** ("Arcadis") for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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1. Introduction

This document forms the Site Information for the *works* at Porth Mellon on St. Mary's island, in the Isles of Scilly. It describes the existing conditions at the site and the information collected during the concept and detailed design phases of the scheme. There are three *works* sites on the main island of St. Mary's, namely Porthloo, Porth Mellon and Porth Hellick with each site having separate Site and Work Information documents. See drawing & document register for details.

2. Site location & Access

Porth Mellon is located on the western coast of St. Marys. The bay measures approximately 240m and is flanked by rocky outcrops. Boatsheds and a restaurant are situated on the beach with an industrial estate located behind.

Nearest Postcode: TR21 0JY
Nation Grid Reference: SV9084710773

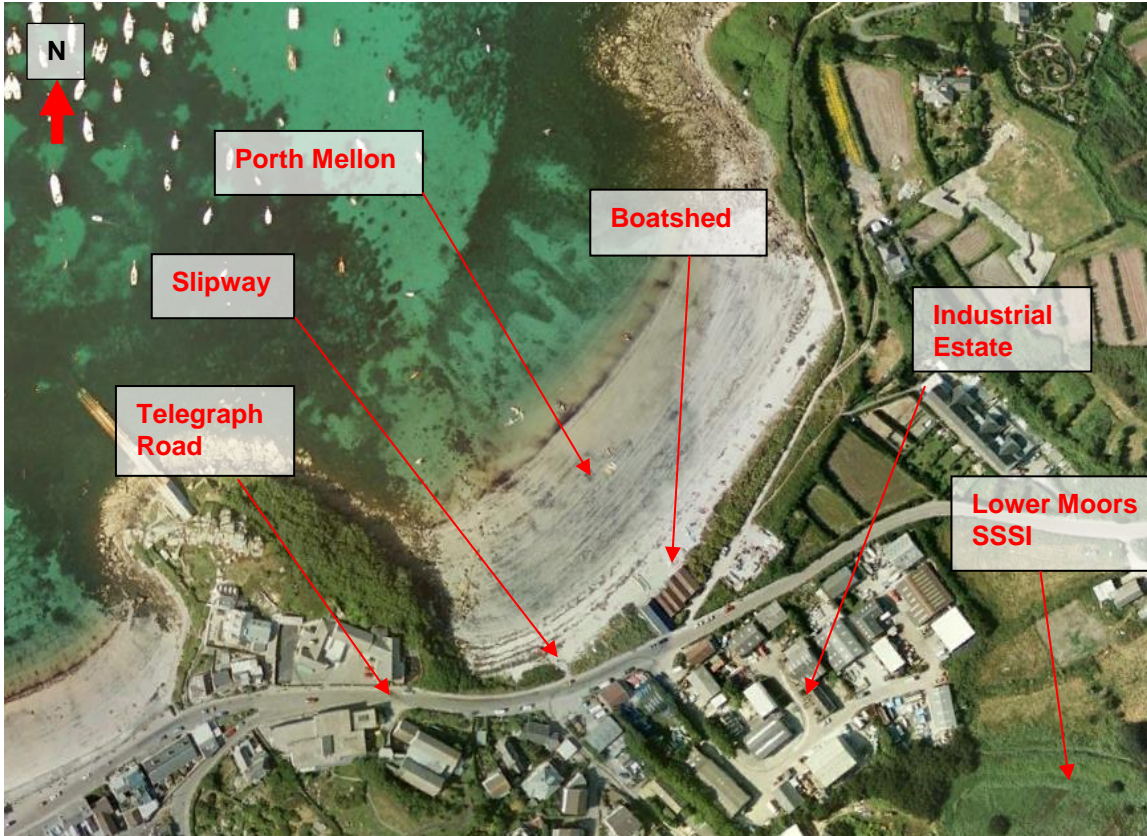


Figure 1: Porth Mellon Beach (Plymouth Coastal Observatory, 2016)

Porth Mellon beach is access via a slipway which adjoins to Telegraph Road. There is a track behind boatshed and the beach which leads to a coastal footpath.

3. Site Photos



Figure 2: Southwest corner of Porth Mellon beach where the revetment is proposed.



Figure 3: Southwest corner of Porth Mellon beach where the revetment is proposed. Note telegraph pole that may need to be relocated to accommodate the revetment.



Figure 4: Slipway onto Porth Mellon beach from Telegraph road.



Figure 5: Boatsheds and water sport business on Porth Mellon beach

4. Topographic Survey

See Appendix A for topographic survey.

5. Services and Utility Search

See Appendix B for utility service plans

A Linesearch – ‘before u dig’ (LSBUD) search was conducted and of its members, only Western Power Distribution was found to have services in the area..

Of its non-members, the following replies were received:

E-mail requests	Sent	Received	Utilities Found	Comments/Notes
BT	09/03/18	09/03/18	Yes	Outside of works area
CityFibre	09/03/18	-	Nil reply	
Colt	09/03/18	20/03/18	No	
CenturyLink Communications	09/03/18	-	Nil reply	
Energetics Electricity	09/03/18	14/03/18	No	
ENGIE	09/03/18	09/03/18	No	
GTC	09/03/18	-	Nil reply	
Isles of Scilly Council	03/08/18	06/08/18	Yes	
Interoute	09/03/18	09/03/18	No	
KPN	09/03/18	12/03/18	No	
Mobile Broadband Network Limited	09/03/18	-	Nil reply	
Sota	09/03/18	12/03/18	No	
Utility assets	09/03/18	-	Nil reply	
Verizon Business	09/03/18	09/03/18	No	
Virgin Media	09/03/18	-	Nil reply	
Vodafone	09/03/18	16/03/18	No	
Vttesse Networks	09/03/18	-	Nil reply	

The Council of the Isles of Scilly is responsible for the maintenance of roads, land drainage, mains water and sewer services and details can be found in Appendix E.

See Appendix E for LSBUD results and utility service plans.

6. Ground Investigation

Trial pits were undertaken by the Council of the Isles of Scilly to determine the material type at the expected revetment toe foundation depth.

See Appendix C for trial pit plans & results at Porth Mellon.

7. Design Statements

For background information on the designs and for remaining hazards see Appendix D for design statements.

8. Designer's Hazard Record

For residual designer identified hazards that remain at the site see Appendix E.

APPENDIX A

Topographic Surveys

THIS DRAWING IS COPYRIGHT. Contractors and Consultants must check all dimensions on site. Only figured dimensions are to be used. Any discrepancies to be reported to the Project Manager before work proceeds. This drawing shall be used only for the purpose intended.

©
NOTES:
GENERAL:
Do not scale from this drawing

Floor Plan Legend

B0.00	floor to beam height
CH0.00	floor to ceiling height
FL0.00	floor level
C0.00	cill height
W0.00	window head height
D0.00	door head height

Underground Utility Legend

Underground Services.	
Underground Comms cables	
Underground Earthrod	
Underground Electricity	
Underground Foul water	
Underground Fuel line	
Underground Gas	
Underground Heating ducts	
Underground Mains water	
Underground Storm water	

All assumed underground services are shown as dashed lines.

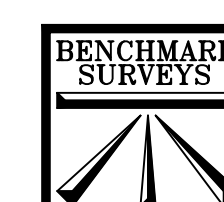
This information must not be solely relied upon in the event of excavation or other works carried out. No liability of any kind whatsoever is accepted by Benchmark Surveys, its servants, or agents, for any error or omission in respect of information contained on this information. The actual position of underground services must be verified and established on site before any mechanical plant is used. All information is complete at time of issue.

Remarks:

Datum and orientation fixed by
GPS to Ordnance Survey
Red = Feature Heights

Feature Legend

Bp	Boundary post	FB	Post box
BS	Boundary stone	FB	Post / bollard
BT	British Telecom cover	FE	Roading eye
CATV	CATV cover	FS	Ridge
CH	Chimney	SC	Stopcock
DM	Drain	SP	Sign post
DR	Drainage	SV	Stop valve
EP	Electricity pole	TF	Top of fence
EV	Eave	TOW	Top of wall
FI	Fire hydrant	TL	Traffic light
FL	Floor level	TR	Telegraph pole
GC	Gas cover	WL	Water level
GB	Grit box	WM	Water meter
GP	Gate post	WB	Benchmark
GR	Gully	WB	Benchmark
IC	Inspection cover	WB	Borehole
IL	Invert level	WB	County boundary
LB	Light bollard	WB	Fence
LT	Light tower	WB	Hedge
LP	Lamp post	WB	Pylon
JB	Junction box	WB	Slope
M	Manhole	WB	Slope
M	metres	WB	Stone face
MC	Circular manhole	WB	Surface level
OC	Overhead Cable	WB	Survey station
		WB	Triangulation pillar



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www.benchmarksurveys.co.uk

CLIENT

JacksonHyder Ltd

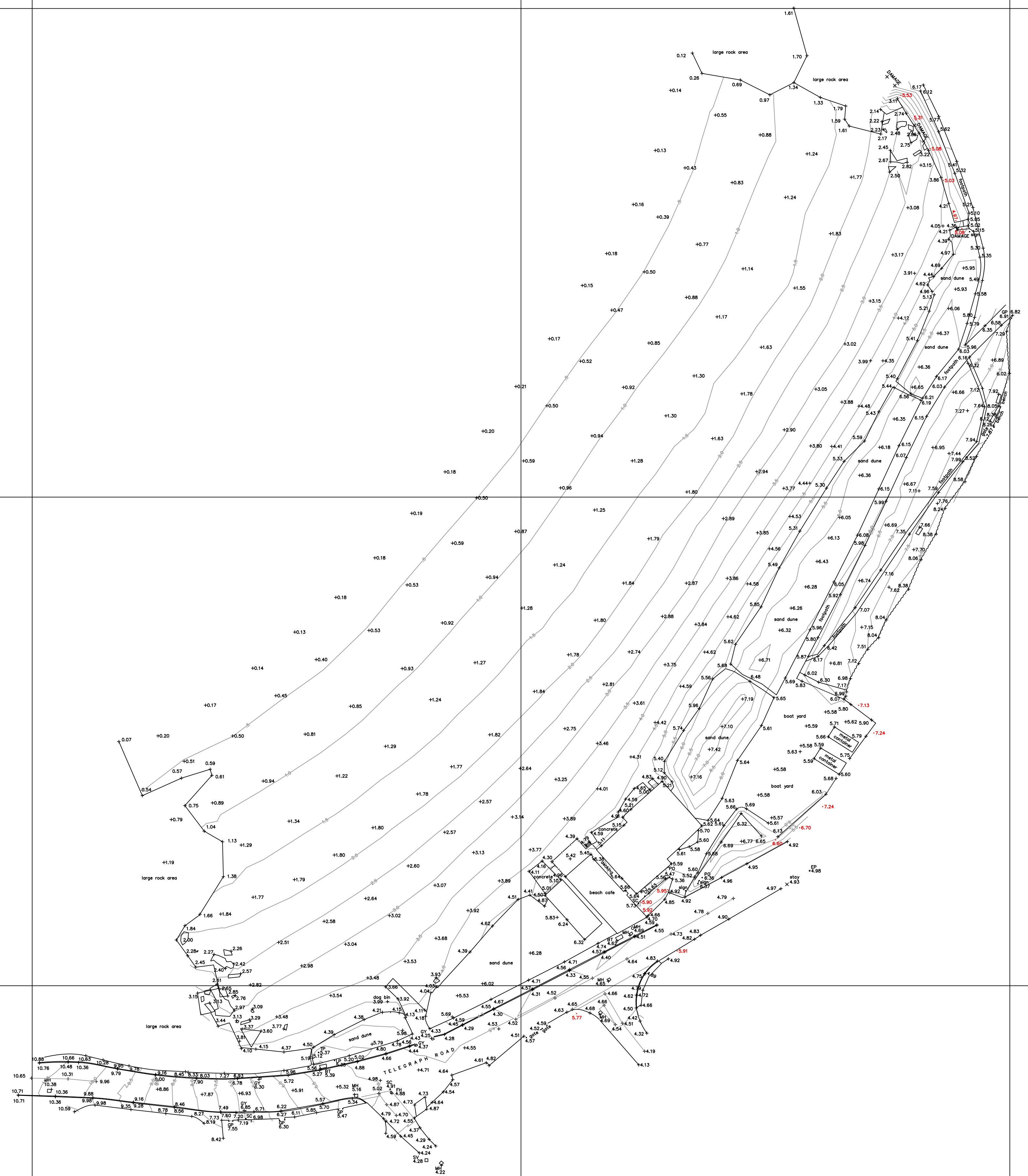
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Porth Mellon, St. Mary's Island

DRAWING TITLE

Topographic Survey

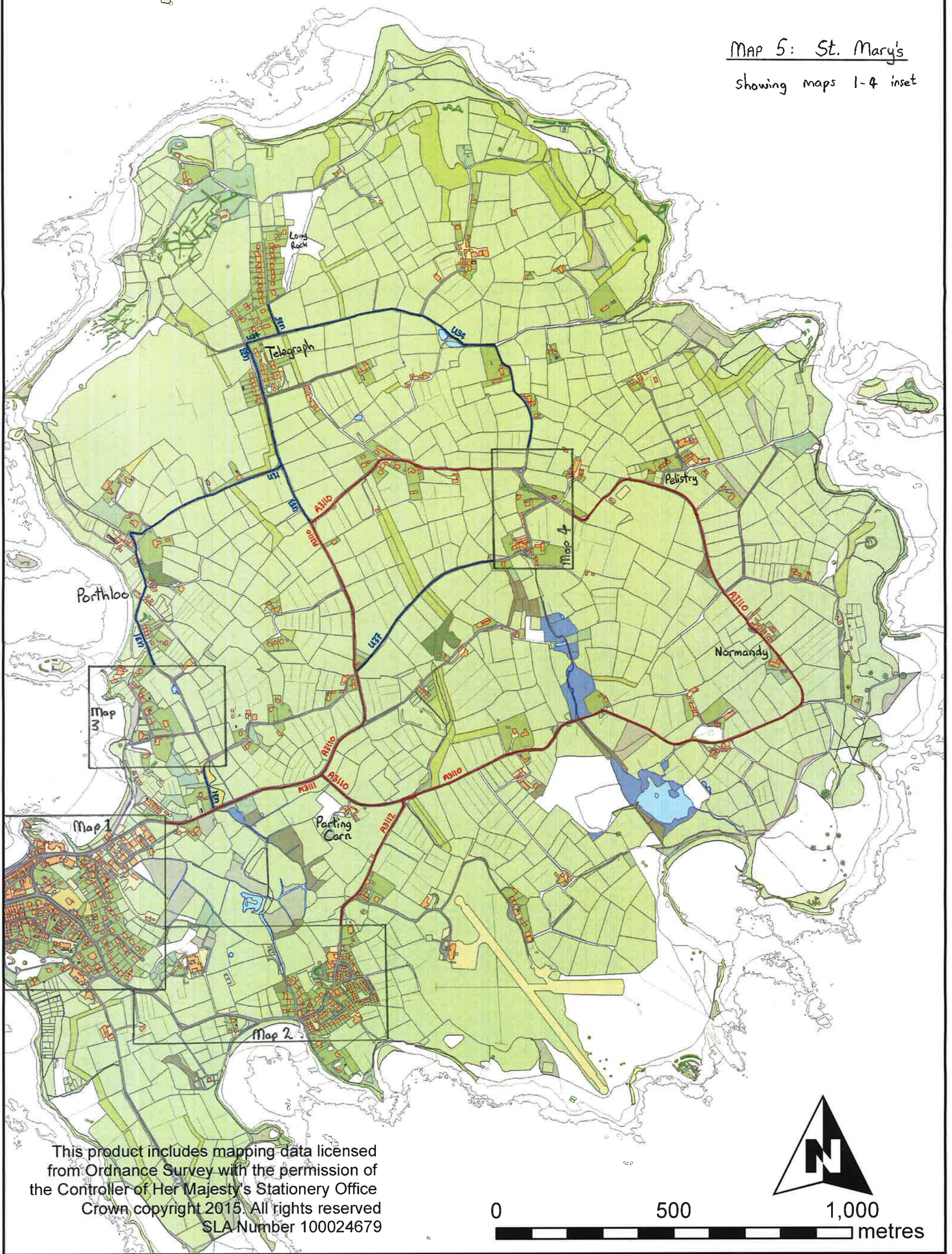
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DRAWN BY D.W	CHECKED BY J.R.R
DRAWING NUMBER BS2443/02.17/01/DW	
REVISION	A



APPENDIX B

Service Plans

MAP 5: St. Mary's
showing maps 1-4 inset



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0 500 1,000 metres

LIST OF STREETS

(Highways Maintainable At The Public Expense)

Council of the Isles of Scilly

All highways maintainable at the public expense (the streets listed) in the Isles of Scilly are located on the island of St Mary's. Please refer to the Attached Maps for the linear extents of the streets listed.

This List was last updated on 1st March 2016.

List, Part I – Roads

The streets listed in Part I (i. and ii.) are public roads.

- i. Roads, classified 'A' (*with or without dedicated footway(s) forming part of the road*)

<u>Reference</u>	<u>Names of street</u>	<u>Route</u>
A3110	Telegraph Road, Town Lane, High Lanes, Carn Friars Lane, Tremelethen Hill, Parting Carn Lane	Circular – names listed clockwise from junction with the A3111 Pump Road to the same junction
A3111	Pump Road, Telegraph Road (Porthmellon), Carn Thomas, Higher Strand, Lower Strand, The Parade (North), Hugh Street, The Bank	A3110 Telegraph Road/Parting Carn Lane junction to the end of the public road at <i>The Quay</i>
A3112	Old Town Lane, Old Town Road, Church Road, Church Street, The Parade (South)	A3110 Parting Carn Lane to the A3111 The Parade (North)

- ii. Roads, unclassified (*with or without dedicated footway(s) forming part of the road*)

<u>Reference</u>	<u>Name or description of street</u>	<u>Running between</u>
U01	Garrison Hill	U03 Jerusalem Terrace and end of road at the frontage of land owned by the Duchy of Cornwall (before the <i>Garrison Gate</i>)
U02	Garrison Lane	A3111 Hugh Street and U01 Garrison Hill
U03	Jerusalem Terrace	A3111 The Bank and U02 Garrison Lane
U04	Sally Port	U01 Garrison Hill south and end of road at frontage of <i>4 Sally Port</i> and end of road at frontage of <i>29 Sally Port</i>
U05	Little Porth Road	U04 Sally Port and U14 Silver Street
U06	Parsons Field (Service Road)	U05 Little Porth Road and end of road where it meets F02 Parsons Field To Garrison Lane (Upper) and F05 Parsons Field (Estate Paths)
U07	Little Porth Slipway	U05 Little Porth Road and end of road at <i>Porthcressa Beach & Little Porth Beach</i>
U08	The Bank (Car Park)	A3111 The Bank and A3111 The Bank
U09	Atlantic Hotel Slipway	A3111 The Bank and end of road at <i>Town Beach</i>
U10	Well Lane	A3111 Hugh Street and U02 Garrison Lane
U11	Back Lane (Off Garrison Lane)	U02 Garrison Lane and U10 Well Lane

U12	Thorofare	A3111 The Parade (North) and (in two places) A3111 Hugh Street and ends of road (in two places) at <i>Town Beach</i>
U13	The Parade (East)	A3111 The Parade (North) and A3112 The Parade (South)
U14	Silver Street	A3111 Hugh Street and U16 Porthcressa Road
U15	Ingram's Opening	A3112 The Parade (South) and U16 Porthcressa Road
U16	Porthcressa Road	U14 Silver Street and U20 Buzza Street
U17	Porthcressa Road (Lane To South)	U16 Porthcressa Road and end of road where it meets F10 Porthcressa Promenade And Connecting Ways
U18	Porthcressa	U16 Porthcressa Road and U20 Buzza Street
U19	Buzza Road	U20 Buzza Street and end of road where it meets F12 Porthcressa Terrace To Buzza Road
U20	Buzza Street	A3112 Church Street and U19 Buzza Road
U21	Ram's Valley	U20 Buzza Street and end of road at a private gate (road inclusive of frontage of <i>Arden House</i>)
U22	Porthcressa Terrace	U20 Buzza Street and U21 Ram's Valley
U23	Rechabite Slipway	A3111 Lower Strand and end of road at <i>Town Beach</i>
U24	Well Cross	A3111 Lower Strand and A3112 Church Street
U25	Back Lane (Off Well Cross)	U24 Well Cross and U26 Church Road (North)
U26	Church Road (North)	A3111 Carn Thomas and A3112 Church Street
U27	Branksea Close	A3112 Church Road and end of road where it meets F15 Branksea Close (Estate Paths)
U28	Hospital Lane	A3112 Church Road and end of road where it meets F13 Mill Hill
U29	Moor Well Lane	A3111 Telegraph Road (Porthmellon) and end of road at entrance to the <i>Porthmellon waste management site</i>
U30	Porthmellon Industrial Estate Roads	A3111 Telegraph Road (Porthmellon) and all ends of road within the industrial estate
U31	Porthloo Lane	A3111 Pump Road and U33 Telegraph Road (North)
U32	Mount Flagon And Thomas' Porth	U31 Porthloo Lane and end of road at the frontage of <i>Camberdown</i> (inclusive)
U33	Telegraph Road (North)	A3110 Telegraph Road and U34 Pungie's Lane
U34	Pungie's Lane	U33 Telegraph Road (North) and A3110 High Lanes (a forked junction)
U35	McFarland's Down	U34 Pungie's Lane and end of road immediately before the junction with track leading to Long Rock
U36	Holy Vale	A3110 High Lanes and U37 Holy Vale Lane and looping onto itself
U37	Holy Vale Lane	A3110 Telegraph Road and U36 Holy Vale
U38	Ennor Close (Estate Roads)	A3112 Old Town Lane and A3112 Old Town Lane and the two ends of road which meet F19 Ennor Close (Estate Paths)

End of Part I

List, Part II – Footways

The streets listed in Part II are public footways or public footpaths (*not forming part of a road*)

<u>Reference</u>	<u>Name or description of street</u>	<u>Running between</u>
F01	The Bank To Jerusalem Terrace	A3111 The Bank and U03 Jerusalem Terrace
F02	Parsons Field To Garrison Lane (Upper)	U06 Parson's Field (Service Road) and junction of U02 Garrison Lane & U04 Sally Port
F03	Parsons Field To Garrison Lane (West)	U06 Parsons Field (Service Road) and U02 Garrison Lane
F04	Parsons Field To Garrison Lane (East)	U06 Parsons Field (Service Road) and U02 Garrison Lane
F05	Parsons Field (Estate Paths)	U04 Sally Port and U05 Little Porth Road and U06 Parsons Field (Service Road)
F06	Sally Port Steps And Passage	U04 Sally Port (in two places) and end of footway at line of boundary of housing estate with land owned by the Duchy of Cornwall
F07	Little Porth	U05 Little Porth Road and end of footway at frontage of <i>29 Sally Port</i> and U07 Little Porth Slipway
F08	Customs House To Town Beach	A3111 Lower Strand and end of footway at <i>Town Beach</i>
F09	The Parade To Porthcressa Road	A3112 The Parade (South) and U16 Porthcressa Road
F10	Porthcressa Promenade And Connecting Ways	U07 Little Porth Slipway and U14 Silver Street and U16 Porthcressa Road and U17 Porthcressa Road (Lane To South) and U18 Porthcressa and F11 Buzza Road Slipway
F11	Buzza Road Slipway	U19 Buzza Road and end of footway at <i>Porthcressa Beach</i>
F12	Porthcressa Terrace To Buzza Road	U22 Porthcressa Terrace and U19 Buzza Road
F13	Mill Hill	U19 Buzza Road and U28 Hospital Lane
F14	Hospital Lane To Dracaena	U28 Hospital Lane and end of footway at gate at the frontage of <i>Dracaena</i>
F15	Branksea Close (Estate Paths)	U27 Branksea Close and looping onto itself (within the housing estate)
F16	Rear Of Museum	A3112 Church Street and A3112 Church Street
F17	Strand Promenade And Way To Lifeboat Station	A3111 Higher Strand and A3111 Carn Thomas and ends of footway at the <i>RNLI Lifeboat Station</i> and <i>Town Beach</i>
F18	Carn Thomas To Church Road (North)	A3111 Carn Thomas and U26 Church Road (North)
F19	Ennor Close (Estate Paths)	U38 Ennor Close (Estate Roads) and U38 Ennor Close (Estate Roads) and ends of footway within the housing estate
F20	Mermaid Inn Slipway	A3111 The Bank and end of footway at <i>Town Beach</i>




End of Part II

Attached Maps

1. Hugh Town
2. Old Town
3. Mount Flagon and Thomas' Porth
4. Maypole and Holy Vale
5. St Mary's (*showing maps 1 to 4 inset*)

Key to the Attached Maps

Colour lines denote approximate centre lines of highway, and are intended primarily to show the linear extents of the highway and individual streets listed.

	Road, classified 'A'	<i>(with or without dedicated footway(s) forming part of the road)</i>
	Road, unclassified	<i>(with or without dedicated footway(s) forming part of the road)</i>
	Footway	<i>(not forming part of a road)</i>

The Reference for each street listed is written at least once by the particular street.

Contact Us

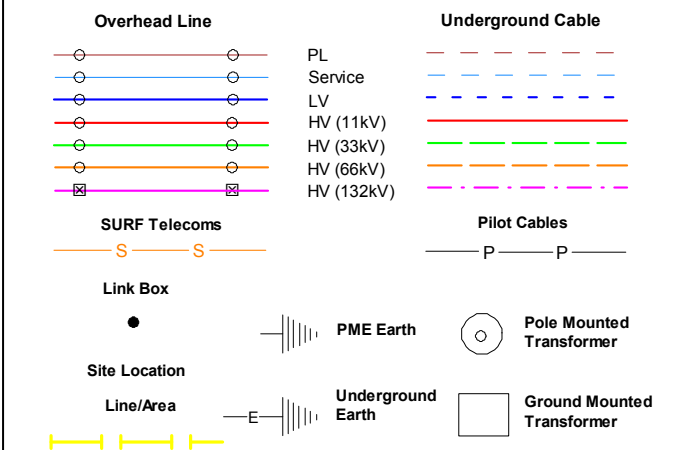
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General Enquiries: All areas 0800 096 3080

**Report damage immediately – KEEP EVERYONE AWAY FROM THE AREA
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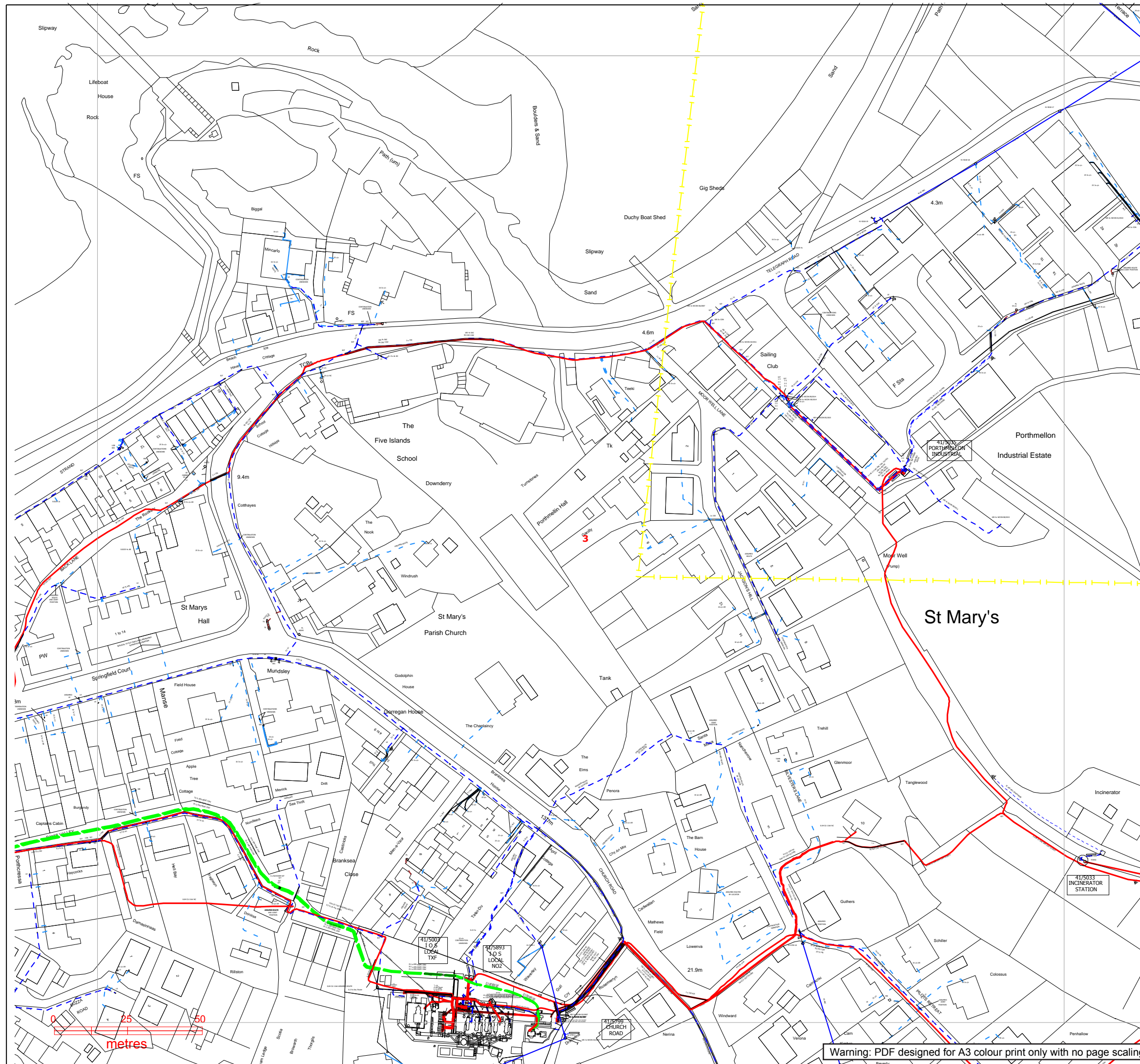
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 Requested by: Mr Ryan Haselden
 Your Scheme/Reference: ioS
 Exact Scales:
 1:1250 Area or Circle dig site
 1:500 Line dig site

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- When working within 10m of any overhead electric line you should follow the requirements of HSE Guidance Note GS6.
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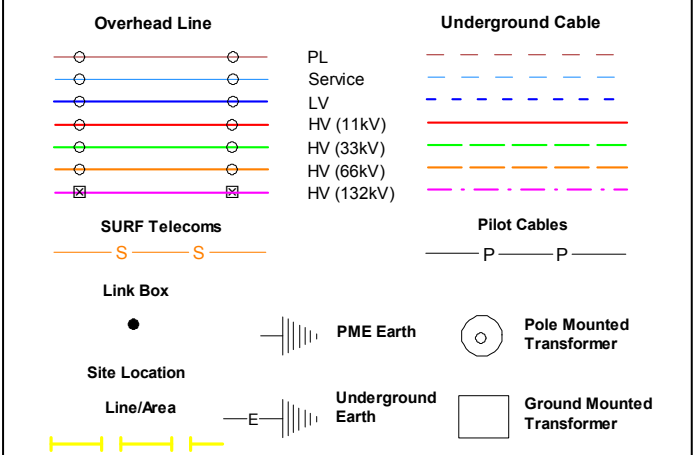
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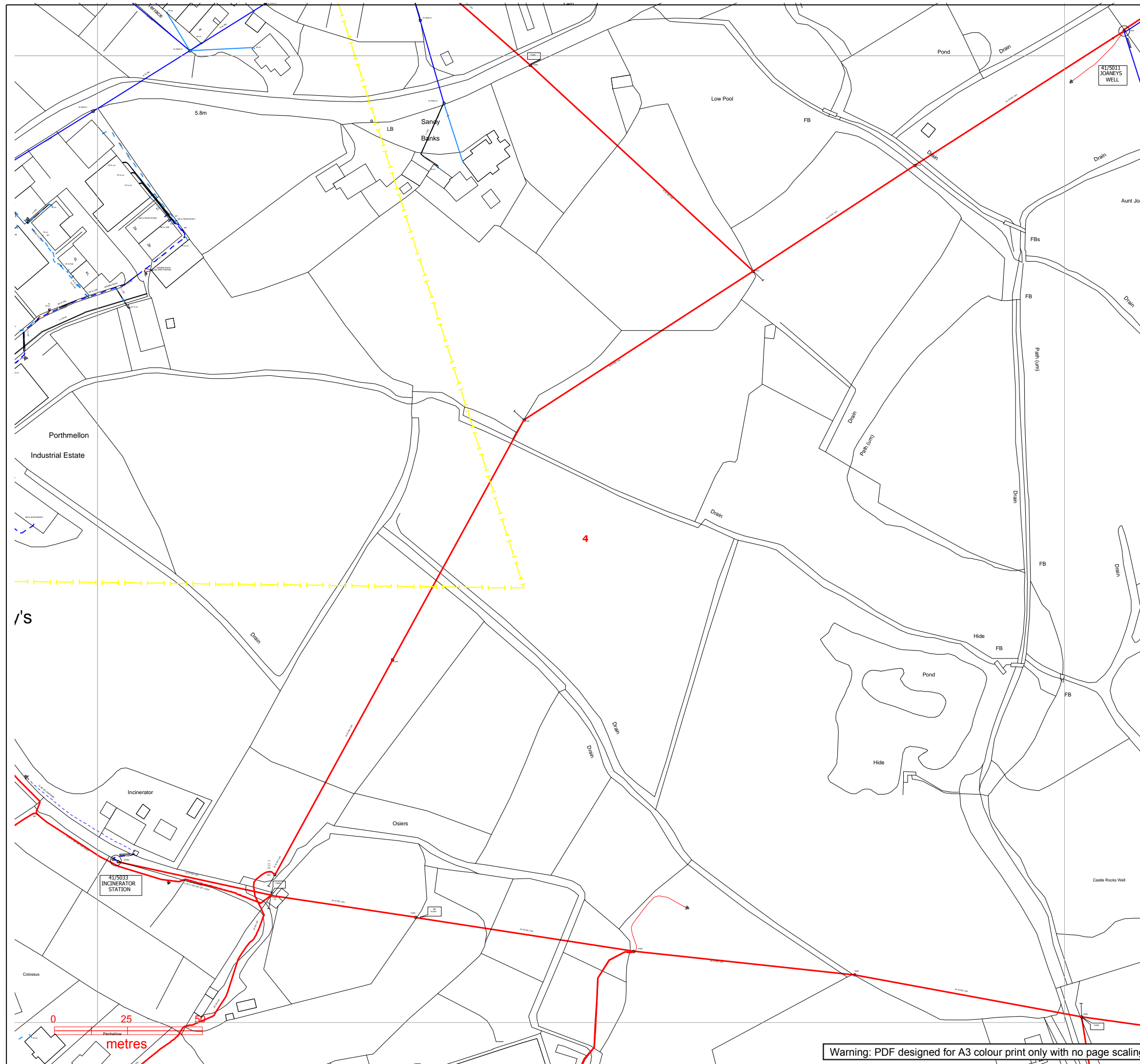
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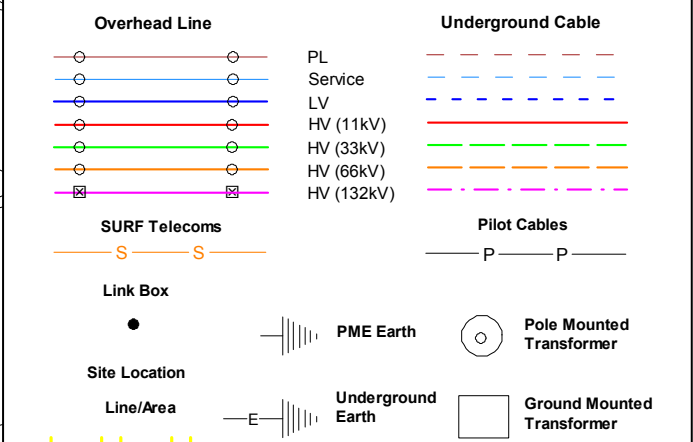
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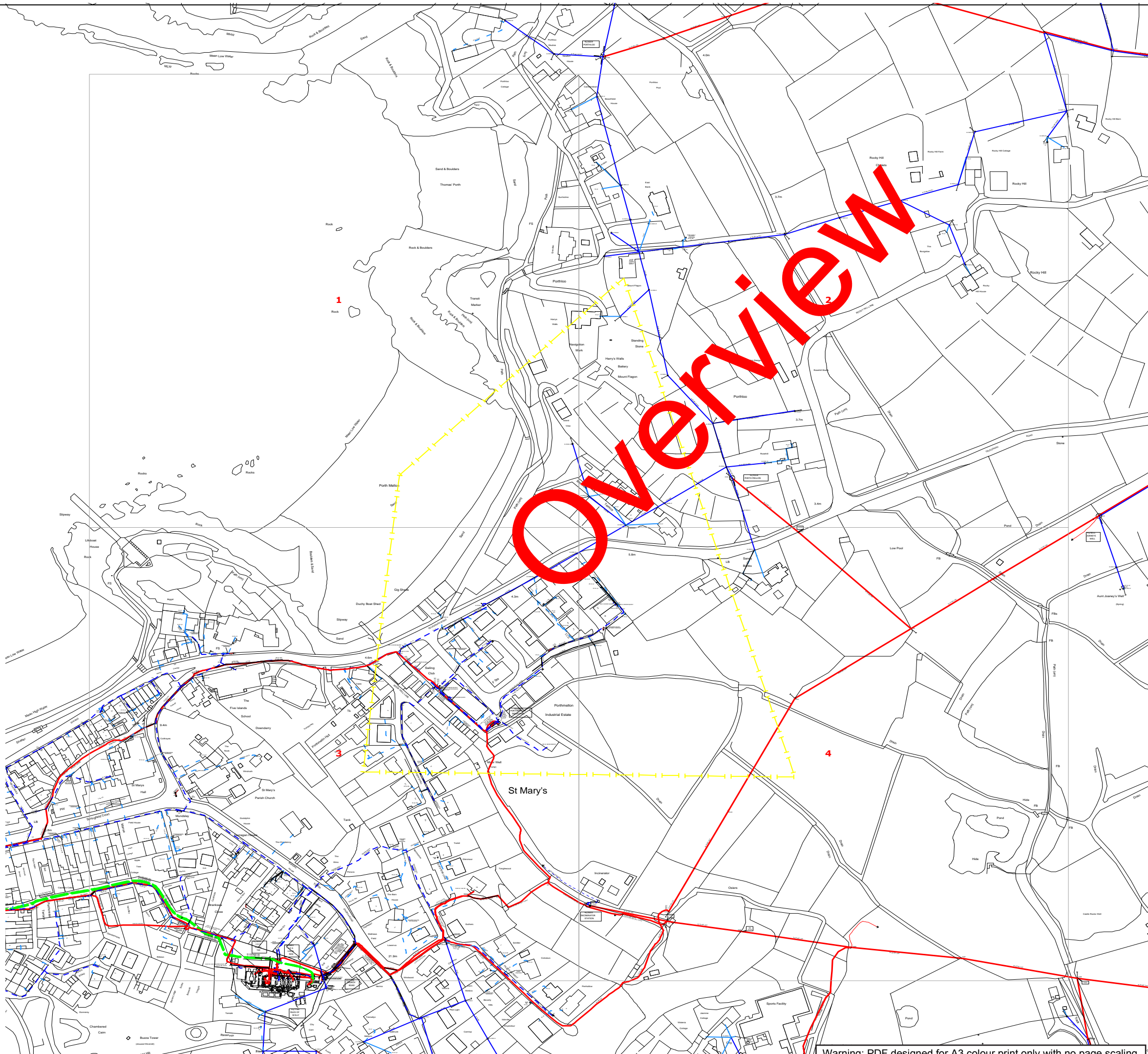
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Overview



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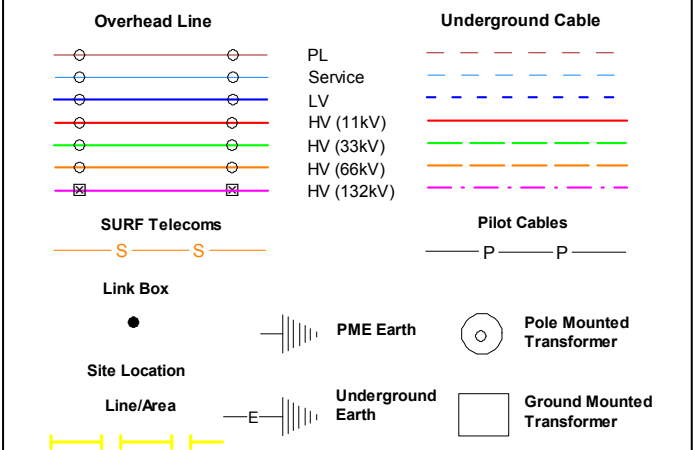
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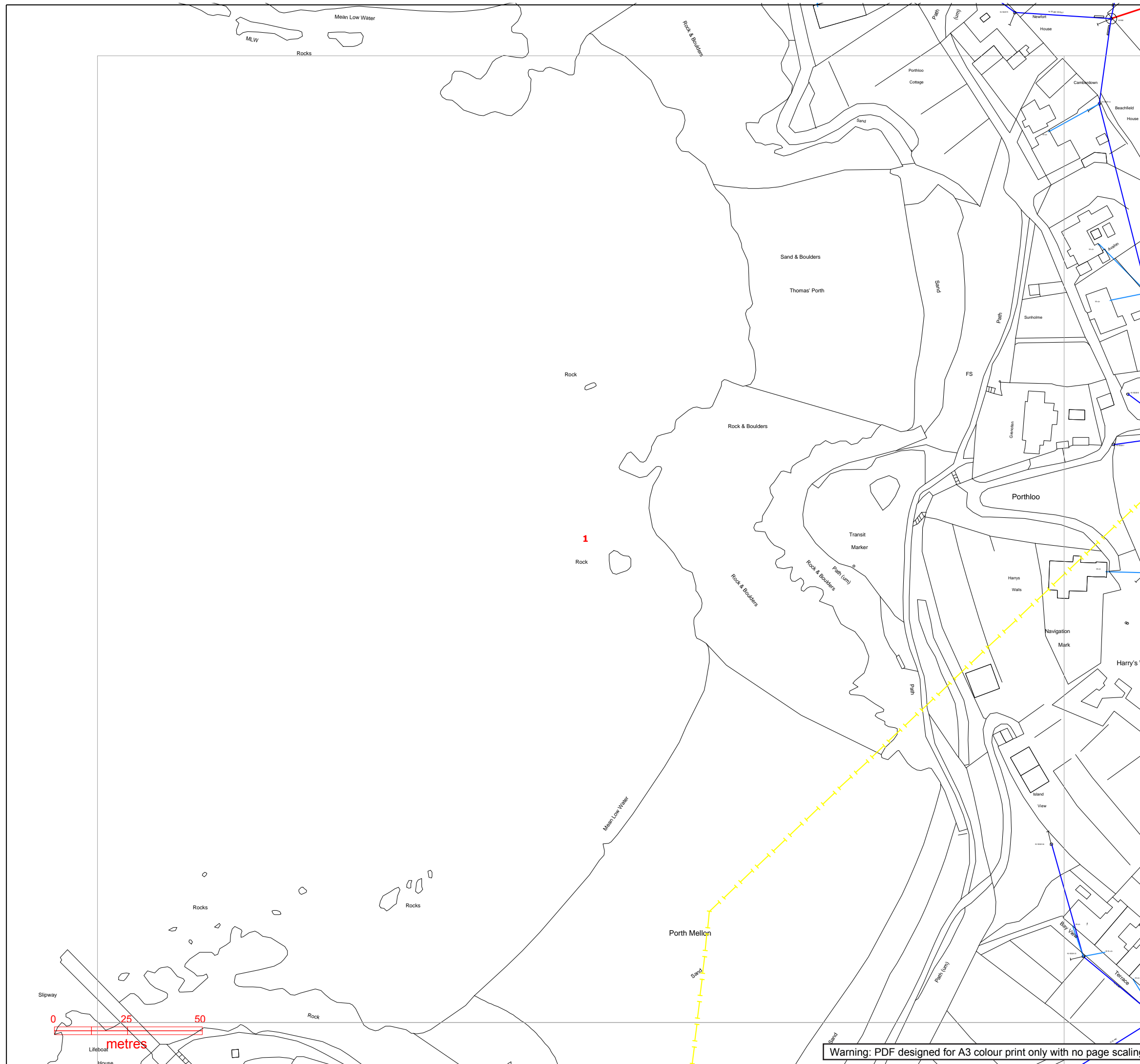
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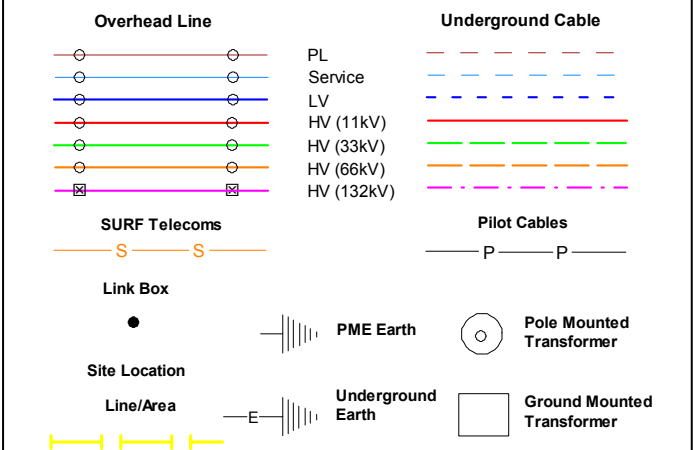
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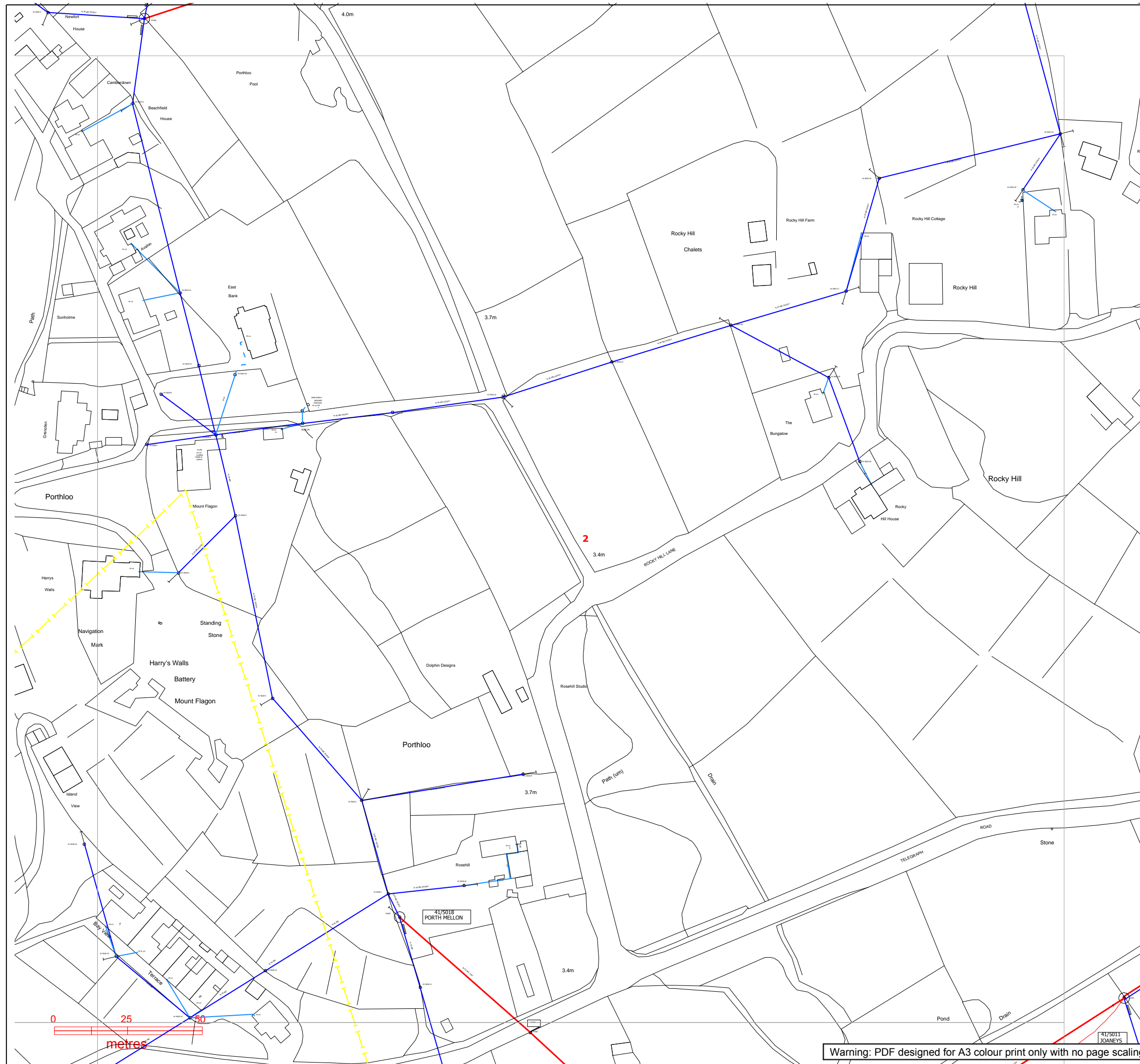
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- Cables, overhead lines & substations owned by other electricity network owners or private companies may be present and may not be shown.
- You should always verify exact locations of cables using a cable locator and by careful use of hand tools in accordance with HSE guidance note HSG47.
- When working within 10m of any overhead electric line you should follow the requirements of HSE Guidance Note GS6.
- For further advice on working near our electricity cables or lines, call our Contact Centre on 0800 096 3080.
- Advice should be sought from the Western Power Distribution Contact Centre for any work that is to take place in proximity to 66kV or 132kV underground cables and 66kV 132kV overhead lines – 0800 096 3080



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Enquirer

Name	Mr Ryan Haselden	Phone	4401752689010
Company	Arcadis	Mobile	Not Supplied
Address	Unit 7, Chamberlain House Research way, Plymouth Science Park Plymouth Devon PL6 8BT		
Email	ryan.haselden@arcadis.com		

Enquiry Details

Scheme/Reference	Isles of Scilly		
Enquiry type	Initial Enquiry	Work category	Utility Works
Start date	26/07/2018	Work type	Multiple excavations site
End date	26/01/2019	Site size	25039 metres square
Searched location	SV9084710773	Work type buffer*	25 metres
Confirmed location	90796 10822		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works	Not Supplied		

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.



Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.linesearchbeforeudig.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

Notes. Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.

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1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. **LSBUD Members who have assets registered within your search area. ("Affected")**
 - a. These LSBUD Members will either:
 - i. Ask for further information ("Email Additional Info" noted in status). The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.
 - ii. Respond directly to you ("Await Response"). In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.
2. **LSBUD Members who do not have assets registered within your search area. ("Not Affected")**
3. **Non LSBUD Members who may have assets within your search area.** Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.

National Grid. Please note that the LSBUD service only contains information on National Grid's Gas above 7 bar asset, all National Grid Electricity Transmission assets and National Grid's Gas Distribution Limited above 2 bar asset.

For National Grid Gas Distribution Ltd below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members

Asset Owner	Phone/Email	Emergency Only	Status
Western Power Distribution	08000963080	08006783105	Await response

LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

List of not affected LSBUD members

AWE Pipeline	BOC Limited (A Member of the Linde Group)	BP Exploration Operating Company Limited
BPA	Carrington Gas Pipeline	CATS Pipeline c/o Wood Group PSN
Cemex	Centrica Storage Ltd	CLH Pipeline System Ltd
Concept Solutions People Ltd	ConocoPhillips (UK) Ltd	DIO (MOD Abandoned Pipelines)
E.ON UK CHP Limited	EirGrid	Electricity North West Limited
ENI & Himor c/o Penspen Ltd	EnQuest NNS Limited	EP Langage Limited
ESP Utilities Group	ESSAR	Esso Petroleum Company Limited
Fulcrum Pipelines Limited	Gamma	Gateshead Energy Company
Gigaclear PLC	Gtt	Hafren Dyfrdwy
Humbly Grove Energy	IGas Energy	INEOS FPS Pipelines
INEOS Manufacturing (Scotland and TSEP)	INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)
Mainline Pipelines Limited	Manchester Jetline Limited	Manx Cable Company
Marchwood Power Ltd (Gas Pipeline)	Melbourn Solar Limited	National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission
Northumbrian Water Group	NPower CHP Pipelines	Oikos Storage Limited
Ørsted	Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos
Phillips 66	Premier Transmission Ltd (SNIP)	Prysmian Cables & Systems Ltd (c/o Western Link)
Redundant Pipelines - LPDA	RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals
Scottish Power Generation	Seabank Power Ltd	Severn Trent (Chester area only)
SGN	Shell (St Fergus to Mossmorran)	Shell Pipelines
SSE (Peterhead Power Station)	Tata Communications (c/o JSM Construction Ltd)	Total (Colnbrook & Colwick Pipelines)
Total Finaline Pipelines	Transmission Capital	UK Power Networks
Uniper UK Ltd	Vattenfall	Veolia ES SELCHP Limited
Westminster City Council	Wingas Storage UK Ltd	Zayo Group UK Ltd c/o JSM Group Ltd

The following Non-LSBUD Members may have assets in your search area. It is YOUR RESPONSIBILITY to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

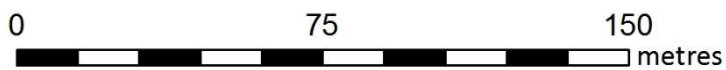
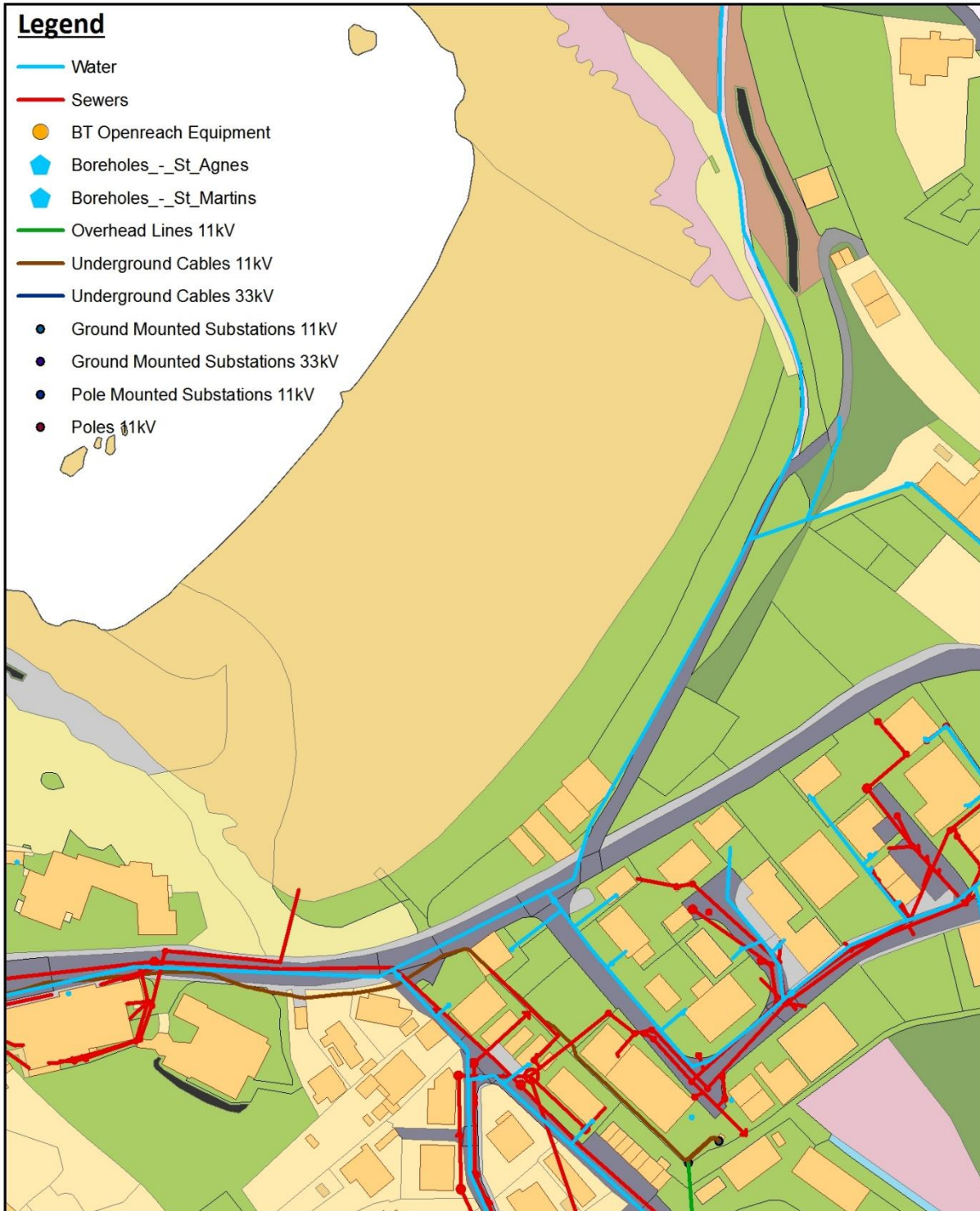
Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	Preferred contact method	Phone	Status
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified
CenturyLink Communications UK Limited	plantenquiries@instalcom.co.uk	02087314613	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified
ENGIE	nrswa@cofely-gdfsuez.com	01293 549944	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified
Isles of Scilly Council	planning@scilly.gov.uk	01720424350	Not Notified
KPN (c/-Instalcom)	kpn.plantenquiries@instalcom.co.uk	n/a	Not Notified
Mobile Broadband Network Limited	mbnl.plant.enquiries@turntown.com	01212 621 100	Not Notified
Sota	SOTA.plantenquiries@instalcom.co.uk		Not Notified
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Vtesse Networks	https://plant.interoute.com/plant-enquiries/	01992532100	Not Notified
Wales and The West Utilities	www.wutilities.co.uk/login.aspx	02920278912	Not Notified

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Porthmellon Beach, St Mary's



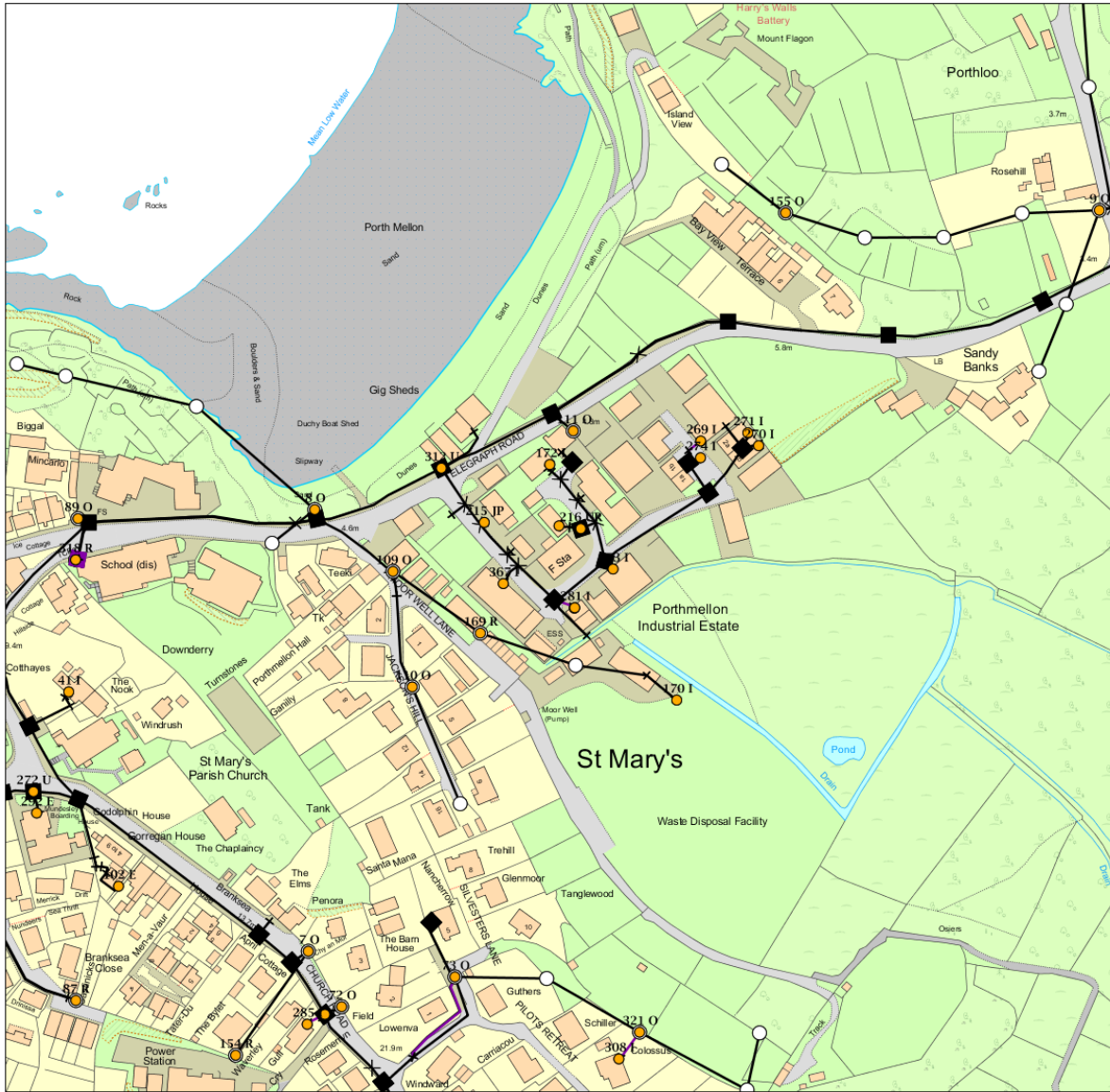
1:1,500 @ A4



Council of the
ISLES OF SCILLY
Town Hall, The Parade,
St Mary's, Isles of Scilly, TR21 0LW

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Maps by email Plant Information Reply



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BT

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email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
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KEY TO BT SYMBOLS

DP	
Planned DP	
PCP	
Planned PCP	
Built	
Planned	
Inferred	
Building	
Kiosk	
Hatchings	

Pole	
Planned Pole	
Joint Box	
Change Of State	
Split Coupling	
Duct Tee	
Planned Box	
Manhole	
Planned Manhole	
Cabinet	
Planned Cabinet	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT plant may not be recorded.
Information valid at time of preparation

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a BT Group business

BT Ref : EEN10054L
Map Reference : (centre) SV9086810672
Easting/Northing : (centre) 90868,10672
Issued : 06/07/2017 10:05:41

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

APPENDIX C

Ground Investigation

TRIAL PIT – SUMMARY RESULTS Porth Mellon

PORTH MELLON

Trial Pit Number	Depth from beach level to bottom of excavation	Ordnance Datum Newlyn Level of beach prior to trial pit being undertaken (See Site Plan for level info.)
1	2.1m	c.3.77m
2	2.6m	c.3.98m

Pit 1 Results

0.7 – 2.1m (ground level) Loose sand with boulders

0.5 – 0.7m Loose to compact medium to coarse grained sand and gravel

0 (base of pit) – 0.5m Ram - sand, gravel and clay composite deposit (firm/stiff to dense/compact)



Figs 1 and 2 – Trial Pit 1 Porth Mellon



Fig 3 – Trial Pit 1 – Sand / Gravel / Clay composite

Pit 2 Results

Digging of pit ceased for Health and Safety reasons (combination of site location / stability of hole / practicalities)

0.4 – 2.6m (ground level) Loose Sand (fine grained)

0 (base of pit) – 0.4m medium grained orange sand (loose)



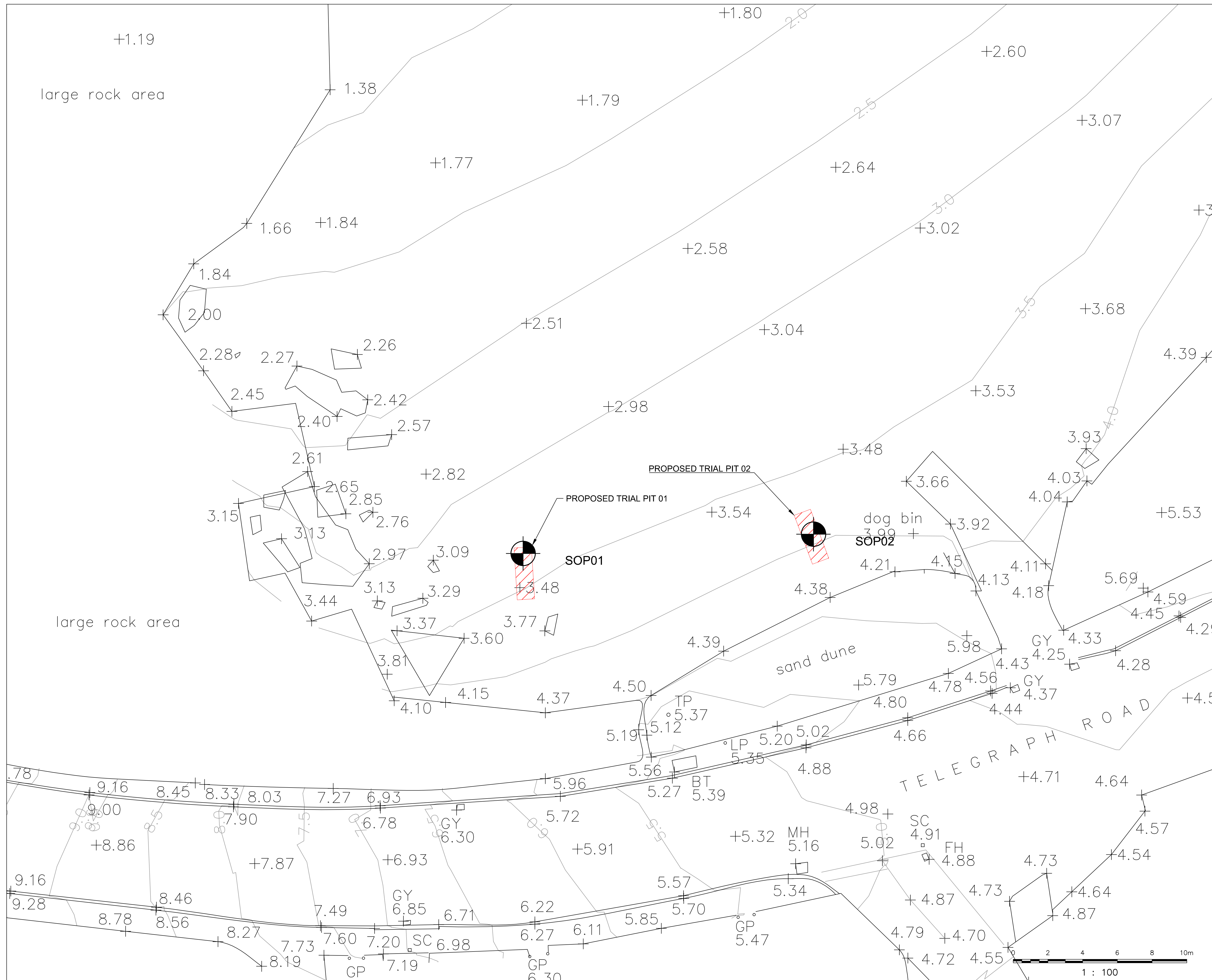
Fig 4 and 5 Pit 2 Porth Mellon



Fig 6 – Pit 2 Porth Mellon



Fig 7 – Medium grained sand at base of pit



- NOTES:**
- DO NOT SCALE FROM THIS DRAWING USE FIGURED DIMENSIONS ONLY
 - TRIAL PITS ARE TO BE 1000 x 3000mm CENTRED AROUND THE SOP.
 - ALL LEVELS IN METRES RELATIVE TO ORDNANCE DATUM NEWLYN (ODN).
 - SOP 01: 90750 E 10695 N
SOP 02: 90766 E 10696 N
 - TIDE INFORMATION RELATIVE TO ODN
MHWS 2.79m
MLWN 1.39m
MLWN -0.91m
MLWS -2.21m

- LEGEND:**
- SETTING OUT POINT (SOP)
 - TRIAL PIT

Rev	Date	Description	Drawn	Check	Approv
P1	19APR17	FOR INFORMATION			

Client

COUNCIL OF THE ISLES OF SCILLY

PROJECT:
ISLES OF SCILLY FLOOD DEFENCE AND DUNE MANAGEMENT SCHEME

Site **Client**

Isles of Scilly Council of the Isles of Scilly
Address
Town Hall
St Marys, Isles of Scilly, TR21 0LW
+44 (0)1720 424000
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http://www.scilly.gov.uk/

ARCADIS Design & Consultancy for natural and built assets

Registered office: Coordinating office:
Arcadis House 680 Budshead Road
34 York Way Crowhill
London Plymouth PL6 5XR
N1 9AB Tel: +44 (0)1752 689 000

www.arcadis.com

TITLE:

**TRIAL PIT PLAN
PORTH MELLON
ST MARYS ISLAND**

Designed	M. NEEDHAM	Signed	<i>M. Needham</i>	Date	19APR17
Drawn	M. NEEDHAM	Signed	<i>M. Needham</i>	Date	19APR17
Checked	M. CLAUSEN	Signed	<i>M. Clausen</i>	Date	19APR17
Approved	M. CLAUSEN	Signed	<i>M. Clausen</i>	Date	19APR17
Scale:	1:100	Datum:	NEWLYN		
Original Size:	A1	Grid:	OS		
Suitability Code:	S0	Project Number:	UA00878		

Suitability Description:
**INITIAL STATUS
WORK IN PROGRESS**

Drawing Number: UA00878-XX-XX-DR-CE-0301 Revision: P01

APPENDIX D

Design Statements

SHORT FORM DESIGN STATEMENT



Project Name

Isles of Scilly – Porth Mellon

Number and Activity code

UA008878-ARC-XX-XX-RP-CE-0363-P2

Brief Description:

Porth Mellon is located on the western coast of St. Marys. The bay measures approximately 240m and is flanked by rocky outcrops. Access to the beach is via a slipway.

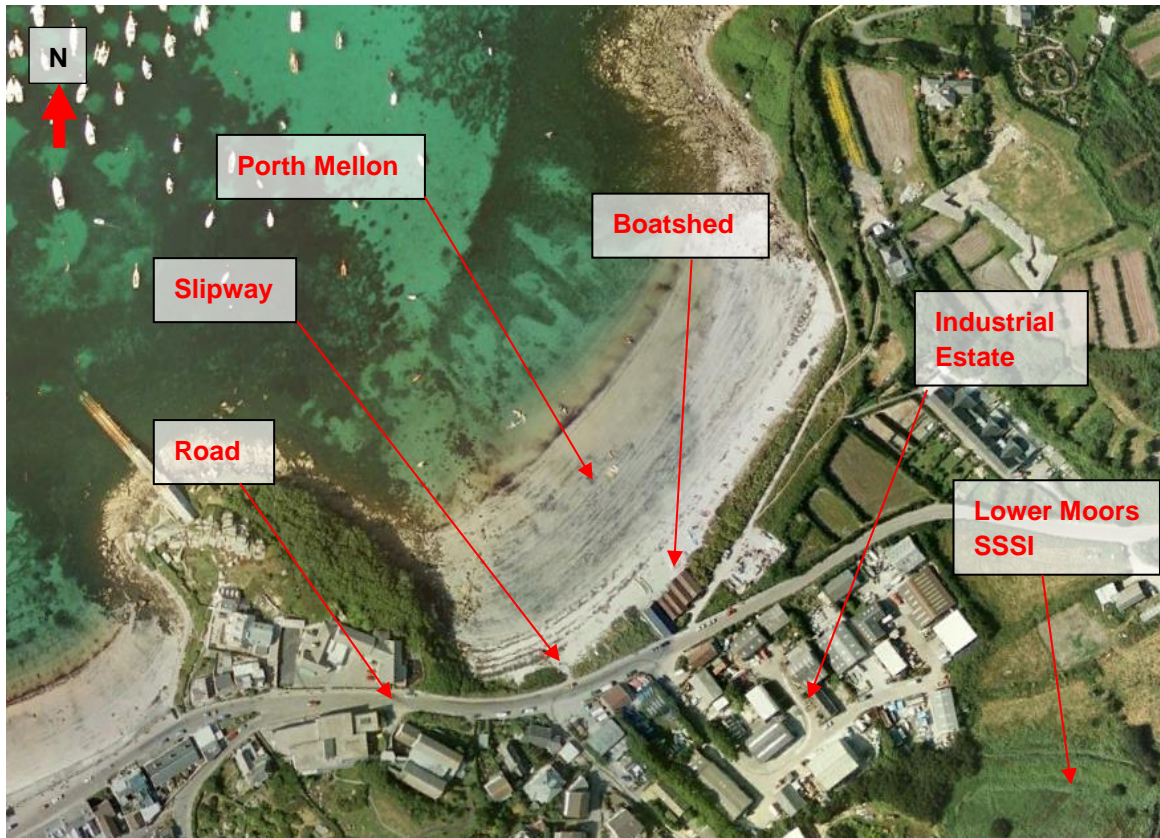


Figure 1: Porth Mellon beach

The aim of the scheme is to reduce the vulnerability of Telegraph Road from undermining and increase resilience of key infrastructure from coastal flooding. This will principally be achieved by the construction of a rock revetment to dissipate wave forces and to reduce overtopping. The revetment will also afford increase protection to the Industrial Estate, Recycling Centre, Substation and the Lower Moors SSSI located behind the beach by reducing overtopping flows.

At the northern end of the beach there is a small stone retaining wall and a set of stairs that provides access from the coastal path. The dunes located behind the beach are of sufficient depth to offer protection to the properties from coastal flooding.

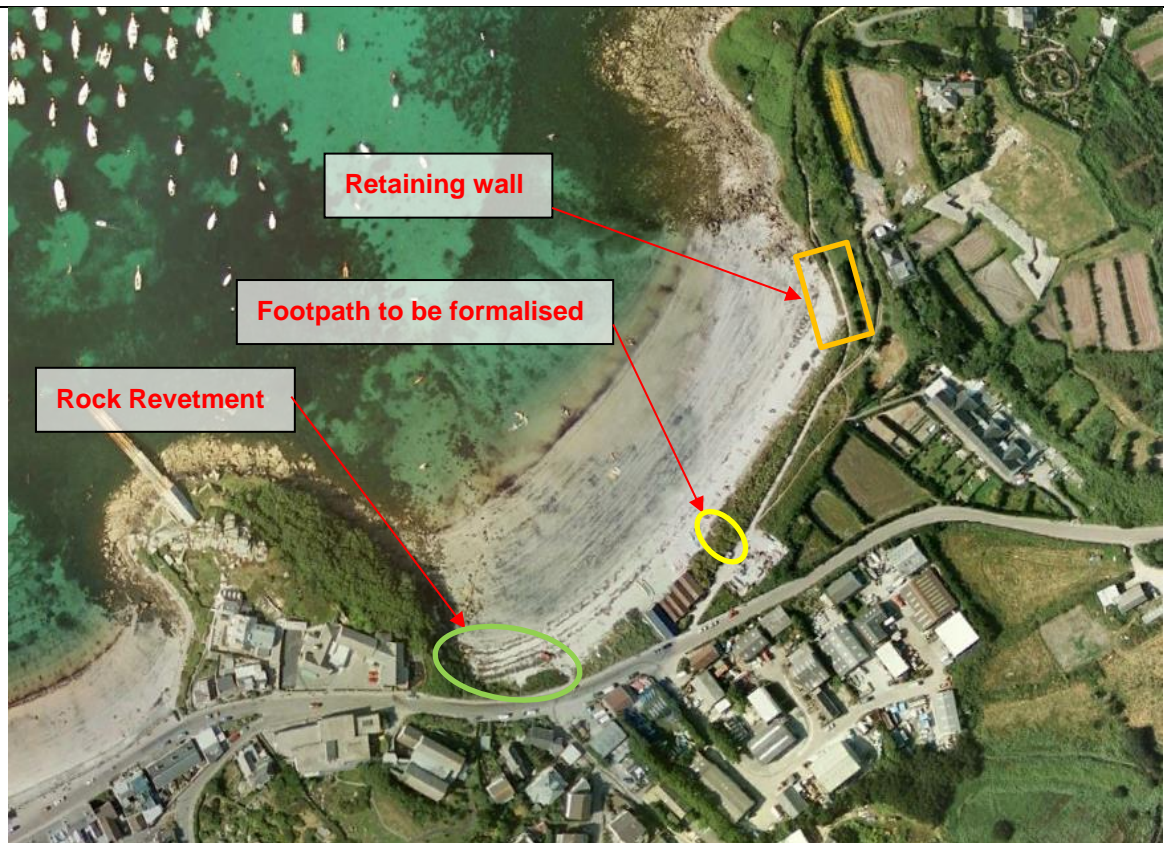


Figure 2: Porth Mellon beach – Proposed works

The focus of the design is on the following three elements:

1. Repairs to the existing retaining wall:

This is proposed at the north end of the beach highlighted by the orange rectangle in Figure 2. The face of the wall has voids where mortar and stones have washed out. The wall shall be repaired using locally sourced granite stones and cobbles and secured with rapid set mortar. The toe of the wall shall be exposed along its full length to assess the repairs required. These works do not form part of the Revetment Construction scheme and the intention is for the local contractor to undertake the works.

2. Installation of a boardwalk to formalise a path across the dune:

The section highlighted by the yellow oval in Figure 2 is situated just to the north of the boatshed and is primarily used by the public to access the beach. This is causing the dune to erode locally raising the potential for a breach during storm events. It is proposed that a timber/recycled plastic boardwalk is installed that would act as a flexible path surface to follow the dune profile. This should alleviate further deterioration of the dune from the pedestrian induced erosion. These works do not form part of the Revetment Construction scheme and the intention is for the local contractor to undertake the works.

3. Installing a Rock Revetment:

A new rock revetment shall be installed in the area highlighted by the green ellipse in the southern corner. The revetment will provide increased protection to Telegraph Road from continued erosion as well as protection to the industrial estate to the rear of the beach. The revetment crest will be set to a minimum crest level of 6.19m ODL. The rounded flanks of the revetment will be constructed with a slope of 1:3. The centre section will be constructed to match the end sections and therefore the revetment slope may vary. The toe will have a foundation level of 0.5m ODN to prevent scour holes forming. The structure will be underlain with a geotextile that will be wrapped around leading stones in the toe of the revetment to form a "Dutch toe". The geotextile will act as the underlayer for the revetment, and act as a filter between the cliff and the beach to prevent the smaller material from leeching out through the main armour layer. A layer of site won rock shall be placed between the western exposed face of the revetment and the cliff to match

the alignment of the cliff face. This will offer some protection to the cliff toe and give an aesthetic consistency although it will not be integral to the performance to the underlying revetment.

Assumptions:

- Though the beach is tidal, the proposed work is located above the MHWS tide mark, however, the construction area could still be effected by rising tide levels and storm events.
- Existing water levels:

	Chart Datum (CD)	Ordnance Datum Local (ODL)
HAT	6.3	3.39
MHWS	5.7	2.79
MHWN	4.3	1.39
MLWN	2.0	- 0.91
MLWS	0.7	- 2.21

- Numerical modelling using MIKE21 software was undertaken to identify the design parameters for the site. The design was undertaken using a 1:200yr joint probability wave and water level event with allowance for climate change, assuming a 50yr design life.
- It is assumed that the existing ground is suitable and accessible for the construction of the new rock armour revetment.
- It is assumed the earth bank between the beach and Telegraph road is stable, of a suitable height when the vegetation is removed and will not collapse as the rock armour revetment is built up.
- It is assumed that ground conditions as witnessed in the Trial Pits on the foreshore are suitable for placing rock armour without resulting in any significant settlement.
- It is assumed that the revetment will tie into the existing cliff and rocks on the beach in the south and an existing retaining wall adjacent to the slipway.

Design Basis/ design method:

Design water and wave conditions:

SWL (mAOD)	Hs (m)	Tm (s)	Comments
4.24	1.01	12.51	1:200yr joint probability

Designer’s Risk Assessment: *incl. Hazards that cannot be designed out – A full summary can be found in the Designers Hazard Record*

- A. Works adjacent to water
- B. Soft ground
- C. Deep excavations
- D. Public beach
- E. Services
- F. Unstable Rocks during initial placement.

References: incl.

- CIRIA, CUR, CETMEF (2007). The Rock Manual. The use of rock in hydraulic engineering (2nd edition). C683, CIRIA, London
- Eurotop: Wave Overtopping of Sea Defences and Related Structures: Assessment Manual (2007)
- Reeve, D et al (2004). Coastal Engineering: Processes, theory, and design practice. UK: Spon Press
- Kirsty McConnell (1998). Revetment systems against wave attack - A design manual. London: Thomas Telford Publishing.
- Geofabrics - Coastal and River Defence Systems: Design Guidance High Performance Square

Signed: *M. Needle*

Reviewed: *G. J. McDonnell*

Approved: *I. Cooke*

APPENDIX E

Designer's Hazard Record

Health & Safety - Designer's Hazard Record



Project Title
Isles of Scilly Flood Defence and Dune Management
Project – Porth Mellon

Project Code
UA008878-ARC-XX-XX-
HS-CE-0362-P3

Assessment Coverage:

The works involve the design and installation of a revetment in the south west corner of Porth Mellon beach.

1. Scope of Commission and Coverage of Assessment:

The scheme entails the construction of a rock armour revetment in the south west corner of Porth Mellon beach.

2. Brief Description of the Works:

1. Construction of rock revetment with a crest height of 6.19mAOD underlain with a geotextile.
2. Overlay the revetment structure with any site won rock to offer additional protection to the cliff face.

3. Key Risk Reduction measures taken during design process:

1. Toe of revetment has been designed to be buried relative to beach levels recorded during topographic survey dated February 2017. This is to reduce the likelihood of the public climbing over the revetment and to minimise the beach take.
2. Revetment crest is positioned as to minimise the risk of interference with telegraph pole and overhead cables.
3. Warning symbols used on the drawings to highlight the hazards.

4. Significant Project Specific Hazards Remaining:

- A. Works adjacent to water – Risk of sea inundating works area from wave action and high tides.
- B. Soft & unstable ground – Risk of machine instability on beach/dunes.
- C. Deep excavations - Excavations are to be made to depths to 0.5m ODL which may lead to deep excavations dependant on the current beach profile. Risk of collapse during rising tide levels.
- D. Public beach – Risk of public entering the works area.
- E. Services – There is an abandoned sewer running from the former secondary school to the cliff face adjacent to the revetment. – This was not located on a site walkover and is not thought to be live. Non-recorded services may exist on the works area.
- F. Rocks forming the revetment may be unstable when initially placed – Rocks should be placed to the stated requirements in the specification.

5. Specific Construction Requirements

1. The Contractor shall construct the revetment without damaging the existing telegraph pole and overhead cables.

6. Means by which significant hazards are conveyed to contractors and others:

1. Hazard markers added to drawings and the information presented in this document

Date of Review

Assessed by:

Name Maxwell Needham

Signature

Date



05/04/2019

Reviewed by:

Name Ian Cooke

Signature *I. Cooke*

Date 05/04/2019

	Health & Safety - Designer's Hazard Record			Project Code/Doc No: UA008878-ARC-XX-XX-HS-CE-0362	
	Project Title: Isles of Scilly Flood Defence and Dune Management Project – Porth Mellon	Assessor (Name): Maxwell Needham	Assessor (Signature): 	Date: 05/04/19	Revision: P3

Ref	Activity & Hazard	Level of Risk (optional)	Design Input to Eliminate or Reduce Hazards, and Hazards Remaining	Residual Hazard?
A	Works undertaken in or near water- Risk of sea inundating works area from wave action and high tides.		This hazard is an unavoidable consequence of the works and the contractor is to mitigate the associated risks	Yes
B	Soft & unstable ground-The backshore dune is formed of sand and is susceptible to erosion from machine or foot traffic. Risk of machine instability on beach/dunes.		This hazard is an unavoidable consequence of the works and the contractor is to mitigate the associated risks	Yes
C	Deep excavations - Excavations are to be made to depths to 0.5m ODN which may lead to deep excavations dependant on the current beach profile. Risk of collapse during rising tide levels.		This hazard is an unavoidable consequence of the works and the contractor is to mitigate the associated risks	Yes
D	Working on public beach- Risk of public entering the works area.		This hazard is an unavoidable consequence of the works and the contractor is to mitigate the associated risks	Yes
E	Services- There is an abandoned sewer running from the former secondary school to the cliff face adjacent to the revetment. – This was not located on a site walkover and is not thought to be live as the school is demolished. Telegraph pole and cover BT cables shall be protected during the works.		This hazard is an unavoidable consequence of the works and the contractor is to mitigate the associated risks	Yes
F	Unstable Rock units- Rocks forming the revetment may be unstable when initially placed – Rocks should be placed by a machine and their stability ensured before operative's approach workings.		This hazard is an unavoidable consequence of the works and the contractor is to mitigate the associated risks	Yes

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