## Beaumaris Flood Alleviation Scheme: Area 3, Area 4 and Area 5

Archaeological Photographic Record and Archaeological Watching Brief





Ymddiriedolaeth Archaeolegol Gwynedd Gwynedd Archaeological Trust

# Beaumaris Flood Alleviation Scheme: Area 3, Area 4 and Area 5

Archaeological Photographic Record and Archaeological Watching Brief

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## SUMMARY

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Gwynedd Archaeological Trust (GAT) undertook an archaeological photographic record and an archaeological watching brief, prior to and during groundworks to the east and south of the town of Beaumaris, Anglesey (NGR **60497610**). These groundworks were in advance of proposed modifications for the flood alleviation scheme between The Green (NGR **SH60787615**) and Gallows Point (NGR **SH59777531**) and were required because of recent pluvial and tidal flooding events in the first decade of the twenty first century, causing damage to properties within the town. Five areas were identified in and around Beaumaris which required flood alleviation works Scheme:

- Area 1: Sewerage Works Wexham and Stanley Street.
- Area 2: New Bund length c.250m.
- Area 3: New Crest Wall length c.480m and Bund.
- Area 4: Extension to Crest Wall length c.1.2km.
- Area 5: Bund 1300m<sup>2</sup> and Gabion Defence Wall length c.255m.

This report concerns Area 3, Area 4 and Area 5. Separate reports will be prepared for the works on Area 1 and Area 2.

The archaeological photographic record for Area 3, Area 4 and Area 5 was undertaken on 13.02.15. The recording identified that there would be no impact on any archaeology within Area 3 and Area 5, but that the archaeology of the early 19<sup>th</sup> century sea wall within Area 4 would be impacted upon. The visible design details within this wall suggested it was likely to be the wall constructed in 1828 during the creation of the Menai Bridge to Beaumaris turnpike road to supersede 'Lord Bulkeley's Road', a private venture constructed between the two towns in 1804-1805.

At the southern end of Area 4 the archaeology of both the sea wall and the adjoining road would be significantly altered by the proposed demolition and reconstruction of the large sea wall constructed in phases during the 19<sup>th</sup> and 20<sup>th</sup> century. The watching brief for Area 4 was undertaken between 31.03.15 and 20.07.15. The dismantling of the existing 19<sup>th</sup> and 20<sup>th</sup> century sea wall revealed its construction details and phasing in detail. Additionally, information on the construction of the 1828 Menai Bridge to Beaumaris turnpike road was revealed.

#### **1. INTRODUCTION**

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#### 3. ARCHAEOLOGICAL BACKGROUND

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### 4. METHODOLOGY

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## 5. RESULTS

#### 5.1 Archaeological Recording of Standing Structures

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#### 5.1.2 Flood Alleviation Area 4

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#### 5.1.3 Flood Alleviation Area 5

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#### 5.2 Archaeological Watching Brief

#### 5.2.1 Flood Alleviation Area 4

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# **6. INTERPRETATION AND CONCLUSION** Á

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"Whereas upon a representation made by the Surveyors of the Highways for the town and Libertyes of Bewmares in the said County of Anglesey to the Bayliffes of the said Burrough of Bewmares att the said Court of Quarter Sessions that the King's High Way leading from the Markett town of Bewmares to the Markett town of Carnarvon in the county of Carnarvon in that part of it called Red Hill lying within the said Burrough or the Libertyes thereof and that the High Way leading from the Markett town of Bewmares to the Markett town of Llanerchmedd in the County of Anglesey in that part of it called Red Hill and a . . . . near the . . . . house is ruinous and far out of repair to the great annoyance of all his (sic) Majesty's subjects going that way and which ought to be repaired by the Inhabitants of the said Burrough which said High Way is so far out of repair that it cannot be repaired as it ought to be without a tax for that purpose wherewith the said Court of Quarter Sessions is very well satisfied having viewed the same respectively. It is therefore ordered by the Court that the sume of flour pence in the pound according to the Land Rate of the said Burrough shall be assessed, leavyed and collected upon the Inhabitants of the said Burrough towards the repairing and amending the said High Way" (U, ^)

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## 7. REFERENCES

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## **Primary Sources**

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## Drawings

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Yą̃lįãeę́•ÉÄÖĖĂTĖĂea) åÁS^}^[}ÉAREÄÜĖÄQÇÒå•ÈDÁG€F€ÁThe Impact of the Edwardian Castles in WalesÉÁU¢à[, ÁÓ[[\•ÉAU¢-{¦åÁ

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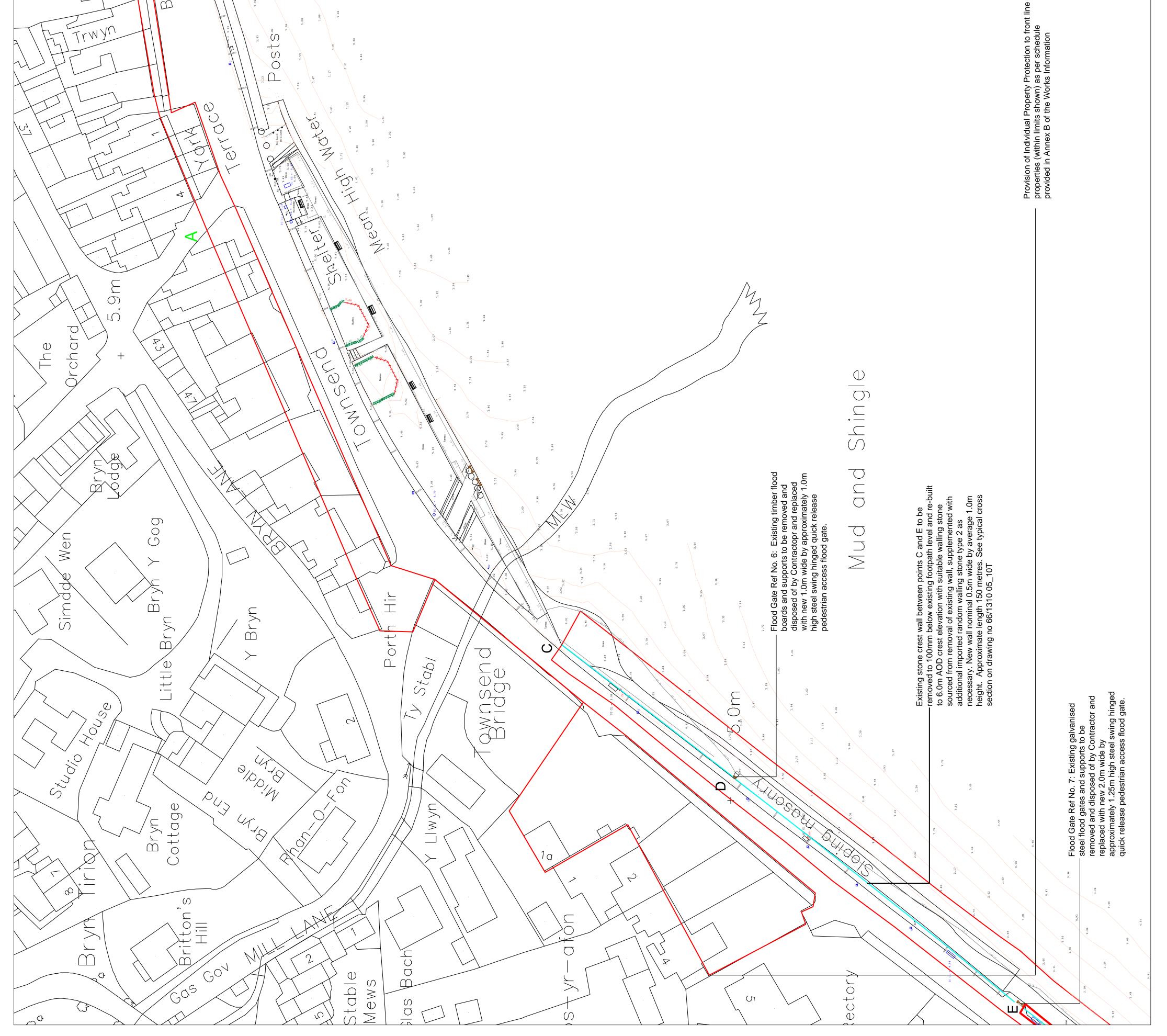
FIGURE 01 - FIGURE 07

Site Location – Reproduction of Coastal Engineering UK Ltd, Drawings 66\_1310\_05\_02C to 66\_1310\_05\_10C

N     N     © Hawlfraint y Goron a hawliau cronfa ddata 2013 Arolwg Ordnans 100023412       N     N     Crown copyright and database rights 2013 Ordnance Survey 100023412       N     N     N<	Notes 1. This drawing shall be and specifications. Project Manager for Project Manager for and specifications. Project Manager for and specifications. 2. Do not scale from thi 3. All dimensions in me 4. Exact alignment of w confirmed on site for 66/1310 05_08T; 5. All existing benches following completion	r the Green itractor's and temporary be agreed with d Beaumaris nobilisation / 1.5m wide steel / 1.5m wide steel		Project Beaumaris Flood Alleviation Works	Title	Works on the Green General Arrangement Plan	Drawn by: AJW 19/01/2015 Checked by: CEUK 19/01/2015	Scale: 1: 500 @ A1 <u>Main Consultant</u> Coastal Engineering UK Ltd, Oaktree Court Business Centre,	Ness Wirral CH64 8TP Email: ceuk@coasteng.co.uk Tel: (0151) 214 3350	Civil Engineering Solutions Victoria Buildings, Unicorn Lane, Dolgellau, Gwynedd, LL40 1LN	HR Wallingford, Howbery Park, Wallingford, Oxfordshire ON10 8BA	Client Isle of Anglesey County Council, Council Offices, Llangefni, Anglesey, Langeri, Anglesey,
A sub-standard for the second development of Works.	13     13     13       14     10     13       14     10     13       14     10     13       15     13     10       16     13     13       16     13     13       17     13     13       16     13     13       17     13     13       17     13     13       17     13     13       13     13     13       13     13     13       13     13     13       13     13     13       13     13     13       14     13     13       15     13     13       16     13     13       16     13     13       16     13     13       16     13     13       17     13     13       16     13     13       17     13     13       16     13     13       17     13     13       18     13     13       19     13     13       10     13     13       13     13     13       14     <	<ul> <li>(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)</li></ul>	<sup>120</sup> <sup>120</sup> <sup>206</sup> <sup>206</sup> <sup>1.14</sup> <sup>1.14</sup> <sup>106</sup> <sup>106</sup> <sup>106</sup> 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<li><sup>139</sup></li> <li><sup>139</sup></li> <li><sup>139</sup></li> <li><sup>139</sup></li> <li><sup>131</sup></li> <li><sup>131</sup></li> <li><sup>131</sup></li> <li><sup>131</sup></li> <li><sup>132</sup></li> <li><sup>132</sup>&lt;</li></ul>	98 0.67 0,52 0.37 0.37	1.10	Existing bench to be removed to store and replaced following completion of Works.	Flood Gate Ref No. 4: New 1.5m wide steel swing lift hinged pedestrian access flood gate.	to be removed to store and ing completion of Works.	O TA TO C		



<ul> <li></li></ul>	Key Site Working Limits Area 2	Project Beaumaris Flood Alleviation Works	Title Works between Townsends Bridge and Cae Mair General Arrangement Plan	Drawn by:         AJW         20/06/2014           Checked by:         CEUK         19/02/2015           Scale:         1:1250 @ A1	Main Consultant Coastal Engineering UK Ltd, Oaktree Court Business Centre, Ness Wirral Wirral CH64 8TP CH64 8TP Email: ceuk@coasteng.co.uk Tel: (0151) 214 3350	Civil Engineering Solutions Victoria Buildings, Unicorn Lane, Dolgellau, Gwynedd, LL40 1LN	ordshire	esey County C ices,	66/1310 05_03_C



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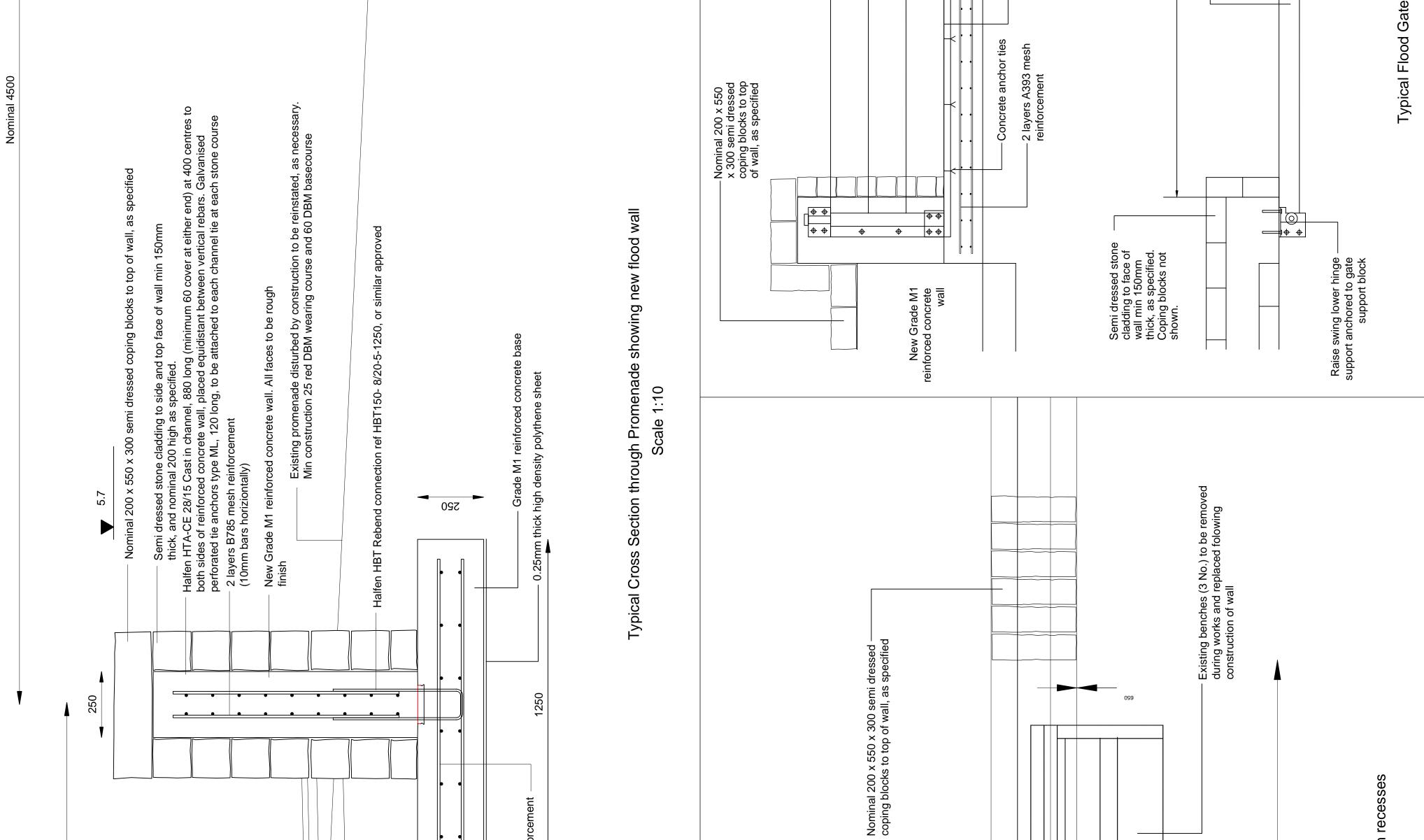
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<ul> <li>N N Solvey Ordnan a hawliau cronfa ddata 2013 Arolwg Ordnan 100023412</li> <li>Crown copyright and database rights 2013 Ordnance Survey 100023412</li> <li>Ni chaniateri i chi gopio, is-drwyddedu, rhannu neu werthu unrhyw ran o'r data yma i drydydd parti mewn unrhyw ffurf. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form</li> <li>This drawing shall be read in conjunction with all related drawings and specifications. All discrepancies shall be referred to the Project Manager for decision before proceeding</li> <li>Do not scale from this drawing.</li> <li>All dimensions in metres unless otherwise stated.</li> </ul>	Key Site Working Limits Area 2	Project Project Beaumaris Flood Alleviation Works Morks Morks Ceneral Arrangement Plan Drawn by: AJW 20/06/2014	y: CEUK 1: 1250 ( 1: 1250)	Wirral CH64 8TP Email: ceuk@coasteng.co.uk Tel: (0151) 214 3350 Civil Engineering Solutions Victoria Buildings, Unicorn Lane, Dolgellau, Gwynedd, LL40 1LN	HR Wallingford, Howbery Park, Wallingford, Oxfordshire ON10 8BA Wallingford, Oxfordshire ON10 8BA Client Isle of Anglesey County Council, Council Offices, Llangefni, Anglesey, LL77 7TW Project ref: Drawing No: Rev: 66/1310 05_05_C
	e crest wall to be increased in height to 6.0m levation between points E and F (as shown on 05T). Existing coping blocks and wall section at to approximately 4.6m AOD and retained for est escions. New 1.4m high inspired It to be constructed with imported stone type 1 landward (roadside) face. Approximate length See typical cross section on drawing no 09T.		Mud and Shingle		



<ol> <li>Notes</li> <li>and specifications. All discrepancies shall be referred to the Project Manager for decision before proceeding;</li> <li>This drawing shall be read in conjunction with all related drawings and specifications. All discrepancies shall be referred to the Project Manager for decision before proceeding;</li> <li>Do not scale from this drawing:</li> <li>All levels are in metres and are relative to OD (Ordnance Datum). All dimensions in millimetres unless otherwise stated. Horizontal Control points are relative to the National Gird OSGB36;</li> <li>All levels are in metres and are relative to OD (Ordnance Datum). All dimensions in millimetres unless otherwise stated. Horizontal Control points are relative to the National Gird OSGB36;</li> <li>Representation of Stone Blocks shown are schematic and do not specify or imply exact sizes, shapes or layers of stone to be excavated or placed;</li> <li>Representation of Stone Blocks shown are schematic and do not specify or imply exact sizes, shapes or layers of stone to be excavated or placed;</li> <li>For locations of new flood gates see drawing no. 66/1310 05_02T</li> <li>For locations of new flood gates (ref Dim Y) to be confirmed on site following pre-commencement survey;</li> <li>For location of flood gates (ref Dim Y) to be confirmed on site prior to flabrication, following pre-commencement survey;</li> <li>For locations of new flood gates see drawing no. 66/1310 05_02T</li> <li>For location are to be agreed with the Manufacturer and Project Manager before Works proceed:</li> <li>All exposed concrete surfaces are to have a fair faced finish in accordance with the Specification are to be agreed with the Manufacturer and Project Manager before Works proceed:</li> <li>All exposed concrete surfaces are to have a fair faced finish in accordance with the Specification, unless otherwise detailed; shart from set otherwise facters finit with shall be an expansion joint, comprised with a minimum 12</li></ol>		Project Beaumaris Flood Alleviation	00	Cross Secti AJW	Main Consultant	Coastal Engineering UK Ltd, Coastal Engineering UK Ltd, Oaktree Court Business Centre, Mill Lane, Ness Wirral Wirral CH64 8TP CH64 8TP CH64 8TP Email: ceuk@coasteng.co.uk Tel: (0151) 214 3350 Civil Engineering Solutions	Victoria Buildings, Unicorn Lane, Support Dolgellau, Gwynedd, LL40 1LN Tete HR Wallingford, HR Wallingford, Wallingford, Oxfordshire OX10 8BA te		Anglesey, LL77 7TW Project ref: Drawing N 66_1310 05_08_
	Existing Sea Wall				New Grade M1	to ground beam laid to annufacturer's	Gate clamping support bolted to concrete upstand New Grade M1 reinforced concrete	Dim X (mm)     Dim X       1500     7	1500 1500 1500 4500 6 & 7
			Steel lift hinged floodgate as specification clause 2.144.	, as table	Y miG trigieł ets:	Existing Promenade Existing Promenade Crade M1 reinforced base to nominal 300 thick Calvanised steel ground be smooth flat surface, as per specification FRONT ELEVATION	<pre>Opening Width Dim X (See Table)</pre>	PLAN	Arrangement - Gates 1 and 5 5 Scale 1:20

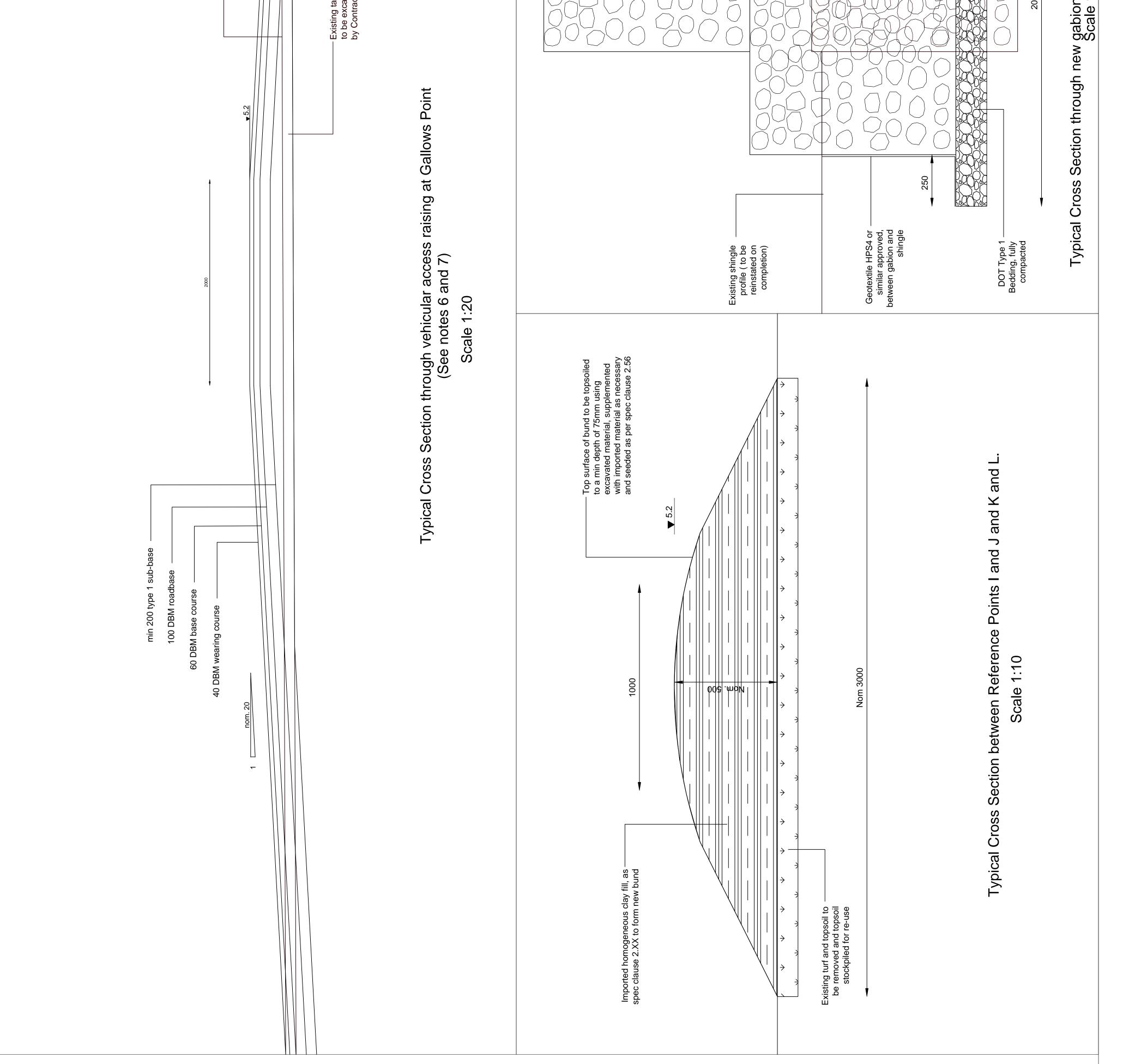


Minimum 2000 Existing promenade landward of wall to be removed and new promenade surfacing to be provided with minimum 1:40 crossfall back to roadway. Min construction 25 red DBM wearing course and 60 DBM basecourse on min 100mm subbase	Image: State in the	Semi dressed stone cladding to rear face of wall 150mm thick, as specified	New Grade CXX/YY reinforced concrete wall Semi dressed stone cladding to front face of wall 150mm thick, as specified	300	Wall Plan Layout around bench Scale 1:20
			New Gra reinforce		

Existing coping blocks replaced Existing coping blocks replaced Reconstructed store blockwork wall - andude numble construction with courses, constructed tang suitable angulat holds of store relieved round dermolitor of existing wall Existing coping block antinimum 2002/2005/601 to be removed to block release steel swing hinged from dermolitor of use 2.145 - ELEVATION - Annual strue commission - Constructed tange - Constructed - Constructed tange - C	Isle of Anglesey County Council, Council Offices, Llangefni, Anglesey, LL77 7TW Proiect ref: Drawing No: Rev:	Client Client Isle of Anglesey County Council, Council Offices, Llangefni, Anglesey, Langers, County Council	HR Wallingford, Howbery Park, Wallingford, Oxfordshire OX10 8BA	Civil Engineering Solutions Victoria Buildings, Unicorn Lane, Dolgellau, Gwynedd, LL40 1LN	Email: ceuk@coasteng.co.uk Tel: (0151) 214 3350	Mill Lane, Ness Wirral CH64 8TP	Coastal Engineering UK Ltd, Oaktree Court Business Centre, Mill Lane Ness	Main Consultant	Scale: As shown @ A1	Checked by: CEUK 19/01/2015	Drawn by: AJW 19/01/2015	Title         Works between Townsends Bridge and         Gallows Point         Typical Cross Sections & Details	Beaumaris Flood Alleviation		<ul> <li>13. Concrete wall section to be cast in maximum 4 metre lengths. Joints between sections are to be comprise a debonded keywar joint nominal 1000 high x 200 wide x 50 deep with 50mm chamfer to horizontal and vertical edges, apart from every 5th joint which shall be an expansion joint, comprising 12mm filler board (Flexcell or similar approved) sealed with a minimum 12mm x 12mm polyeurathane sealant.</li> </ul>	<ul> <li>accordance with the Specification, unless otherwise details</li> <li>11. Joints and pointing to masonry blockwork to be class M12 mortar suitable for exposure class MX4.</li> <li>12. Safety grill, as per Sewers for Adoption 7th Edition, Figure</li> </ul>	<ol> <li>9. Flood gate details provide general information only and are for illustrative purposes only. Exact flood gate details in accorda with the Specification are to be agreed with the Manufacturer and Project Manager before Works proceed.</li> <li>10. All exposed concrete surfaces are to have a fair faced finish i accordence with the Specification indee otherwice details.</li> </ol>	<ol> <li>Exact heights of flood gates (ref Dim Y) to be confirmed on site prior to fabrication, following pre-commencement survey.</li> </ol>	<ol> <li>Exact locations for drainage boxouts and flap valves (3 No.) to b agreed on site;</li> <li>For locations of new flood gates see drawing no. 66/1310 05 03</li> </ol>	<ol> <li>Structure setting out lines and levels to be established c following pre-commencement survey;</li> </ol>	All levels are in metres and All dimensions in millimet Control points are relative Representation of Stone Bl specify or imply exact size excavated or placed;	Notes Notes 1. This drawing shall be read in conjunction with all related draw and specifications. All discrepancies shall be referred to the Project Manager for decision before proceeding;
PL st sting F DNT varie as a lite as	PLAN       Gate No.     DIm X (mm)     DIm Y (mm)       6     1000     700       7     2000     1000       See Notes 7, 8 & 9     1000	for flood gate, nom 500 x 500 x 12 DIm X (mm) DIm 1000 7 2000 10	supports for flood gate, nom 500 x 500 x	vidth Dim X (See Table) ase steel swing hin as specification cla	coping block 425 x 525 x 50 thick to top of concrete block	ood gate, nom 400 x 500 x 1200 IT ELEVATION	g Footpath level	miG	S seinsV) Y m	(e)deT ee	€00	Quick release steel swing hinged floodgate as specification clause 2.1	A Varies (as table)	Points F		Existing coping block minimum 200x200x500 to be removed to store for re-use along crest of new wall.	angular blocks of stone retrieved from demolition of existing wall sections (primarily from Section E-F) supplemented with imported blockwork type 2.	Reconstructed stone blockwork wall - random rubble construction with courses constructed using suitable	coping blocks	6.0		
Typical Cross Section between Reference solutions and the first a modula to a contrast a solutions and the first a modula to a contrast a solutions and the first a modula to a contrast a and the first a and the fi	Interface between concrete gate post and new stone wall construction to have single Halfen HTA-CE 28/15 cast in channel, (length to suit with minimum 60 cover at either end) . Galvanised perforated tie anchors type ML, 120 long, to be attached to each channel tie at each stone course TVDICAI Floc	Grade M1 concrete p ite M1 concrete p ifen do ed	rade M1 cor	Open Cop	New wall construction as per cross section	rade M						w wall construction per cross section Natural stone coping block x 525 x 50 thick to to concrete bloc			d 60 burse base	to be 1 at a 1:40. ense ourse					ominal	



<ul> <li>Notes</li> <li>1. This drawing shall be read in conjunction with all related drawings and specifications. All discrepancies shall be referred to the Project Manager for decision before proceeding;</li> <li>2. Do not scale from this drawing;</li> <li>3. All levels are in metres and are relative to OD (Ordnance Datum). All dimensions in millimetres unless otherwise stated. Horizontal Control points are relative to the National Grid OSGB36;</li> <li>4. Representation of Stone Blocks shown are schematic and do not specify or imply exact sizes, shapes or layers of stone to be excavated or placed;</li> <li>5. Structure setting out lines and levels to be established on site, following pre-commencement survey;</li> <li>6. Extents of works to raise access levels to be confirmed on site following pre-commencement survey.</li> <li>7. 250 x 125 half battered kerbs to standard Highways Specification detail, to be provided at boundary between new surfacing and existing greensward/pathways, as directed on site.</li> </ul>	Key	Project Beaumaris Flood Alleviation	Title       Works at Gallows Point         Works at Gallows Point       Vypical Details         Typical Details       No         Drawn by:       AJW       20/08/2014         Checked by:       CEUK       19/01/2015         Scale:       As shown @ A1	Main Consultant Main Consultant Coastal Engineering UK Ltd, Oaktree Court Business Centre, Mill Lane, Ness Wirral Wirral CH64 BTP CH64 BTP CH64 BTP Email: ceuk@coasteng.co.uk Tel: (0151) 214 3350 Civil Engineering Solutions	Victoria Buliaings, Unicorn Lane, Dolgellau, Gwynedd, LL40 1LN HR Wallingford, Howbery Park, Wallingford, Oxfordshire OX10 8BA Client	Isle of Anglesey County Council, Council Offices, Llangefni, Anglesey, LL77 7TW       Image and the set of Anglesey Council Offices, Anglesey, LL77 7TW         Project ref:       Drawing No:       Rev:         66_1310       05_10_C
	Existing tarmacadam surfacing profile profile macadam surfacing and disposed of tor.		6.0 9.0 9.0 1000 square 9 0 0 0 1000 square 9 0 0 0 1000 square 9 0 0 0 1000 square 1000 square 10	1500 wide by 1000 high gabion basket in 2000 lengths (final length to suit)         Existing car park profile ( to be reinstated on completion) supplemented with imported type 1 sub-base as necessary	Geotextile HPS4 or similar approved between gabion and car park fill Existing gabion basket to be removed. PVC cpoated wire baskets removed to tip. Stone to be retrieved and stockpiled for re-use in new works, unless directed otherwise by Project	O       O       O       O         O       O       O       O         O       O       O       Void beneath formation level left after removal of existing basket to be made up with excavated shingle, fully compacted         Construction between points F and H         :10



## **PLATES**



Plate 01: View along sea wall towards point A along line of proposed location of new sea wall. Scale 1x1m.



Plate 02: View along sea wall from point B towards point A along line of proposed location of new sea wall.



Plate 03: View of proposed location of Flood Gate No.2 on present sea wall. Scale 1x1m.



Plate 04: View of proposed location of Flood Gate No.5 on present sea wall. Scale 1x1m.



Plate 05: View of the present sea wall from the beach (NGR SH61021 76118).



Plate 06: View of the present sea wall from the beach (NGR SH60883 75981).



Plate 07: View of present sea wall between point A and point B. Photograph taken from the beach. (NGR SH60959 76189).



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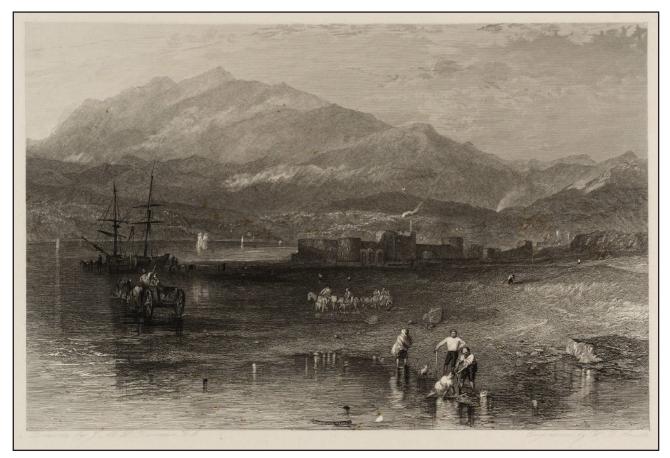


Plate 30: *Beaumaris, Isle of Anglesea.* 1836. (After Joseph Mallord William Turner) Available from: http://www.tate.org.uk/art/artworks/turner-beaumaris-isle-of-anglesea-t05099



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# Appendix 1

GAT Project Design February 2015

# BEAUMARIS FLOOD ALLEVIATION SCHEME

# PROJECT DESIGN FOR ARCHAEOLOGICAL MITIGATION: Basic Photographic Record (G2347)

## **Prepared for**

Coastal Engineering UK Ltd

February 2015

Ymddiriedolaeth Archaeolegol Gwynedd Gwynedd Archaeological Trust

#### **BEAUMARIS FLOOD ALLEVIATION SCHEME**

#### PROJECT DESIGN FOR ARCHAEOLOGICAL MITIGATION

Prepared for Coastal Engineering UK Ltd, February 2015

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## **1.0 INTRODUCTION**

Gwynedd Archaeological Trust (GAT) has been commissioned by Coastal Engineering UK Ltd. undertake a programme of archaeological recording (photographic record) of the existing sea wall between Townsend Bridge and Gallows Point and at the western end of *The Green* in advance of proposed modifications for the flood alleviation scheme at Beaumaris, Ynys Môn. The proposed modifications are detailed on Coastal Engineering UK Ltd, *Drawings* 66\_1310\_05\_02C *to* 66\_1310\_05\_10C (reproduced as Figure 01) and include:

- 1. A new crest wall along the coastal defences at the eastern end of the Green will comprise a concrete wall with stone cladding to match the defence construction elsewhere along the frontage (Flood Alleviation Area 3).
- 2. Elsewhere along the western part of the Green, the existing wall will be modified where necessary to provide the same standard as along the new wall and along the A545 section the crest level of the wall will be increased by on average 400mm to achieve a uniform crest level of 6.0m AOD along the defences between Townsend Bridge and Gallows Point (Flood Alleviation Area 4). In addition the existing secondary flood bund along the back of the Green, will be maintained.
- 3. A new section of gabion baskets will be added to the present gabion protection along the eastern side of Gallows Point, to provide a similar defence level to the boatyard and localised roadside bunding will be provided to protect infrastructure on Gallows Point (Flood Alleviation Area 5).

The archaeological recording (photographic record) is scheduled for 12/02/15, ahead of the proposed modification works within these three areas. These modifications form part of a larger works programme for the flood alleviation scheme. The current design is for archaeological recording (photographic record) only, within Flood Alleviation Areas 3, 4 and 5. Further archaeological works within these areas and the remaining flood alleviation areas, as identified in GAT Assessment Report 1149, will be discussed in separate project designs.

The flood alleviation areas are located with a culturally sensitive area due to the wealth of heritage receptors within and around the town which is dominated by Beaumaris Castle which represents the pinnacle of late 13<sup>th</sup> century defensive engineering and as such is a Scheduled Ancient Monument (AN001), Grade I Listed Building and forms part of *The Castles and Town Walls of Edward I in Gwynedd* World Heritage Site. The town also lies within the boundary of the Isle of Anglesey Area of Outstanding Natural Beauty (AONB) and the Penmon Landscape of Outstanding Historical Interest (Ref.: Penmon HLW (GW) 15 33).

To date, GAT has prepared an archaeological assessment of the flood alleviation areas (GAT Report 1149) that was submitted to support planning application 12C444B/FR, and subsequently a Historic Impact Assessment (HIA) that was prepared to assess the impact of the scheme on heritage receptors in the area (GAT Report 1200). The HIA made recommendations for a staged programme of archaeological mitigation, for which the current archaeological recording (photographic record) forms a part.

The scheme will be monitored by the Gwynedd Archaeological Planning Services (GAPS) and the content of this design must be approved by the GAPS Archaeologist prior to the start of works.

Reference will be made to the guidelines specified in the Chartered Institute for Archaeologists *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* (Chartered Institute for Archaeologists, 2014).

## 2.0 METHODOLOGY

### 2.1 Archaeological Recording (Photographic Record)

# Note: any access to the foreshore will be in accordance with GAT Health and Safety requirements as detailed in the appropriate Risk Assessment.

#### 2.1.1 Details of Written Recording Method

 GAT pro-formas will be used to note structural style and interpretation of phasing of the existing sea wall the existing sea wall between Townsend Bridge (NGR SH60167586) and Gallows Point (NGR SH59787531) and at the western end of *The Green* (NGR SH60787615), based on the highlighted areas in Coastal Engineering UK Ltd, *Drawings* 66\_1310\_05\_02C *to* 66\_1310\_05\_10C (cf. <u>Appendix I</u> for a reproduction of the pro-forma). A record will also be made of the proposed gabion protection zone along the eastern side of Gallows Point (NGR SH59797524).

#### 2.2.2 Details of Photographic Method

- A digital SLR set to highest resolution will be used throughout.
- A tripod will be used for slower exposure shots
- Shots will be taken in RAW format
- Appropriate scales will be used where possible
- Remote flashes and additional lighting will be used (if required)
- Adobe Photoshop CS5 will be used for any post processing work required
- A complete table of metadata with details of each image, including descriptions and directions of shot was produced using Microsoft Access
- Images will be converted to TIFF and JPEG format for archiving.

#### 2.2 Data processing and report compilation

The results of the current programme of archaeological works summarised in this design will be included in a mitigation report for flood alleviation areas 3, 4 and 5, further to the completion of the groundworks within the areas detailed in Coastal Engineering UK Ltd, *Drawings* 66\_1310\_05\_02C *to* 66\_1310\_05\_10C (reproduced as Figure 01), for which a programme of archaeological mitigation (watching brief) is proposed.

Following completion of the Area 3 to 5 groundworks/archaeological mitigation (watching brief), a report will be produced incorporating the following:

Non-technical summary

- 1. Introduction
- 2. Aims and purpose
- 3. Specification
- 4. Archaeological Background
- 5. Methods and techniques, including details and location of project archive
- 6. Results of the archaeological recording (photographic record)
- 7. Results of the archaeological mitigation (watching brief)
- 8. Summary and conclusions
- 9. List of sources consulted.

The report will include marked photographs of the areas photographed as part of the basic photographic record. Illustrations will include location plans for Areas 3, 4 and 5. Historical maps, when appropriate and if copyright permissions allow, will be included.

A draft copy of the report will be sent to GAPS and to the client prior to production of the final report. Additional reports will be prepared for the relevant archaeological programme of works in the remaining flood alleviation areas.

On completion of the current basic photographic record, GAPS will be notified of the completed works and will be supplied with the photographic archive and accompanying metadata.

## **3.0 DISSEMINATION AND ARCHIVING**

On completion of the archaeological recording (photographic record) and archaeological mitigation (watching brief) phases in flood alleviation areas 3, 4 and 5, a full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled and cross-referenced, and lodged in an appropriate place (to be decided in consultation with the regional Historic Environment Record) within an agreed submission period.

- One copy of the paper report plus a digital report and archive on optical disc will be provided to GAPS;
- One copy of the paper report plus a digital report and archive on optical disc will be provided to Historic Environment Record, Gwynedd Archaeological Trust; this will be submitted within six months of report completion,
- One copy of the paper report plus a digital report and archive on optical disc will be provided to Cadw,
- A digital report and archive (including photographic and drawn) data will be provided to Royal Commission on Ancient and Historic Monuments, Wales.
- A paper report(s) plus digital report(s) will be provided to the client.

#### **3.1 Historic Environment Record**

In line with the regional Historic Environment Record (HER) requirements, the HER must be contacted at the onset of the project to ensure that any data arising is formatted in a manner suitable for accession to the HER. At the onset, the HER Enquiry Form provided by the HER, will be completed and submitted.

## **4.0 PERSONNEL**

The work will be managed by John Roberts, Principal Archaeologist GAT Contracts Section. The work will be undertaken by one of the Trust's Archaeologists experienced in the relevant skills/periods required.

## 5.0 HEALTH & SAFETY

The Trust subscribes to the SCAUM (Standing Conference of Archaeological Unit Managers) Health and Safety Policy as defined in **Health and Safety in Field Archaeology** (2006). Risks will be assessed prior to and during the work.

GAT will prepare a risk assessment for the archaeological recording (photographic record) prior to attending site.

## **6.0 INSURANCE**

Liability Insurance – Aviva Policy 24765101CHC/000405

- Employer's Liability: Limit of indemnity £10m in any one occurrence
- Public Liability: Limit of indemnity £5m in any one occurrence

The current period expires on the 21/06/2015

Professional Indemnity Insurance – RSA Insurance Plc RKK865819/1208

• Limit of Indemnity £2,000,000 any one claim

The current period expires 22/07/2015

## 7.0 SOURCES CONSULTED

Coastal Engineering UK Ltd, *Drawings* 66\_1310\_05\_02C to 66\_1310\_05\_10C

Chartered Institute for Archaeologists Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures (Chartered Institute for Archaeologists, 2014).

Gwynedd Historic Environment Record (HER)

Evans, R. 2013. *Proposed Flood Alleviation Scheme, Beaumaris: Archaeological Assessment* Gwynedd Archaeological Trust Report 1149

Parry, I. 2014. *Proposed Flood Alleviation Scheme, Beaumaris: Heritage Impact Assessment* Gwynedd Archaeological Trust Report 1200 **FIGURE 01** 

Site Location – Reproduction of Coastal Engineering UK Ltd, Drawings 66\_1310\_05\_02C to 66\_1310\_05\_10C

## **APPENDIX I**

Reproduction Gwynedd Archaeological Trust Basic Recording form

## Appendix 2

GAT Project Design March 2015

## BEAUMARIS FLOOD ALLEVIATION SCHEME (G2347)

# PROJECT DESIGN FOR ARCHAEOLOGICAL WATCHING BRIEF:

## Crest Wall between Gallows Point and Townsend Bridge (Flood Alleviation Area 4/Amey Working Area 2)/Work at Townsend

Prepared for

Coastal Engineering UK Ltd

March 2015

Ymddiriedolaeth Archaeolegol Gwynedd Gwynedd Archaeological Trust

#### **BEAUMARIS FLOOD ALLEVIATION SCHEME**

#### PROJECT DESIGN FOR ARCHAEOLOGICAL WATCHING BRIEF

Prepared for Coastal Engineering UK Ltd, February 2015

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#### **1 INTRODUCTION**

Gwynedd Archaeological Trust (GAT) has been commissioned by Coastal Engineering UK Ltd. undertake an archaeological watching brief during groundworks along the existing crest wall between Townsend Bridge (NGR SH60277593) and Gallows Point (NGR SH59777531) in advance of proposed modifications for the flood alleviation scheme at Beaumaris, Ynys Môn. The proposed modifications are detailed on Coastal Engineering UK Ltd, *Drawings* 66\_1310\_05\_03 *to* 66\_1310\_05\_09C (reproduced as Figure 01) and include:

- A new crest wall along the coastal defences at the eastern end of the Green that will comprise a concrete wall with stone cladding to match the defence construction elsewhere along the frontage (Flood Alleviation Area 3/Amey working area 1). <u>GAT</u> <u>has been informed by client that the groundworks in this area are "substantially complete" and are, as a result, not included in the current watching brief programme.</u>
- 2. Elsewhere along the western part of the Green, the existing wall will be modified where necessary to provide the same standard as along the new wall and along the A545 section the crest level of the wall will be increased by on average 400mm to achieve a uniform crest level of 6.0m AOD along the defences between Townsend Bridge and Gallows Point (Flood Alleviation Area 4/Amey working area 2). In addition the existing secondary flood bund along the back of the Green, will be maintained.
- 3. A new section of gabion baskets will be added to the present gabion protection along the eastern side of Gallows Point, to provide a similar defence level to the boatyard and localised roadside bunding will be provided to protect infrastructure on Gallows Point (Flood Alleviation Area 5). <u>GAT has been informed by client that this will comprise primarily above ground works and it is proposed that the groundworks are not monitored as part of the archaeological mitigation programme.</u>

The current design is for monitoring the modification works along the crest wall between Gallows Point and Townsend Bridge, located within Flood Alleviation Area 4/Amey working area 2 and associated work at Townsend. These modifications form part of a larger works programme for the flood alleviation scheme; further archaeological works within the remaining flood alleviation areas, as identified in GAT Assessment Report 1149, will be discussed in separate relevant project designs. The current watching brief is scheduled between 30/03/15 and 29/07/15, based on

## information derived from client programme document AMEY CLAUSE 31 (CEUK Produced) (reproduced as Appendix I). The groundworks will be completed by *Amey*.

The flood alleviation areas are located within a culturally sensitive area due to the wealth of heritage receptors within and around the town which is dominated by Beaumaris Castle which represents the pinnacle of late 13<sup>th</sup> century defensive engineering and as such is a Scheduled Ancient Monument (AN001), Grade I Listed Building and forms part of *The Castles and Town Walls of Edward I in Gwynedd* World Heritage Site. The town also lies within the boundary of the Isle of Anglesey Area of Outstanding Natural Beauty (AONB) and the Penmon Landscape of Outstanding Historical Interest (Ref.: Penmon HLW (GW) 15 33).

To date, GAT has prepared an archaeological assessment of the flood alleviation areas (GAT Report 1149) that was submitted to support planning application 12C444B/FR, and subsequently a Historic Impact Assessment (HIA) that was prepared to assess the impact of the scheme on heritage receptors in the area (GAT Report 1200). The HIA made recommendations for a staged programme of archaeological mitigation. In advance of the current watching brief a programme of archaeological recording (photographic record) was completed along Flood Alleviation Areas 3, 4 and 5; a total of 208 photographic images were taken in RAW and JPEG format (archive image ref. G2347\_077 to G2347\_284). These images will be used to inform the current programme of works as a record of the relevant areas prior to the start of groundworks.

The scheme will be monitored by the Gwynedd Archaeological Planning Services (GAPS) and the content of this design must be approved by the GAPS Archaeologist prior to the start of works. GAPS must also be updated regularly throughout the course of the watching brief.

Reference will be made to the guidelines specified in the Chartered Institute for Archaeologists *Standard and Guidance for an archaeological watching brief* (Chartered Institute for Archaeologists, 2014).

#### 2 ARCHAEOLOGICAL AIMS

The definition of an archaeological watching brief is "a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive". (*Standard and Guidance archaeological watching brief* (Chartered Institute for Archaeologists, 2014) page 1.)

The purpose of the watching brief is:

- to allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works
- to provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard

#### 3 METHODOLOGY

#### 3.1 Watching Brief

An *intensive* watching brief (as defined by CIfA *Standards and* Guidance) will be maintained for groundworks associated with the existing crest wall improvements between Townsend Bridge and Gallows Point (Flood Alleviation Area 4/*Amey* working area 2) and at Townsend, as located on Coastal Engineering UK Ltd, *Drawings* 66\_1310\_05\_03 *to* 66\_1310\_05\_09C (reproduced as Figure 01). The watching brief will monitor two specific areas as identified in client programme document AMEY CLAUSE 31 (CEUK Produced): ID no. 33 "Remove top of existing wall" and ID no. 70 "Reconstruction masonry wall" (cf. Appendix I). The aim of the watching brief will be to gain information on wall core construction, internal phasing and any exposed stratigraphy on the roadside.

The groundworks will be completed by *Amey* and are currently scheduled between 30/03/15 and 29/07/15. It is expected that the top of the existing crest wall will be removed using a combination of plant machinery and hand tools.

The following methodology will be applied:

- All monitored areas and identified features will be recorded using GAT pro-formas and photographed using a digital SLR camera set to RAW format. The extent of any identified archaeological activity and any features therein will be located using survey grade (not handheld) GPS with <10cm accuracy (model: *Trimble GNSS/R6/5800*). Appropriate photographic scales will be used where possible.
- A drawn record will be completed for all relevant features and/or exposed sections. This
  will include sections and plans where required at either 1:10, 1:20 or 1:50 scale. All
  recording will be completed in accordance with site health and safety requirements
  applied by *Amey*.
- Adobe Photoshop CS5 will be used for any post processing work required.
- A complete table of metadata with details of each image, including descriptions and directions of shot will be produced using Microsoft Access.
- Images will be converted to TIFF and JPEG format for archiving.
- All site records will be completed using GAT pro-formas.
- A basic record of non-archaeological work will also be maintained on GAT pro-forma record sheets as well as a photographic record.

All archaeological features/deposits encountered will be manually cleaned and examined to determine extent, function, date and relationship to adjacent features. Limited excavation will be undertaken to characterise the features/deposits: this strategy will be based on feature type and is expected to primarily be structural phasing associated with the construction of the existing wall, but may also include exposed stratigraphy associated with the construction ofn the adjoining A545 Road. Any subsequent excavation required will be detailed in an appropriate **Further Archaeological Works Design** (if required).

#### 3.2 Environmental Samples

Relevant archaeological deposits (if suitable) will be sampled by taking bulk samples for flotation of charred plant remains. Bulk samples will be taken from waterlogged deposits for macroscopic plant remains. Other bulk samples, for example from middens, may be taken for small animal bones and small artefacts. *Note: based on the current scope of works, it is not expected that suitable deposits will be encountered.* 

#### 3.3 Small Finds

The vast majority of finds recovered from archaeological excavations comprise pottery fragments, bone, environmental and charcoal samples, and non-valuable metal items such as nails. Often many of these finds become unstable (i.e. they begin to disintegrate) when removed from the ground. All finds are the property of the landowner; however, it is Trust policy to recommend that all finds are donated to an appropriate museum where they can receive specialist treatment and study. Access to finds must be granted to the Trust for a reasonable period to allow for analysis and for study and publication as necessary. All finds would be treated according to advice provided within *First Aid for Finds* (Rescue 1999). Trust staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants used by the Trust, including National Museums and Galleries of Wales at Cardiff and ARCUS at Sheffield.

#### 3.3.1 Unexpected Discoveries: Treasure Trove

Treasure Trove law has been amended by the Treasure Act 1996. The following are Treasure under the Act:

• Objects other than coins any object other than a coin provided that it contains at least 10% gold or silver and is at least 300 years old when found.

- Coins all coins from the same find provided they are at least 300 years old when found (if the coins contain less than 10% gold or silver there must be at least 10. Any object or coin is part of the same find as another object or coin, if it is found in the same place as, or had previously been left together with, the other object. Finds may have become scattered since they were originally deposited in the ground. Single coin finds of gold or silver are not classed as treasure under the 1996 Treasure Act.
- Associated objects any object whatever it is made of, that is found in the same place as, or that had previously been together with, another object that is treasure.
- Objects that would have been treasure trove any object that would previously have been treasure trove, but does not fall within the specific categories given above. These objects have to be made substantially of gold or silver, they have to be buried with the intention of recovery and their owner or his heirs cannot be traced.

The following types of finds are not treasure:

- Objects whose owners can be traced.
- Unworked natural objects, including human and animal remains, even if they are found in association with treasure.
- Objects from the foreshore which are not wreck.

All finds of treasure must be reported to the coroner for the district within fourteen days of discovery or identification of the items. Items declared Treasure Trove become the property of the Crown, on whose behalf the National Museums and Galleries of Wales acts as advisor on technical matters, and may be the recipient body for the objects.

The National Museums and Galleries of Wales will decide whether they or any other museum may wish to acquire the object. If no museum wishes to acquire the object, then the Secretary of State will be able to disclaim it. When this happens, the coroner will notify the occupier and landowner that he intends to return the object to the finder after 28 days unless he receives no objection. If the coroner receives an objection, the find will be retained until the dispute has been settled.

#### 3.4 Further Archaeological Works

#### <u>The identification of significant archaeological features during the archaeological</u> <u>excavation may necessitate the production of a new project design and the</u> <u>submission of new cost estimates to the client.</u>

The application of a further archaeological works design (FAWD) will be dependent on the initial identification, interpretation and examination of an archaeological feature and the establishment of a threshold of significance over which a FAWD might be triggered. The requirement for an FAWD will be determined in conjunction with GAPS through established communication lines and the monitoring process.

The FAWD will be instigated through a GAT produced document that will include:

- feature specific methodologies;
- artefact and ecofact specialist requirements, with detail of appropriate sampling strategies and specialist analysis
- timings, staffing and resourcing.
- Additional costs

The FAWD document will need to be approved by the GAPS Archaeologist.

This design does not include a methodology or cost for examination of, conservation of, or archiving of finds discovered during the archaeological excavation, nor of any radiocarbon dates required, nor of examination of palaeoenvironmental samples. The need for these will be identified in the post-fieldwork programme (if required), and a new design will be issued for approval by the GAPS Archaeologist.

#### 3.5 Monitoring Arrangements

The GAPS Archaeologist will need to be informed of the project start date and of the subsequent progress and findings. This will allow the GAPS Archaeologist time to arrange monitoring visits and attend site meetings (if required) and enable discussion about the need or otherwise for FAWDs (if required) as features of potential archaeological significance are encountered.

#### 3.6 Data processing and report compilation

Following completion of the stages outlined above, a report will be produced incorporating the following:

- Non-technical summary
- Introduction
- Aims and purpose
- Specification
- Methods and techniques, including details and location of project archive.
- Watching Brief Results
- Summary and conclusions
- List of sources consulted.

Illustrations will include plans of the location of the study area and archaeological sites. Historical maps, when appropriate and if copyright permissions allow, will be included. Photographs of relevant sites and of the study area where appropriate will be included. A draft copy of the report will be sent to the regional curatorial archaeologist (GAPS) and to the client prior to production of the final report.

#### **4 DISSEMINATION AND ARCHIVING**

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled and cross-referenced, and lodged in an appropriate place (to be decided in consultation with the regional Historic Environment Record) within an agreed submission period.

- one or more copies (as required) of the paper report plus a digital report and archive on an optical drive will be sent to the client;
- three hard copies and digital archive disks for GAPS;
- one or two copies (as required) of the paper report plus a digital report and archive on an optical drive will be sent to the Historic Environment Record Archaeologist for the area (HER, Gwynedd Archaeological Trust, Craig Beuno, Bangor, Gwynedd LL57 2RT);
- copies of all key digital files on optical media should be provided to GAPS and the Regional HER, including report, photographs, scans of maps etc.;
- a copy of the report and/or digital files on optical media should be provided to the National Monument Record (Royal Commission on the Ancient and Historic Monuments of Wales, Aberystwyth, SY23 1NJ) dependent upon their requirements.

#### 4.1 Historic Environment Record

In line with the regional Historic Environment Record (HER) requirements, the HER must be contacted at the onset of the project to ensure that any data arising is formatted in a manner suitable for accession to the HER. At the onset, the HER Enquiry Form provided by the HER, will be completed and submitted.

## **5 PERSONNEL**

The work will be managed by John Roberts, Principal Archaeologist GAT Contracts Section. The work will be undertaken by one of the Trust's Archaeologists experienced in the relevant skills/periods required.

#### 6 HEALTH AND SAFETY

The Trust subscribes to the SCAUM (Standing Conference of Archaeological Unit Managers) Health and Safety Policy as defined in **Health and Safety in Field Archaeology** (2006).

The GAT Project Archaeologist will be CSCS certified. Copies of the site specific risk assessment will be supplied to the client and site contractor prior to the start of fieldwork. Any risks and hazards will be indicated prior to the start of work via a submitted risk assessment. All staff will be issued with required personal safety equipment, including high visibility jacket, steel toe-capped boots and hard hat.

## 7 INSURANCE

#### Public Liability

Limit of Indemnity- £5,000,000 any one event in respect of Public Liability

INSURER Aviva Insurance Ltd POLICY TYPE Public Liability POLICY NUMBER 24 7651 01 CHC/000405 EXPIRY DATE 21/06/2015

Employers Liability

Limit of Indemnity- £10,000,000 any one occurrence.

INSURER Aviva Insurance Ltd POLICY TYPE Employers Liability POLICY NUMBER 24 765101 CHC/000405 EXPIRY DATE 21/06/2015

Professional Indemnity

Limit of Indemnity- £2,000,000 in respect of each and every claim

INSURER Royal & Sun Alliance Insurance PLC POLICY TYPE Professional Indemnity POLICY NUMBER RKK865819/1208 EXPIRY DATE 22/07/2015

### 8 SOURCES CONSULTED

Coastal Engineering UK Ltd, Drawings 66\_1310\_05\_03 to 66\_1310\_05\_10C

Chartered Institute for Archaeologists *Standard and Guidance for an archaeological watching brief* (Chartered Institute for Archaeologists, 2014).

Gwynedd Historic Environment Record (HER)

Evans, R. 2013. *Proposed Flood Alleviation Scheme, Beaumaris: Archaeological Assessment* Gwynedd Archaeological Trust Report 1149

Parry, I. 2014. *Proposed Flood Alleviation Scheme, Beaumaris: Heritage Impact Assessment* Gwynedd Archaeological Trust Report 1200

## Appendix 3

Drain Typologies



Drain Type 1: Narrow drain constructed as an integral part of the wall design between point C and point E. Individual dimensions vary from drain to drain. Scale 1x1m.



Drain Type 2: Circular pale orange ceramic pipe bonded into the wall construction with concrete between point E and point F. Diameter of pipe is 0.12m / 4 inches. Scale 1x1m.



Drain Type 3: Narrow drain constructed as an integral part of the wall design between point E and point F. Taller and more elaborately constructed than a Type 1 drain and also chronologically later than a Type 1. Slate lined base to channel leading from the drain visible on the south western of the two examples. Individual dimensions vary between both drains. Scale 1x1m.



Drain Type 4: Square drain constructed as an integral part of the wall design between point E and point F. Individual dimensions vary from drain to drain. Scale 1x1m.



Drain Type 5: Cast Iron pipe with a top hinged cover. Writing on the hinged cover is 'HBH 300 DIA'. Located between point E and point F. Scale 1x1m.



Drain Type 6: Circular pale grey concrete pipe partly subsumed located at the base of the wall slope to the immediately north of (point E) Flood Gate No.7. Diameter of pipe is 0.30m / 12 inches. Scale 1x1m.



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