Appendix E – Land Zoning Maps

(2 of 2)

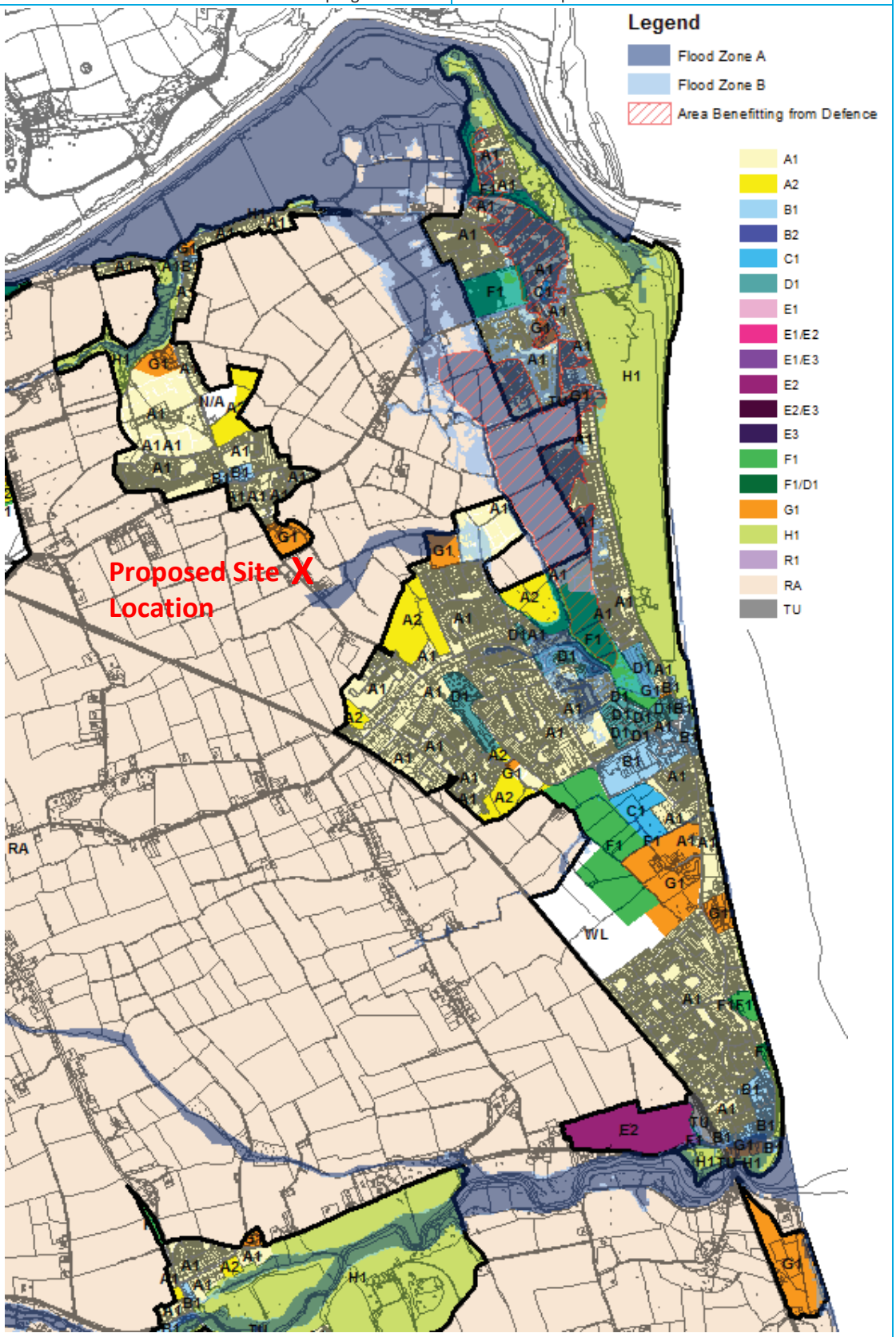
Land Use Zoning - Land Use Zoning Objectives Temp: RA - Rural Area

GUID	1,033
Site Code	RA - Rural Area
Zoning Code	RA
Zoning Description	Rural Area
Zoning Objective	To protect and promote in a balanced way, the development of agriculture, forestry and rural-related enterprise, biodiversity, the rural landscape, and the built and cultural heritage.
Area - Acres	99,999.99

Appendix F – Flood Risk Assessment and Management Plan (Meath CDP)

5.7 Bettystown/ Laytown/ Mornington East/ Donacarney/ Mornington

Hierarchy	SELF-SUSTAINING TOWN
Area for Further Assessment under CFRAM programme?	FEM FRAMS published 2011CFRAMS 2017



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The Flood Zone mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately. Flood Zone A – Fluvial: 1 in 100 year or 1% AEP, Tidal: 1 in 200 year or 0.5% AEP. Flood Zone B – 1 in 1000 year or 0.1% AEP.

Flood Zone Data	FEM FRAMS, CFRAMS OPW PFRA, site specific flood study and JBA site visit.
Historic Flooding	Northlands Estate Oct 2011 & Sept 2012, Mouth of the Nanny River (recurring), Alvera heights (surface water), tidal flooding Mornington East 2000 & 2002.

Comment:
Flood risk is principally focussed in Bettystown and Mornington East. The Northlands Estate Scheme and the Mornington District Surface Water and Flood Protection Scheme protect a significant amount of property from the impacts of coastal/fluvial flooding, but residual risk remains. The outflanking of the Mornington East defences has prompted a review of the FEMFRAMS mapping and an additional scheme has approved funding (<€1m) to address the issues of undefended risk in Mornington East. However, at present there is no timescale and risk is assessed as undefended.

Donacarney and Mornington are at low risk and land use zoning objectives are appropriate. Laytown is impacted by the River Nanny Estuary but the risk is low due to the application of the sequential approach. E2 lands near to the estuary will need a suitably detailed FRA in compliance with INF POL 14-29.

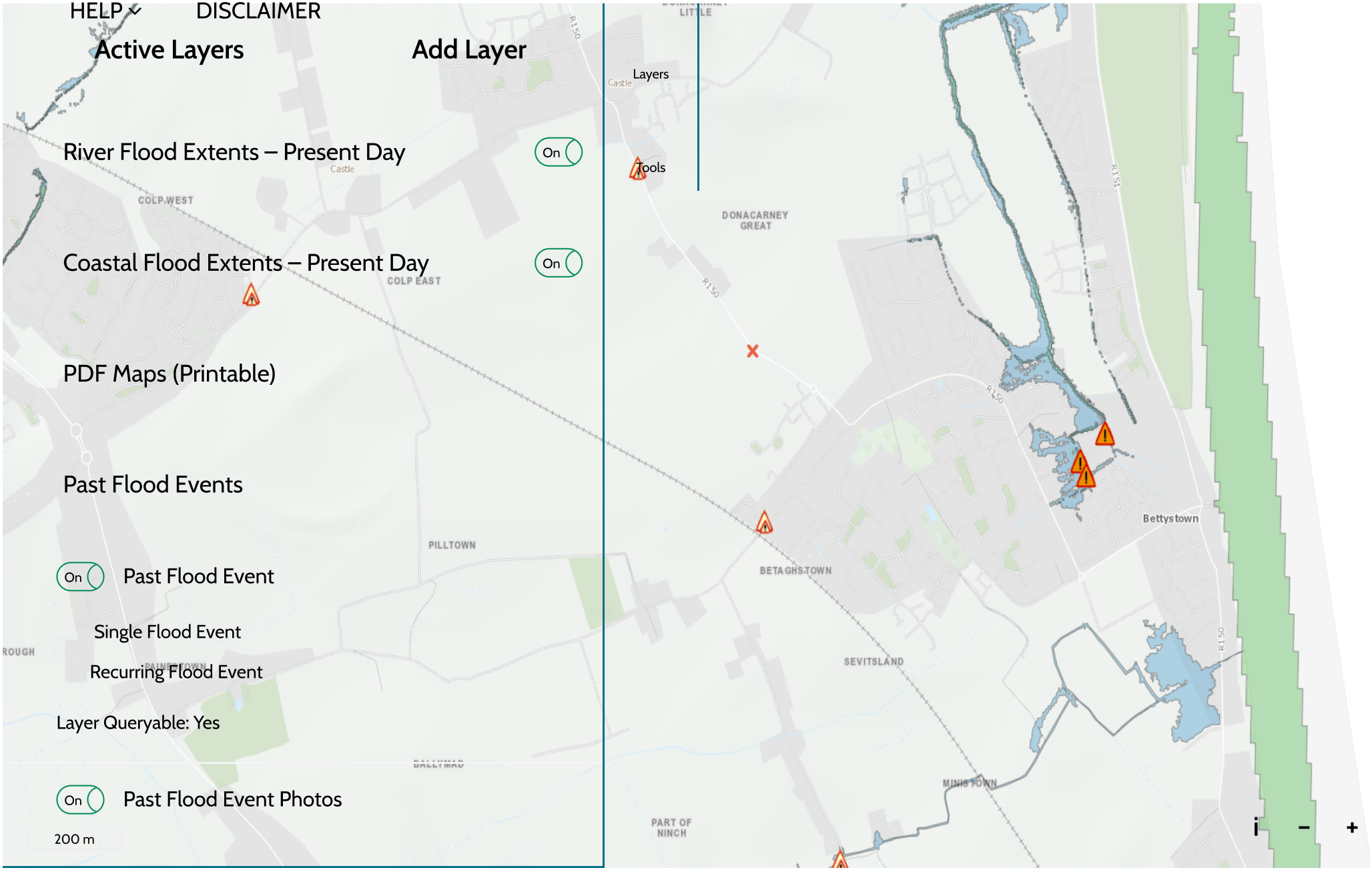
G1 lands in Bettystown are at potential flood risk, however the confidence in the PFRA mapping at this point is low, the outlines are conservative and the land use is water compatible use – Donacarney Celts FC.

All new residential zoning (A2) is located within Flood Zone C and is being subject to detailed FRA at development management stage in accordance with MCDP policy, this must continue under the 2019 MCDP. However, there is significant existing development at undefended risk within Mornington East. Even when the forthcoming scheme is completed the amount of new development should be restricted due to the level of residual risk, this is the same for all defended lands. The Justification Test still applies for all lands in Zone A/B and it is not generally appropriate to construct large amounts of new housing in defended areas. Extensions, re-builds and infill development is at the discretion of MCC and must be subject to adequately detailed FRA.

North south and east west distributor roads were previously proposed for Bettystown. River crossings were included for the Brookside stream. Any future planning applications for the spine road must be subject to an appropriately detailed FRA at development management stage to demonstrate that the application fully adheres to the Planning System and Flood Risk Management Guidelines, including the Justification Test. Section 50 consent will also be required from the OPW to ensure the appropriate design of culverts.

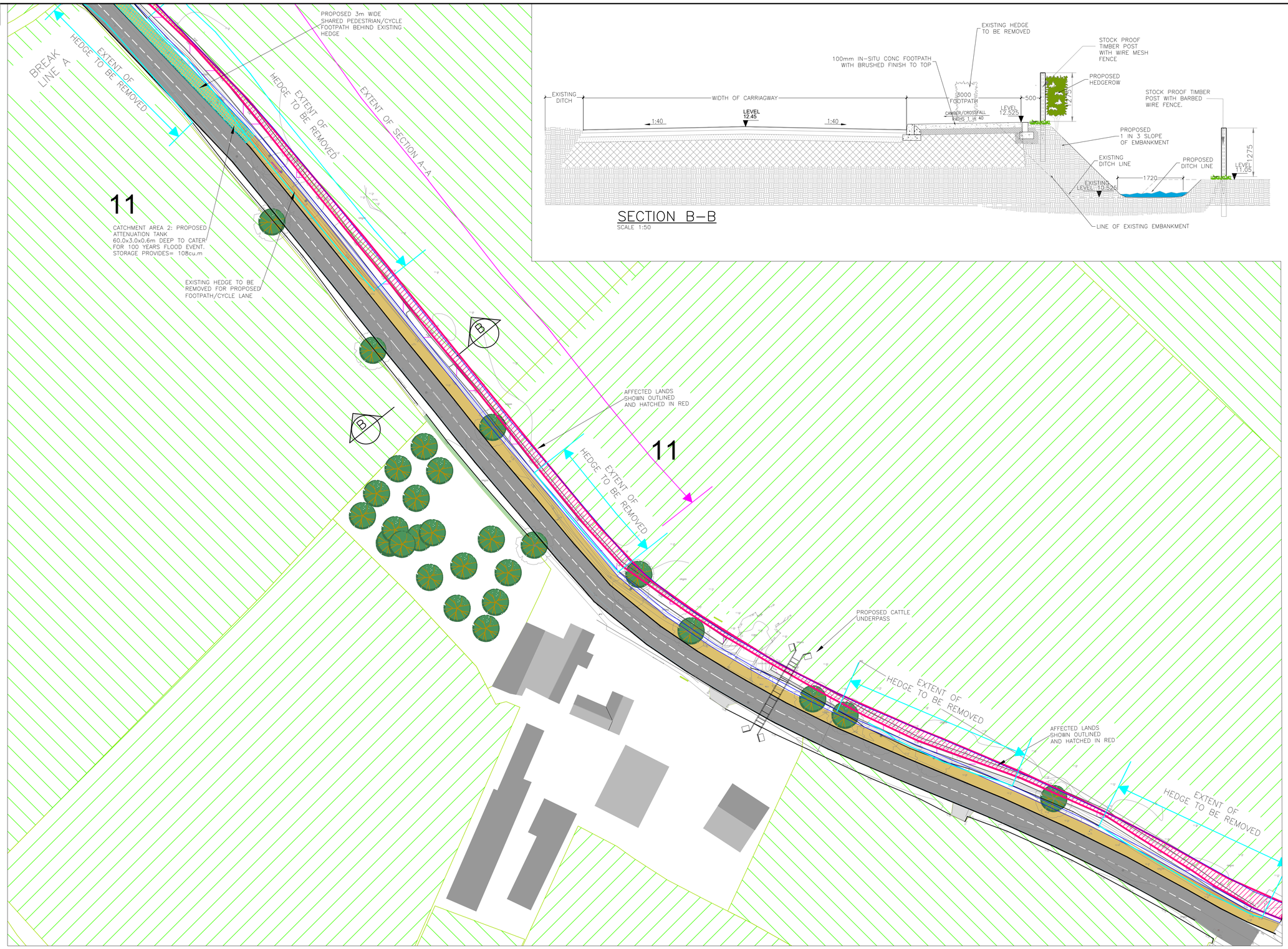
Climate Change	There is a significant potential impact from climate change (sea level rise) as a result of the location. The flood relief scheme should have been developed to be adaptable to these impacts.
Conclusion	Manage flood risk and development in line with approved policies and objectives.

Appendix G – OPW Flood Records


Active Layers
Add Layer
Layers
River Flood Extents – Present Day
On
Coastal Flood Extents – Present Day
On
PDF Maps (Printable)
Past Flood Events
On
Past Flood Event
Single Flood Event
Recurring Flood Event
Layer Queryable: Yes
On
Past Flood Event Photos
200 m
Tools
COLP WEST
COLP EAST
PILLTOWN
DONACARNEY GREAT
BETAGHSTOWN
SEVITSLAND
MINISTOWN
PART OF NINCH
Bettystown
R150
R151

Appendix H – Site Drawings

A1



SECTION B–B
SCALE 1:50

- PROPOSED FOOTPATH AND CYCLE LANE
- EXISTING DITCH/DRAIN
- PROPOSED ROAD
- GREEN AREAS
- PROPOSED ATTENUATION TANK
- EXISTING HEDGE TO BE REMOVED
- LINE OF EXISTING ROAD
- AFFECTED LANDS TOTAL AREA = 800 M^2 (0.197 ACRE)
- XX PROPOSED LEVELS
- XX.X EXISTING LEVELS

INFORMATION

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REV NO:	DATE:	REVISION NOTE:	DWN BY:	CKD BY:
P01	07/05/2019	ISSUED FOR INFORMATION	SG	AP
P02	07/06/2019	ISSUED FOR INFORMATION	RN	AP
P03	09/03/2021	ISSUED FOR INFORMATION	SG	AP

CLIENT:	MEATH COUNTY COUNCIL
PROJECT:	DONCARNEY FOOTPATH AND CATTLE UNDERPASS
TITLE:	TRAFFIC LAYOUT SHEET 2 OF 2

DRAWN:	CHECKED:	APPROVED:	JOB NO:	REV:
SG	AP	AP	191_060	P03
DATE: 18/04/2019	SCALE: 1:500		DRAWING NO: 191_060-ORS-Z0-00-DR-TR-701	

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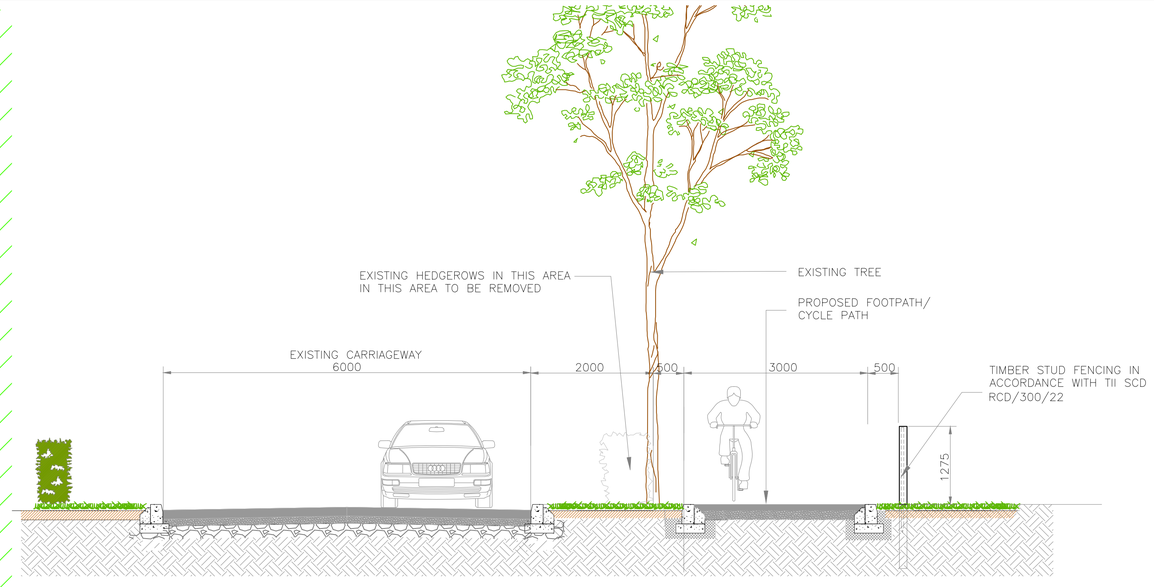
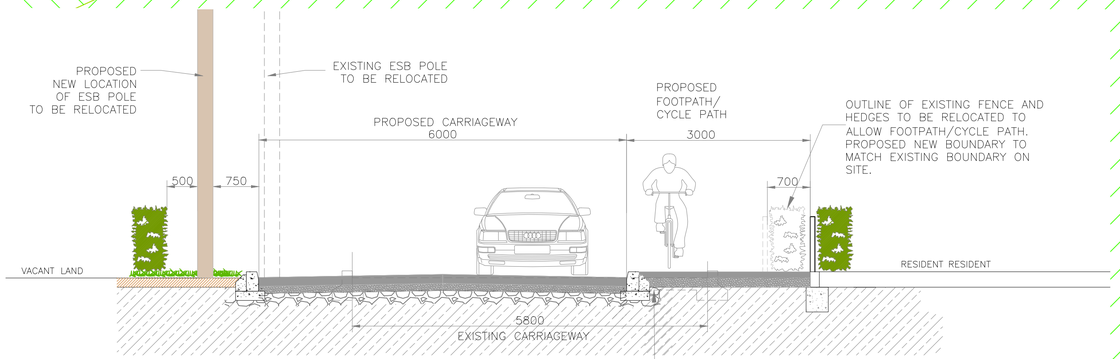
A1



PROPOSED ROAD CROSS SECTION C–C

SCALE 1:50



PROPOSED ROAD CROSS SECTION A–A

SCALE 1:50

PROPOSED FOOTPATH AND CYCLE LANE

EXISTING DITCH/DRAIN

PROPOSED ROAD

GREEN AREAS

PROPOSED ATTENUATION TANK

EXISTING HEDGE TO BE REMOVED

LINE OF EXISTING ROAD

AFFECTED LANDS TOTAL AREA = 800 M^2 (0.197 ACRE)

XX PROPOSED LEVELS

XX.X EXISTING LEVELS

INFORMATION

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P01	18/04/2019	ISSUED FOR INFORMATION	SG	AP
P02	07/05/2019	ISSUED FOR INFORMATION	SG	AP
P03	21/05/19	ISSUED FOR INFORMATION	RN	AP
P04	07/06/19	REVISED FOOTPATH/CYCLE PATH / ADDTIONAL SECTION C-C	RN	AP
P05	14/10/19	ISSUED FOR INFORMATION	DOD	AP
P06	16/01/19	ISSUED FOR INFORMATION	DOD	AP
P07	09/03/2021	ISSUED FOR INFORMATION	SG	AP

CLIENT:	MEATH COUNTY COUNCIL			
PROJECT:	DONCARNEY FOOTPATH AND CATTLE UNDERPASS			
TITLE:	TRAFFIC LAYOUT SHEET 1 OF 2			
DRAWN: SG	CHECKED: AP	APPROVED: AP	JOB NO: 191_060	REV: P07
DATE: 18/04/2019	SCALE: 1:500		DRAWING NO: 191_060-ORS-Z0-00-DR-TR-700	

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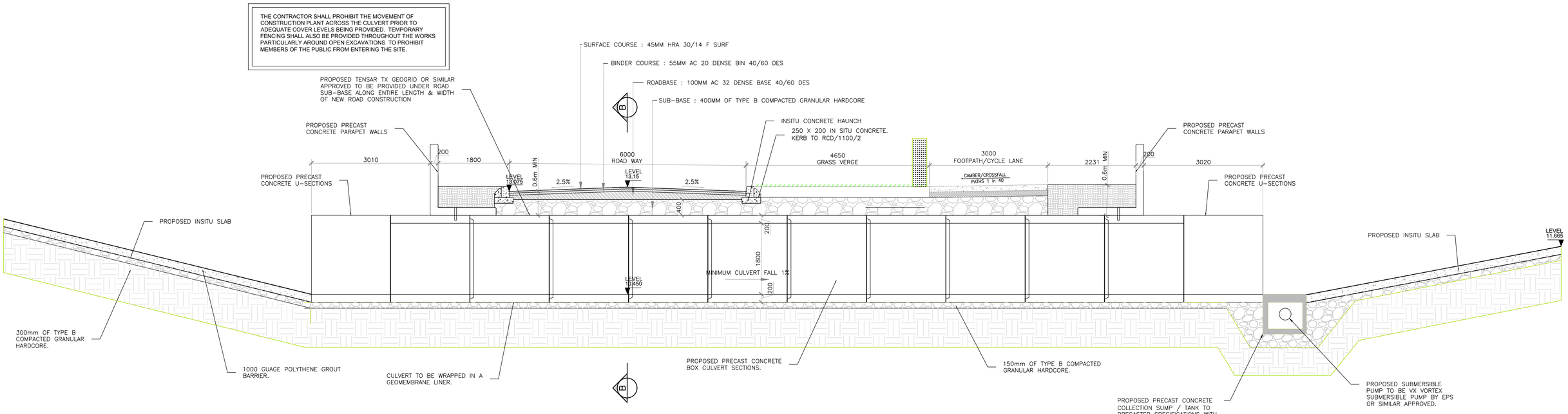
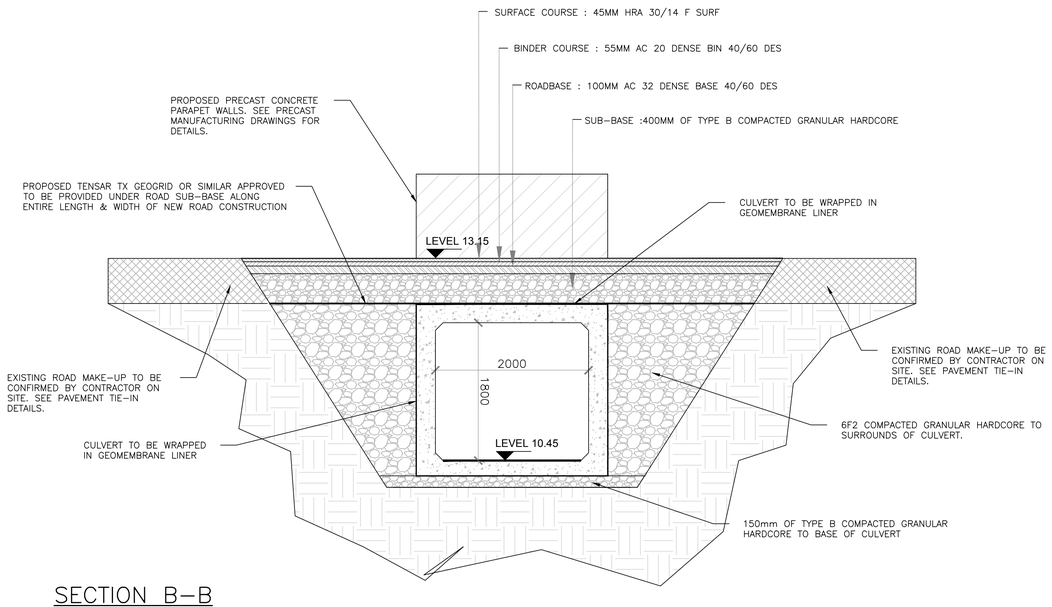
A1

THE CONTRACTOR SHALL PROHIBIT THE MOVEMENT OF CONSTRUCTION PLANT ACROSS THE CULVERT PRIOR TO ADEQUATE COVER LEVELS BEING PROVIDED. TEMPORARY FENCING SHALL ALSO BE PROVIDED THROUGHOUT THE WORKS PARTICULARLY AROUND OPEN EXCAVATIONS TO PROHIBIT MEMBERS OF THE PUBLIC FROM ENTERING THE SITE.

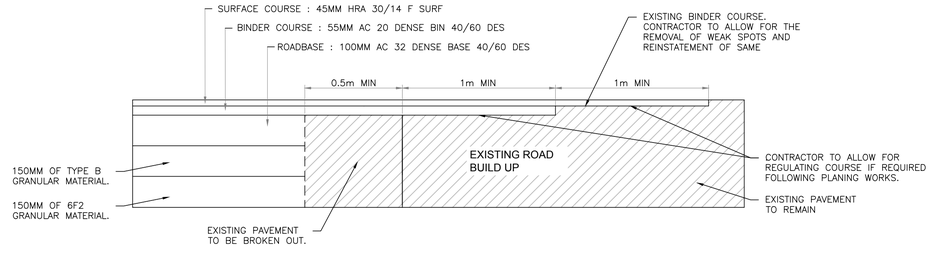


SECTION A–A
SCALE 1:50



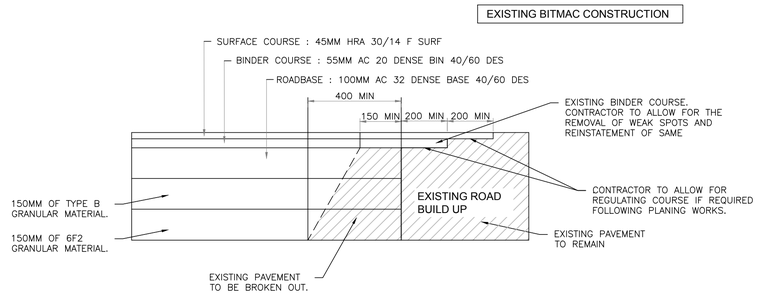
SECTION B–B
SCALE 1:40

EXISTING BITMAC CONSTRUCTION



TYPICAL TRANSVERSE PAVEMENT TIE–IN DETAIL
SCALE 1:20

EXISTING BITMAC CONSTRUCTION



TYPICAL LONGITUDINAL PAVEMENT TIE–IN DETAIL
SCALE 1:20

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REV NO:	DATE:	REVISION NOTE:	DWN BY:	CKD BY:
P01	18/04/2019	ISSUED FOR INFORMATION	SG	AP

CLIENT:	MEATH COUNTY COUNCIL				
PROJECT:	DONCARNEY FOOTPATH AND CATTLE UNDERPASS				
TITLE:	PROPOSED CATTLE UNDERPASS				
DRAWN: SG	CHECKED: AP	APPROVED: AP	JOB NO: 191_060	REV: P01	
DATE: 18/04/2019	SCALE: 1:1000		DRAWING NO: 191_060-ORS-Z0-00-DR-TR-702		

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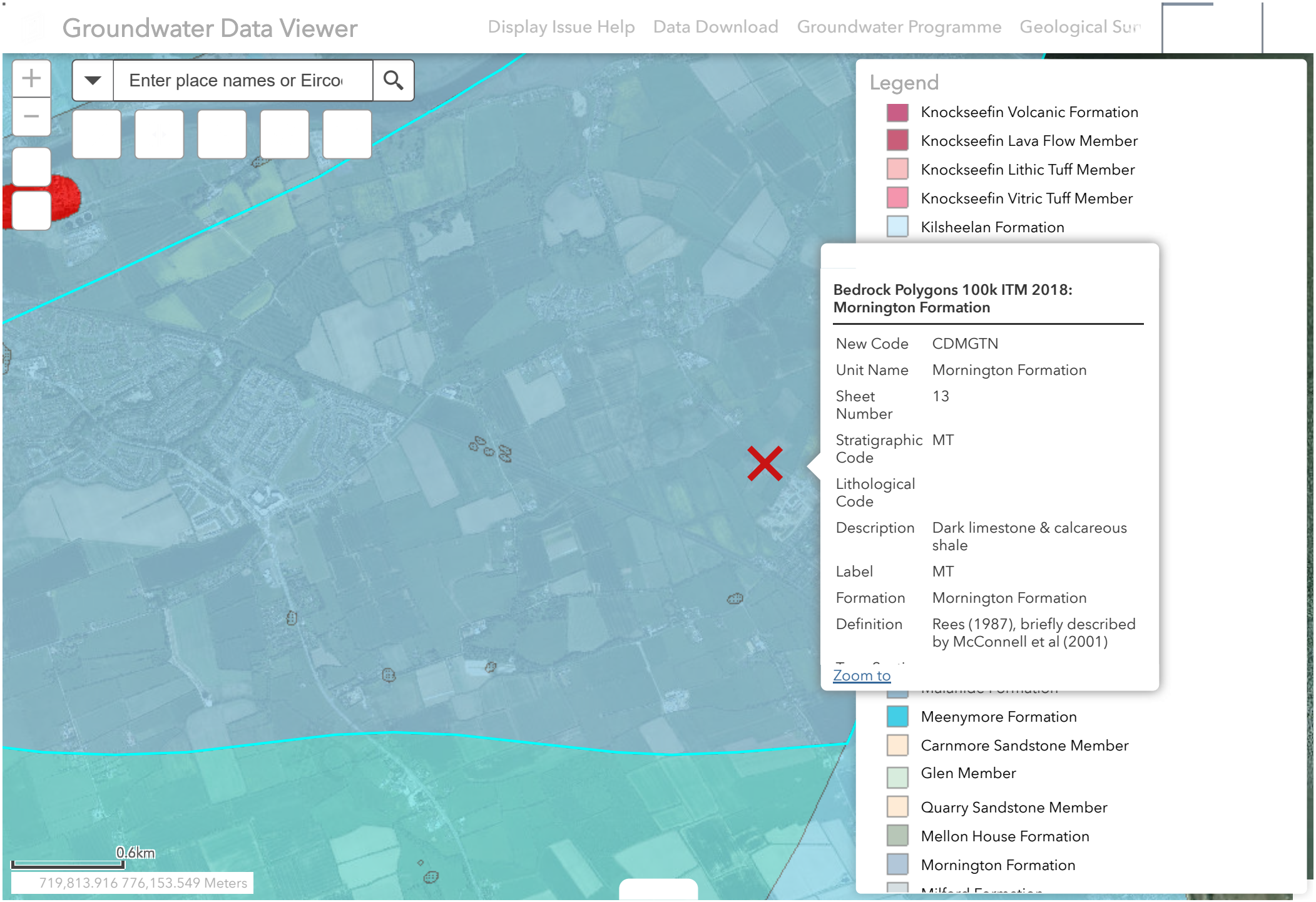
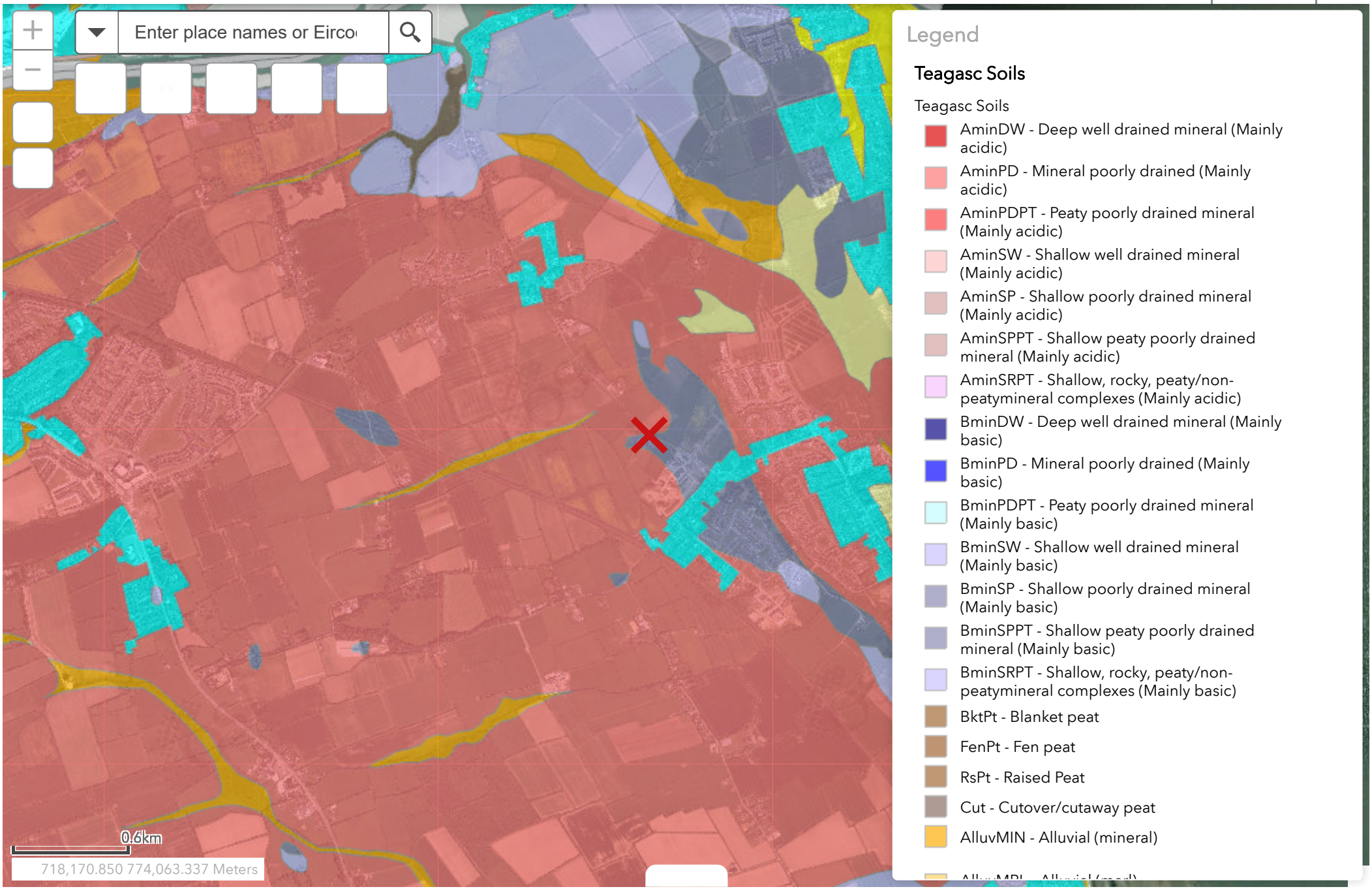
Appendix I – GSI Subsoil Maps


Groundwater Data Viewer
Display Issue Help
Data Download
Groundwater Programme
Geological Sur
Enter place names or Eirco
Legend
Knockseefin Volcanic Formation
Knockseefin Lava Flow Member
Knockseefin Lithic Tuff Member
Knockseefin Vitric Tuff Member
Kilsheelan Formation
Bedrock Polygons 100k ITM 2018: Mornington Formation
New Code CDMGTN
Unit Name Mornington Formation
Sheet Number 13
Stratigraphic Code MT
Lithological Code
Description Dark limestone & calcareous shale
Label MT
Formation Mornington Formation
Definition Rees (1987), briefly described by McConnell et al (2001)
Zoom to
Meenymore Formation
Carnmore Sandstone Member
Glen Member
Quarry Sandstone Member
Mellon House Formation
Mornington Formation
0.6km
719,813.916 776,153.549 Meters


Enter place names or Eirco
0.6km
718,170.850 774,063.337 Meters
Legend
Teagasc Soils
Teagasc Soils
AminDW - Deep well drained mineral (Mainly acidic)
AminPD - Mineral poorly drained (Mainly acidic)
AminPDPT - Peaty poorly drained mineral (Mainly acidic)
AminSW - Shallow well drained mineral (Mainly acidic)
AminSP - Shallow poorly drained mineral (Mainly acidic)
AminSPPT - Shallow peaty poorly drained mineral (Mainly acidic)
AminSRPT - Shallow, rocky, peaty/non-peatymineral complexes (Mainly acidic)
BminDW - Deep well drained mineral (Mainly basic)
BminPD - Mineral poorly drained (Mainly basic)
BminPDPT - Peaty poorly drained mineral (Mainly basic)
BminSW - Shallow well drained mineral (Mainly basic)
BminSP - Shallow poorly drained mineral (Mainly basic)
BminSPPT - Shallow peaty poorly drained mineral (Mainly basic)
BminSRPT - Shallow, rocky, peaty/non-peatymineral complexes (Mainly basic)
BktPt - Blanket peat
FenPt - Fen peat
RsPt - Raised Peat
Cut - Cutover/cutaway peat
AlluvMIN - Alluvial (mineral)

Appendix J – Historical Map


| Share
Data Catalogue
Digital Globe 2011-2013
Historic Map 25 inch (1888-1913)
Historic Map 6 inch B&W (1837-1…
Historic Map 6 inch Colour (1837…
6 inch Cassini
Nature and Environment
Agriculture
Environment, Conservation and Heritage
Ancient & Long Established Woo…
Selection
Historic Flood Points - 1830s
Transparency
Historic Flood Plains - 1830s
Transparency
Flood Maps, OSi
Transparency
Marsh - Generalised OSi 6 Inch Cassini Data
Flood Plains - Generalised OSi 6
Close Menu
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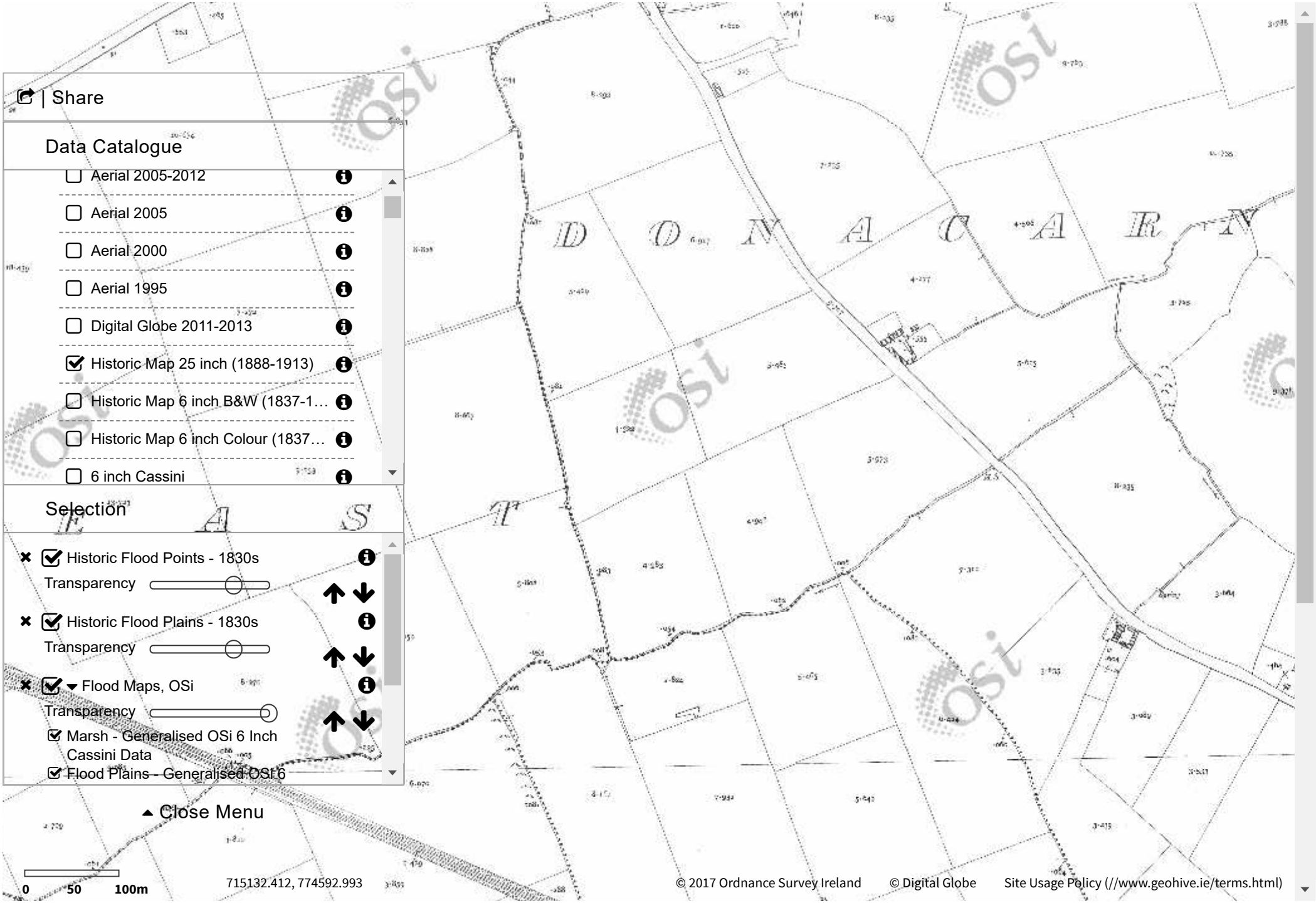
| Share
Data Catalogue
Aerial 2005-2012
Aerial 2005
Aerial 2000
Aerial 1995
Digital Globe 2011-2013
Historic Map 25 inch (1888-1913)
Historic Map 6 inch B&W (1837-1…
Historic Map 6 inch Colour (1837…
6 inch Cassini
Selection
Historic Flood Points - 1830s
Transparency
Historic Flood Plains - 1830s
Transparency
Flood Maps, OSi
Transparency
Marsh - Generalised OSi 6 Inch Cassini Data
Flood Plains - Generalised OSi 6
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Appendix K – Attenuation Calculations

ATTENUATION CALCULATIONS

ORS

ORS Ref: 190_060

CLIENT: MEATH COUNTY COUNCIL

PROJECT DESCRIPTION: PROPOSED ROAD IMPROVEMENT SCHEME AT DONACARNEY, CO. MEATH

DRAWING REFERENCE: 191_060-ORS-Z0-00-DR-C-400

M560 (mm)	15.10	M52d (mm)	53.60	M560/M52d	0.28	LOCATION	Dunsany	SAAR (mm)	870

Duration	RETURN PERIOD (Years)							
	0.5	1	2	5	10	20	30	100
15 (mins)	4.1,	5.7,	6.60	9.40	11.50	14.00	15.50	21.30
30 (mins)	5.5,	7.5,	8.50	11.90	14.40	17.30	19.10	25.60
1 (hour)	7.4,	9.8,	11.10	15.10	18.10	21.40	23.50	30.90
2 (hours)	9.8,	12.8,	14.40	19.10	22.60	26.40	28.90	37.20
4 (hours)	13.1,	16.8,	18.60	24.30	28.40	32.70	35.50	44.90
6 (hours)	15.5,	19.6,	21.70	27.90	32.30	37.10	40.00	50.00
12 (hours)	20.8,	25.7,	28.10	35.40	40.50	45.80	49.20	60.30
1 (day)	27.7,	33.6,	36.50	44.90	50.70	56.70	60.40	72.70
2 (day)	33.5,	40.4,	43.80	53.60	60.40	67.40	71.70	85.80

Return Period (Years)	100
Allowable Outflow (l/s/ha)	5
Total Site Area (ha)	0.377
Impermeable Area (ha)	0.377
Total Allowable outfall (l/s)	1.886
90% Impermeable Area (ha)	0.339
Total Green Area (ha)	0.000
10% Green Area (ha)	0.000
Total Contributing Area (ha)	0.377

Total Storage (m^3)	148
Total Storage (m3) incl. 10% Climate Change allowance	163

Duration (hours)	Duration (mins)	Rainfall (mm)	Rainfall (m^3/ha)	Total Contribut. Area (ha)	Proposed Run-off (m^3)	Allowable Outflow (m^3)	Storage (m^3)
0.25	15	21.30	213	0.377	80	1.70	79
0.5	30	25.60	256	0.377	97	3.39	93
1	60	30.90	309	0.377	117	6.79	110
2	120	37.20	372	0.377	140	13.58	127
4	240	44.90	449	0.377	169	27.16	142
6	360	50.00	500	0.377	189	40.73	148
12	720	60.30	603	0.377	227	81.47	146
24	1440	72.70	727	0.377	274	162.93	111
48	2880	85.80	858	0.377	324	325.87	-2