LUDGVAN PARISH COUNCIL

This is to notify you that the Monthly Meeting of Ludgvan Parish Council will be held on Wednesday 12th April, 2017 in the Oasis Childcare Centre, Lower Quarter, Ludgvan commencing at 7pm.

S P Hudson
Parish Clerk
07/04/2017

MONTHLY PARISH COUNCIL AGENDA:

Page No.

Public Participation Period (if required)

1. **Apologies for absence**

2. **Minutes of the Monthly Parish Council Meeting on Wednesday 8th March 2017**

3. **Declarations of interest in Items on the Agenda**

4. **Dispensations**

5. **Councillor Reports**

(a) Cornwall Councillor Roy Mann
(b) Chairman
(c) Other

6. **Cornwall Council – Planning Applications - For decision**

(a) PA17/01908 - Sainsbury's Eastern Green Penzance Cornwall - Application for advertisement consent for 1 x new fascia sign; 5 x updated totem signs and 2 new panel signs - Sainsbury's Supermarkets Ltd.

(b) PA17/01593 - Earlydene A30 Between Whitecross And The Lamb And Flag Canonstown TR27 6ND - Demolition of the existing dwelling, and the construction of a replacement dwelling and associated works. - Mr & Mrs M Quick

(c) PA17/00948 - The Range Long Rock Penzance Cornwall - Erection of lighting columns within the car park - Mr Mike Cotter CDS (Superstores International) Ltd

(d) PA17/02132 - 61 Godolphin Road Long Rock TR20 8JW - Proposed loft conversion with dormer window and velux roof windows. - Mr J Whiting

(e) PA17/02285 - Barn Tolver Water House Tolver Long Rock - Use of building as a holiday let and farm office - Mr David Nicholls

(f) PA17/02329 - Gonew View Access Track From Carntiscoe Road To Gonew Viscoe Lelant Downs TR27 6NH - Retention of wooden horse stable containing two horse boxes and a storage area, and a stand-alone wooden tack room - Mr U Gerecke

(g) PA17/03101 - 3 Parc Shady Whitecross Penzance Cornwall - Ground floor alterations and first floor extension to existing bungalow, replacement garage and entrance porch - Mr Harry Price

(h) PA17/02897 - Praise Cottage 4 Higher Eglos Cottages Eglos Road Ludgvan - Detached garage and self-contained family annexed

		Page No.
	accommodation ancillary to main house. - Miss I Bailey	
(i)	PA17/02957 - Trewynne Coombe Ninnesbridge Road Lelant Downs TR27 6NW - Demolition of an existing single storey dwelling and replace with a two storey dwelling. Conversion of existing, single storey building to two storey kitchen and living room to be linked to the main dwelling at first floor level with an access walkway. - Mr Christopher Woodruffe	
7.	**Clerk's Report**	
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(d)	Parish Elections	8
8.	**Finance Report**	
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(e)	2016/17 Outturn Report & Accounts	16-20
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(a)	Cornwall Council - LMP 2017/18	21-22
(b)	North Coast Cluster Group - Business Rates on Toilets	23-24
(c)	NALC - Parish Precepts	25-26
(d)	Cornwall Council - Customer Promise	27-28
(e)	North Coast Cluster Group - LMP	29-30
(f)	CH2M - Marazion Beach & Dune Management Plan	31-106
(g)	Ward Williams - St Erth Transport Hub , minutes of last meeting	107-110
10.	**Exclusion of the Press & Public** To consider passing the following resolution: that under Section 1 (2) of the Public Bodies (Admission to Meetings) Act 1960, it is proposed that, because of the confidential nature of the business to be transacted, the public and press be excluded from the meeting for the business specified in the following item.	
(a)	Headstone inscription	111
11.	**Items for information**	112-113

LUDGVAN PARISH COUNCIL 12TH APRIL 2017 - REPORT OF THE CLERK

Local Landscape Character Assessment (LLCA's)

1. **Background:**

1.1 Over the last 10 years Cornwall has blazed the trail for landscape assessment in England, producing the first County wide landscape assessment in 1994. This 2007 Study updates the 1994 work and is the first stage in developing an evidence base for future landscape policy and landscape strategies in Cornwall.

1.2 There are forty assessments within Cornwall that are used as part of the Local Plan, for example, when assessing the landscape's capability to 'accept' wind turbines or solar farms.

1.3 The Penwith Landscape Partnership (PLP) has accessed £2.7m of Heritage Lottery Fund grant to pursue a number of project starting in January 2018. One of these, 'Your Parish' seeks to produce more localised LCA's for all of the parishes that fall within the area eligible for the grant.

1.4 Local LCA's have successfully been used as an evidence base for policies in Neighbourhood Development Plans (NDP's) in Cornwall, notably on the Roseland Peninsula.

1.5 At its meeting on 14th December 2016 the Parish Council resolved that:
the Council offers to act as a pilot for the production of Local Landscape Character Assessments for the Penwith Landscape Partnership and seeks sources of funding.

2 **Funding:**

2.1 Thus far the following funding has been secured:

Cornwall AONB Unit	£250 received
Cornwall Wildlife Trust	£250 received
Cornwall Council Evolution Fund	£3,000 secured

3 **Next steps:**

3.1 The LLCA requires professional support from landscape architects to provide:

- an initial mapping exercise
- provide volunteer training workshops
- follow up and monitor field survey work
- support the preparation of the draft Landscape Character Assessment
- finalise summary tables and the Landscape Character Assessment report

3.2 Quotes have been sought from two highly recommended and experienced sources which, at the time of writing have yet to be received. An oral update will be provided at the meeting.

3.3 There is a requirement for the Council to contribute to the costs and it is suggested that up to £1,500 be made available from the Neighbourhood Planning budget to ensure there are sufficient funds to complete the task.

3.4 Approximately 80 people expressed an interest in getting involved with the environmental stream of the neighbourhood Plan at the public consultation events in September. Thus a readymade volunteer pool exists.

4 Conclusion:

4.1 Local Landscape Assessments are a proven tool in respect of both Neighbourhood Planning and the wider planning policy and the opportunity to undertake one in the parish with significant financial input from outside of the parish would seem to good an opportunity to miss.

4.2 It is therefore **RECOMMENDED that**:

(i) a budget of £1,500 be provided from the existing Neighbourhood Plan budget and

(ii) consideration is given to the quotes received once the details are known.

LUDGVAN PARISH COUNCIL 12TH APRIL 2017 - REPORT OF THE CLERK

CEMETERIES:

1. Background:

1.1 The Council manages two cemeteries, one at St. Pauls the other in Crowlas.

1.2 At the last meeting it was agreed to hold a site meeting to discuss a variety of maintenance and management issues.

1.3 This meeting took place (at St Pauls Cemetery) on 5th April and was attended by the Chair and Councillors Branchett and Honess along with the Clerk who had met with the Council's contractor onsite the previous week.

2. St Pauls Cemetery:

2.1 *Layout*

2.1.1 The cemetery is currently laid out in one straight line with concrete beams to support headstones, there are beams in place for 36 graves, 30 of which are currently in use.

2.1.2 A decision is required on whether to continue in a straight line to the bottom of the cemetery or to start a second row in front of those already in place.

2.1.3 The view of those present was that, subject to allowing sufficient room for grave diggers equipment to be employed, a second row was preferable with some sort of small hedge and/or planting at the end of the row to delineate that section of the graveyard.

2.1.4 This section of the graveyard would take 10 to 20 years to fill at current levels.

2.2 *The hedge*

2.2.1 The escallonia hedge that runs the length of the cemetery was struck by disease soon after planting and although it is in reasonable condition for much of its length it has significant issues in places, particularly in the bottom corner of the cemetery.

2.2.2 Our contractor has suggested the use of a different species to avoid a repetition of the problems.

2.3 *Gates*

Both gates are suffering from significant rust, the small one at the bottom of the cemetery is in particularly bad condition.

2.4 *Cornish hedge*

There are bulges appearing in the Cornish hedge at the entrance to the cemetery which may need remedial work.

2.3 *Amenity Area*

The amenity area adjacent to the cemetery has three benches which need cleaning up and re-oiling

3. Conclusion:

3.1 There are a number of maintenance issues that require addressing and as the funding has been set aside in an earmarked reserve it is **RECOMMENDED that:**

(i) subject to allowing for access for grave digging machinery a second row of graves is established and this 'section' of the graveyard suitably delineated;

(ii) dead and damaged areas of the hedge are replaced with a suitably robust species on a gradual basis to be determined by the Council's contractor;

(iii) the bottom gate is removed, sand blasted or dipped to remove the rust, repainted and replaced and that the large gate is repainted;

(iv) the soundness of the Cornish hedge is established and a report brought back to Council.

(v) the benches are cleaned up and re-oiled.

4. Crowlas Cemetery:

4.1 *Wall*

The wall that surrounds the cemetery is in need of re-pointing in a number of places.

Headstones

4.2 There is a headstone which has come loose on its base which may be a hazard.

Responsibility for headstones rests with the families of the deceased but it may not be possible to establish who they are given the burial took place in 1984.

If this is the case the options are to repair the headstone or to lay it flat to render it safe.

4.3 *Benches*

The hardwood benches in the cemetery are moss covered and in need of cleaning up and re-oiling.

4.4 Conclusion:

As mentioned above funds exist to undertake this work and it is **RECOMMENDED that:**

(i) re-pointing work is carried out over the course of the financial year;

(ii) should it not be possible to trace the family a quote is obtained to repair the headstone and authority is delegated to the Chair to agree whether to proceed;

(iii) the benches are cleaned up and re-oiled.

LUDGVAN PARISH COUNCIL 12TH APRIL 2017 - REPORT OF THE CLERK

BENCH POLICY

1 Background:

1.1 Members will recall a request to place a memorial bench on Church Hill, investigation of which is ongoing.

1.2 There are a number of other memorial or 'ordinary' benches around the parish that are maintained or repaired by the Council.

1.3 In order to ensure that benches are of suitable quality and properly installed it is suggested that this is undertaken by the Council and that a suitable policy is adopted. Such a policy is shown overleaf.

1.4 Consideration needs to be given as to whether a maintenance charge is levied or whether these costs are absorbed within our current budgets.

1.5 It is therefore **RECOMMENDED that:**
the attached policy is adopted subject to a decision on whether to impose a maintenance fee.

BENCH POLICY

1 INTRODUCTION

1.1 Ludgvan Parish Council supports the needs and principles of allowing memorial benches within the parish and is mindful that these facilities are enjoyed by a wide range of people. Therefore, the Parish Council will ensure that the issue is managed and regulated for the mutual benefit of all.

1.2 It is the intention that the policy only covers broad common issues and is not meant to be exhaustive. The content of this policy will be revised as necessary to meet changing circumstances.

2 TERMS AND CONDITIONS

2.1 Applications to the Parish Council to replace or erect a new bench must be made in writing to the Parish Clerk. If agreed standard wooden benches with an appropriate plaque will be supplied and erected at cost to the donor. Estimated costs will be submitted before any work is undertaken.

2.2 A maintenance fee of £XXX per 10 year period is due to the Parish Council prior to installation.

2.3 The Parish Council will notify the applicant in the event that the memorial bench is damaged. The applicant should ensure that the Parish Council is in possession of current contact details.

2.4 The Parish Council reserves the right to remove any memorial benches have been damaged and are in the view of the Parish Council beyond economical repair or have not been repaired within 4 weeks of the notification referred to in 2.3 above.

2.5 The Parish Council accepts no liability for damage to any memorial bench from vandals, third parties or whilst the Parish Council carries out routine maintenance.

2.6 The Parish Council, in line with the current maintenance regime for benches will maintain the plaque. The Parish Council accepts no replacement liability for the plaque or the bench at the end of its useful life and will dispose of any such bench. Any replacements of benches or plaques will be the responsibility of the original applicant in accordance with 2.1 above.

LUDGVAN PARISH COUNCIL 12TH APRIL 2017 - REPORT OF THE CLERK

PARISH COUNCIL ELECTIONS 4TH MAY

1. Background:

Following the nomination process that closed on 4th April 13 valid nominations for the parish council were lodged thus an election will take place on 4th May.

2. Timetable:

25/04/2017	Publication of Notice of Poll
04/05/2017	Polling Day
08/05/2017	Change of Council: **Old Councillors retire and new ones take office**
17/05/2017	Annual Council Meeting **All Councillors must return their Acceptance of Office before the meeting or Request that Council resolves to grant an extension. Members who fail to do so will lose their seat**
01/06/2017	Completion of Register of Disclosable Pecuniary Interests **All Members will have to submit a new form in its entirety, the update process followed after the last election for returning Members will not apply. Failure to meet the deadline is a criminal offence**

I will issue the necessary paperwork once the result of the poll is known.

3. **Guidance:**

Guidance on candidate spending, the campaign rules and other useful information can be found on the Electoral Commission website http://www.electoralcommission.org.uk/i-am-a/candidate-or-agent/parish-and-community-council-elections-in-england-and-wales

Agenda Item 8(a)

Payments for approval

Date	Ref	Payee Name	Cheque/DD Number	Total	£ VAT	Cost Centre Analysis			
						Account	Centre	£ Amount	Transaction Details
03/04/2017	2	South West Water	DD01	**62.73**		4130	120	62.73	Water Long Rock Allotments
12/04/2017	1	Mounts Bay Rotary Club	3044	**100.00**		4150	100	100.00	Grant (Minute LPC591(a)
12/04/2017	3	St Aubyns Estates	3045	**40.00**		4140	120	40.00	Long Rock Allotment Rent
12/04/2017	4	mh-p internet ltd	3046	**900.00**	**150.00**	4310	100	750.00	Annual Website Maintenance
12/04/2017	5	Campaign Protect Rural England	3047	**36.00**		4090	100	36.00	Subscription
12/04/2017	6	Viking Direct	3048	**30.34**	**5.06**	4070	100	25.28	Stationery
12/04/2017	7	Viking Direct	3048	**9.58**	**1.60**	4070	100	7.98	Stationery
12/04/2017	8	Ludgvan Community Centre	3049	**120.00**		4190	100	120.00	Annual Cabinet Hire
12/04/2017	9	Steve Hudson	3050	**1,314.91**		4000	100	1,073.42	Net Salary April
						4060	100	77.50	Mileage
						4070	100	6.99	Phone
						4070	100	18.00	Office Expenses
						4070	100	139.00	PDF Software
12/04/2017	10	HM Revenue & Customs	3051	**139.39**		4000	100	74.78	PAYE April
						4010	100	64.61	Employers NI April
		Total Payments:		**2,752.95**	**156.66**			2,596.29	

SIGNED: ..... 12th April 2017
R SARGEANT
CHAIRMAN

Treasurers Account

Receipts received between 01/04/2017 and 12/04/2017

Receipt Ref	Name of Payer	£ Amnt Received	£ Debtors	£ VAT	Nominal Ledger Analysis A/c	Centre	£ Amount	Transaction Detail
DC01	Banked: **11/04/2017**	**18,195.80**						
01	Cornwall Council	18,195.80			1076	100	17,243.50	Precept
					1090	100	952.30	CTSG
	Total Receipts:	18,195.80	0.00	0.00			18,195.80	

Date: 03/04/2017 **Ludgvan Parish Council** Page 1

Time: 11:40 User: SPH

Bank Reconciliation Statement as at 31/03/2017
for Cashbook 1 - Treasurers Account

Bank Statement Account Name (s)	Statement Date	Page No	Balances
Treasurers Account	31/03/2017		31,555.49
			31,555.49

Unpresented Cheques (Minus)			Amount	
08/03/2017	3039	Chris Fry Garden & Rural Servi	340.00	
21/03/2017	3042	Rialtas Business Solutions Ltd	1,086.00	
21/03/2017	3043	Chris Fry Garden & Rural Servi	75.00	
				1,501.00
				30,054.49

Receipts not Banked/Cleared (Plus)

0.00	
	0.00
	30,054.49
Balance per Cash Book is :-	**30,054.49**
Difference is :-	**0.00**

Date: 03/04/2017 **Ludgvan Parish Council** Page 1

Time: 11:35 User: SPH

Bank Reconciliation Statement as at 31/03/2017
for Cashbook 2 - Business Account

Bank Statement Account Name (s)	Statement Date	Page No	Balances
Business Account	31/03/2017		7,519.49
			7,519.49

Unpresented Cheques (Minus)	Amount	
	0.00	
		0.00
		7,519.49

Receipts not Banked/Cleared (Plus)		
	0.00	
		0.00
		7,519.49

Balance per Cash Book is :-	**7,519.49**
Difference is :-	**0.00**

Ludgvan Parish Council

Detailed Receipts & Payments by Budget Heading 06/04/2017

Cost Centre Report

		Actual Year To Date	Current Annual Bud	Variance Annual Total	Committed Expenditure	Funds Available	% Spent	Transfer to/from EMR
100	Administration							
1076	Precept	17,244	34,487	17,244			50.0%	
1080	Interest Received	0	4	4			0.0%	
1090	Council Tax Support Grant	952	1,904	952			50.0%	
1110	Other Grants	0	558	558			0.0%	
	Administration :- Receipts	**18,196**	**36,953**	**18,757**			**49.2%**	**0**
4000	Clerk's Salary	1,148	18,372	17,224		17,224	6.2%	
4010	Employers NI	65	1,393	1,328		1,328	4.6%	
4060	Travel	78	750	673		673	10.3%	
4070	Office Expenses	197	1,250	1,053		1,053	15.8%	
4080	Advertising	0	600	600		600	0.0%	
4090	Subscriptions	36	950	914		914	3.8%	
4100	Insurance	0	751	751		751	0.0%	
4110	Audit Fees	0	350	350		350	0.0%	
4150	S137 and Other Grants	100	700	600		600	14.3%	
4160	Youth Club Grant	0	500	500		500	0.0%	
4170	Christmas Trees	0	250	250		250	0.0%	
4180	Deedstore	0	16	16		16	0.0%	
4190	Meeting Room Hire	120	360	240		240	33.3%	
4300	Website Development	0	100	100		100	0.0%	
4310	Website Maintenance	750	750	0		0	100.0%	
4320	Election Expenses	0	1,000	1,000		1,000	0.0%	
4350	Software - Annual Licence	0	232	232		232	0.0%	
	Administration :- Indirect Payments	**2,494**	**28,324**	**25,830**	**0**	**25,830**	**8.8%**	**0**
	Movement to/(from) Gen Reserve	**15,702**						
120	Long Rock Allotments							
1210	Allotment Rents	0	370	370			0.0%	
	Long Rock Allotments :- Receipts	**0**	**370**	**370**			**0.0%**	**0**
4120	Maintenance	0	150	150		150	0.0%	
4130	Water	63	120	57		57	52.3%	
4140	Rents Payable	40	80	40		40	50.0%	
4350	Software - Annual Licence	0	24	24		24	0.0%	
	Long Rock Allotments :- Indirect Payments	**103**	**374**	**271**	**0**	**271**	**27.5%**	**0**
	Movement to/(from) Gen Reserve	**(103)**						
130	Church Hill Allotments							
1210	Allotment Rents	0	1,568	1,568			0.0%	
	Church Hill Allotments :- Receipts	**0**	**1,568**	**1,568**			**0.0%**	**0**

Continued over page

		Actual Year To Date	Current Annual Bud	Variance Annual Total	Committed Expenditure	Funds Available	% Spent	Transfer to/from EMR
4120	Maintenance	0	250	250		250	0.0%	
4130	Water	0	500	500		500	0.0%	
4140	Rents Payable	0	700	700		700	0.0%	
4350	Software - Annual Licence	0	92	92		92	0.0%	
	Church Hill Allotments :- Indirect Payments	**0**	**1,542**	**1,542**	**0**	**1,542**	**0.0%**	**0**
	Movement to/(from) Gen Reserve	**0**						
140	Amenities							
1100	Footpath Grant	0	3,474	3,474			0.0%	
1130	Aggregate Fund Income	0	4,500	4,500			0.0%	
	Amenities :- Receipts	**0**	**7,974**	**7,974**			**0.0%**	**0**
4200	Repairs	0	1,245	1,245		1,245	0.0%	
4400	St Pauls Amenity Area	0	682	682		682	0.0%	
4410	Churchtown Garden	0	210	210		210	0.0%	
4420	Aggregate Fund Expenditure	0	4,500	4,500		4,500	0.0%	
4430	Footpath Maintenance	0	3,474	3,474		3,474	0.0%	
4460	Grass Cutting	0	290	290		290	0.0%	
4470	Green Initiatives	0	408	408		408	0.0%	
	Amenities :- Indirect Payments	**0**	**10,809**	**10,809**	**0**	**10,809**	**0.0%**	**0**
	Movement to/(from) Gen Reserve	**0**						
150	St Pauls Cemetery							
1200	Burial Fees	0	2,680	2,680			0.0%	
	St Pauls Cemetery :- Receipts	**0**	**2,680**	**2,680**			**0.0%**	**0**
4120	Maintenance	0	255	255		255	0.0%	
4130	Water	0	50	50		50	0.0%	
4350	Software - Annual Licence	0	154	154		154	0.0%	
4460	Grass Cutting	0	1,120	1,120		1,120	0.0%	
4520	Sextons Duties	0	120	120		120	0.0%	
	St Pauls Cemetery :- Indirect Payments	**0**	**1,699**	**1,699**	**0**	**1,699**	**0.0%**	**0**
	Movement to/(from) Gen Reserve	**0**						
160	Crowlas Cemetery							
1200	Burial Fees	0	500	500			0.0%	
	Crowlas Cemetery :- Receipts	**0**	**500**	**500**			**0.0%**	**0**
4350	Software - Annual Licence	0	30	30		30	0.0%	
4460	Grass Cutting	0	1,470	1,470		1,470	0.0%	
	Crowlas Cemetery :- Indirect Payments	**0**	**1,500**	**1,500**	**0**	**1,500**	**0.0%**	**0**
	Movement to/(from) Gen Reserve	**0**						

Continued over page

		Actual Year To Date	Current Annual Bud	Variance Annual Total	Committed Expenditure	Funds Available	% Spent	Transfer to/from EMR
200	Neighbourhood Planning							
1120	Neighbourhood Planning Grant	0	7,346	7,346			0.0%	
	Neighbourhood Planning :- Receipts	**0**	**7,346**	**7,346**			**0.0%**	**0**
4020	Staff Cost	0	5,797	5,797		5,797	0.0%	
4260	Grant Funded	0	7,346	7,346		7,346	0.0%	
4270	Other	0	4,793	4,793		4,793	0.0%	
	Neighbourhood Planning :- Indirect Payments	**0**	**17,936**	**17,936**	**0**	**17,936**	**0.0%**	**0**
	Movement to/(from) Gen Reserve	**0**						
999	VAT Data							
515	VAT on Payments	157	0	(157)		(157)	0.0%	
	VAT Data :- Indirect Payments	**157**	**0**	**(157)**	**0**	**(157)**		**0**
	Movement to/(from) Gen Reserve	**(157)**						
	Grand Totals:- Receipts	**18,196**	**57,391**	**39,195**			**31.7%**	
	Payments	**2,753**	**62,184**	**59,431**	**0**	**59,431**	**4.4%**	
	Net Receipts over Payments	**15,443**	**(4,793)**	**(20,236)**				
	Movement to/(from) Gen Reserve	**15,443**						

LUDGVAN PARISH COUNCIL 12TH APRIL 2017 - REPORT OF THE CLERK

2016/17 OUTTURN REPORT & INCOME & EXPENDITURE ACCOUNT

1. Two reports are provided overleaf:
    1. The outturn for the last financial year showing income and expenditure against the budget and
    2. The income and expenditure account for the year.

2. Both are provided for information at this stage as the Council's statutory accounts are still subject to internal audit and will be brought forward for approval at the Annual Council meeting on 17th May.

3. Two grants have been received in respect of the Local Landscape Character Assessment Pilot project totalling £500, these are included in cost code 1110, Other Grants and need to be transferred to the Neighbourhood Plan Earmarked Reserve for use next year.

4. Also contained within cost code 1110 is £418 received from wind turbines situated within the parish. There are restrictions, albeit very wide ranging ones, that relate to this contribution and an Earmarked Reserve was created last year to 'hold' such payments until a suitable project comes forward.

5. Cost code 4320, Election Expenses shows a variance of £1,000 and it was always intended for this to be a contribution to the Election Earmarked Reserve which the Council has been building over the last few years.

6. Spending on the Neighbourhood Plan fell short of the budget by £1,209 and it is suggested this be transferred to the Neighbourhood Plan Earmarked Reserve for future use.

7. It is therefore **RECOMMENDED that the following contributions are made to Earmarked Reserves:**
    - **i. £500 to the Neighbourhood Plan Reserve Re: the LLCA**
    - **ii. £1,000 to the Election Reserve**
    - **iii. £418 to the Green Initiatives Reserve**
    - **iv. £1,209 to the Neighbourhood Plan Reserve**

8. The reserve figures provided in the income and expenditure account already reflect these contributions leaving the general reserve at £16,814 approximately 39% of gross expenditure.

9. It should also be noted that, although it has been indicated that a contribution will be forthcoming and an invoice has been raised, no contribution from CORMAC in lieu of the now defunct Aggregate Levy has been received during the 2016/17 financial year.

Ludgvan Parish Council

Detailed Receipts & Payments by Budget Heading 03/04/2017

Cost Centre Report

		Actual Year To Date	Current Annual Bud	Variance Annual Total	Committed Expenditure	Funds Available	% Spent	Transfer to/from EMR
100	Administration							
1076	Precept	33,244	33,244	0			100.0%	
1080	Interest Received	4	4	0			94.3%	
1090	Council Tax Support Grant	2,436	2,436	(0)			100.0%	
1110	Other Grants	1,368	558	(810)			245.2%	
	Administration :- Receipts	**37,052**	**36,242**	**(810)**			**102.2%**	**0**
4000	Clerk's Salary	18,193	18,190	(3)		(3)	100.0%	
4010	Employers NI	1,387	1,379	(8)		(8)	100.5%	
4060	Travel	752	750	(2)		(2)	100.3%	
4070	Office Expenses	792	1,250	458		458	63.3%	
4080	Advertising	0	600	600		600	0.0%	
4090	Subscriptions	933	950	17		17	98.2%	
4100	Insurance	751	750	(1)		(1)	100.1%	
4110	Audit Fees	350	350	0		0	100.0%	
4150	S137 and Other Grants	625	700	75		75	89.3%	
4160	Youth Club Grant	0	500	500		500	0.0%	
4170	Christmas Trees	242	225	(17)		(17)	107.4%	
4180	Deedstore	15	16	1		1	93.8%	
4190	Meeting Room Hire	360	360	0		0	100.0%	
4300	Website Development	0	100	100		100	0.0%	
4310	Website Maintenance	750	770	20		20	97.4%	
4320	Election Expenses	0	1,000	1,000		1,000	0.0%	
4330	Software - Initial Purchase	590	0	(590)		(590)	0.0%	
4340	Software - set up/training	200	0	(200)		(200)	0.0%	
4350	Software - Annual Licence	226	0	(226)		(226)	0.0%	
	Administration :- Indirect Payments	**26,165**	**27,890**	**1,725**	**0**	**1,725**	**93.8%**	**0**
	Movement to/(from) Gen Reserve	**10,887**						
120	Long Rock Allotments							
1210	Allotment Rents	438	350	(88)			125.1%	
	Long Rock Allotments :- Receipts	**438**	**350**	**(88)**			**125.1%**	**0**
4120	Maintenance	0	150	150		150	0.0%	
4130	Water	94	120	26		26	78.5%	
4140	Rents Payable	80	80	0		0	100.0%	
4330	Software - Initial Purchase	59	0	(59)		(59)	0.0%	
4340	Software - set up/training	20	0	(20)		(20)	0.0%	
4350	Software - Annual Licence	23	0	(23)		(23)	0.0%	
	Long Rock Allotments :- Indirect Payments	**276**	**350**	**74**	**0**	**74**	**78.8%**	**0**
	Movement to/(from) Gen Reserve	**162**						

Continued over page

		Actual Year To Date	Current Annual Bud	Variance Annual Total	Committed Expenditure	Funds Available	% Spent	Transfer to/from EMR
130	Church Hill Allotments							
1210	Allotment Rents	1,403	1,450	47			96.8%	
	Church Hill Allotments :- Receipts	**1,403**	**1,450**	**47**			**96.8%**	**0**
4120	Maintenance	75	250	175		175	30.0%	
4130	Water	299	500	201		201	59.7%	
4140	Rents Payable	700	700	0		0	100.0%	
4330	Software - Initial Purchase	236	0	(236)		(236)	0.0%	
4340	Software - set up/training	80	0	(80)		(80)	0.0%	
4350	Software - Annual Licence	90	0	(90)		(90)	0.0%	
	Church Hill Allotments :- Indirect Payments	**1,480**	**1,450**	**(30)**	**0**	**(30)**	**102.1%**	**0**
	Movement to/(from) Gen Reserve	**(77)**						
140	Amenities							
1100	Footpath Grant	5,230	3,474	(1,756)			150.5%	
1130	Aggregate Fund Income	0	4,500	4,500			0.0%	
	Amenities :- Receipts	**5,230**	**7,974**	**2,744**			**65.6%**	**0**
4120	Maintenance	320	0	(320)		(320)	0.0%	
4200	Repairs	64	1,500	1,436		1,436	4.3%	
4400	St Pauls Amenity Area	682	682	0		0	100.0%	
4410	Churchtown Garden	210	210	0		0	100.0%	
4420	Aggregate Fund Expenditure	0	4,500	4,500		4,500	0.0%	
4430	Footpath Maintenance	2,945	3,474	529		529	84.8%	
4450	Long Rock Toilets	0	1,272	1,272		1,272	0.0%	
4460	Grass Cutting	285	250	(35)		(35)	114.0%	
4470	Green Initiatives	0	408	408		408	0.0%	
	Amenities :- Indirect Payments	**4,506**	**12,296**	**7,790**	**0**	**7,790**	**36.6%**	**0**
	Movement to/(from) Gen Reserve	**724**						
150	St Pauls Cemetery							
1200	Burial Fees	1,900	2,680	780			70.9%	
	St Pauls Cemetery :- Receipts	**1,900**	**2,680**	**780**			**70.9%**	**0**
4120	Maintenance	255	0	(255)		(255)	0.0%	
4130	Water	51	0	(51)		(51)	0.0%	
4330	Software - Initial Purchase	525	0	(525)		(525)	0.0%	
4340	Software - set up/training	83	0	(83)		(83)	0.0%	
4350	Software - Annual Licence	150	0	(150)		(150)	0.0%	
4460	Grass Cutting	1,050	1,120	70		70	93.8%	
4520	Sextons Duties	120	120	0		0	100.0%	
	St Pauls Cemetery :- Indirect Payments	**2,234**	**1,240**	**(994)**	**0**	**(994)**	**180.1%**	**0**
	Movement to/(from) Gen Reserve	**(334)**						

Continued over page

		Actual Year To Date	Current Annual Bud	Variance Annual Total	Committed Expenditure	Funds Available	% Spent	Transfer to/from EMR
160	Crowlas Cemetery							
1200	Burial Fees	262	500	238			52.4%	
	Crowlas Cemetery :- Receipts	**262**	**500**	**238**			**52.4%**	**0**
4330	Software - Initial Purchase	100	0	(100)		(100)	0.0%	
4340	Software - set up/training	17	0	(17)		(17)	0.0%	
4350	Software - Annual Licence	30	0	(30)		(30)	0.0%	
4460	Grass Cutting	1,470	1,470	0		0	100.0%	
	Crowlas Cemetery :- Indirect Payments	**1,617**	**1,470**	**(147)**	**0**	**(147)**	**110.0%**	**0**
	Movement to/(from) Gen Reserve	**(1,355)**						
200	Neighbourhood Planning							
1120	Neighbourhood Planning Grant	1,654	8,000	6,346			20.7%	
	Neighbourhood Planning :- Receipts	**1,654**	**8,000**	**6,346**			**20.7%**	**0**
4020	Staff Cost	2,635	4,500	1,865		1,865	58.6%	
4260	Grant Funded	1,654	8,000	6,346		6,346	20.7%	
4270	Other	656	3,986	3,330		3,330	16.5%	
	Neighbourhood Planning :- Indirect Payments	**4,945**	**16,486**	**11,541**	**0**	**11,541**	**30.0%**	**0**
	Movement to/(from) Gen Reserve	**(3,291)**						
999	VAT Data							
115	VAT Refunds	600	0	(600)			0.0%	
	VAT Data :- Receipts	**600**	**0**	**(600)**				**0**
515	VAT on Payments	1,313	0	(1,313)		(1,313)	0.0%	
	VAT Data :- Indirect Payments	**1,313**	**0**	**(1,313)**	**0**	**(1,313)**		**0**
	Movement to/(from) Gen Reserve	**(713)**						
	Grand Totals:- Receipts	**48,539**	**57,196**	**8,657**			**84.9%**	
	Payments	**42,535**	**61,182**	**18,647**	**0**	**18,647**	**69.5%**	
	Net Receipts over Payments	**6,003**	**(3,986)**	**(9,989)**				
	Movement to/(from) Gen Reserve	**6,003**						

Ludgvan Parish Council

Summary Receipts and Payments for Year Ended 31st March 2017

Last Year Ended 31st March 2016		Current Year Ended 31st March 2017
30,939.00	Precept	33,244.00
30,939.00	Sub Total	**33,244.00**
	Operating Income	
3,846.27	Administration	3,807.94
334.00	Long Rock Allotments	438.00
1,410.70	Church Hill Allotments	1,403.29
4,500.00	Amenities	5,230.00
3,450.00	St Pauls Cemetery	1,900.00
200.00	Crowlas Cemetery	262.00
-	Neighbourhood Planning	1,654.00
653.25	VAT Data	599.66
45,333.22	Total Receipts	**48,538.89**
	Running Costs	
26,326.70	Administration	26,165.20
151.20	Long Rock Allotments	275.78
1,782.97	Church Hill Allotments	1,480.04
4,799.47	Amenities	4,506.33
1,098.58	St Pauls Cemetery	2,233.84
1,470.00	Crowlas Cemetery	1,617.00
316.02	Neighbourhood Planning	4,944.56
599.66	VAT Data	1,312.72
36,544.60	Total Payments	**42,535.47**
	Receipts and Payments Summary	
22,781.94	Opening Balance	31,570.56
45,333.22	Add Total Receipts(As Above)	48,538.89
68,115.16		**80,109.45**
36,544.60	Less Total Payments(As Above)	42,535.47
31,570.56	Closing Balance	**37,573.98**
	These cumulative funds are represented by:	
24,054.84	Treasurers Account	30,054.49
7,515.72	Business Account	7,519.49
31,570.56		**37,573.98**
	Reserve Balances are represented by:	
13,937.56	General Reserves	16,813.98
10,941.00	EMR Repairs & Renewals	10,941.00
2,000.00	EMR Elections	3,000.00
3,584.00	EMR Neighbourhood Plan	5,293.00
408.00	EMR Green Initiatives	826.00
700.00	EMR IT Equipment	700.00
31,570.56		**37,573.98**

Signed : _____ (Chairman) _____ (RFO)

CORMAC SOLUTIONS

CORNWALL COUNCIL

Mr S Hudson
Clerk to Ludgvan Parish Council
Brynmor
St. Ives Road
Carbis Bay
TR26 2SF

6th March 2017

Dear Mr S Hudson,

Local Maintenance Partnership 2017.18 – Eligible funding £4066.30

Thank you for your continued involvement with the Local Maintenance Partnership.

I am therefore pleased to offer you £4066.30 for the cutting of Public Rights of Way in your parish.

This funding is specifically for the cutting of vegetation that grows along the surface of Public Rights of Way and is calculated at £110 per km, per cut for specific 'Gold' paths, £5.50 per cut for specific isolated gates or stiles and a flat rate of £44 per km is offered for the overall length of silver paths in the parish.

Please note: the above figures include the 10 per cent increase made to the LMP base rate in 2016 – 17.

Thank you to all the parish and town councils that responded to the recent review of the Local Maintenance Partnership. The results of the review are now being used to inform a discussion with the Cornwall Association of Local Councils which is looking at the future options for the Local Maintenance Partnership.

Please find enclosed the following:

Parish Schedule – schedule of cutting lengths and eligible costs.

Contractor summary of cutting – This details cutting lengths only; please copy as necessary and pass to your contractor asking them to note the dates that they undertake each cut and return it to you with their invoice.

Public Rights of Way Map - showing Gold, Silver and Bronze paths.

Acceptance of offer form – this should be completed and retuned to Cormac Head Office, Wadebridge, using the address below or by email to countryside@cormacltd.co.uk

Information Sheets - LMP Frequently Asked Questions, Risk Management Note for the Local Maintenance Partnership and Small Works Contract

A Cornwall Council Company
Registered in England No. 07737430
Registered Office Cornwall Council, County Hall, Treyew Road, Truro, Cornwall, United Kingdom TR1 3AY

Cormac Head Office, Higher Trenant Road,
Wadebridge, Cornwall PL27 6TW
Tel: 01872 323313
www.cornwall.gov.uk/cormac

Invoice Template – Please use this template when you are ready to submit your Invoice

We are happy to supply an electronic version of the cutting map on request. This map shows all of the Public Rights of Way labelled with path numbers and the gold path cutting regime.

If you would like to accept this offer, please sign your acceptance form and return it to me within one month of the date of this letter.

If we do not receive your acceptance, this funding offer is no longer valid.

Please scan and email your acceptance to: countryside@cormacltd.co.uk

Or Post to:

Countryside Team
Cormac Solutions Ltd
Higher Trenant Road
Wadebridge
Cornwall
PL27 6TW

All Invoices must be addressed and sent to the below named person:

Karen Reid
Environment Service
Neighbourhoods Directorate,
Cornwall Council, Level 4A,
Pydar House,
Pydar Street,
Truro,
TR1 1XU

If you have any questions about the scheme in general please do not hesitate to contact me. We look forward to working in partnership with you over the next year.

Yours sincerely

Matt Montano
Countryside Information Officer

North Coast Cluster Group(NCCG)

(The NCCG includes Crantock, Cubert, Newquay, Perranzabuloe, St.Agnes, St.Allen, & St Newlyn East Town and Parish Councils)

Clerk: Claire Evans
Kensmead
Rhubarb Hill
Holywell Bay
Nr Newquay
TR8 5PT

Cornwall Councillor Adam Paynter
Deputy Leader & Resources Portfolio Holder
Cornwall Council
County Hall
Treyew Road
Truro
TR1 3AY

9th March 2017

Dear Councillor Paynter,

Public Toilet Business Rates – 100% business Rate Retention Pilot
Devolved libraries – business rates

Reference
a. Your e-mail dated 9th March 2017.
b. North Coast Cluster Group letter dated 21st Feb 2017.
c. Special Bulletin dated 15 February 2017

Thank you for your reply to our letter at Reference b. above.

Your reply would seem to suggest that Cornwall Council is powerless to help town & parish councils provide public toilet services. Yet Cornwall Council minutes from May 2016 would also seem to suggest that your full council has already considered a proposal to help the lower councils cope with the business rate charge which your council collects each year. This proposal would seem to have been defeated on advice that your council could not be seen to in some way propose a measure that would disadvantage the unitary council. Perhaps you could clarify this point?

Meanwhile, your e-mail, along with the numerous replies from towns & parishes throughout Cornwall, will be placed on the agenda for the next North Coast Cluster Group meeting.

With the arrival of your e-mail, it would now appear that the public service, non-profit making, devolved toilets from your Authority will continue to be charged business rates

by your Authority for at least another year, and the return of the business rate to your Authority will not be passed down to the actual service providers. Further, that there is no guarantee that the newly appointed Council will consider helping the recipients of the devolved toilets in the future.

On another matter, the councils received a special bulletin regarding Libraries and One Stop shops today (strangely dated 15th February). Of the twenty five councils mentioned in the bulletin, three of our Cluster Group councils are named for three libraries and one Information Service.

Would you please confirm whether it is the intention of your Authority to raise business rates on the non-profit making libraries and information service offices within our Cluster Group area? Would you please confirm whether your Authority intends to retain any business rates raised on the libraries/offices, as opposed to passing the rate back to those councils providing your devolved services?

Yours sincerely,

Alan Percy BEM. Chairman
(01637) 831004

Copy to:
All Cluster Group Town & Parish Councils
Steve Double MP, Sarah Newton MP

THE NATIONAL ASSOCIATION OF LOCAL COUNCILS
109 GREAT RUSSELL STREET LONDON WC1B 3LD

SB/JG/100317/ALL PARISH COUNCILS

10 March 2017

To all parish and town councils

Dear Colleague,

PARISH PRECEPTS

In December the government decided not to extend council tax referendum principles to any size of parish or town council for the 2017/18 financial year.

This was a direct result of extensive advocacy by NALC on your behalf to ensure councils continue to have the freedom and flexibility to set budgets according to local needs and priorities.

I very much welcomed this decision given the important and indeed growing role our councils play in communities and local democracy and I am pleased the secretary of state acknowledged this in his statement to the House of Commons and has listened to the sector's concerns.

However the decision is very much a deferral and the government has issued a clear challenge to the sector to demonstrate restraint.

This point was reiterated to me in a letter from the local government minister which we circulated through the chief executive's weekly bulletin, but given the importance of this issue I wanted to draw to your attention again some of his key points:

- Following careful consideration of responses to the technical consultation the government decided to defer the setting of referendum principles;
- The government has issued a challenge to demonstrate restraint when increasing precepts that are not a direct result of taking on additional responsibilities and will monitor the sector's response to the challenge;
- Deferral can be revisited and government is prepared to consider ways in which large increases can be made more transparent to local tax-payers;
- Stressing the importance of all parishes making effort to comply with existing transparency code publication requirements;
- Thanking NALC and the sector for the constructive engagement during the technical consultation;
- Reiterating how much the government values parishes increasing role in service delivery.

Just this week the minister was interviewed for the forthcoming Spring edition of LCR and it is clear parish precepts remains very much a priority as he took the opportunity to restate his

challenge to the sector to demonstrate restraint, stressing he had not taken extending council tax referendums to parishes off table, but adding he was also keen to work with NALC to promote other ways to fund local projects. This latter point we will be following up with him as we are keen to help councils by publishing some guidance on income generation.

However in terms of parish precepts themselves, the government's own figures show increases to parish precepts in recent years have been very modest – going up by on average 6 pence per week – and we know this has been a direct consequence of councils taking on additional responsibilities such as services from principal councils, an increase in costs including National Insurance and funding not being passed on for example council tax support funding.

What you can do

While I have no doubt councils will respond positively to the government's challenge in setting precepts for the forthcoming year I wanted to stress the importance of engaging with residents over increases and being transparent about how their money is spent.

On this latter point I want to encourage councils to step up their efforts to explain spending decisions and significant increases in precept in particular.

This may include use of public meetings, newsletters and other publications, the local press such as newspapers or radio, social media including Facebook and Twitter, council websites, notice boards and information sent out with or at the same time as council tax demands.

I am very keen for us to share good practice in this area hence I would be grateful if you could tell us what you are doing so we can promote this more widely.

There are a number of other things we are doing to help councils such as developing good practice on income generation as mentioned above as well as on consultation and we will be publishing these in coming months.

We will of course be continuing to engage with the government to ensure they fully understand what is going on at the local level.

Finally I wanted to take the opportunity to thank you for everything you do. While these are challenging times for local government I am very proud of the role our councils play in improving our communities as I know you are increasingly doing more. Local services remain under severe pressure and I know our councils are often stepping up to the plate taking on new responsibilities and services.

Yours sincerely,

SJ Baxter.

COUNCILLOR SUE BAXTER
CHAIRMAN

DRAFT
Cornwall Council Customer Promise

We aim to provide services that are easy for our customers to access.
Our Customer Promise explains the service our customers can expect from us, and how we will:

- ensure that our services are accessible
- listen to your views and keep you informed
- treat you with dignity and respect
- use language that is easy to understand
- be open and honest and explain our decisions
- ensure we protect your data

We will ensure that our services are accessible

We will ensure that our services are accessible by providing information in different formats on request; these include:

- Large print, audio tape or CD, Braille, or an appropriate language
- Arranging access to interpreters and help with translating leaflets and Council information
- Holding public meetings in accessible venues with induction loops or other suitable systems for people who are deaf or hard of hearing

Please tell us if you need something explained differently, or if you have particular request, so we can help you.

We are committed to providing access to our services in the most appropriate manner.

We will maintain your confidentiality

We will ensure that your information is only accessed for legitimate purposes by relevant staff. We will process your information fairly and lawfully, in line with the Data Protection Act 1998.

We will listen to your views and act accordingly

Sometimes things go wrong and we may not provide you with the level of service you expect. If this happens, please tell us; we will listen to you and whenever possible and appropriate try to put things right.

We also want to hear from you if you would like to compliment us on a job well done.

We have a clear process for gathering feedback about the service that you have received; and we will use this feedback to improve the way we do things in the future.

We will treat you with dignity and respect

We will treat you with dignity and respect and take account of your needs when you contact us. We ask that you treat our staff with the same courtesy and respect and take account of other people around you. Cornwall Council has a clear policy on treating people fairly, with respect and according to individual need to ensure equality of access to services.

We will use language that is easy to understand

We will use plain language that is easy to understand and not use jargon.

We will be open and honest and explain our decisions

We will provide you with professional and sound advice. We will be transparent about our actions and our performance.

We will explain our decisions to you so we are clear on how we reached that outcome. The information we provide will be timely, accurate and professional. Where we are providing information on a commercial basis we will be clear of any costs involved.

We will give you choices on how and when you contact us

You can contact us online or by email, phone, letter, through the chat facility on our website and through social media. You can also visit us in person at our library information service or you can ask your local Councillor to raise an issue for you.

Your responsibilities as a customer

We ask that you treat our staff with the same courtesy and respect you expect from them yourself.

We won't tolerate abusive and violent behaviour towards our staff or partners working on our behalf. The Council operates a zero tolerance approach to this type of behaviour towards our staff. Although these circumstances are very rare, our staff are not expected to stay in situations where they:

- feel threatened, either verbally or physically
- fear for their own safety or that of colleagues or members of the public

Further information

For further info about our current Customer Promise please visit our website: www.cornwall.gov.uk/customerpromise

or contact Cornwall Council Compliments, Comments and Complaints:

- by email: comments@cornwall.gov.uk
- by phone: 0300 1234 100
- by post: Cornwall Council, 4S Customer feedback team, County Hall, Treyew Road, Truro, TR1 3AY

North Coast Cluster Group (NCCG)

(The NCCG includes Crantock, Cubert, Newquay, Perranzabuloe, St.Agnes, St.Allen, & St Newlyn East Town and Parish Councils)

Clerk: Claire Evans
Kensmead
Rhubarb Hill
Holywell Bay
Nr Newquay
TR8 5PT

Cornwall Councillor Adam Paynter
Deputy Leader and Portfolio Holder for Resources
Cornwall Council
County Hall
Treyew Road
Truro
TR1 3AY

14th March 2017

Dear Councillor Paynter,

Lack of increase in annual Public Footpath and Street Cleaning Agreements (LMP) since 2007 - and the Statutory Duty of Cornwall Council Highway Authority to Maintain Public Footpaths and Bridleways.

Reference:
a. NCCG letter dated 22nd February 2017
b. Paul Masters letter PM/da/DM176 dated 4th July 2016
c. NCCG letter dated 2nd May 2016
d. NCCG letter dated 9th December 2015
e. Your letter JP/ENV9871 dated 4th December 2015
f. NCCG letter dated 2nd December 2015
g. NCCG letters dated 16th & 28th October 2015
h. Newquay "Open Doors Presentation" held at Newquay Sports Ground on Monday 12th October 2015, hosted by Cornwall Cllrs J Pollard and A Paynter.

May we please have a speedy reply to our letter at Reference a.

You may recall that the issue of a lack of increase in the LMPs has been going on for some time now. Although the issue had been raised before, I first brought it to your personal attention at the Open Doors meeting of October 2015.
Since that time, the Cluster Group has been forced to call up replies on a number of occasions:

At Reference f. the call up was for a reply to our October 2015 letters.
At Reference c. the call up was for a reply to our December 2015 letter.
At Reference a. the call up was for a reply to our May 2016 letter.
This letter is a call up for a reply to our letter of 22nd February 2017.

Your letter of 4th December 2015 stated that a review of the LMPs would take place. Paul Masters's letter of 4th July 2016 stated that the review had started and would be finished by October 2016.

Cornwall Council Countryside Access Forum minutes of 25th October 2016, CAF/4(v) CAF/11 states:

> "The preliminary outcome of the review of the local maintenance partnership arrangements was currently awaited".
> "It was proposed to invite the countryside team leader to return to a future forum meeting to advise on the outcome of the LMP review".

There is no mention of the review in the Countryside Access Forum minutes of January 2017, other than a reference made to a date of "TBA".

It might be reasonable to ask why the Cluster Group was told that the review would be finished by October 2016, when even the preliminary outcome was not known then, and indeed why it should still be "TBA" in January this year. It is reasonable to ask why it has been necessary to make so many call ups on this issue so far, and why we have not been told of the progress of the review, and subsequent funding, as requested in our letter of some three weeks ago.

It is less than three weeks from the start of the financial year, the start of the financial year for each town & parish precept cycle. The budgets for each town and parish council were made in October and November last year, as requested by your Unitary Authority. Each town and parish council has been forced to decide whether they should include an additional supplement to carry out your Authority's Statutory Duties due to the lack of increase in the LMP funding from your Authority. As far as we can ascertain, no town or parish council has received documentation for the annual LMP agreements which come into effect from 1st April 2017.

This continued lack in LMP increase by your Authority seriously restricts the room for the smaller parishes to make annual service provision for their own responsibilities. A few hundred pounds per year might make very little difference to your Authority's budget, but it makes a much larger difference to a parish precept.

The seven Cluster Group councils individually represent over 30,000 rate paying electorate. May we please ask for a speedy reply to our letter of 22nd February? Surely that is the least that we can ask of your offices?

When will the LMP review be finalised?
What will the rate be for the LMP Agreements of 1st April 2017?

Yours sincerely,

Alan Percy BEM.
Chairman, (01637) 831004
Copy to: All Cluster Group Town & Parish Councils

STAGE 1 REPORT: MARAZION

Cornwall Beach and Dune Management plans

Prepared for

Cornwall Council

22 March 2017

CH2M HILL
Ash House
Falcon Road
Sowton
Exeter
Devon
EX2 7LB

Contents

SECTION 1

Introduction

1.1 Background

Many of the sand dunes and beaches around Cornwall's coast are currently experiencing erosion and sediment loss. This is a pressing concern as these sand dunes and their associated sandy beaches are one of the most important resources in Cornwall due to:

1. Their role in providing protection against the risk of coastal flooding due to the dynamic nature of beach-dune interactions and their sheer size preventing the sea from impacting upon the hinterland behind the dune systems.
2. Their role in providing important biologically diverse habitats that cannot be easily recreated elsewhere if it were to be lost to coastal erosion or inappropriate development.
3. Their role in providing access to the sea for residents and visitors alike, which is vital to the holiday industry upon which a significant proportion of Cornwall's economy depends.

It is vital therefore that the sand dunes and beaches around Cornwall's coast, that represent some 15% of the total sand dune habitat in Britain, are managed in a holistic, sustainable way over the long-term that balances the needs of each of the three distinct functions of sand dunes and beaches that combined make up the beach-dune system, as illustrated in Figure 1.1.

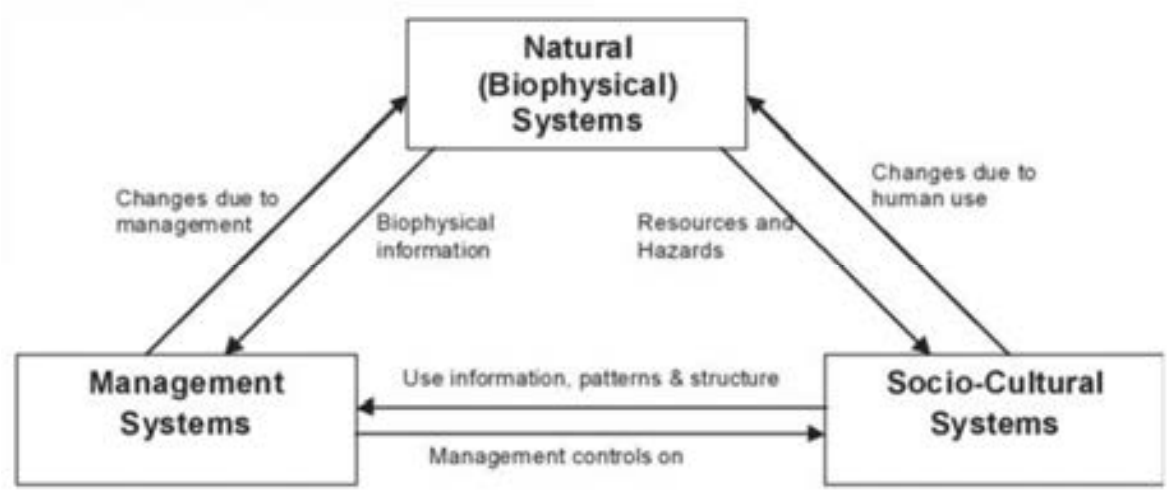

Figure 1.1 The interaction of beach systems that compose the 'beach environment' and which must be considered together to provide a holistic approach to beach management (after James, 2000 in Frampton, A.P.R. (2010). "A review of amenity beach management". Journal of Coastal research, 26(6), 1112-1122, November 2010).

The approach to managing the beaches and sand dunes was investigated in between 2006 and 2009 by Halcrow on behalf of the Cornwall and Isles of Scilly Coastal Group, and led to the production of the *Cornwall Sand Dune and Beach Management Strategy* (Halcrow, 2009a). The main focus of the strategy is the management of flood and coastal erosion, although the habitat and tourism value of the dunes will also be considered. This 2009 project delivered an Inventory of Beaches and Dunes; a Best Practice Management Guide and two pilot Beach and Dune Management Plans (BDMPs) for Harvey's Towans and Fistral Beach. It is this 2009 work that this current project is building upon to develop six new BDMPs and review the two pilot BDMPs (see Section 1.2).

SECTION 1

1.2 Project aim, objectives and approach

The purpose of the project is to develop new long-term strategic BDMPs for Constantine Bay, Marazion, Porthcothan, Porthtowan, Summerleaze, Par Sands, Widemouth Bay and Praa Sands; and review the need (or otherwise) to update the two pilot BDMPs produced in 2009 for Fistral Beach and Harvey's Towans. This will be achieved by:

1. Identifying the best management approach; in terms of monitoring and intervention (when trigger levels are reached) requirements for beach and dune systems at each individual site, based upon the best practice framework developed as part of the *Cornwall Sand Dune and Beach Management Strategy* produced by Halcrow in 2009.
2. Providing a long-term (50 year) approach to each site that is based upon an up-to-date understanding of the beach-dune system and coastal processes at each site, as well as predictions of future coastal evolution.

The locations of these ten sites is shown in Figure 1.2.

Figure 1.2 Map showing location of the ten BDMP locations.

Development of the BDMPs will involve four stages. Local community stakeholders and statutory stakeholders will be engaged to seek local knowledge and guide selection of preferred management options. These stages, and the times when engagement with local community representatives and other statutory consultees is planned, are shown in the flow diagram below (Figure 1.3). This report represents outputs from "Stage 1 – Baseline Understanding."

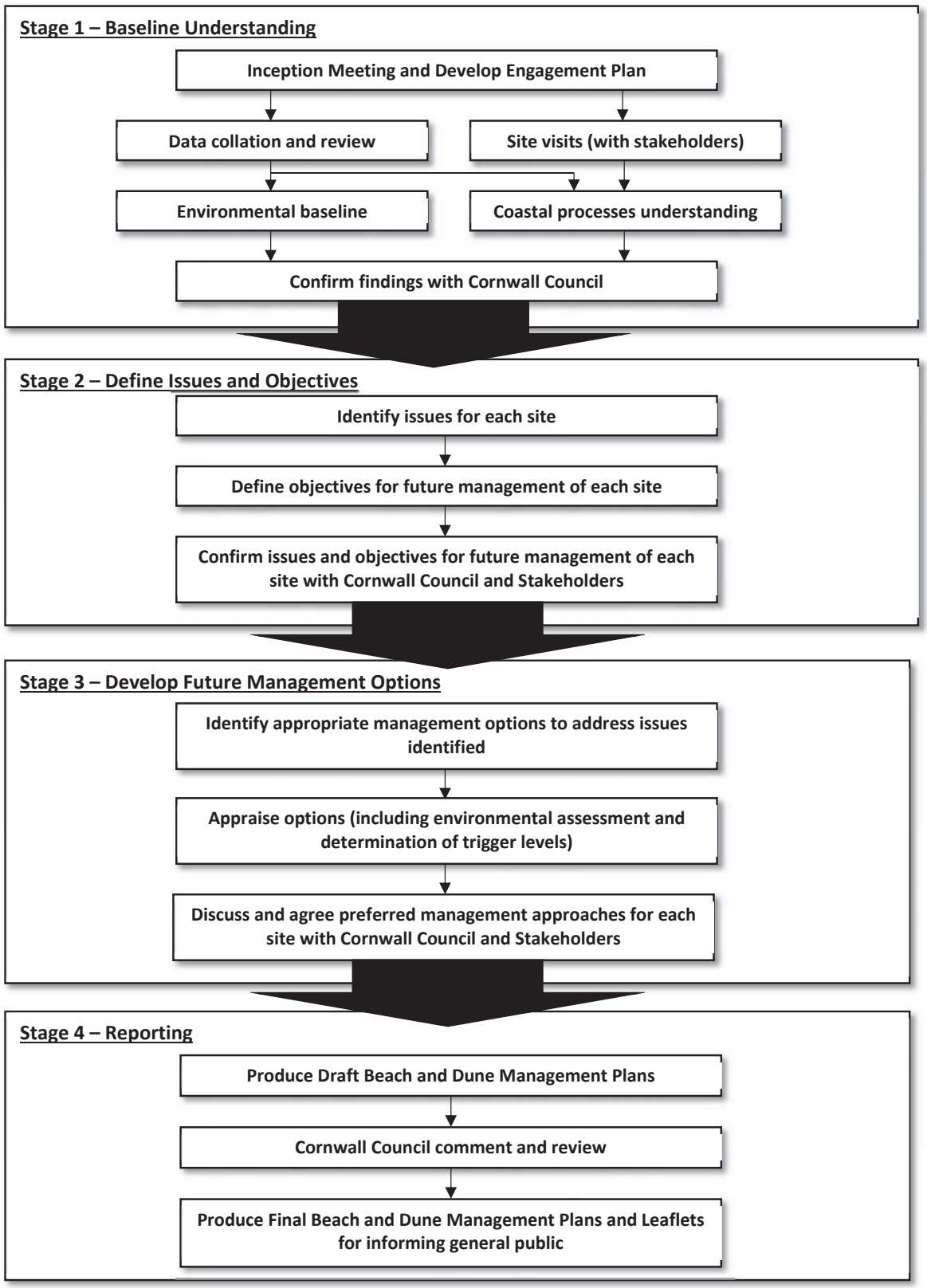

Figure 1.3 Overview of the staged approach to developing BDMPs for the eight locations around Cornwall.

1.3 About this document

This report provides the results of the Stage 1 work to develop the baseline understanding of the Marazion BDMP location (see Figure 1.4). Specifically, it:

- Reports the findings of a site visit made on 1st February 2017 by members of CH2M's project team and a meeting on the same day with invited stakeholders (Section 2);
- Provides details of the environmental characteristics of the BDMP area (Section 3);
- Describes the coastal processes and recent shoreline evolution of the beach and dune system in the area (Section 4);
- Summarises the information from Sections 2, 3 and 4 into a revised dune inventory record for the site, updating the dune inventory record produced as part of the 2009 *Cornwall Dune and Beach Management Strategy* (Halcrow, 2009b) (Section 5).

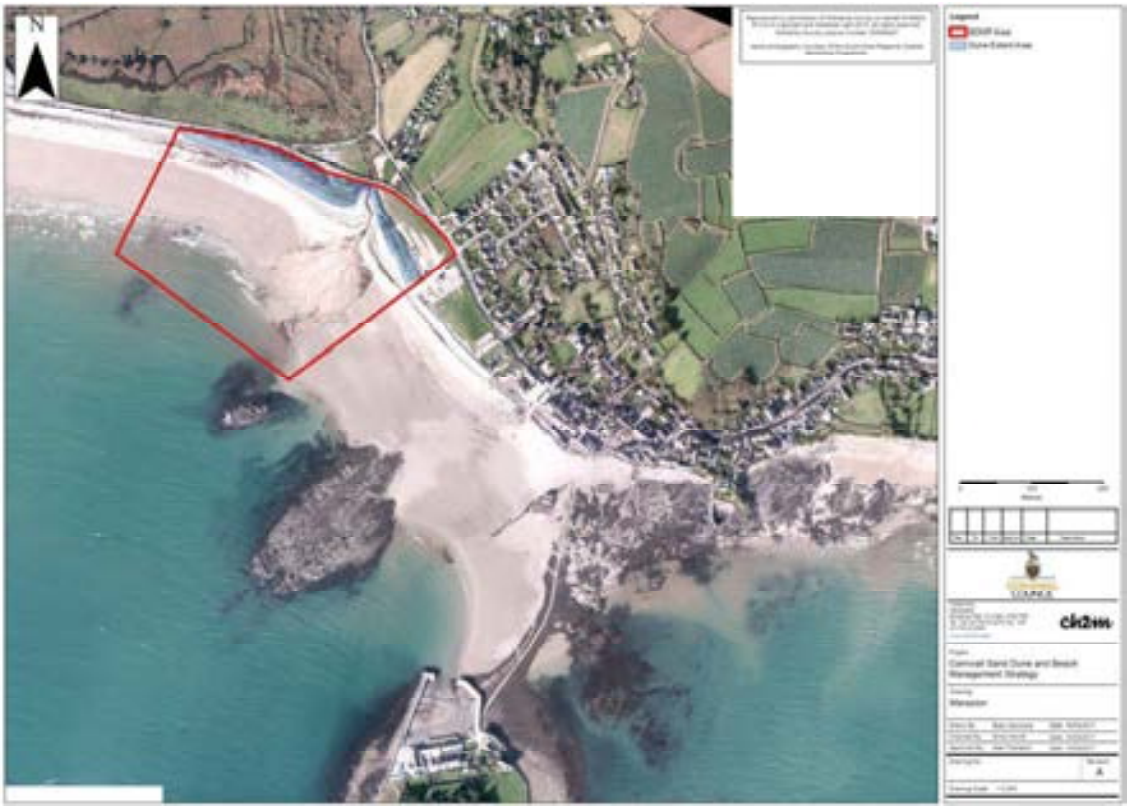

Figure 1.4 Map showing the Marazion BDMP location and extent (red outline).

SECTION 2

Site Visit Record

On 1st February 2017, three members of CH2M's project team visited the Marazion BDMP site to capture information about each site and take ground-level photos. This was followed by a meeting at The Godolphin Arms, Marazion, with client representatives, stakeholders and representatives of the local community. This enabled them to meet with the project team, discuss their aims and objectives for the site, and raise any issues and concerns. Information collected during the site visit will be considered when developing later stages of the project, including:

- Stage 1 – Baseline Understanding (refer to Sections 3 and 4 of this report)
- Stage 2 – Define Issues and Objectives; and
- Stage 3 – Develop Future Management Options.

The site visit and meeting report is presented within this section and provides:

- a list of attendees at each site (Section 2.1);
- a record of the site visit and meeting including both factual information, comment and opinion provided stakeholders (Section 2.2);
- a summary of potential management solutions identified on the day of the site visit for consideration in later stages of the project (Section 2.3);
- a section on 'Data Sources' where CH2M's project team were informed of, or provided with, relevant information at the site or following the site visit (Section 2.4); and
- a selection of photographs taken during the site visit to highlight salient points (Section 2.5).

2.1 Attendees

Name	Role	Organisation
Alan Frampton	Project Manager	CH2M Hill
Emily Hewitt	Environmental Scientist	CH2M Hill
Stephanie Hampshire	Coastal Scientist	CH2M Hill
Dave Watkins	Project Manager (Flood & Coast Lead)	Cornwall Council
Andrew Davey	Head of Land and Property	St Aubyn Estates
Maggie Parker	Parish Council rep	Ludgvan Parish Council
Richard Sargeant	Parish Council rep	Ludgvan Parish Council
Mollie Scrase	Town Council rep	Marazion Town Council
Sue Nicholls	Councillor	Cornwall Council
James Hardy	Community Link Officer West Penwith	Cornwall Council
Simon Jefferey	FCRM Senior Specialist	Environment Agency
Rebecca Skinner	FCRM Advisor – (Marazion Lead)	Environment Agency

2.2 Site Visit Record

The site walkover by CH2M's team identified a number of issues for dune management to consider, including:

- Uncontrolled access over the dune with several paths cutting through the dune face where vegetation had been trampled and foot traffic has led to erosion (see Figures 2.1 and 2.2 for examples).
- Erosion of main footpath over the top of the dunes, particularly at eastern and western end of the dunes (see Figures 2.3 to 2.5).
- Non-native vegetation (i.e. brambles and ivy) within large parts of the dune system, particularly towards the top and landward sides of the dunes (see Figure 2.6).
- Narrowing of the dunes at the western end where meets hard coastal defences appears to be an obvious weak point (see Figure 2.7).
- A retaining wall is present at the back of the dunes to prevent rollover onto the road behind. This wall is of variable height and condition.
- Cliffing of dunes evident along much of the dunes (both to east and west of Red River channel), with tide line evident along toe of dunes for much of length.
- Limited sediment supply in the area to build/maintain dunes.
- Dunes and beach is afforded some protection from wave activity by offshore reefs and presence of St Michaels Mount and causeway.
- Areas either side of Red River channel have been flattened and dune vegetation largely removed (though evidence of it trying to re-establish, particularly on Folly Field on the eastern side of the channel) (see Figures 2.8 and 2.9); these areas could potentially provide space to create new dune habitat. Potential issues of visitors walking over area from carpark to eastern side of Red River – no evidence of controlled footpath/signage.
- Evidence of litter and dog waste within the dune.

Following the site walkover, the meeting at The Godolphin Arms, Marazion, with attendees listed in Section 2.1 yielded the following information and decisions:

- Focus of the BDMP is to be the dune areas either side of the Red River Channel. It is not to include the hard coastal defences that extend east and west of this area. The landward boundary is the road that runs behind the dunes.
- St Aubyn Estates own beach and dunes down to MHW. Duchy of Cornwall own land below MHW.
- In focussing the BDMP in the area described above, it will be necessary to consider interactions with:
    - Marazion Marsh management activities, particularly plans to create dunes landwards of the road utilising material to be dredged from the Longrock Pool (see further details on this below);
    - Interaction with the hard defences to east and west of dunes;
    - Plans to construct a new cycleway over or behind the dunes connecting Marazion and Penzance (details of which were provided – see Section 3.4.4.2; further details below also);
    - Short term strategy for management of the area is limited – in the Mounts Bay Strategy it was recommended that 'Do minimum' was adopted for the next 20 years. The Strategy recommended shoring up the rock armour towards Long Rock (this is currently at planning permission stage and is utilising funding from the 2014 storm recovery funding).

  - Longer-term context for management of coastal flood and erosion risk as set-out in the Mounts Bay Strategy (copy provided to CH2M in advance of meeting), which is currently leaning towards a "sandscaping" solution in about 20 years or so time (subject to further investigations) that would bring about 1.5Million cubic metres of imported sand into the coastal system. This could also incorporate a series of groynes or offshore breakwaters. However Natural England have concerns about the long term viability of the dunes and the impact on the Marine Conservation Zone as a result of significant recharge activities.
  - Potential for Penzance Harbour Arm to be extended in future may alter Mounts Bay processes, though advised that modelling of this done by Royal Haskoning indicates impacts on shoreline at Marazion will be very small (if any).

- The dunes at Marazion are a county wildlife site and include the presence of the Sea Daffodil which is very rare and not found in any other locations in Cornwall. Need to review ecological mapping information for area.
- With regards the proposed cycleway, it was raised as a possibility that the wall currently backing the dunes (which is reported to be in poor condition and needing re-building) could be re-built along an alignment several feet to seawards. This would encroach into the back of the dune area; and area which in places is already eroded by foot erosion anyway. It was asked if the possibility of this could be considered as part of looking at dune management options.
- The baseline work for the BDMP needs to assess future evolution of the dunes over time and how it will impact upon both any future cycleway and, importantly provide coast protection function to the low-lying land behind it. Will the dunes be able to provide this longer-term?
- It was advised that the coastal processes understanding from all recent previous studies is that main sediment transport is on-offshore with very slight alongshore (west-east) sediment transport.
- The Red River channel that flows into Mounts Bay through the BDMP area is very dynamic and moves around a lot. In the past it has been observed to flow along the toe of the dunes towards the west (this is reported to have occurred in 2012). St Aubyn Estates and CORMAC undertake works to straighten the channel typically 1-2 times per year over winter months to alleviate flood risk to upstream areas including the Mounts Bay Caravan Park.
- There are proposals to undertake a desilting operation of the Longrock Pool within the boundary of Marazion Marsh Special Protection Area (SPA). Funding is yet to be granted to enable the works to occur, subject to further investigations and permitting (including Habitats Regulations Assessment). If works do occur, then it is intended to retain the excavated waster material within the boundary of the SPA (to save on landfill tax costs); in doing so the material would be used to build up land between the road and the marsh over which dune turf will be placed to encourage creation of a new dune system. The waste material would in effect act as a core to this system, which it is also hoped would act to trap sand blown across the road from the beach. This would mimic the natural long-term process of dune roll-back into the marsh without impacting the road. Testing would be required to ensure any material introduced was not contaminated.
- Although not present at the meeting, Natural England do wish to be engaged throughout the project as it develops and advised (via Dave Watkins) that they would wish to see the BDMP consider long-term viability of the dunes (see also points above) and potential impacts of any options on the Marine Conservation Zone (MCZ) in Mounts Bay, particularly any options for future beach recharge that may be considered.
- It was confirmed that there is currently no local beach/dune management community group in this area.

- The road behind the beach has been present for a long time (centuries) and Marazion Bridge (that carries the road over the Red River channel) is listed. The railway line used to be elevated on stilts.
- It was agreed that those attending the meeting, as well as those who were not able to, will be engaged throughout the BDMP development.
- It was advised that there used to be two World War 2 Pill Boxes on the dunes (now lost) and that after some storms, metal work from these (and other WW2 defences) become exposed and require removal. The last time was reportedly as a result of Storm Frank in February 2015.
- It was advised that a new Coastal Community Team for Marazion has recently (January 2017) been confirmed by the Department of Communities and Local Government. This will provide a mechanism for accessing funding opportunities for community development activities in the future (e.g. DCLG's Coastal Communities Fund).

2.3 Thoughts on Potential Management Solutions for Consideration

- Consider how planned construction of cycle route behind/on top of dunes likely to impact / work with dune evolution.
- Removal of non-native vegetation (though currently this material is helping to stabilise the back of the dunes; this vegetation may be removed in any case as part of proposed new cycle way along the back of the dunes – see point above).
- Beach recycling if there is sufficient sediment in system to achieve.
- Beach nourishment / dune creation opportunities seaward/landwards of road.
- Beach monitoring to continue to show where material is moving from and to.
- Uncontrolled access over dunes to be discouraged by signage, fencing, education.
- Review location and number of access points to beach and signage for access points.
- Consider establishing a 'friends' group to bring together local residents, businesses, landowners and beach users to help manage the site in and integrated and sustainable way in the future.

2.4 Data Sources

- Dave Watkins handed over some information relating to proposed cycle way for consideration by CH2M in appraising future dune management options.
- Dave Watkins to liaise with the Environment Agency to provide CH2M with 2015 JBA Coastal Flood Modelling reports.
- Attendees to meeting to provide any historic photos to CH2M by 13th February 2017.
- Attendees also suggested historic images of the area may be available online via websites and/or Facebook groups such as "Nostalgic Cornwall" and "Marazion Museum."

2.5 Photos

Figure 2.1 Example (a) of unrestricted access trampling vegetation to form footpath.

Figure 2.2 Example (b) of unrestricted access trampling vegetation to form footpath.

Figure 2.3 Footpath erosion at western end of dunes.

Figure 2.4 Footpath erosion along crest of dunes.

Figure 2.5 Footpath erosion at eastern end of dunes.

Figure 2.6 Non-native vegetation in dunes.

Figure 2.7 Western end of dunes where hard-defences start show clear signs of outflanking – an obvious weak point in the defence line.

Figure 2.8 Low-lying area on western side of Red River Channel where dunes could potentially be encouraged to re-establish.

Figure 2.9 Low-lying area on eastern side of Red River Channel (Folly Fields0 where dunes could potentially be encouraged to re-establish.

SECTION 3

Environmental Characteristics

3.1 Introduction

The purpose of this section is to identify key environmental features within and near the Study Area. This is to ensure that appropriate consideration of these features is made when developing a future Beach and Dune Management Plan for Marazion (including ongoing monitoring and maintenance works and any new works that may be required).

It should be noted that the level of detail presented in this document allows for an initial appraisal of environmental features to provide for an environmentally sustainable future management regime. This does not negate the requirement for future detailed environmental assessment which may be required to support consent applications or prejudge the scope of the assessment. Background information on possible consenting requirements and legislative drivers are described in the methodology section below

3.2 Methodology

Conservation designations and their qualifying interest features (with exception of Special Protected Areas (SPAs) see below), and UK priority Biodiversity Action Plan (BAP) habitats that lie within the study area or within 2km have been described and will require consideration during the development of the BDMPs. Only those features that are currently considered relevant to the Study Area, i.e. those that are likely to be impacted upon or are likely to have an influence on the proposed scheme, have been described.

3.2.1 Designated Nature Conservation sites and Protected Habitats Considered

The following statutory nature conservation designations and their qualifying interests have been considered:

- **International Nature Conservation Sites:**
    - The Natura 2000 European network of protected sites represents areas of the highest value for natural habitats and species of plants and animals that are rare, endangered or vulnerable in the European Community.
    - **Special Areas of Conservation (SACs)** are strictly protected sites designated under the EC Habitats Directive, and contribute to conserving habitat and species identified in Annexes I and II of the Directive.
    - **Special Protection Areas (SPAs)** are strictly protected sites classified in accordance with Article 4 of the EC Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.
- **National and Local Conservation sites:**
    - **Marine Conservation Zones (MCZs).** MCZs protect a range of nationally important marine wildlife, habitats, geology and geomorphology, in English and Welsh territorial and UK offshore waters. MCZs are designated under the Marine and Coastal Access Act 2009.
    - **Site of Special Scientific Interest (SSSI)** sites are nationally designated sites, selected for being the best examples of our natural heritage in terms of wildlife habitats, geological features or landforms. A SSSI area is notified as being of special interest

under the Wildlife and Countryside Act 1981. Geological SSSI sites may also afford further designation as non-statuary **Geological Conservation Review sites (GCR**) that make a special contribution to our understanding and appreciation of Earth science and the geological history of Britain, which stretches back hundreds of millions of years

- **Local Nature Reserves (LNRs)** are declared and managed for nature conservation by local authorities under the National Parks and Access to the Countryside Act 1949, and provide opportunities for research and education, or simply enjoying and having contact with nature.

- **Habitats and Species**

  The government has a commitment "to conserve and enhance the biological diversity within the UK and to contribute to the conservation of global biodiversity through all appropriate mechanisms".

  Former Biodiversity Action Plans (BAPs) were developed at a national and local level to protect and enhance the diversity of flora and fauna. The UK BAP (Biodiversity: The UK Action Plan, 2004) set out action plans for priority species and habitats. As a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK BAP is now focussed at a county-level rather than a UK-level, and the UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK list of priority habitats, however, remains an important reference source and has been used to help draw up statutory lists of priority habitats in England, as required under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006. Habitats and species of principal importance, which could potentially be affected by the management options, are considered.

- **Heritage Designations:**

  - **World Heritage Sites** are designated to meet the UK's commitments under the World Heritage Convention. Sites are designated for their globally important cultural or natural interest and require appropriate management and protection measures.

  - **Historic and archaeological sites** of significance are designated as historical assets by English Heritage and include listed historic buildings, scheduled monuments, registered parks and gardens, battlefields and protected wreck sites. They designation are afforded to protect against any future loss of their significance.

  - **Heritage Coast** is a section of coast exceeding one mile in length that is of exceptionally fine scenic quality, substantially undeveloped and containing features of special significance and interest. Designated between local government authorities and Natural England.

- **Landscape Designations:**

  - **Area of Outstanding Natural Beauty (AONB)** are designated under the National Parks and Access to the Countryside Act 1949, amended in the Environment Act 1995, with responsibility of care assumed by local authorities and the rural community.

3.3 Environmental Setting

The Marazion BDMP study area contains the following international, national and local environmental designations. These are central in the consideration of options for the beach and dune management plan:

Within the Marazion BDMP study area:

- Mounts Bay Marine Conservation Zone
- The Cornwall Area of Outstanding Natural Beauty
- Marazion Bridge listed structure
- Marazion Marsh County Wildlife Site.

Within close proximity (2km) of the Marazion BDMP study area:

- Marazion Marsh SPA/SSSI/RSPB reserve
- Cornwall and West Devon Mining Landscape (UNESCO) World Heritage Site
- Designated Archaeology and Cultural Heritage (scheduled monuments, listed structures and buildings)
- St Michael's Mount geological SSSI.

These features are shown on Figure 3.1 and discussed in further detail below:

Figure 3.1 Marazion BDMP Extent. Designated Nature Conservation Designations

3.3.1 Ecology

3.3.1.1 Designated Nature Conservation Sites

There are nature conservation designations that are within or lie in close proximity to the Study Area and will require consideration during the development of the BDMP (Figure 3.1).

Internationally and Nationally Designated Sites

- **Mounts Bay Marine Conservation Zone**

The BDMP study area is within the Mounts Bay Marine Conservation Zone (MCZ) and protected habitat and features are present within close proximity (see Figure 3.2a and 3.2b). These will require consideration during the development of the BDMP

The Mounts Bay MCZ covers the BDMP study area seaward from mean high water, which includes the Red River channel up to the entrance of the Marazion Bridge. The area forms part of the wider MCZ that spans an area of almost 12km^2 within Mounts Bay.

The MCZ has been designated to protect and conserve the following broad-scale habitat features and associated features of conservation Importance. The distribution of which are presented within Figure 3.2a and 3.2b:

- *MCZ protected broad-scale habitat*:

  Moderate energy intertidal rock, High energy intertidal rock, Intertidal coarse sediment, Intertidal sand and muddy sand, Moderate energy infralittoral rock High energy infralittoral rock, Subtidal sand

- *MCZ features of Conservation Importance:*

  Seagrass beds, Giant goby (*Gobius cobitis*), Stalked jellyfish (*Haliclystus spp), Stalked jellyfish (Lucernariopsis campanulata)*, Stalked jellyfish (*Lucernariopsis cruxmelitensis).*

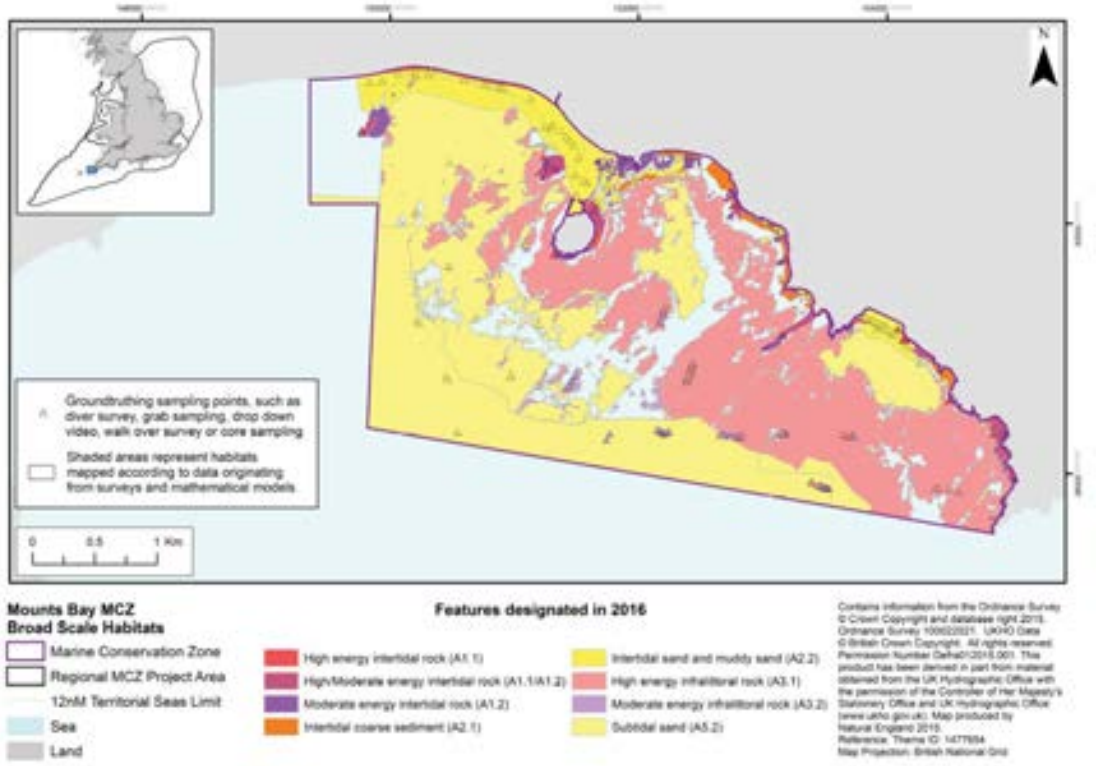

Figure 3.2a Marazion BDMP: Mounts Bay MCZ showing distribution of MCZ protected broadscale habitat (Natural England, 2016a).

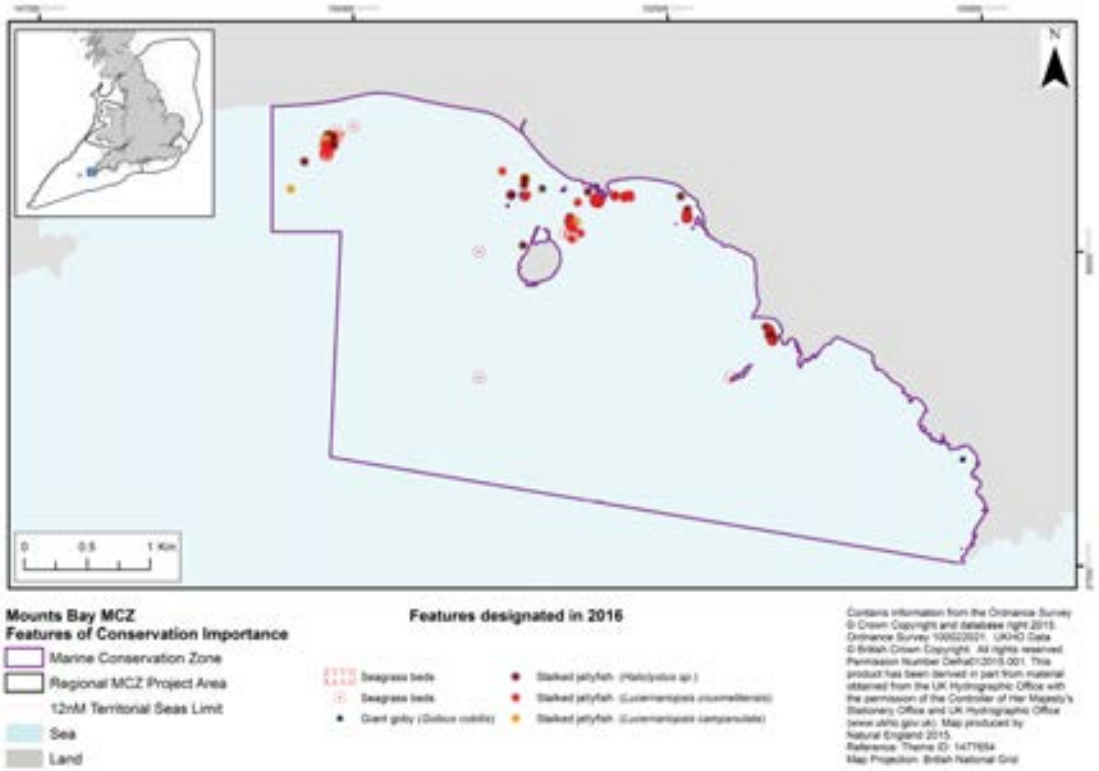

Figure 3.2b Marazion BDMP: Mounts Bay MCZ showing distribution of MCZ features of Conservation Importance (Natural England, 2016a).

- **Marazion Marsh SPA and SSSI**

Located immediately adjacent (northwest) to the **Marazion Marsh SPA/SSSI**. Marazion Marsh is the largest area of reed-marsh in Cornwall. The road marks the boundary between the SPA/SSSI in the north western section of the BDMP study area.

Marazion Marsh SPA is situated at the mouth of a wide coastal valley, and separated from the sea by a shingle bar fringed by sand dunes, on top of which the coastal road now resides. The marsh is important for passage and wintering birds associated in particular with the extensive reedbed. The site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of Annex I species Aquatic Warbler *Acrocephalus paludicola* (in passage) and Bittern *Botaurus stellaris* (over winter).

Marazion Marsh SSSI legally underpins the Marazion Marsh SPA designation above. The SSSI is notified for its lowland fen, *Phragmites australis* swamp and reed-beds.

Locally designated Sites

The BDMP study area, is encompassed within the **Marazion Marsh County Wildlife Site (CWS)** (Cornwall County Council, 2015) and **will require consideration during development of the BDMP**. County Wildlife Sites are the most significant areas of semi-natural habitat in Cornwall outside statutory protected sites.

The **Marazion Marsh RSPB reserve** is encompassed within the Marazion Marsh SPA/SSSI adjacent to the BDMP study area and **will require consideration by the BDMP**.

3.3.1.2 Habitats and Species

UK Priority Habitat Inventory

In addition to the protected habitats as featured within the MCZ designation above (Section 3.3.1.1), further UK Priority Habitats have been identified within or in close proximity (within 1km) of the

BDMP study area. In 2005 the Cornwall County Council report: Ecological Assessment of Coastal Zone Management Issues at Marazion (Spalding Associates Ltd, 2005) presented the following findings. Only habitats that are considered relevant to the Study Area, i.e. they are likely to be impacted upon or are likely to have an influence on the proposed scheme, have been described. The associated recommended management targets for these habitats are also presented:

- *Priority habitat within the BDMP study area* (*Spalding Associates Ltd, 2005):*
    - Coastal Sand Dunes
        - Open dune (Quality assessment Unfavourable (marginal) due to damage.
            - Retain existing dune extent and increase where possible.
            - Control trampling erosion of foredune and yellow dune.
            - Control ruderal species.
    - Dune grassland
        - Unfavourable, damage and lack of zonation.
            - Retain existing dune extent.
            - Re-instate dune habitat near Marazion wherever possible.
            - Reduce fragmentation wherever possible.
            - Maintain areas of bare sand on grey dune habitat.
            - Eliminate invasive non-natives.
    - Vegetated shingle
        - Favourable*
            - Retain and restore open shingle habitat wherever possible.
    - Littoral and infralittoral rock
    - Probably favourable (but non-natives present and no baseline on which to make assessment). Further information regarding this habitat type has been documented by the recent 2016 Mounts Bay MCZ designation.
            - Retain extent and quality, particularly rockpools Monitor non-natives.
- *Priority within close proximity to the BDMP study area (magic.gov.uk):*
    - Saline Lagoons (present within Marazion Marsh SPA/SSSI designated area behind the main public carpark for the beach).
    - Lowland Fens (present immediately adjacent north of the BDMP study area with the SPA/SSSI).
    - Reedbeds (Surround the Red River channel, part of the SPA/SSSI).
    - Deciduous Woodland (north and north west of the BDMP study area within Marazion Marsh SPA/SSSI).
    - Maritime Cliffs and Slopes (Marazion East and St Michael's Mount).

Notable species

European protected species that may require consideration during the development of the BDMP are:

- Marine mammals: There are regular sightings of cetaceans in close proximity of the BDMP area (species of whale, dolphins, porpoises and grey seals).

- Bats: Bat roosts were reported within 1km of the area by Spalding associates (2005) as part of a Coastal Zone management study.

Other locally important species within the BDMP study area

There are a number of important pioneer plant species associated with the dune habitat. Some of these species may also be associated with that of vegetated shingle habitat. The Spalding Associates report (2005) described no discrete shingle structure at Marazion but described a fringing beach of scattered shingle at the base of the various sea defence structures from Longrock to Marazion green and within the sea edge of the dune. These species are listed within the Spalding Associates, 2005 report. As this report is over ten years old, it is recommended that this this data is brought up to date by a new survey along with further detailed mapping of the recent findings by Thompson Ecology (2016) on the presence of Schedule 9, non-native plant species within the BDMP area (see Section 3.3.1.3).

Notable species known to be present within the BDMP study area include the very rare Sea Daffodil, with Marazion the only known location of the plants presence in Cornwall.

3.3.1.3 Invasive non-native plant species

Japanese Rose (*Rosa rugosa)* and Montbretia (*Crocosmia x crocosmiiflora Montbretia*) are invasive non-native plant species listed under Schedule 9 of the Wildlife and Countryside Act (1981) as amended. The Wildlife and Countryside Act (1981) as amended lists invasive non-native species that are likely to have a significant impact on habitats, native species or have economic or social impacts within Schedule 9. These species have been identified within the dune habitat of the Marazion Marsh County Wildlife Site within the BDMP study area (Thompson Ecology, 2016. See Figure 3.3 below).

Figure 3.3 Distribution of non-native plant species at Marazion (Thompson ecology, 2016)

The encroachment of Japanese Rose and Montbretia is considered to be of concern for the following reasons (among others):

- They could cause crowding out of native species;
- They could cause modification of habitat structure and type through changes to the species structure and compositions; and
- They could cause physical modification of habitats though changes in sedimentation, erosion, pH and nutrient dynamics.

Non-native Schedule 9 plant species Japanese Rose and Montbretia will require consideration during the development of the BDMP.

3.3.2 Landscape Setting

The importance of high quality landscape, seascape, and visual amenity to the Marazion area is recognised by the following important designations (see Figure 3.1 above) and require consideration during the development of the BDMP:

Within the BDMP study area:

- **The Cornwall Area of Outstanding Natural Beauty (Area 08 South Coast Western)** is characterised by granite outcrops, steep rugged cliffs, a freshwater habitat held back from the sea by a shingle bar and sandy beaches (Cornwall AONB, 2017). The AONB **will require consideration during the development of the BDMP.**

Located within close proximity:

- The internationally designated **Cornwall and West Devon Mining Landscape (UNESCO) World Heritage Site** is located on the north-western side of Marazion town at its closest point and **will require consideration during the development of the BDMP.**

3.3.3 Archaeology and Cultural Heritage

The importance of historic and cultural heritage to the Marazion and surrounding area is recognised by the following national designations. The BDMP will need to consider these (see Figure 3.1 above).

3.3.3.1 Designated Archaeology and Cultural Heritage

Listed Structures/Buildings

There are listed structures and listed buildings are present in close proximity of the BDMP study area, (see figure 3.1 above). **This will require consideration during the development of the BDMP:**

- **The Marazion Bridge** that carries the coastal road over the Red River channel is a grade II **listed structure** and located on the landward edge of the BDMP study area.
- **The Old Marazion Bridge** and accompanying boundary stone, carries Green Lane West over the Red River channel from the coastal road, north of the study area, are also grade II **listed structures**.
- There are **scheduled Monuments (Four crosses on St Michael's Mount)** and other **listed buildings and structures** present within Marazion Town and on St Michael's Mount.

Non-designated archaeology

The remains of two non-listed WWII concrete infantry box are present on the beach. The two boxes were originally present on the dunes, but the dunes have now been lost and the boxes degraded. As such, after some storms, metal work from the boxes (and other WW2 defences) become exposed and have now created a health and safety issue and require removal. The WWII infantry box remains will require consideration during the development of the BDMP.

3.3.4 Designated Geological Conservation Sites

3.3.4.1 Geological SSSI

St Michael's Mount SSSI, fringes the south west coastal section of on St Michael's Mount (see figure 3.1 above). The SSSI is designated for its geological cliff and foreshore exposures which is described by the following citation:

'The megacrystic granite of St. Michael's Mount is a fractured granite cusp of the Cornubian batholith. The granite contains disseminated tin mineralisation and has been invaded by a swarm of sub-parallel, greisen-bordered, mineral veins which are excellently exposed over a wide area on the wave-cut platform.

The extent of the exposure permits the opportunity to study variation in the mineralogy and chemistry of the veins both laterally and along the strike, as well as the nature of the alteration produced by the greisenization. The interest compliments that observed at Cligga Head but can be observed in plan on St. Michael's Mount rather than in vertical exposure.'(Cornwall Rigs Group, 2007)

3.3.4.2 County Geology Site

Venton cove is a County Geology Site located west of the BDMP study area is considered to be of regional scientific importance for its geology and educational value. Its main features are described as 'Pneumatolytic Breccia Intrusion, intersected by an elvan dyke and a cross-cutting epithermal quartz vein, intruded into Killas. Raised beach and 'head' deposits in the cliff' (Cornwall RIGS Group, 2007).

3.4 Main human impact pressures affecting the natural dynamics of the site

The following observations were made by Spalding Associates Ltd (2005) and are still relevant following the site visit in February 2017 (refer to Section 2):

- The extensive coastal defence structures.
- Localised trampling erosion on the dune and intertidal rocky shore habitats.
- Fragmentation and restriction of the dune system.
- Recreational use of the beach.
- Presence of invasive non-native plant species.
- Localised pollution.
- Bait digging (polychaete worms associated with the mud and fine sand).

3.4.1 February 2016: Site visit observations

Additional observations and information noted since the 2005 Coastal Zone Management Issues Report (Spalding Associates, 2005), based on observations obtained during the site visit on 1st February 2017 (refer to Section 2), include:

- The southwest path runs through the middle of the dunes, which is also currently used as an unofficial cycleway.
- Uncontrolled access over the dune has led to several paths cutting through the dune face where vegetation had been trampled and foot traffic has led to erosion. This includes erosion of main footpath over the top of the dunes, particularly at eastern and western end of the dunes.

- Non-native vegetation (i.e. brambles, Montbretia, Japanese rose) encompasses large parts of the dune system, particularly towards the top and landward sides of the dunes (see Section 3.3.1.3).
- Narrowing of the dunes at the western end where they meet the hard coastal defences.
- Cliffing of dunes evident along much of the dunes (both to east and west of Red River channel), with tide line evident along toe of dunes for much of length.
- Areas either side of Red River channel have been flattened and dune vegetation largely removed (though there is evidence of it trying to re-establish, particularly on Folly Field on the eastern side of the channel).
- Evidence of litter and dog waste within the dune.

3.4.2 Potential future plans and projects

Future plans they may impact upon the BDMP and require consideration during the development of options include:

3.4.2.1 Marazion Marsh SPA Site Improvement Plan

The Marazion Marsh Site SPA Site Improvement Plan (SIP) was produced by Natural England in 2014. The plans provides a high level overview of the issues affecting the condition of the site and outline priority measures to improve the condition of the sites features. The proposed actions as described within the SIP will require consideration during development of the BDMP. In particular, the following management actions will require consideration:

- ***Remove accumulation of silt from Longrock Pool (SIP Action 1B)***

  There are proposals to undertake a desilting operation of the Longrock Pool within the boundary of Marazion Marsh Special Protection Area (SPA). Funding is yet to be granted and is subject to further investigations and permitting that includes a Habitats Regulations Assessment. This action is proposed for undertaking between 2017 and 2020.

  Proposed plans as part of the action include the potential to create dunes landward of the road utilising the dredged material.

3.4.2.2 Marazion Cycle Way

There are future plans to make an official Mounts Bay cycle way along the coastal frontage. Cornwall Council (2012) have considered five options, which have undergone the following assessment (Figure 3.4):

Ref	Option	benefits/opportunities	Dis-benefits /constraints	Implications
1	Continuation of shared use path via boardwalk across existing dune on southern side	• Appealing route following existing desire lines on seaward side • Could help formalise/manage movements over the dune • Direct links to proposed destination	• Considered to have negative environmental impact on SSSI, not supported by Ecologist • May not achieve adoptable standard • Significant maintenance costs as it is not a fixed structure • Does not link to the NCN3 on Green Lane	• Would require improvement to existing footbridge • Continuation of route
2	Continuation of shared use path via bridge structure across existing dune on southern side	• Appealing route following existing desire lines on seaward side • Could reduce impact on dune • Links to proposed destination	• Dis-proportionate cost • Feasibility/deliverability risk (dunes are mobile) • May not be acceptable visually • Does not link to the NCN3 on Green Lane	• Would require improvement to existing footbridge
3	On-carriageway advisory cycleway	• Does not impact on SSSI or SPA • Could link to NCN3 Green Lane	• Limited road width • Currently 40mph limit not conducive to cycling • Uncomfortable route unlikely to attract new/family cyclists	• Requires reduction in speed to 30mph and traffic calming • Provision required to exit highway
4	New shared use path on northern side taking space from carriageway and verge	• Does not impact on SSSI or SPA • Appealing route along nature reserve • Could facilitate a calmed environment with slower speeds and improved gateway to the town • Links to NCN3 route	• Highway capacity would need to be reduced. Min width of 6m required. Currently 6-7.5m • Without reducing to single land shuttle only 1.8m wide shared use path can be achieved – does not meet min standard for shared use • Cyclists will need to cross back to seaward side/proposed destination	• Reduce highway width • Possible traffic shuttle system over approx. 160m • Requires reduction in speed to 30mph
5	New shared use path on northern side between proposed dune and highway taking space from reserve and existing verge	• Appealing and comfortable route along nature reserve • Links to NCN3 route • Opportunities to align with EA proposals, delivering coherent scheme managing impact and maximising benefits	• Requires SPA land take • Would need crossing points to link with existing path and back to proposed seaward destination • Cyclists will need to cross back to seaward side/proposed destination	• Mitigation required – habitat replacement

Figure 3.4 Marazion Cycle Way Plans, Assessment of options (Cornwall Council, 2012).

It is understood that no final preferred option has yet been selected, but that Option 1 in Figure 3.4 is a likely more preferable option (see Figure 3.5), and so the BDMP future management options will need to consider the implications for, and interactions with, any such cycleway in this location.

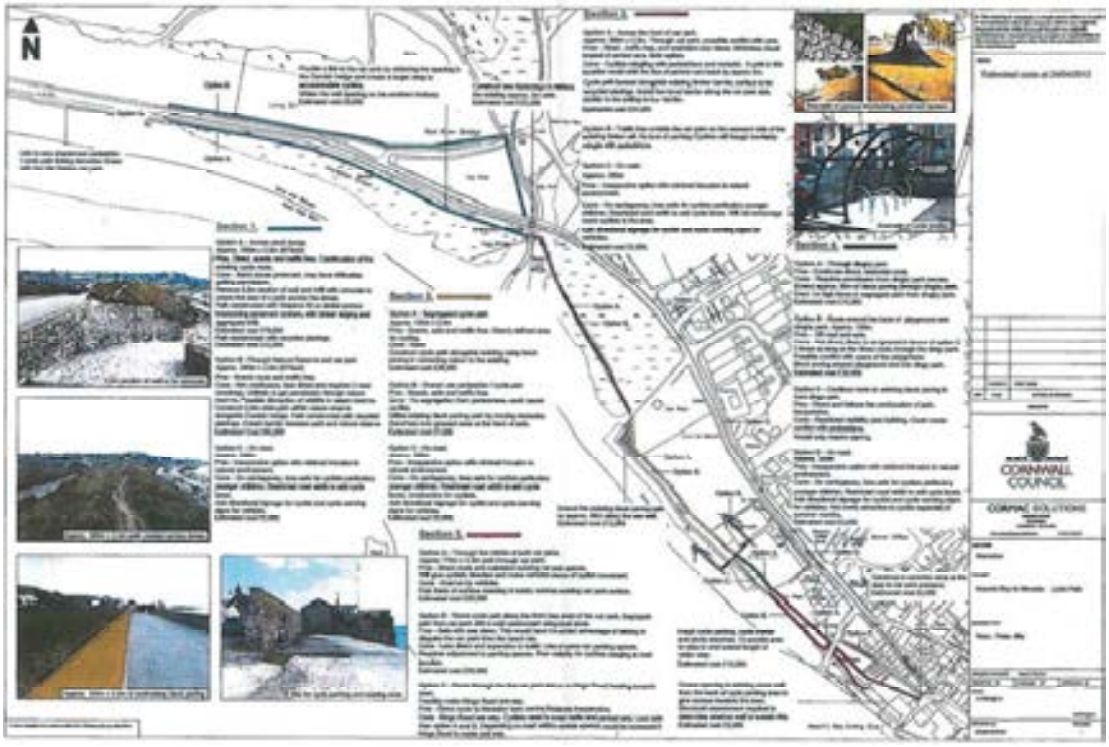

Figure 3.5 Marazion Cycle Way Plans, Assessment of options (Cornwall Council, 2012).

3.4.2.3 Penzance Harbour Arm Extension

The potential future Penzance Harbour Arm extension project may alter Mounts Bay processes.

3.4.2.4 Sandscaping Project

A potential longer-term management of coastal flood and erosion risk as set-out in the Mounts Bay Strategy is currently leaning towards a “sandscaping” solution in about 20 years or so time to enhance the dunes. The project is subject to further investigations, but it is thought that it would bring about 1.5Million cubic metres of imported sand into the coastal system. This could also incorporate a series of groynes or offshore breakwaters. However Natural England have concerns about the long-term viability of the dunes and the impact on the Marine Conservation Zone as a result of significant recharge activities.

SECTION 4

Coastal Processes Understanding

4.1 Introduction

This section of the report provides the coastal processes understanding for the Marazion BDMP area, which will be used in Stages 2 and 3 of the development of the BDMP for this area to help define the issues for each of the BDMP site and the objectives for their future management, and subsequent appraisal of options to manage those issue and objectives.

Specifically, this section of the report presents a review of existing literature and the findings of new data analysis to assess the coastal processes and shoreline change at the BDMP location. The work draws primarily from key data sources, including the 2009 sediment budget report (Halcrow, 2009c), the SMP2 (Royal Haskoning, 2011a), Mounts Bay Strategy (Royal Haskoning, 2014) latest beach profile monitoring data (Plymouth Coastal Observatory (PCO), 2014a and b and 2015a) and new data received from stakeholders. It provides:

- A review of past shoreline evolution, characteristics of the coastline today, hydrodynamics and sediment transport patterns, to provide a conceptual understanding of the coastline;
- Review of the latest beach profile data by Plymouth Coastal Observatory (PCO) and LIDAR data (where available); and
- Recommendations for consideration when developing the future management options.

4.2 Shoreline Processes Overview

4.2.1 Key Characteristics of the Coastline Today

Marazion is located on the south-west coast of Cornwall. The site is situated within the wider embayment of Mount's Bay which includes Penzance and Newlyn to the west and the Lizard Peninsula and Porthleven to the east (refer to Figure 4.1). The whole of Mount's Bay coastline is formed of Devonian rocks including mudstones, volcanic lava and tuffs (Royal Haskoning, 2014) with rocky outcrops, typical for this part of the UK coastline along Devon and Cornwall. Marazion is bounded by Long Rock in the west and St Michael's Mount in the east. Between the two outcrops, is a wide, shallow plan shape bay with sandy beach backed by sand dunes.

4.2.1.1 Morphology

The Mount's Bay frontage (in which Marazion is situated) can be divided into several defended and undefended sections and are described in more detail below:

- At the western end of Mounts Bay is the Penzance frontage including Ponsandan, Chaudnour and Eastern Green where the train line from London to Penzance runs along the coastline.
- In the eastern central part of the Mounts Bay is 'Long Rock' – a more resistant rocky granite outcrop which acts as a submerged breakwater (between 0 to -1mODN) helping to dissipate wave energy and intercept sediment transport. At Long Rock coastal defences have been in place for many years to help protect the road and railway (and Marazion Marsh SPA freshwater site) behind from coastal erosion and flooding. The defences consist of concrete banks and rock armour. The beach is sandy, although there are some cobbles and boulders (Figure A.1 in Appendix A). An outfall discharges to the east of Long Rock.
- From the end of the seawall at Marazion eastward to the town of Marazion there are no formal hard defences, only a semi-natural dune system (Figure A.2 in Appendix A) backed by a road (West End Road) and the Marazion Marsh freshwater SPA. Marazion Marsh and the fronting dune system is described as providing a 'buffer' between Longrock and Marazion town itself

(Royal Haskoning, 2011). The defences between the dunes and the road (Figure A.3 in Appendix A) and between the town and the dunes to the east (Figure A.4 in Appendix A) are starting to be outflanked.

- The eastern section of the dunes is intercepted by the Red River which drains across the beach (Figure A.5 in Appendix A).
- To the east of the Red River the dune is much lower and transitions into a heavily engineered frontage with reflective seawall and rock armour (Figure A.6 in Appendix A). These defences protect the town of Marazion including car parks along the frontage but also shops, restaurants, hotels and residential properties behind. Marazion itself is built on harder rock similar to St Michael's Mount.
- Marazion provides the access point to St Michael's Mount which is an important physical control on the coastline to the east of Marazion. It acts to trap sediment on its western side (particularly influenced by the causeway) and provides some shelter from the wave climate to the Marazion frontage from storm events from the south west but also more locally generated waves from the south east. Shallow rocky platforms to the north west of St Michael's Mount (e.g. Great Hogis has a maximum level of 1mODN) also locally influence wave transmission to the foreshore.
- Marazion East is an area of undefended exposed steep cliff which is eroding and is an important source of new sediment to the Mount's Bay.

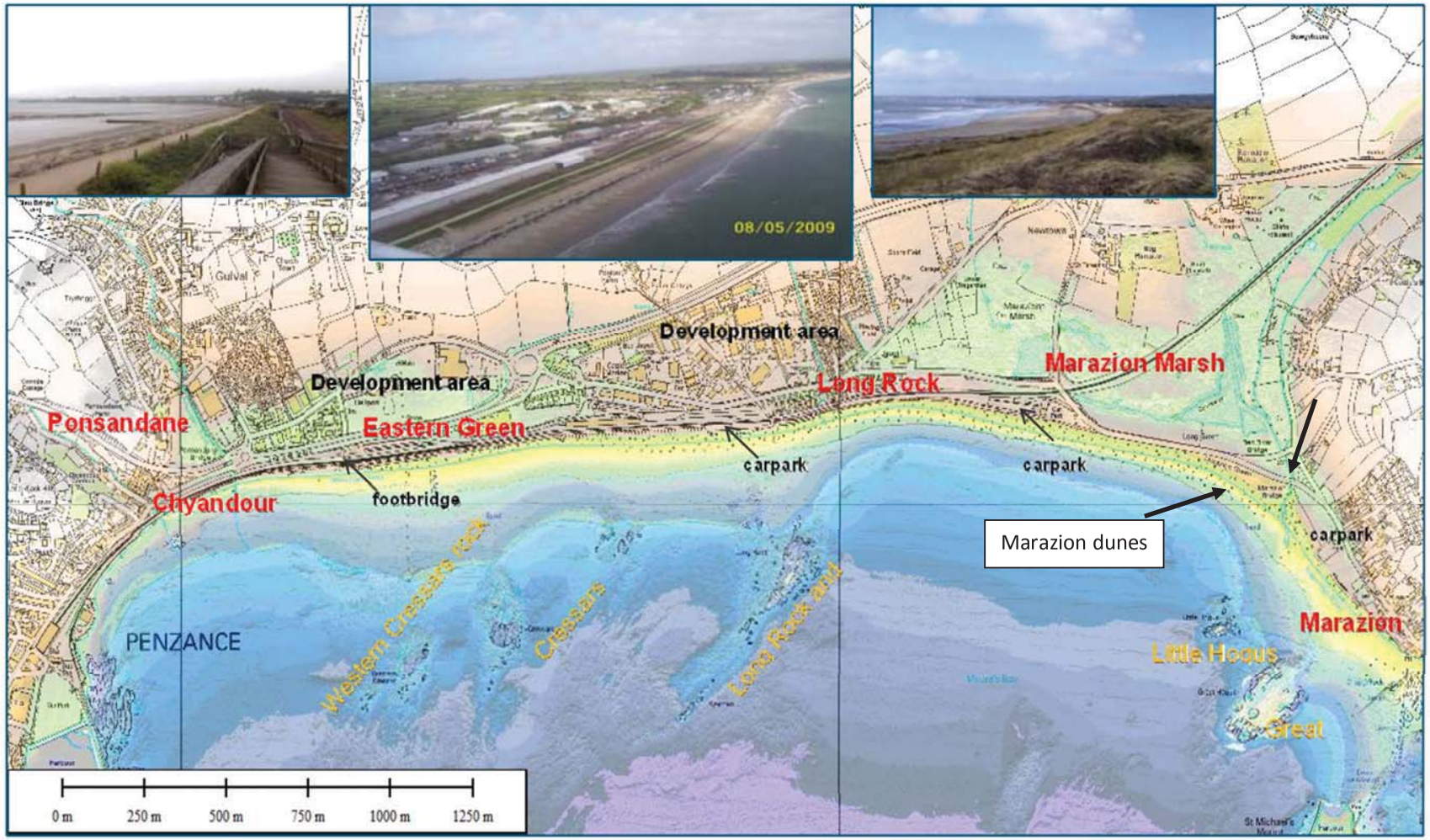

Figure 4.1 *Map showing location of Marazion relative to wider Mounts Bay (extracted from Royal Haskoning, 2014). NB: Marazion East is situated to the right of this map.*

4.2.1.2 Local processes and influences

In January 2007, several storm events occurred which caused dune fencing to be dislodged or displaced and a drop in sand levels was observed (Halcrow, 2007). Wave attack had disturbed the sand dune management techniques put in place by Natural England. Measurements taken at a sturdy post near to the middle of the dune front, indicated a drop in sand levels in the region of 35cm since October 2006. The pathway immediately behind the front row of fencing was sloping where it was previously a flat pathway, due to the decrease in beach levels at base of the dunes. The vegetation along the front of the dunes had been eroded by the waves. In October 2006, marram grass extended in front of the fencing in a number of sections. Following the storm in 2007 there was no vegetation in front of the fencing and the vegetation behind the fencing had been cut back in places

Following the recent unusual and prolonged 2013/2014 storms, significant erosion also occurred along the coast at Marazion. PCO prepared a report assessing the impact of the storms for a number of sites across Cornwall but only with focus on the beach not the dunes specifically. Figure 4.2 shows changes in beach sediment volume during the 2013/14 storms. Mount's Bay experienced loss across all beaches except some beaches to the east of the Bay near Goldsithney. Anecdotal evidence from local residents and stakeholders suggests significant erosion was experienced during this period (see Figures A.7, A.8 and A.9 received from a local resident in Appendix A).

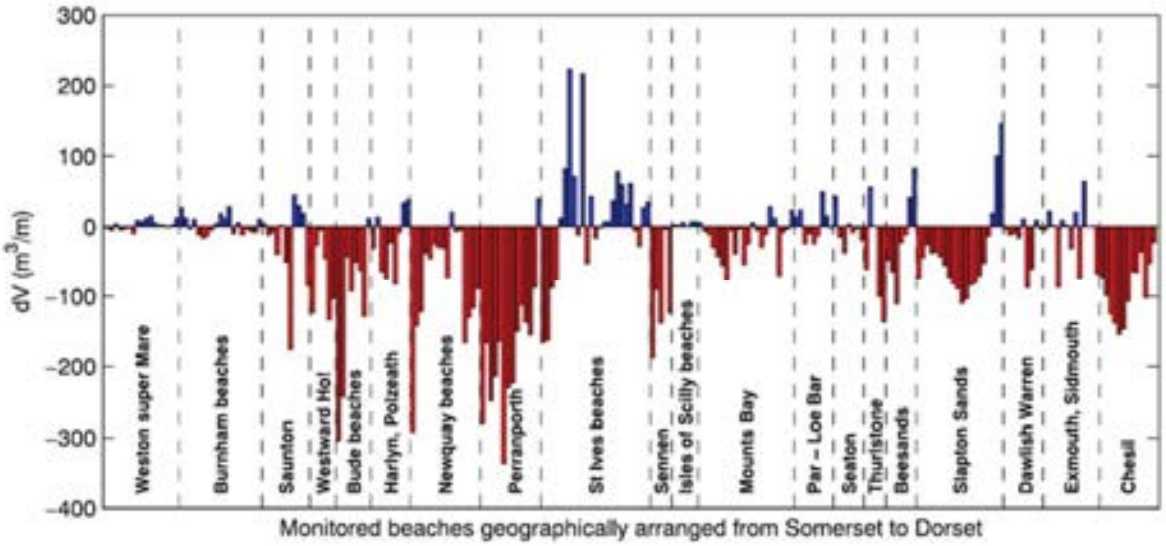

Figure 4.2 Changes in beach sediment volume per unit beach width during 2013/14 winter storms. Each bar in the graph represents a single beach profile (from Masselink et al, 2015).

Behaviour of the beach and dunes has been adversely affected by human interventions, both historically and current. Today, the dunes are also subject to erosion as a result of beach users climbing, sliding down and digging into the sand on the dune face. To the west of the dunes (where the transition to the hard defences meets the dunes), beach users have eroded the path to the road behind, exposing the dunes and potentially creating a weak point in the defence line in the longer term. To the east, there is evidence of erosion by cliffing of the sand dunes and grassed vegetated top of the dunes. Erosion has also occurred where visitors have walked from the car park directly onto the dunes rather than taking the signed footpath. This is likely to be a significant contributor for erosion in this particular area.

4.2.1.3 Dune management

There is limited information on previous dune management at Marazion. Records indicate that fencing has been implemented and was present in 2006/7 and in 2013/14; however, during the site

visit in February 2016 no fencing was apparent and is assumed to have been washed away or removed. Generally, as far as it is known the fencing has been used previously to control access to the dunes rather than to support dune management activities.

Previous management of the frontage was in line with SMP1 '*Hold the line for currently defended sections, including St Michael's Mount. Do nothing along undefended sections'*. (Halcrow, 1999). Following review of the Shoreline Management Plan in 2011, Marazion was classified within SMP2 Policy Development Zone 8 / Management Area 19 (Marazion to Long Rock) (Royal Haskoning, 2011a). The SMP2 states:

- The policy for the Marazion marsh frontage (Policy Unit 19.6) is Hold the Line for the next 100 years (to 2105) but it is recommended that realignment is considered for Epochs 2 and 3. This section is where the dunes are situated and provide protection to the marsh behind.
- The policy for the currently defended Marazion West (sea wall and rock armour section in Figure A.6 in Appendix A) (Policy Unit 19.5) frontage is Hold the Line (HTL) for next 100 years. There is need to consider the transition from NAI to HTL as part of the longer-term management as well consideration for defences to prevent outflanking or overtopping of the freshwater SPA site at Marazion Marsh.
- The policy for St Michaels Mount causeway and harbour (Policy Unit 19.4) is Hold the Line (HTL) for the next 20 years but the policy for the causeway switches to NAI after year 20. Harbour protection should be reviewed in year 35.
- The policy for Marazion Town itself (Policy Unit 19.3) is hold the line- defences may be required at the eastern end to reduce outflanking risk in the future.
- The policy for the undefended cliffs at Marazion East (Policy Units 19.2 and 19.1) is No Active Intervention (NAI) for the next 100 years (to 2105). This will provide a sediment source to the beach.

Mount's Bay Strategy (Royal Haskoning, 2014) recognises the potential for a more adaptive approach to management of the coastline at Marazion. In the short term (0-20 years) it recommends Do Minimum for the Marazion Marsh section with a longer-term strategy for adaptation to be developed in consultation with stakeholders. For the remainder of Marazion, the policy is still Hold the Line given the assets at risk.

4.2.2 Forcing Factors

4.2.2.1 Typical Waves

The coastline at Marazion is orientated north-west to south-east, with the beach and dunes facing approximately 230 degrees (south-west). The predominant wave direction (Figure 4.3) along the south coast of Cornwall is reported to be from the south-west (approaching from 180^{o}) and the coastline is exposed to open Atlantic swell waves (Royal Haskoning, 2011b). However as noted in the SMP the coastline is relatively sheltered by the Penwith Peninsula. During storm periods the frontage from Longrock to Penzance receives large amounts of wave energy which originate from due south and the south east.

The Penzance Directional Waverider Buoy, operated as part of the South West Regional Coastal Monitoring Programme (SWRCMP) is the nearest wave buoy to Marazion, and has been reviewed for this study (refer to Figure 4.4 for the wave data point).

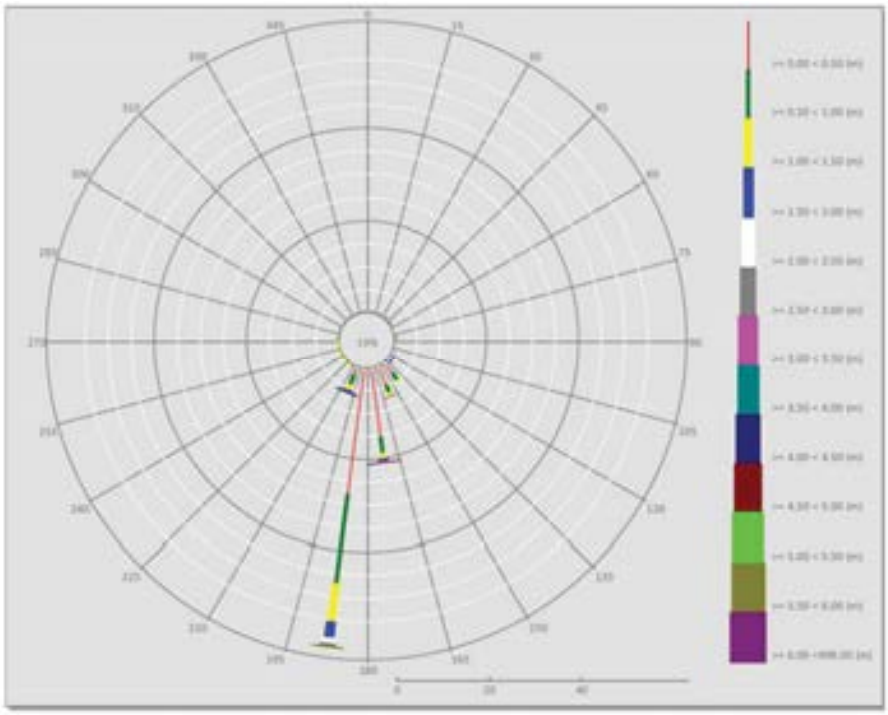

Figure 4.3 Offshore wave height recorded by the Penzance Directional Waverider Buoy between 6th April 2007 and 31st December 2015 (PCO, 2015a).

Figure 4.4 Map showing the location of the wave data collection points at Penzance relative to the coastline.

4.2.2.2 Storm Waves

Storm analysis undertaken by PCO (2014c) provides an overview of the storm conditions recorded by the Penzance Directional Waverider Buoys since 2007. Further analysis since 2014 has been provided by PCO (2015a).

For each wave buoy in the SWRCMP, an individual storm threshold is set. A storm event is defined when significant wave heights equivalent to the 0.25 year return period (i.e. the threshold wave height (Hs) for 2 to 4 storms in an average year) occurs for set period of time (i.e. 16 hours). The significant wave height is calculated when a 5 year time series of data becomes available for the wave buoy and is then reset each year. Prior to that, the height is based on an educated conservative guess from looking at the wave data available. The reason that the 0.25 year return period is used is because the SWRCMP have found that in general there are 3 to 4 storms in any one year that result in the movement significant amounts of sediment.

For their reporting, PCO produce a storm calendar. The calendar includes a graph, where each dot represents a storm (i.e. where the Hs exceeds the storm threshold) and shows the Hs for that particular storm. PCO plot the significant wave height for the 1 year return period for that particular buoy on the graph (calculated in the same way as significant wave height for the 0.25 year return period) as a red line. Where storms plot above the red line they are considered to be more severe/extreme and are listed in a separate table. The table and storm calendar for the Penzance Directional Waverider Buoy are presented in Table 4.1 and Figure 4.5 and respectively.

The storm calendar for the Penzance Directional Waverider Buoy shows that seven individual storms have exceeded the 1 year Return Period since 2007. Three of those storms (43 %) occurred between October 2013 and February 2014. Overall the SW coast of England experienced 22 extreme storms from October 2013 to April 2014 (Masselink et al, 2015). The impact of these storms on beach change is described in Section 4.3.

Table 4.1 Storms exceeding 1 year Return Period at Penzance since deployment in 2007. Those occurring during the storm season October 2013 to February 2014 are shaded pink (source: PC0, 2014b).

Date	Wave Height (m)	Return Period
04/02/2014	6.06	Greater
16/01/2010	4.7	> 1 in 3 years
13/11/2009	4.64	> 1 in 3 years
13/01/2008	4.54	> 1 in 2 years
22/11/2012	4.27	> 1 in 1 year
03/02/2008	4.24	> 1 in 1 year
23/12/2013	4.24	> 1 in 1 year
24/12/2013	4.24	> 1 in 1 year
03/02/2014	4.19	> 1 in 1 year

Figure 4.5 presents the storm events from 2008 to 2015 to understand the frequency and magnitude of events. In addition, more recent data (PCO, 2015a) indicates there were two significant storm events in January 2015 and December 2015. Details of these events are recorded in Figure 4.6 and Table 4.2. It is likely that with sea level rise increased water levels and hence wave energy will lead overall to increased impacts on the shoreline (erosion and overtopping). Figure 4.5 above shows storms (significantly above the Hs=3.25m threshold) with several storms occurring in Jan 2010 and Jan 2014. There has been only 2 storm events above the threshold in 2015 (see Figure 4.7) but there may have been additional storm events in 2016 which would exceed the threshold.

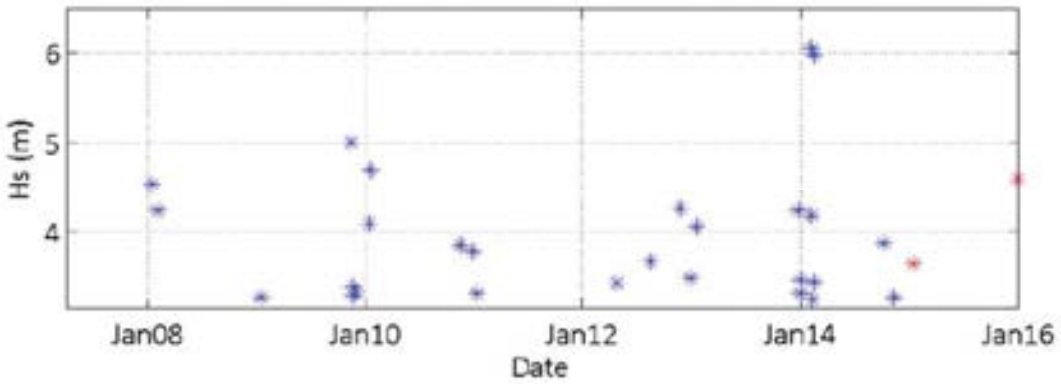

Figure 4.5 Storm calendar for Penzance 2008-2015 (PCO, 2015a)

Figure 4.6 Storm calendar for Penzance during 2015 (PCO, 2015a)

Table 4.2 Details of 2 storm events which occurred in 2015.

Date/Time	H_s (m)	T_p (s)	T_z (s)	Dir. (°)	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
30-Dec-2015 08:30	4.60	10.0	7.5	186	2.42	HW +1	4.1	0.44	0.55
15-Jan-2015 00:00	3.65	10.5	6.9	196	1.69	HW +1	2.3	0.56	0.56

4.2.2.3 Tides

Tidal levels have been extracted from the current Admiralty Tide Tables (UKHO, 2016) for the closest location with the best available data, in this case Penzance, and converted to Ordnance Datum (mOD). The tide levels for Penzance are presented in Table 4.3. Overall the tidal range in this area is around 4.2m. Residual tidal currents are typically less than 1 m/s (and around 0.5m/s in Mounts Bay) with net eastward sediment transport attributed to the residual tidal flow pattern (Royal Haskoning, 2009).

Table 4.3 Tide levels (in mOD) for Penzance, adjusted from standard port Plymouth (Devonport).

Tidal Condition	Tide Level (mOD)
Highest Astronomical Tide (HAT)	Data not available
Mean High Water Spring (MHWS)	2.45
Mean High Water Neap (MHWN)	1.25
Mean Sea Level (MSL)	0.15
Mean Low Water Neap (MLWN)	-1.05
Mean Low Water Spring (MLWS)	-2.25
Lowest Astronomical Tide (HAT)	Data not available

4.2.2.4 River Dynamics

The Red River discharges from Marazion Marshes under a bridge across the road and across Marazion beach. It was originally named as the 'Red River' because of discolouration from mining spoil. The river is unlikely to be contributing significant sediment into the system at this point (Halcrow, 1999). The river flows are more likely to have a greater influence on the dunes due to migration (anecdotal evidence from local stakeholders). As noted in Halcrow (2009) changes in position and size of the river channel across the beach can influence erosion and accretion patterns, particularly where the river bed cuts landward eroding dune sediment. This has been reviewed further in Section 4.3.

4.2.3 Sediment Dynamics

The alignment of the coast at Marazion to the incident wave direction results in the potential for both longshore and cross shore transport (Halcrow, 2009). There are weak sediment links along this frontage, due to a weak net eastward tidal residual drift (accumulation of sediment on the western side of St Michael's Mount and its causeway supports this view). Sediment transport is primarily sand grade material which is wave driven particularly under storm conditions (Royal Haskoning, 2011). Most transport is cross-shore from the beach and onto the dunes by wind-blown transport, however the supply of sand is weak and unlikely to be sufficient in the long term for stabilisation and accretion of the dunes.

Due to the bounding rock headlands, little sediment is lost or gained outside of Mounts Bay through longshore transport. Sediment is supplied to the beach via dune face erosion and potentially via the discharge of sediment from the freshwater Red River, although it is unlikely to supply significant volume of sediment to the beach/dune system. From the beach, sediment can be transported offshore to the nearshore zone or further afield, for example to sediment sinks within Mounts Bay, and returned to the dune system during calmer periods. This has been evidenced in the 2013/14 storm recovery assessment (PCO, 2014) where in some areas (e.g. Harlyn Bay) the volume of sediment recovered by summer 2014 (post storms in January 2014) increased by up to 500%. However, for Marazion the beach volume only appeared to increase by 3% suggesting that recovery here was less strong than other sites. It would be interesting to see how this has changed since 2014 and further study on this would be recommended.

Some sediment is released from cliff erosion at East Marazion and through erosion of rock outcrops but is unlikely to significantly influence the frontage at Marazion due to the Mount St Michael causeway. The Mounts Bay Strategy states that currently '*longshore sediment movement, apart from locally within the influence of natural shore features, the frontage as whole is seen as being in good equilibrium*' (Royal Haskoning, 2014b).

4.3 Historical Shoreline Change

For the Cornwall Sand Dune and Beach Management Strategy, Halcrow (2009b) undertook a series of analysis of historical behaviour. The results of the analysis are described below in addition to some more analysis of more recent data since 2009.

4.3.1 Analysis of Aerial Photographs

Using historical aerial photographs, the dune toe was digitised and compared (refer to Figure B.2). The analysis shows that the between 2007, 2010 and 2012:

- There was no significant change in the position of the dune toe between 2007 and 2010 other than a small amount of movement near the river channel. NB: there are some areas on the dunes to the west of the Red River channel where the dunes appear to have advanced (<1m) – this could be due to differences in vegetation cover or small digitisation errors.
- Between 2010 and 2012 significant retreat appears to have occurred along the dunes in front of the car park at Marazion (approximately 4m retreat i.e. 2m/year erosion rate). This is likely due to direct wave action along the frontage or from public walking on the toe of the dunes. Change is particularly noticeable closest to the footpath from the car park to the dunes where up to 14m of erosion has occurred in 2 years (i.e. average of 7m/year). This is likely to be due to unrestricted access to the dunes and beach via the car park at Marazion. Figures A.11 and A.12 in Appendix A show evidence of where access from the car park to the beach has had a significant impact on the dune extent.

Most of Marazion Marshes are around 4m ODN, while much of the Long Rock area is typically above 4.5m ODN; the width of the dunes is estimated to an order of 35m width at its widest (Royal Haskoning, 2014). SMP1 erosion rates were recorded to be between 0.68-2.97m/year for Marazion marsh (Halcrow, 1999). Erosion rates along Marazion town frontage and St Michaels Mount were recorded between 0.75m/year and 1.84m/year (ibid). The SMP2 notes that most recently the toe of the dunes has been stable due to dune management techniques but doesn't specify what was undertaken in detail. It also notes that the MLW has retreated, causing gradual loss of intertidal and a steepening of the beach slope. The SMP2 estimated that historical erosion rates varied from 0.54m/year- 0.82m/year. The rates of retreat indicated in Figure B.2 in Appendix B are higher than this (of the order of 2-7m/year erosion in localised areas but in other areas there is minimal change). However, it should be noted that this is only over a very short period of 2007 to 2012 and erosion is not uniform across the whole frontage.

Anecdotal evidence from local stakeholders suggested that the Red River channel plays a key role in the dune changes. Figure B.3 in Appendix B provides an overview of the position of the Red River channel over time shown. The images indicate that the river width and point at which is discharges has changed significantly over the last 15 years. In 2001 the channel is very straight whereas from 2005-2009 the channel discharges to the east dunes. Between end of 2009 and 2010 the discharge channel seems to switch towards the western dunes. Between 2010 and 2012 the channel appears to migrate eastwards again. In 2013 the channel discharges to the west 2014. During the site visit in February 2017, the channel was seen to be over towards the eastern side of dunes (see Figure A.9 in Appendix A) which is consistent with 2014 and also 2006 (Figure A.10 in Appendix A). However, when observing Figure B.2 in Appendix B which shows the dune extent changes between 2007 and 2014, there is very little retreat seen close to the Red River suggesting changes in the Red River channel do not appear to be impacting on the dune system (but likely the beach levels only- see Figure B.12 in Appendix B).

4.3.2 Comparison of Ordnance Survey Mapping

Ordnance survey maps have been assessed to consider changes in the MHW levels and dune extent (Figure B.1 in Appendix B). A comparison of the 1938 Ordnance Survey Mapping with current day aerial photography (2012) and also 2013 MHWS mark estimate from LIDAR shows:

- The High Water Mark is very similar to the MHWS mark in 2014 with the exception of the area around the Red River channel.
- The dune extent is significantly different on the west of the red River channel; the 1938 map suggests that the sand dunes closest to the Red River used to extent much further seawards and south eastwards. However, the line of the dune is very straight suddenly changes direction at the interface with the Red River channel so the accuracy of this level is uncertain. Looking at a 1964 map available to view online (at www.oldmaps.co.uk) the extent of the dunes is much more similar to the 2012 extent than the 1938 map. However, the dune extent to the west towards Long Rock is much more similar for 2012, 1938 and 1964.
- The dune extent to the east of the Red River on the 1938 map is smaller than the current day aerial photograph extent giving further confidence that the 1938 dune extent map should be considered carefully. This is again represented better on a 1964 map viewed online.

4.4 New Shoreline and Beach Profile Analysis

Beach profile monitoring undertaken by PCO for the SWRCMP provides recent data and analysis for the beach at Marazion. A summary of the findings from the latest annual survey report (PCO, 2014a, 2015b, 2016) are presented in this section and provide an overview of beach profile change between Spring 2014 and Spring 2015 and 2016, and over the longer-term from the baseline survey in 2007 to the most recent survey in Spring 2015/6. It should be noted that the calculations of cross sectional area cover the beach and do not include the dunes. In addition to this topographic difference models have been prepared using available LiDAR data and changes in the MHWS level assessed.

4.4.1 Beach levels

4.4.1.1 Short term (2014-2016)

- Between Spring 2014 and Spring 2015 (refer to Figure B.4 in Appendix B), all the profiles in this survey unit have lost material, with the exception of the most westerly profile 6e00747, which increased in cross-sectional area by 8%. All three other profiles displaying erosion have lost 4% of their cross-sectional area equating to a loss of between 13-22m^2 for each profile. However, between 2015 and 2016 there is a different trend where all profiles are accreting (range between 1% and 9%- the most being directly in front of the car park (6e00743) at Marazion). This trend could be due to a slow recovery of material following the storms of 2013/14.
- Mounts Bay to the west of Marazion (Figure B.5 in Appendix B) shows a general accretion trend between spring 2014 and 2015 with the exception of 2 profiles (6e00792 and 6e007788) either side of the train station at Penzance. The profile with the most increase over this period was at Long Rock (profile 6e00780) which increased by 21% in CSA in just one year. Between 2015-2016 there are wide variabilities in profiles at Mounts Bay – some profiles are accreting and some eroding. Most erosion is occurring at Long Rock (profile 6e00776) which could be the system re-equilibrating after significant sediment accretion in the same area in 2014/15.
- Considering the profiles results together it appears that in the short term, sediment has been lost from Marazion in 2014/15 and either moved west towards Mounts Bay frontage during 2014-15 or sediment was lost offshore and following this (during storm recovery between 2015-2016) the sediment has moved back from Mounts Bay towards Marazion.

4.4.1.2 Short term (2013/14 winter storms)

- As part of the SWRCMP, PCO have also prepared a report (PCO, 2014b), which examines the change to a selection of the beaches along the south-west coast, with a view to identify how beach change occurring as a result of the 2013/2014 winter storms compares to the longer-term behaviour of the beach. The frequency of the storms over the winter of 2013/2014 allowed for little, if any beach recovery and consequently each storm was impacting on a progressively weaker beach.
- Analysis of beach profile data to assess beach volume change over the longer term (typically between 2003 and 2013), the 2013/2014 winter storm period (typically between October/September 2013 and February 2014), and over a post-storm period between winter 2013/2014 and summer 2014 is described below:
    - Beach volume changes at Marazion (1km stretch surveyed) indicate 18,100m^3 of material was lost between 2013/14 during the storm period; conversely during the period from 2007-13 results indicate an increase of volume by 5,100m^3.
    - These results are consistent with the general trend observed across the south-west where the overall trend prior to the 2013/14 winter storms had been for beach accretion at most beaches and the majority of beaches lost material during the 2013/14 winter storms.
    - Beach recovery by summer 2014 was only 3% (significantly less than other beaches). Unfortunately there is no longer term analysis of recovery between 2014/15/16.

4.4.1.3 Longer term (2007-2015/16)

- Over the longer term, between 2007 and spring 2015 (refer to Figure B.8 in Appendix B), the two central profiles in the survey unit at Marazion have eroded since 2007 (-1% and -6% respectively). However, the profiles to west (1% at the red river) and east (4%) at St Michael's Mount) have accreted. Between 2007 and spring 2016 (Figure B.9 in Appendix B) all profiles except one have been accreting – particularly the profile (6e00743) directly in front of the car park.
- In Mount's Bay between Spring 2007-Spring 2015 (Figure B.10 in Appendix B) generally there is accretion between Marazion dunes and Long Rock and at Penzance but the area in between Penzance and Long Rock there is general erosion. Comparison between Spring 2007 and Spring 2016 (Figure B.11 in Appendix B) also shows a similar trend.

Changes in the Mean High Water Springs (MHWS) contour (refer to Figure B.12 in Appendix B) shows variation on the position of the contour. The MHWS level is heavily influenced by the presence of the Red River channel which meanders and fluctuates its position from west to east across the beach. However, generally to the east of the Red River channel, the MHWS has migrated seawards from 2007 to 2014, supporting the results that the beach has been accreting. To the far west of the Red River channel in front of the dunes the MHWS level has not significantly changed between 2007 and 2011 but in 2014 the MHWS level does move seawards by up to 5m in places.

Overall these results suggest that whilst there have been short term storm activity, in the longer term the beach area in front of the dunes has been accreting. However, the data only captures the beach level changes and no the changes in the dunes themselves. It is likely that the dunes are eroding and to some degree providing the material that is causing beach levels to increase. Further assessment of the dunes has been considered by the preparation of topographic difference models (in Section 4.4.2 below).

4.4.2 Topographic Difference Models

The topographic difference model plot was calculated for Marazion using available LIDAR data from PCO. The results show the beach elevation change for the short-term (January 2011 to May 2014;

refer to Figure B.13 in Appendix B) and the long term (April 2007 to May 2014; refer to Figure B.14 in Appendix B). Unfortunately, no LIDAR data is available before 2011 or for 2015 and 2016 to look at more historic or recent changes).

4.4.2.1 Short term (2011-2014)

- The area of dunes west of the Red River (above the MHWS level) appears to have experienced significant erosion over 3 years with levels reducing by up to 2m (average 0.66m/year drop in level). The beach area to the east of this (above 2014 MHWS) and to the west of the Red River channel appears to have experienced accretion of material with levels increasing by up to 1.6m. The lower foreshore directly to the south and east of this area has also experienced accretion.
- On the east bank of the Red River channel some erosion has occurred but only over a relatively small area of the upper foreshore; this could have been influenced by local changes in the channel (Figure B.15 in Appendix B). Accretion has occurred closest to the dunes at the 2014 MHWS and above this level. However, below the 2014 MHWS level there has been erosion of the mid to lower foreshore; this trend extends further south east towards Mount St Michel.

4.4.2.2 Longer term (2007-2014)

- The area of dunes west of the Red River (above the MHWS level) appears to have experienced significant erosion over 7 years with levels reducing by up to 2.2m. This can be supported by visual evidence in Figures A.13, A.14, A.15 and A.16 in Appendix A from 2006 and 2016. Conversely there has been some significant accretion directly in front of these two areas (up to 1.2m) but there is also an area directly south east on the lower foreshore which has experienced minor erosion (up to 1m reduction in bed levels). Accretion also can be observed to the west of the site along the upper and mid foreshore areas and to the east of the Red River channel on the upper foreshore of the beach particularly in front of the dunes.
- Closer inspection of Profile 6e00748L in Figure B.15 (which sits between profiles 6e00751 and 6e00747 shown on Figures B.4 and B.6 in Appendix B, for example) which cuts through the dunes shows that there was some erosion in the area above MHWS between 2007 and 2011 but mainly between 4.8mOD to 2.8mOD elevation (at or above HAT). However, on the lower foreshore there was significant accretion between MLWN (-1.25m OD) and MLWS (2.25mOD). Between 2011 and 2014 significant erosion of the face of the dunes occurs between 3.6m elevation to 6.9m. Between MHWS and MLWN bed levels have increased significantly during this time which is likely to be sediment eroded from the dune face which has been deposited onto the foreshore. This erosion and accretion is likely to have been influenced by the storms of 2013/14.

4.5 Future Change

The SMP2 predicts that with sea level rise the sand dune areas at Marazion would roll back and Marazion marsh behind would undergo frequent inundation, particularly during storm surges. The shoreline is predicted to retreat by up to 800m inland by 2105 (this is assumed to be once the Marazion Marsh is breached and flooding occurs under a No Active Intervention scenario). St Michael's Mount would be subject to erosion around the existing harbour and causeway area, with associated retreat of the shoreline and the Marazion town frontage could experience 100 to 200m of shoreline recession by 2105, if defences were not maintained (Royal Haskoning, 2009). The erosion of the frontage would likely result in significant sediment input into Mount's Bay which would increase the beach width and slow erosion over short period. It would also result in significant flooding impacts to the road, town and freshwater SPA designated habitat behind.

The Mount's Bay Strategy re-confirmed the pressure that the frontage faces with sea level rise and holding the line but estimates were significantly lower at 15-20m erosion over 100 years provided no

defences are put in place (Figure 4.8 below compares the SMP predictions to Strategy estimates). The Strategy predicts that the dune will breach by year 45 but in the interim period the dunes will try to rollback with risks for the road and freshwater SPA behind. For comparison, the National Coastal Erosion Risk Map (NCERM) data has been plotted in GIS and the results are presented below (Figure 4.9). This dataset predicts that up to 250m of erosion could occur at Marazion over the next 100 years. NCERM takes the SMP policy, historical erosion rate data, geological and climate change data and applies a standard methodology to map coastal erosion risk nationally under a No Active Intervention scenario.

Overall there appears to be various estimates for the future retreat between 15m and 800m over the next 100 years (i.e. 0.15m/year to 8m/year) depending on different scenario assumptions. Whilst the estimates are variable it is likely that with sea level rise erosion will continue; key rocky platforms and outcrops will become more submerged and therefore intercept less wave energy (Royal Haskoning, 2014) and the beach levels will reduce. There will be minimal new sediment in the system to re-feed the beaches (and dunes) and maintain widths. Given the existing width of the dunes is approximately 35m wide, regardless of the estimates, there will be a potential risk of breach of the dunes in the near future, with implications for the road and freshwater habitat behind. However, further more detailed monitoring and assessment will be required to assess potential predictions in more detail. The Strategy recommends establishing a stakeholder group and undertaking a separate adaptation planning exercise within the next 2-5 years.

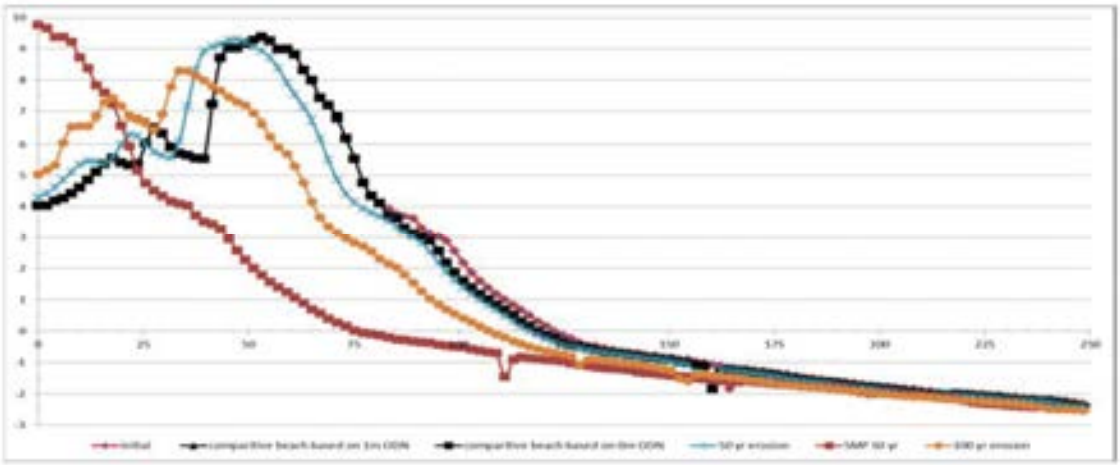

Figure 4.8 Predicted change at Marazion dunes over the next 100 years (Extracted from Royal Haskoning, 2014).

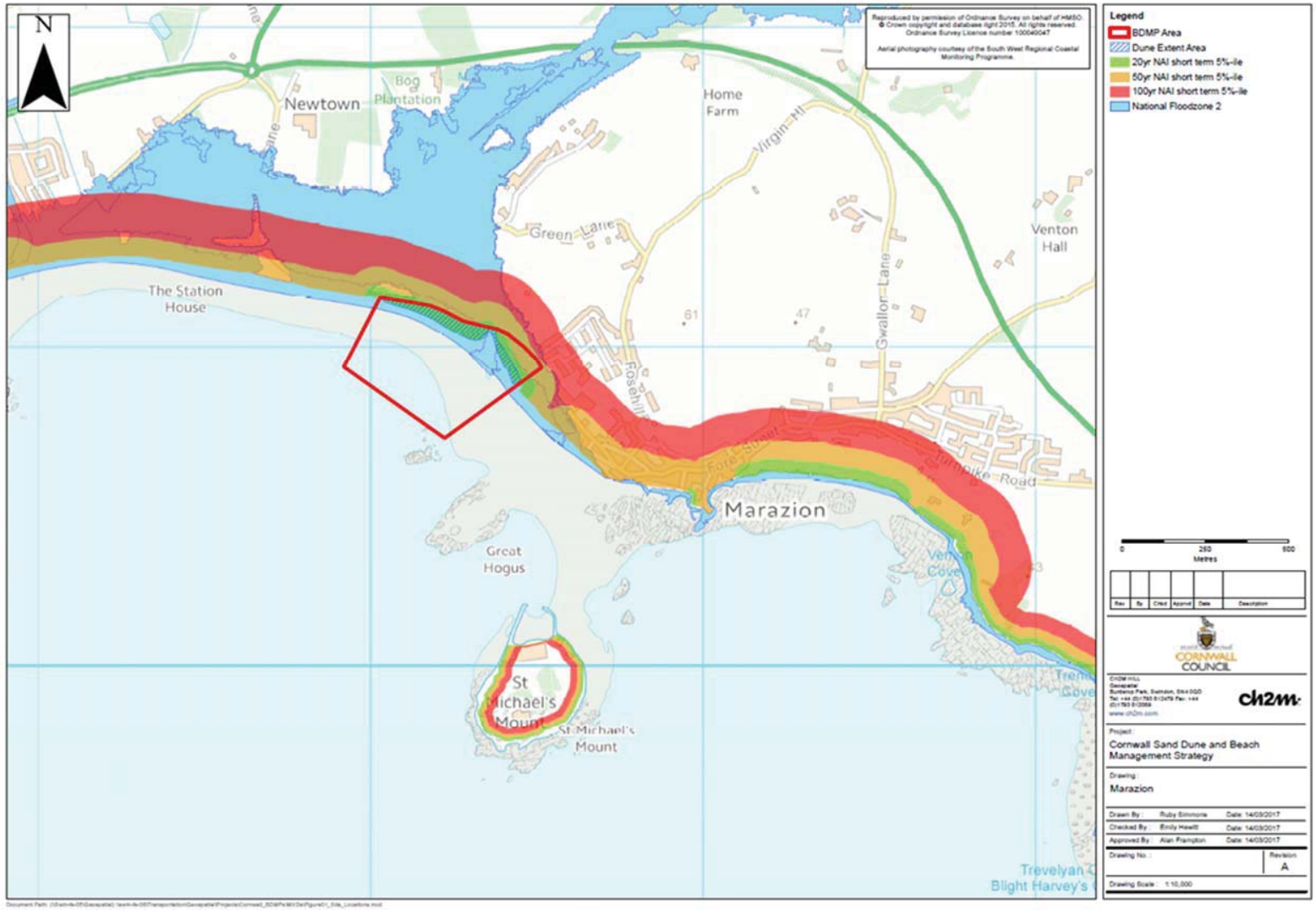

Figure 4.9 Predicted change at Marazion dunes over the next 100 years (data extracted from NCERM)

4.6 Summary and Recommendations

4.6.1 Summary

Marazion is located on the south coast of Cornwall and is exposed to south-west Atlantic swell waves; however, it does afford some protection from direct wave action from Mount St Michael and partially submerged rock platforms. The coastline is unique in that there is a small section of semi-natural dunes constrained by formal hard defences at either end; it is also constrained by a road and freshwater SPA site behind so the dunes are not able to naturally regrade and retreat back as they might do otherwise during storm periods (or in the longer term with sea level rise). Situated within the wider Mounts Bay there is minimal longshore transport at Marazion, instead the majority of material is transported cross-shore, with wind-blown sand supporting the dunes.

Results from recent data analysis show that between 2007 and 2014/15/16 beach levels have increased along the majority of the Marazion frontage; this is likely to have been fed by dune erosion from storms (which began in 2007 but erosion occurred most significantly between 2011 and 2014). Unfortunately, there is no more recent profile data on the dunes or LIDAR data available to consider most recent changes between 2014 and today. Aerial photographs do however suggest significant erosion from changes in vegetation cover (Figure B.2 in Appendix B).

Despite the increased material released by the dune erosion onto the beach, the dunes are unlikely to re-grow at the rate they were eroded. Sediment released will be redistributed within Mount's Bay and some material probably be transported onshore during storm periods. Dune erosion is likely to be periodic and dominated by storm events but evidence from aerial photographs does show significant localised erosion occurring due to public access through the dunes. This could cause weak areas or blow outs in the dune which then would make it more vulnerable to erosion during storms.

4.6.2 Recommendation to Consider for Future Beach and Dune Management

The key issue at Marazion is that the dunes and beach are eroding, putting the road, Marazion Marshes SPA and Marazion town at risk. There are no current formal defences in place to protect against this erosion, however as stated in SMP1 and SMP2 the focus should be on active management of the dunes to prevent breaching rather than provision of hard defences. The Mount's Bay Strategy recommends do minimum in the short term whilst preparing an adaptive management plan in consultation with a stakeholder group.

The following recommendations are therefore put forward for consideration in Stage 3 of the BDMP development process:

- Protection to dune toe – look into alternative low cost options such as fencing, planting and consider implications for beach.
- Review location and number of access points to beach and dunes and signage/fencing for access points.
- Beach monitoring to continue to show where material is moving from and to.
- Beach re-profiling to manage beach levels. This should be linked to trigger levels set based on monitoring data.
- Consideration of the new proposed coastal cycleway route through Marazion.

SECTION 5

Site Summary

5.1 Dune Inventory Summary

DUNE SYSTEM	Marazion

CHARACTERISTICS	
LOCATION MAP	• See Figure 1.2.
AERIAL PHOTOGRAPH	• See Figure B.3 in Appendix B.
DUNE EXTENT	• See Figure 1.4.
AREA OF SITE	• Active 2 ha • Total 2 ha
DUNE TYPE	• Hummocky.
MORPHOLOGICAL FEATURES OF DUNES	• Bare sand areas through trampling. • Stream through dunes.
PAST (150 YRS) EVOLUTION OF DUNES	• Analysis of historical maps indicates recession of dune front although the beach has recently been accreting. • Development of area behind, to east of dunes.
VEGETATION TYPE	• Foredune, Yellow Dune, Grey Dune, Scrub, Dune Grassland. •
BACKSHORE CHARACTERISTICS	• Eastern part of beach backed by Marazion Marsh. • Western part has been reclaimed and developed. • West of marsh beach is backed by low lying land.
COASTAL SETTING	• Sand and shingle barrier beach formed at mouth of infilled ancient river valley. • A number of nearshore rock outcrops provide some shelter to the western part of the beach resulting in a wider foreshore area fronting Marazion Marsh. • The Red River flows across the eastern end of the beach and is guided by a bridge. • Forms part of larger Mounts Bay system with possible exchange of sediment within larger bay both alongshore and on/offshore. • South facing dunes.

DRIVERS	
LINKS TO ADJACENT COAST	• No sediment input from the shoreline to the west, with limited potential for losses to the east across the Marazion/ St Michaels Mount platform.
WIND ENERGY	• No contemporary data identified. Refer to SMP1 (Halcrow, 1999) for historical data.
WAVE ENERGY	• See Sections 4.2.2.1 and 4.2.2.2.
WATER LEVELS	• See Section 4.2.2.3.

SEDIMENT BUDGET	• Sediment is being lost from the system during storm periods and not returned. • Coastal squeeze is taking place due to hard coastal defences along the back of the beach. • Some sediment is provided to the beach through erosion of rock outcrops.
PRESSURES	
ENVIRONMENTAL DESIGNATIONS	• St Michael's Mount SSSI (geological). • Mounts Bay Marine Conservation Zone. • Marazion Marsh SPA and SSSI (biological) • UK BAP Priority Habitats with management objectives (Coastal Sand Dunes; Dune Grassland; Vegetated Shingle; Littoral and infralittoral rock). • See Section 3.3 also.
ARCHAEOLOGY/ HERITAGE	• The Cornwall Area of Outstanding Natural Beauty (AONB). • Cornwall and West Devon Mining Landscape UNESCO World Heritage Site. • Archaeological and Cultural Heritage designated features including Scheduled Monuments and listed buildings and structures (refer to Section 3.3.3).
LAND USE	• Beach and dunes are backed by important local access road, car parks, developed area of Marazion (in the eastern part) and Marazion Marsh SPA and SSSI (in the western part).
RECREATIONAL PRESSURES	• Popular tourist beach and St Michaels Mount is a recognised tourist attraction. • Popular for watersports including windsurfing and kite surfing. • Dunes and vegetation show evidence of significant trampling damage. • Sand blown landwards needs to be cleared.
SAND EXTRACTION/ DREDGING	• None known.
COASTAL DEFENCES	• Various forms of coastal revetment along large sections. • Seawalls front development areas.
CURRENT MANAGEMENT PRACTICES	• Fencing. • Planting. • Seawalls. • Revetment. • Beach Cleaning. • No Alcohol to be consumed on beach.
SHORELINE MANAGEMENT PLAN POLICY ***(from Royal Haskoning, 2011a)***	• Policy Unit 19.5 (Marazion west (Chapel Rock to Marazion Bridge) and Policy Unit 19.6 (Marazion Marsh): o Short term = Hold the Line; medium term = Hold the Line; long term = Hold the Line. o Policy intent = *"A hold the line approach is required within this area to provide a transition area between Marazion town frontage and Marazion Marsh which maintains the defensive line. In order to adhere to legislation and maintain the integrity of this internationally important freshwater wetland site, a hold the line policy is preferred through all three epochs. A more*

	detailed strategy is required to consider the options for this area in more detail at the earliest opportunity."
MANAGED BY	• Natural England and Cornwall Council.

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Appendix A Photos of Marazion

Figure A.1 Seawall and rock armour defences at Long Rock (taken during site visit 1st February, looking west towards Penzance). The outfall is visible in the background.

Figure A.2 Semi natural dune environment at Marazion which protects the West End Road and Marazion Marsh SPA behind. The dune is narrowest at this point and widens towards Marazion town and the Red River channel.

Figure A. 3 Section to the west of Marazion where the seawall meets the dunes (taken during site visit 1st February, looking north- the Marazion Marsh is behind this defence). There are clear access issues here where members of the public use this section to walk from the road behind to the beach. This is potentially a a weak point which could be vulnerable to breaching in the future.

Figure A.4 Section where the Red River intercepts the dunes (as seen by the bridge in front of the houses in the foreground. Photo taken during site visit 1st February, looking north.

Figure A.5 Red River, sand dunes and sandy beach (taken during site visit 1st February, looking north west).

Figure A.6 Point where sand dunes to east of Red River (and in front of car park) meet seawall and rock armour frontage which protect Marazion town. This is a key access point from the car park to the dunes and beach (taken during site visit 1st February, looking south east).

Figure A.7 Photograph from January 2014 (post storms). Significant erosion of the dune face is observed and fencing used to control public access has been damaged (Source: Sue Manson, 2014).

Figure A.8 Photograph from January 2014 (post storms). Significant erosion of the dune face is observed and fencing used to control public access has been damaged (Source: Sue Manson, 2014).

Figure A.8 Photograph from January 2014 (post storms). Significant erosion and slumping of the dune face is observed (Source: Sue Manson, 2014).

Figure A.9 Red River meandering across the wide sandy beach with the low dunes and car park behind (taken during site visit 1st February, looking east).

Figure A.10. Red River meandering across the wide sandy beach with the low dunes and car park behind (taken during site visit October 2006, looking east).

Figure A.11 Car park fronted by eroded dunes, with sandy beach (taken during site visit 1st February, looking north west).

Figure A.12 Car park fronted by eroded dunes, with sandy beach (taken during site visit October 2006, looking north west). The vegetation coverage in 2006 is much more significant than in Figure A.11 above.

Figure A.13 Cliffing of the sand dunes/vegetated area to west of the Red River (taken during site visit 1st February looking east).

Figure A.14 Cliffing of the sand dunes/vegetated area to west of the Red River (taken during site visit October 2006 looking east). The vegetation coverage in 2006 is much more significant than in Figure A.11 above.

Figure A.15 Cliffing of the sand dunes/vegetated area to west of the Red River (taken during site visit February 2017 looking east). The vegetation coverage in 2006 is much more significant than in Figure A.11 above.

Figure A.16 Cliffing of the sand dunes/vegetated area to west of the Red River (taken during site visit February 2017 looking east). The vegetation coverage and extent of dunes in 2006 is much more significant than in Figure A.15 above.

Appendix B Additional Coastal Process Understanding Figures

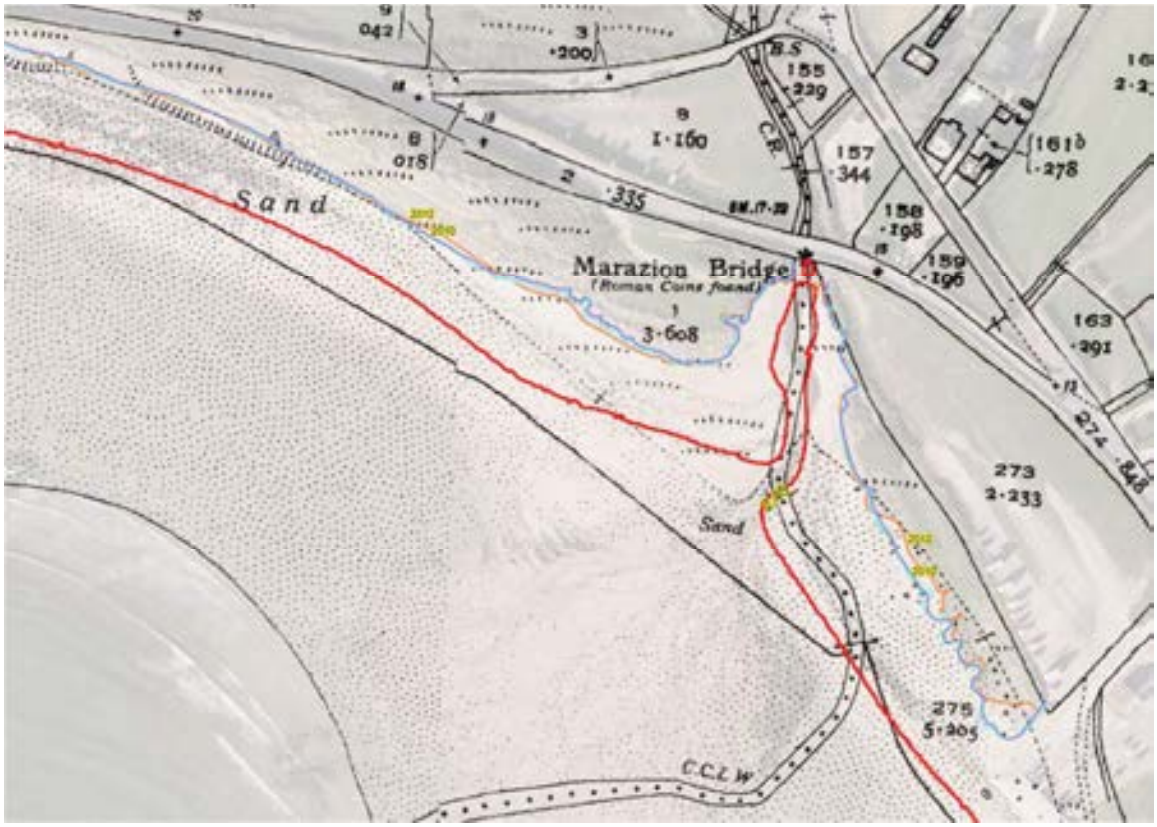

Figure B1 Dune toe position at Marazion in 2007(dark blue), 2010 (light blue) and 2012 (orange) with 2014 MHWS level (red) and 1939 OS map (2012 aerial photograph shown in background).

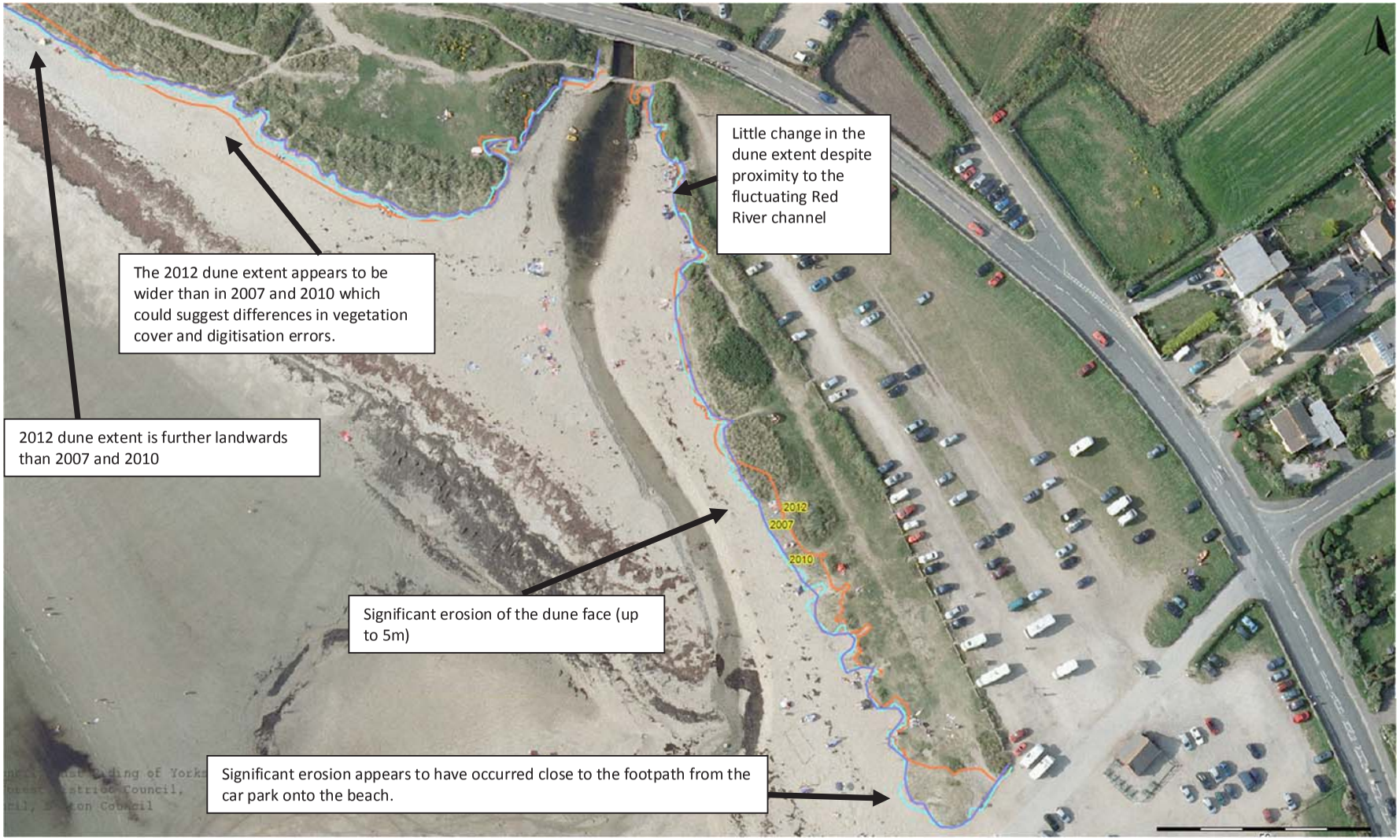

Figure B.2 *Dune toe position at Marazion in 2007, 2010 and 2012*

2001 (Google Earth)

Dec 2005(Google Earth)

2007 (Channel Coastal Observatory - CCO)

August 2009 (Google Earth)

2010 (CCO)

2012(CCO)

August 2013 (Google Earth)

May 2014 (Google Earth)

Figure B.3 Historical aerial photographs for Marazion (source: Channel Coastal Observatory and Google Earth). Figures showing the change in the red river channel over last 15 years. The main section of the red river channel does not change significantly, however in some images it appears to become wider/deeper (judged by the relative dark colour of the water compared to the surroundings).

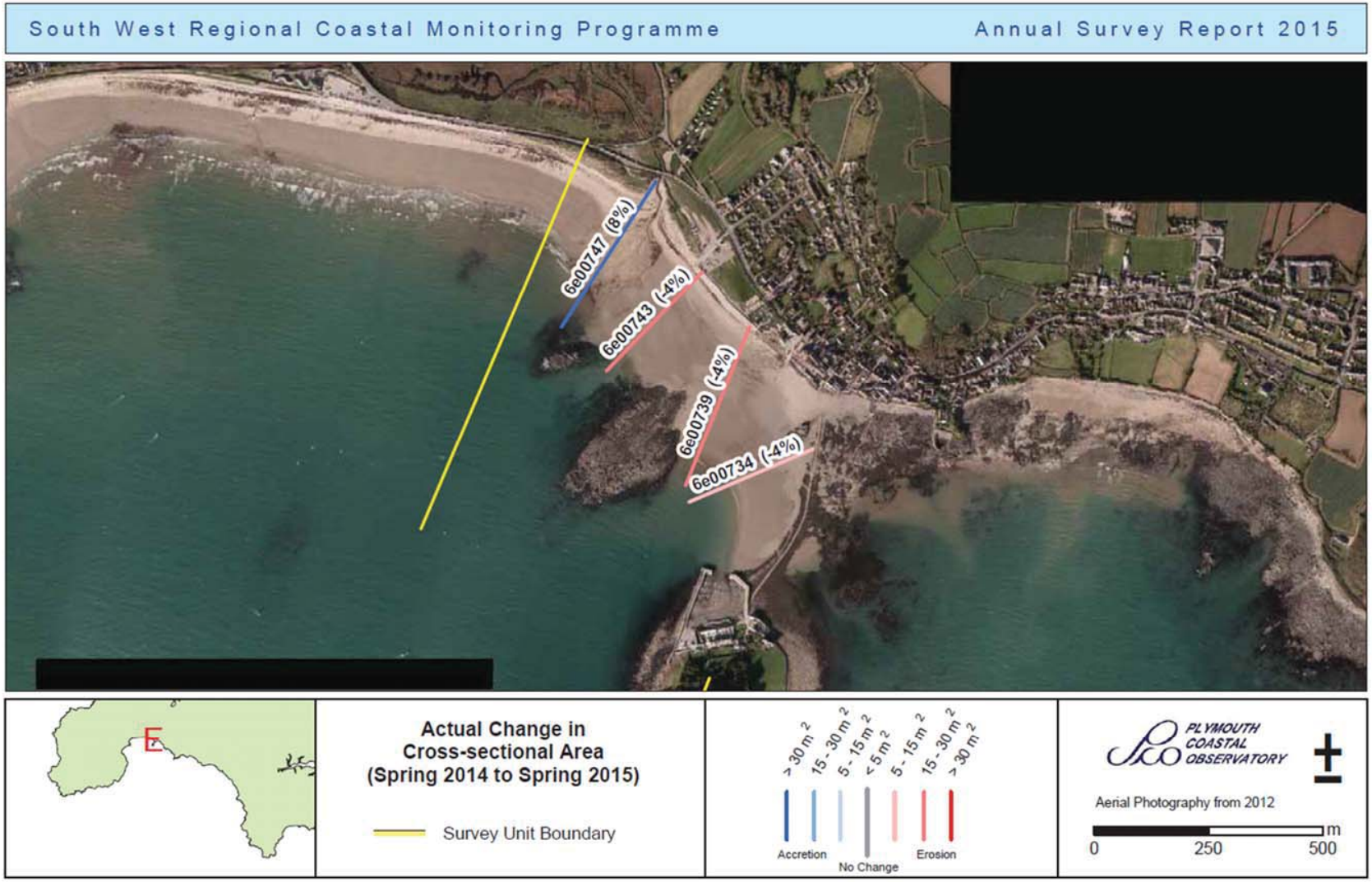

Figure B.4 *Beach profile change at Marazion 2014 to 2015 (source: PCO, 2015).*

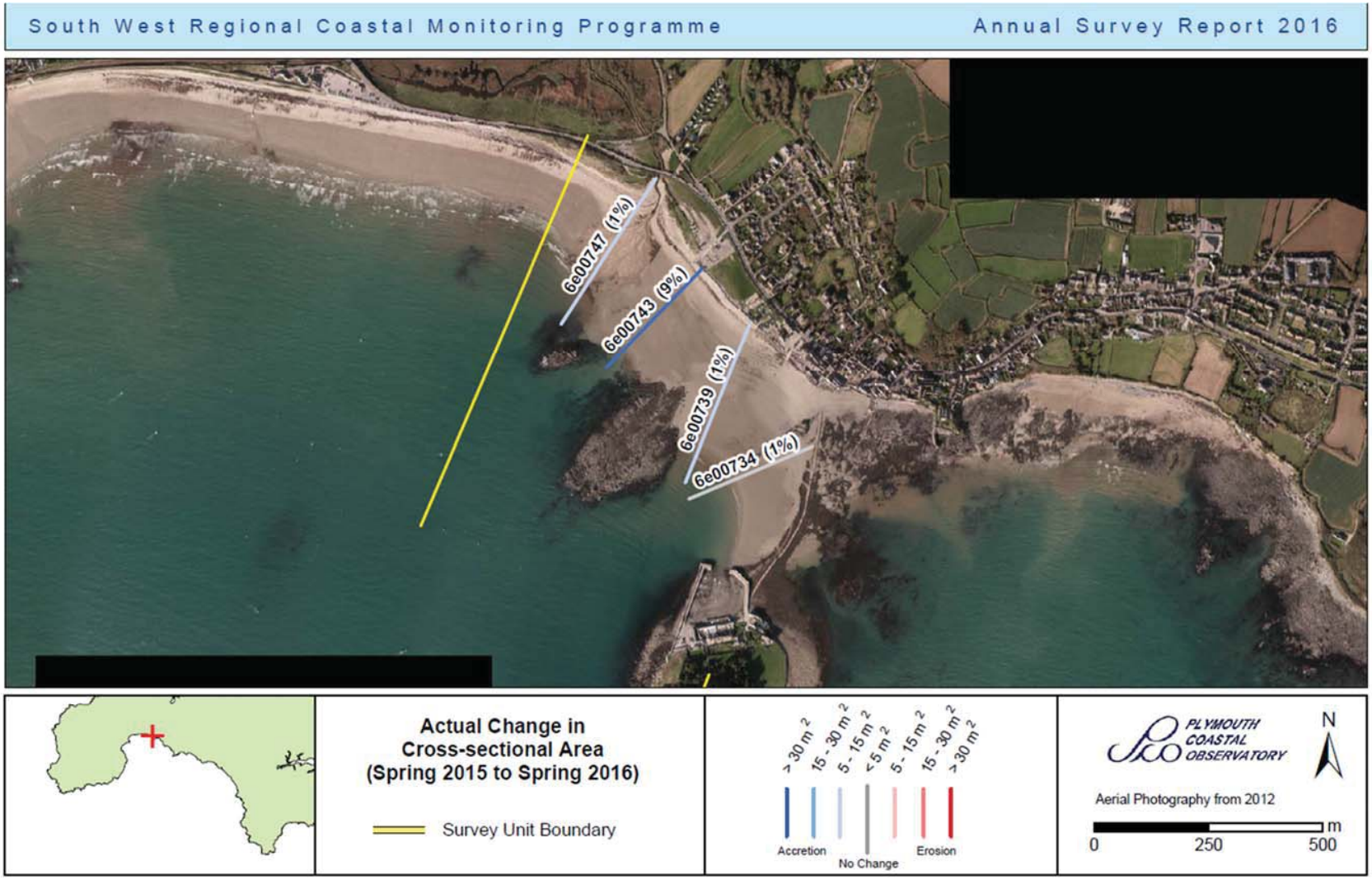

Figure B.5 Beach profile change at Marazion 2015 to 2016 (source: PCO, 2016).

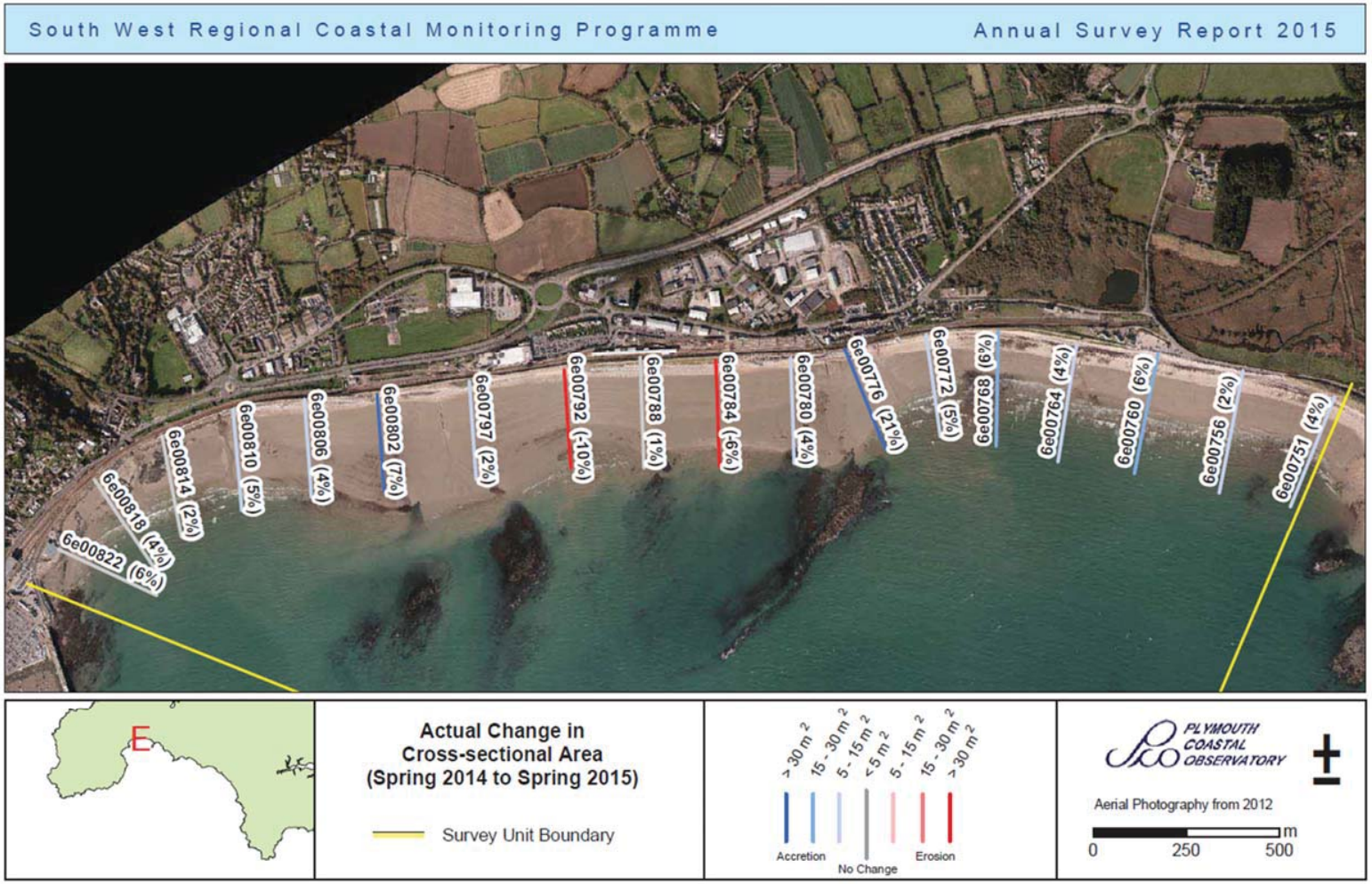

Figure B.6 *Beach profile change within Mounts Bay 2014 to 2015 (source: PCO, 2015a). The Marazion frontage is to the east of the yellow line.*

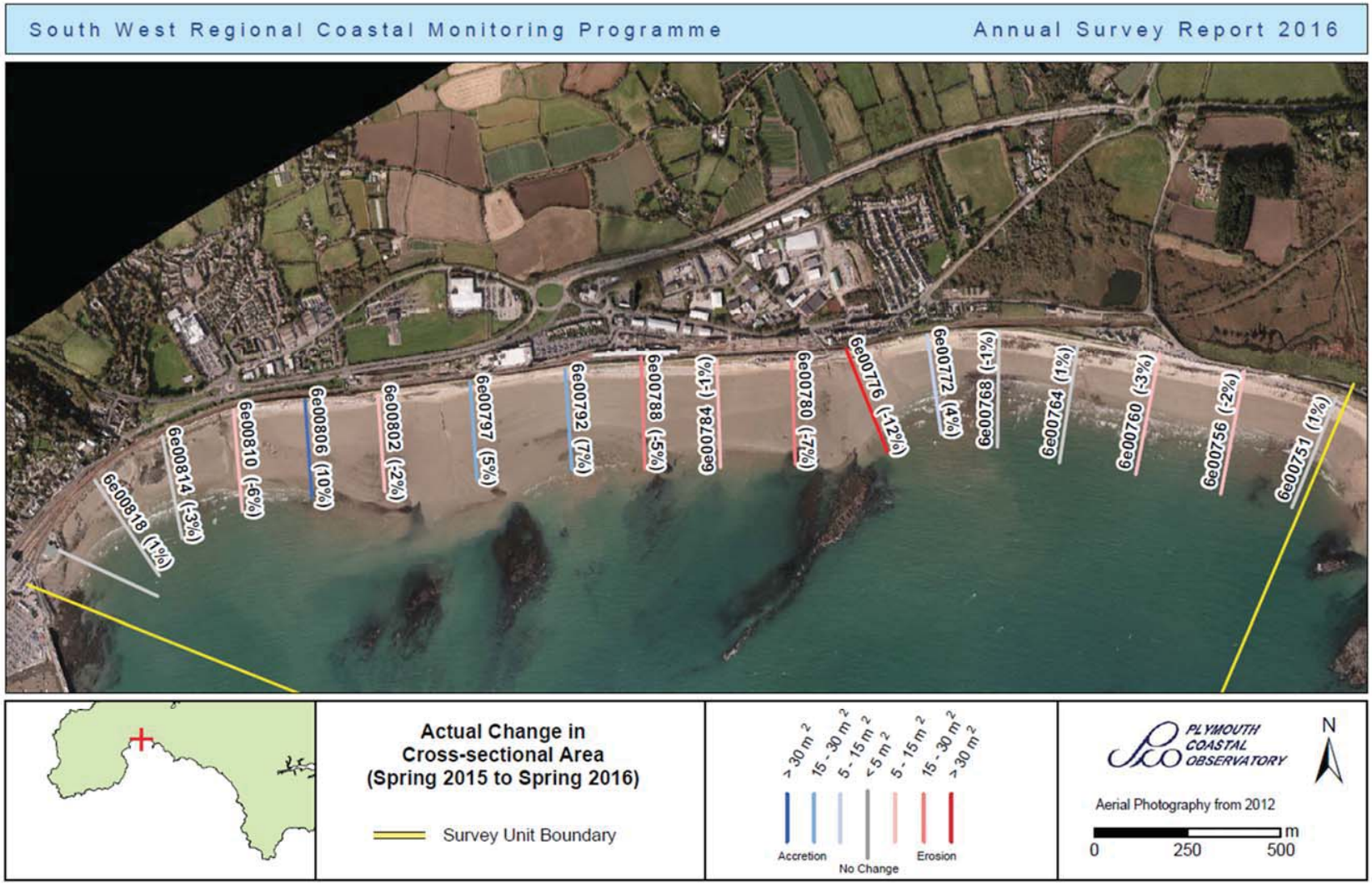

Figure B.7 *Beach profile change within Mounts Bay 2015 to 2016 (source: PCO, 2015a). The Marazion frontage is to the east of the yellow line.*

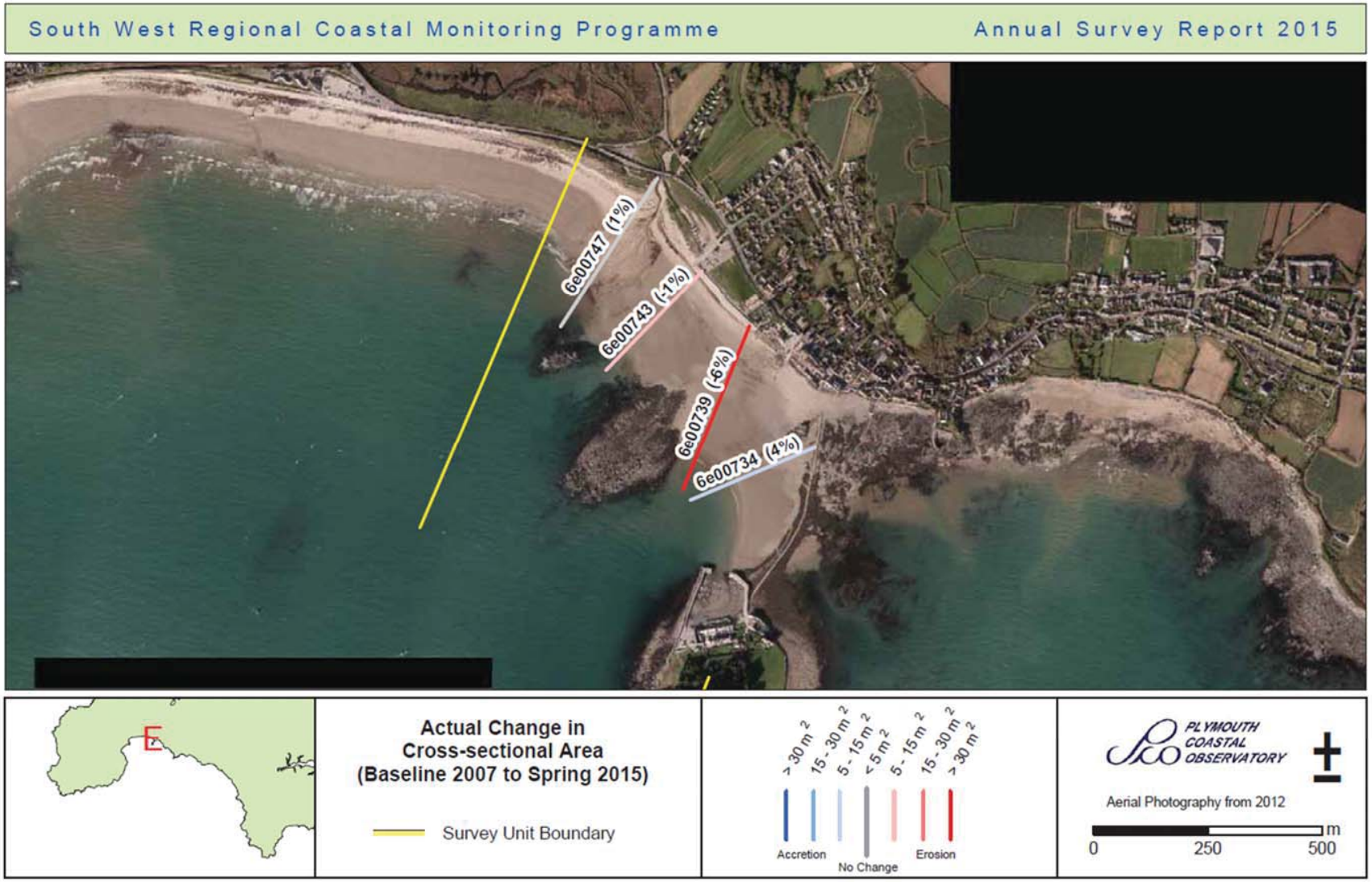

Figure B.8 Beach profile change at Marazion 2007 to 2015 (source: PCO, 2015).

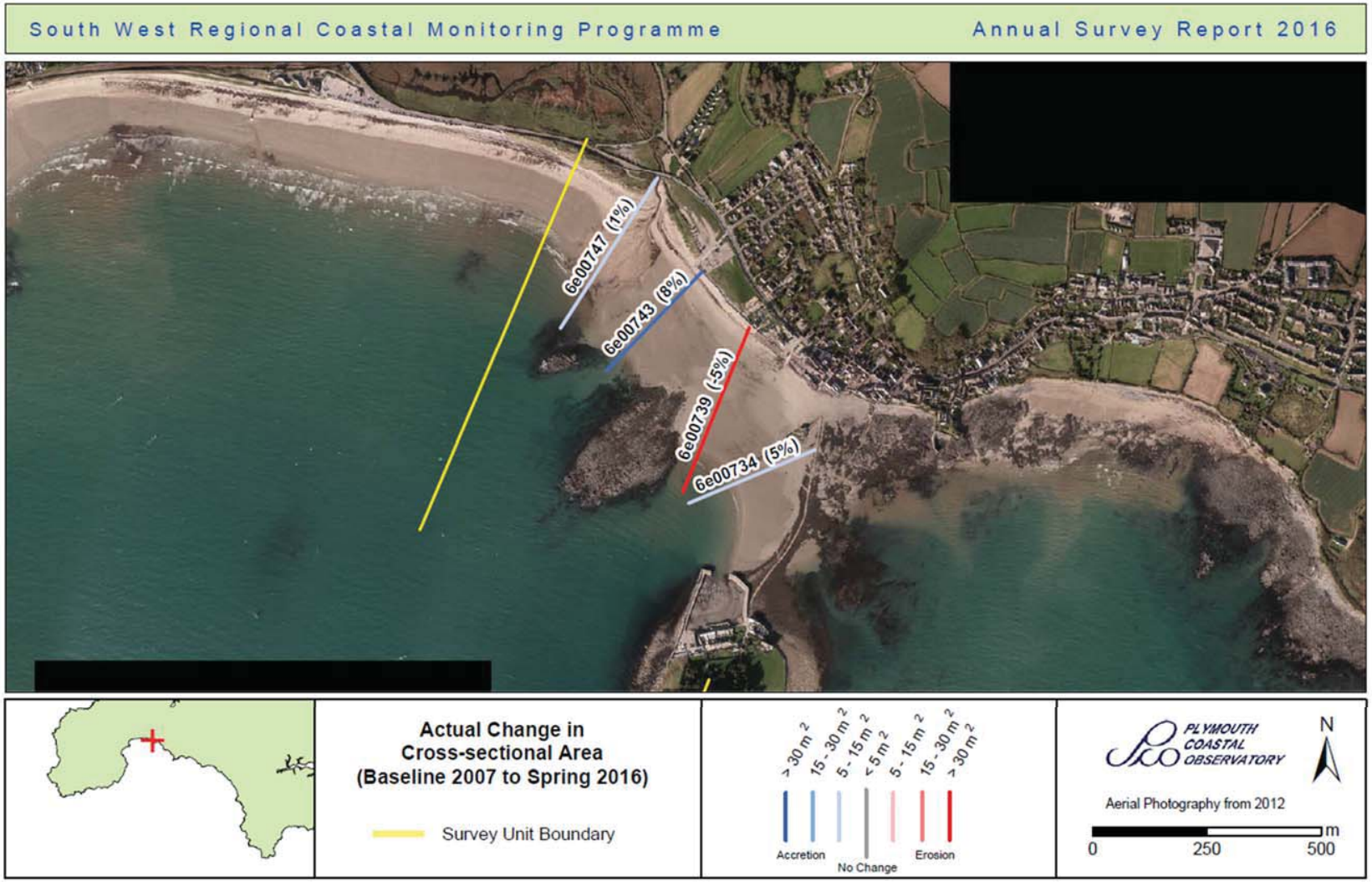

Figure B.9 Beach profile change at Marazion 2007 to 2016 (source: PCO, 2016).

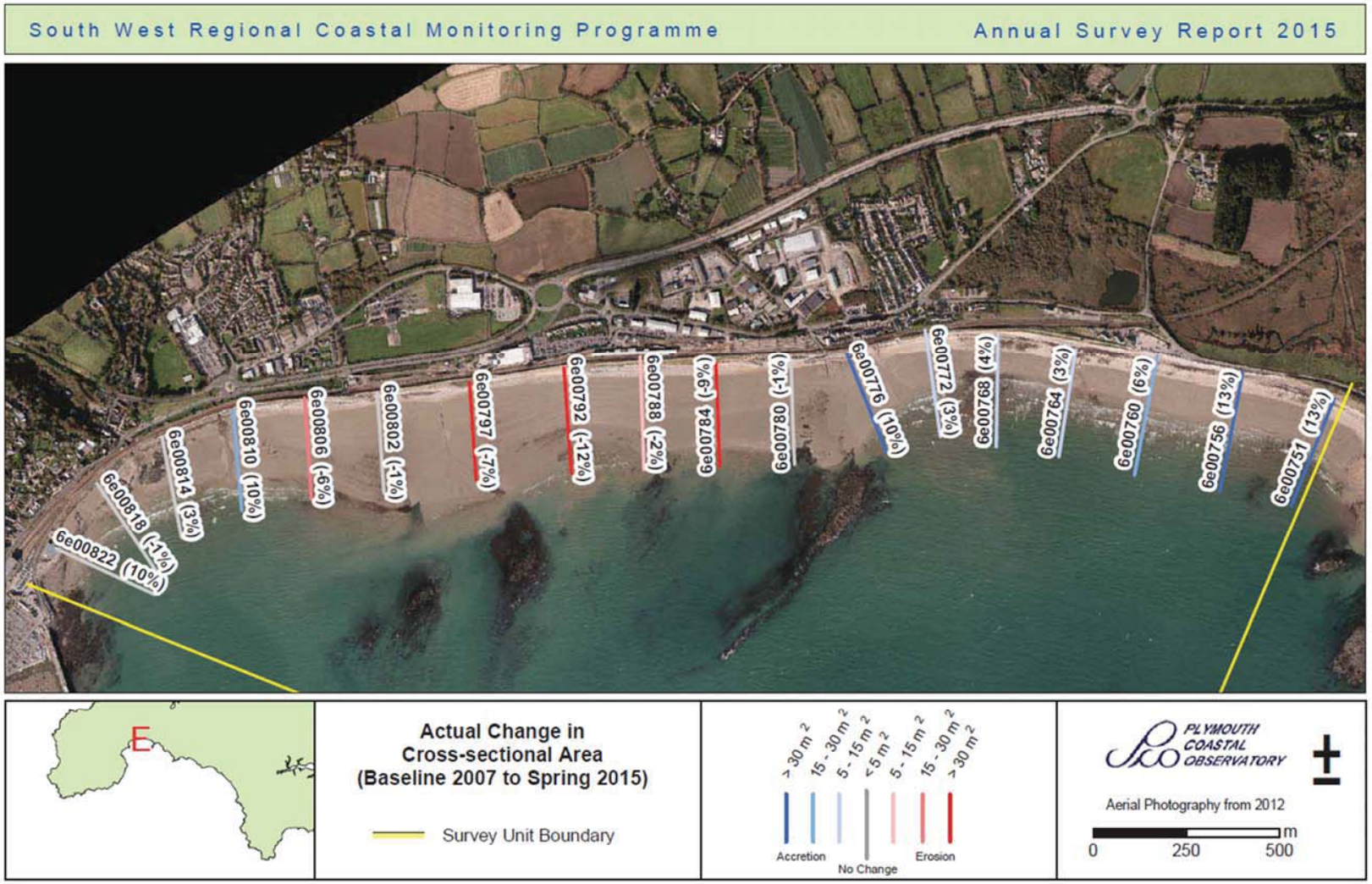

Figure B.10 Beach profile change at Marazion 2007 to 2015 (source: PCO, 2016). The Marazion frontage is to the east of the yellow line.

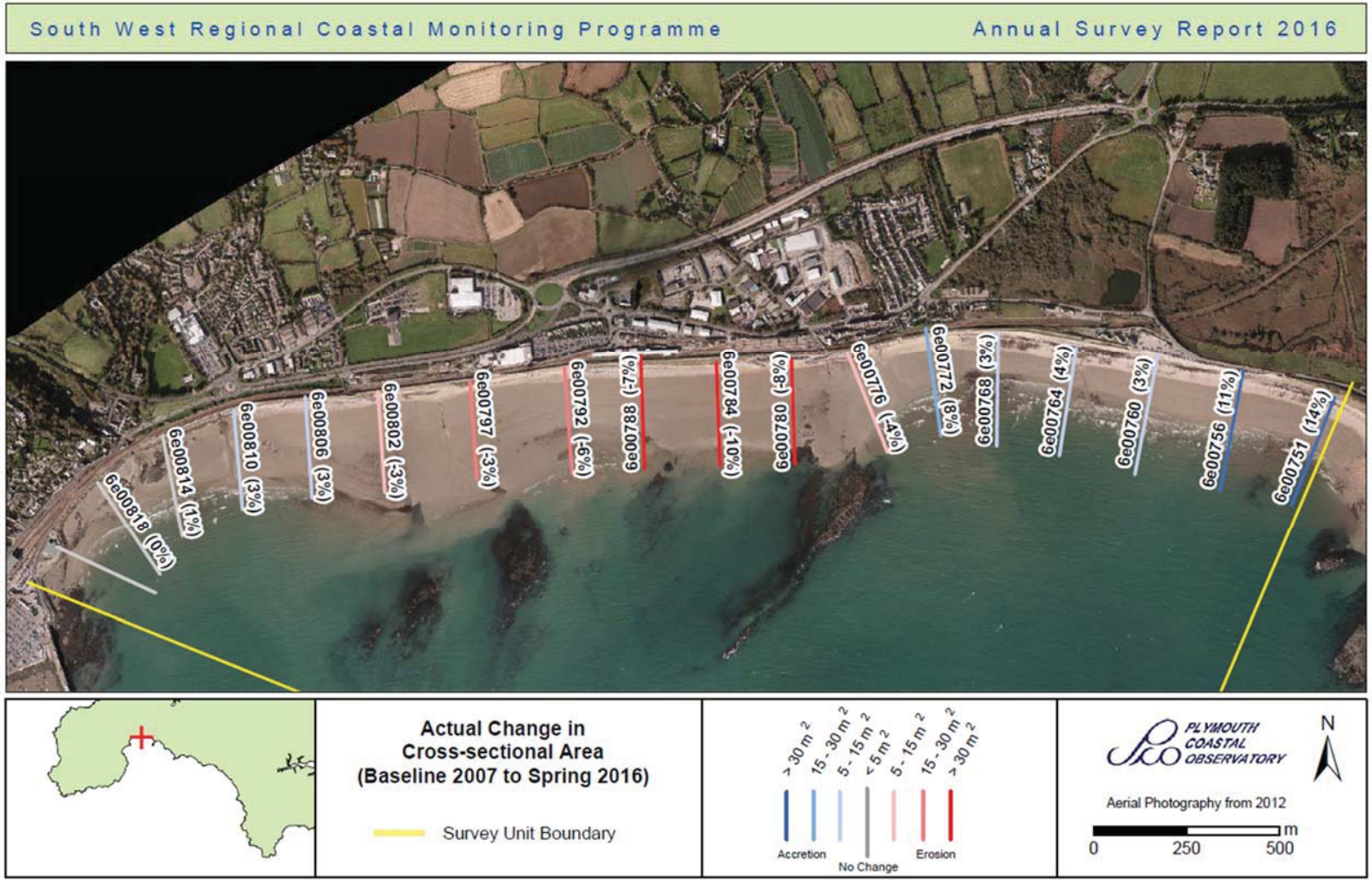

Figure B.11 Beach profile change within Mounts Bay 2007 to 2016 (source: PCO, 2015a). The Marazion frontage is to the east of the yellow line.

Figure B.12 MHWS contour change at Marazion beach. Red is 2014, Blue is 2011 and Purple is 2007. Background is 2012 aerial photograph for comparison.

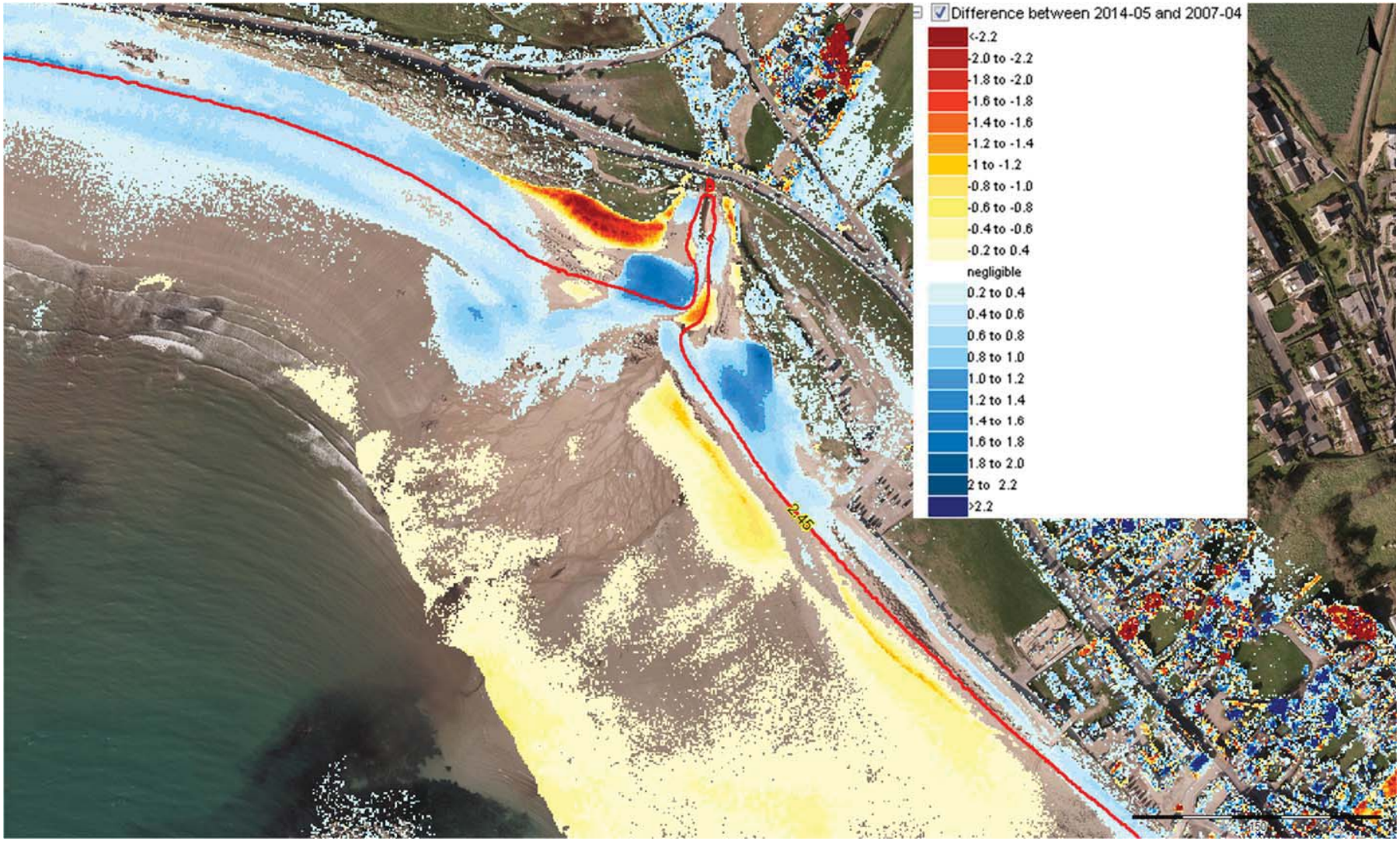

Figure B.2 Topographic difference plot at Marazion April 2011 to May 2014

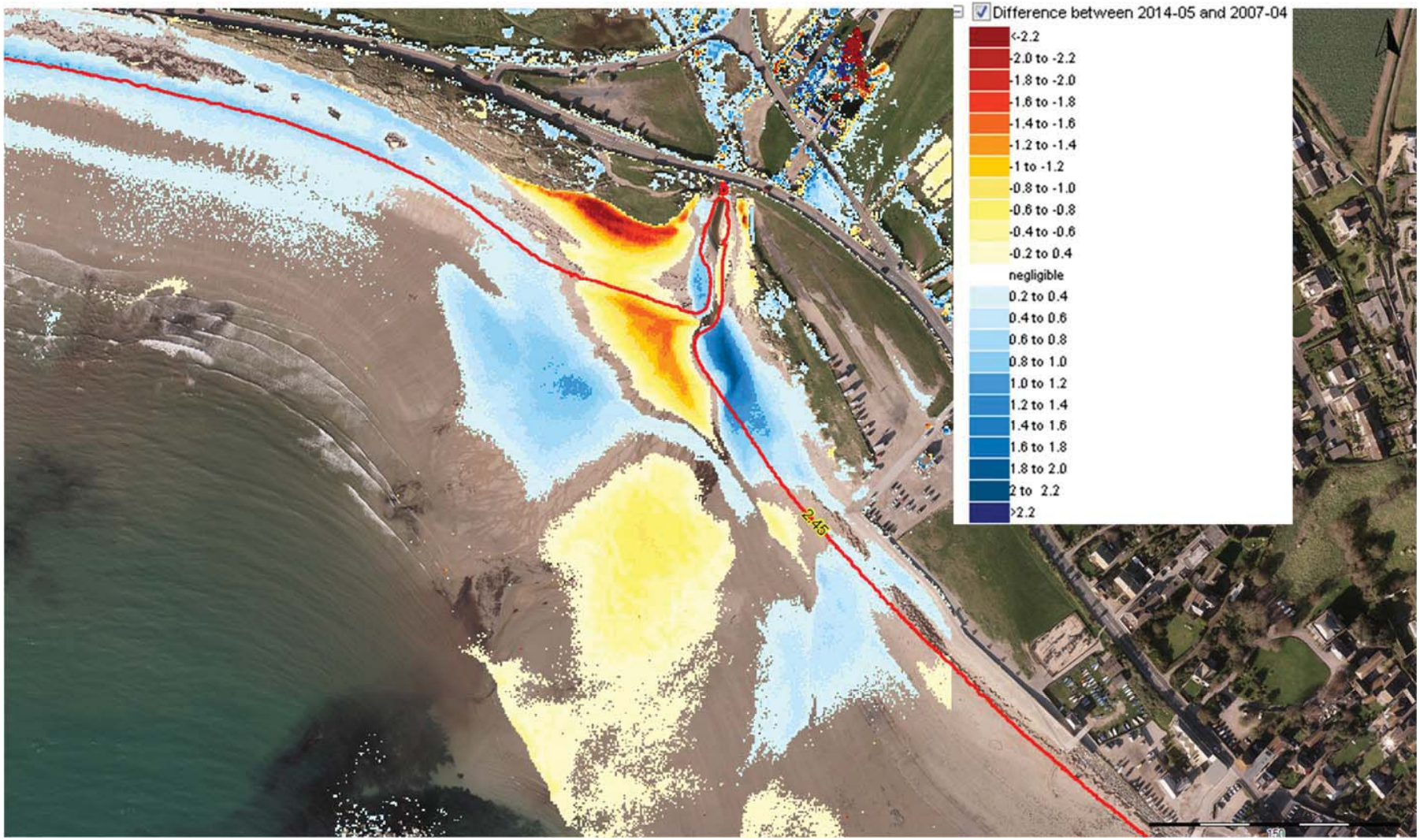

Figure B.3 Topographic difference plot at Marazion April 2007 to May 2014 (PCO data, drawn in SANDS).

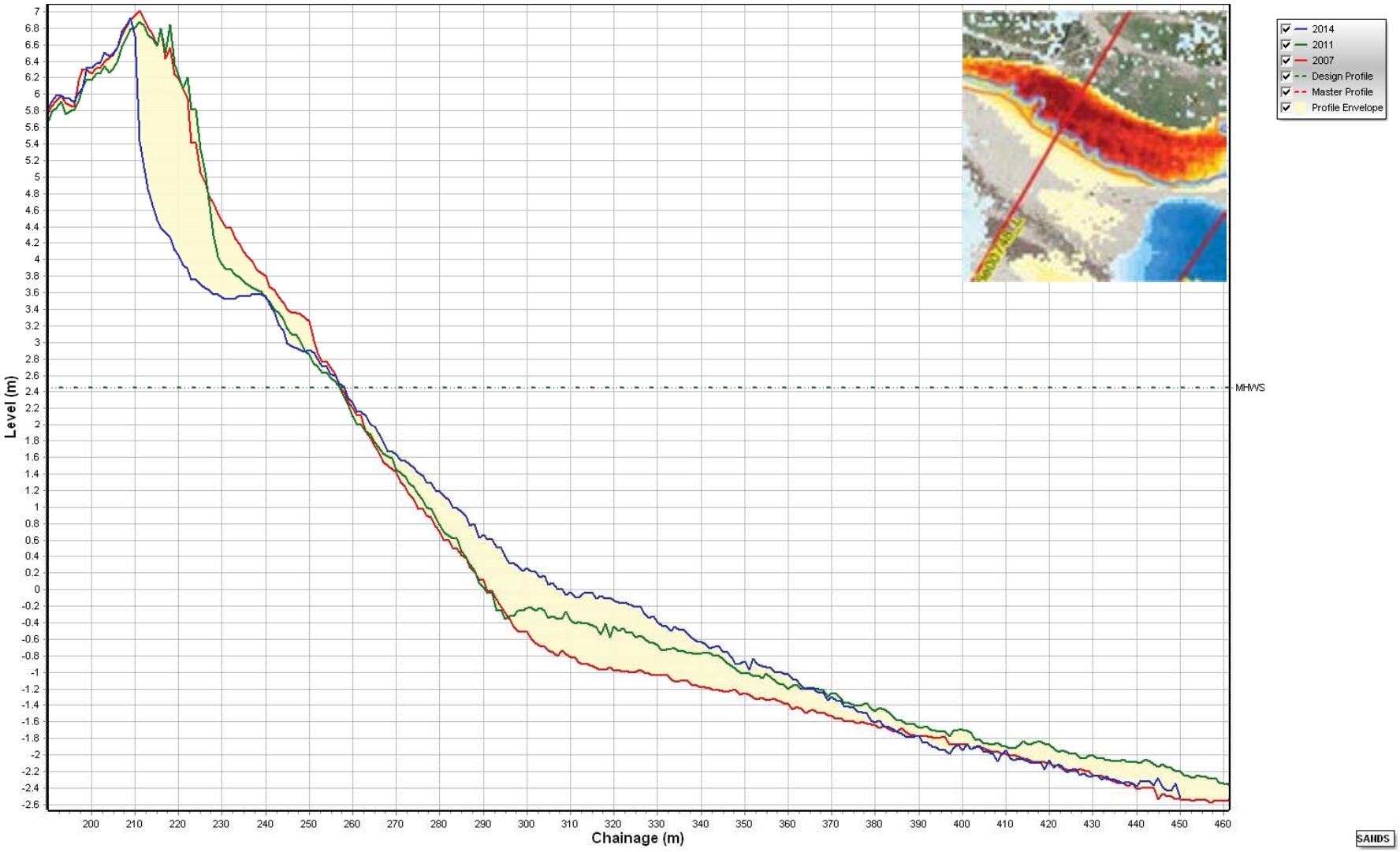

Figure B.15 Beach profile cross section change at Marazion 2007 to 2014 (source: PCO, 2014a) for Profile 6e00751 (marked on figure above).

Minutes

Meeting Title:	St Erth Multi Modal Hub (StEMMH) – Parish Council meeting
Purpose of Meeting:	To identify and discuss the Parish Council's concerns and comments regarding the St Erth Multi Modal Scheme and to mitigate their concerns where feasible.
Date:	Friday 3rd March 2017
Time:	10:00 – 12:00
Location:	WWA Offices, Compass House, Truro Business Park, Threemilestone
Chaired by:	Robert Trembath (RT) - Ward Williams Associates
Attendees:	Richard Salmon (RSa) – Ward Williams Associates Mick Hanley (MH) – St Erth Parish Council Richard Sergeant (RSe) – Ludgvan Parish Council Steve Hudson (SH) – Ludgvan Parish Council Vanessa Luckwell (VL) – Cornwall Council (Community Link Officer for Hayle and St Ives) Dave Phillips (DP) – Cormac Solutions Limited Rick Clayton (RC) – Cormac Solutions Limited Lee Marks (LM) – Cormac Solutions Limited Natalie Warr (NW) – Cornwall Council (Strategic Transport) Gordon Benson (GB) – Wills Bros Civil Engineering Ltd Sean Vesey (SV) – Wills Bros Civil Engineering Ltd
Apologies:	David Whiteway (DW) – Great Western Railways Gary Cutts (GC) – Ward Williams Associates James Hardy (JH) – Cornwall Council (Community Link Officer for West Penwith) Roy Mann (RM) – Cornwall Council (Councillor for Ludgvan) Liz Penhaligon (LPe) – Cornwall Council (Councillor for Lelant & Carbis Bay) Lionel Pascoe (LPa) – Cornwall Council (Councillor for Gwinear-Gwithian and St Erth) Peter Tatlow (PT) – Cornwall Council (Network Manager) Mark Harvey (MH) – Cornwall Council (Capital Projects) Bert Biscoe (BC) – Cornwall Council (Portfolio Holder for Transport) Steve Kelleher (SK) – Cornwall Council (Capital Projects) Ed Halford (EH) – Highways England Ted Taylor (TT) – St Erth Parish Council

	Dan Okey (DO) – Great Western Railways Michelle Anderson (MA) – Network Rail
Circulation:	Those present plus apologies plus Derek Thomas MP (for information only), Jeremy Edwards (for information only) and John Benson (Kier Services – Highways).

	Minutes	
1 **1.1**	**Introductions / Apologies** The attendees introduced themselves and stated their respective roles.	
2	**Scheme Update**	
2.1	(2.2) NW confirmed the Treloweth footway works have been subject to a change of management so has incurred some delays but are still due to be carried out although the programme is yet to be confirmed.	
2.2	RT ran through the tender process for the main scheme which was won by Wills Bros Civil Engineering Ltd.	
2.3	Further design work is being done by CSL on the traffic flows and overflow car park.	
2.4	VL raised the parking review that is being carried out in the area, the output of which may impact on the usage for the overflow car park.	
2.5	It has been confirmed that the bus companies are willing to use the new bus facilities being created at the station.	
3	**Platform / Station Works**	
3.1	DW did not attend the meeting but has subsequently provided an update by email.	
3.2	(3.2) It was believed that the programme for the platform works has been delayed but firm dates were not known.	
3.3	(3.6) **NW** to request to GWR for confirmation on the opening hours for the station WCs.	NW
3.4	(3.7) St. Ives Town Council have made an application for funds to GWR to provide new WCs in St Ives station carpark. This was not successful.	
3.5	RT gave a brief update on the station works which have received planning approval. A contractor has been appointed and due to start in April and complete in July. A temporary ticket office is to be put in place during the works.	
3.6	RT gave a brief update on the platform works. A preferred option has been chosen and is going through the approval process. The works are due to be complete for summer '18.	
3.7	EB is now on long term leave and has been replaced by MA. The funding agreement for the AfA bridge is now mostly in place. NW will be able to give milestone dates for design shortly. There is a	

	possible funding opportunity in 2018 which will need the design in place for an application to be made.	
4	**Design Update and Traffic Modelling**	
4.1	(4.6) A separate meeting to discuss signage to discourage rat running is to take place involving Wills Bros during the design stage.	
4.2	(5.2) The TRO on the waste transfer access road is now enforceable.	
4.3	(6.5) The additional modelling work has now been done.	
4.4	(6.6) The pedestrian crossing of Station Approach has been considered in the revised design. Due to the filter lane it is not possible to stop southbound traffic completely so this will not however be a controlled crossing.	
4.5	RC and LM gave an overview of the traffic modelling highlighting the pedestrian crossing across the A30 and how traffic will be controlled and phased.	
4.6	VL asked about signage and publicity. RT confirmed that the newsletter will be issued shortly and Wills Bros will have a community liaison. MH requested a meeting or information day with **Wills Bros** to update the locals.	WB
4.7	LM confirmed the traffic model takes into account the latest data on vehicle types and allows for different characteristics of different vehicles.	
4.8	The HE propose to reduce the speed limit on the A30 in this area.	
4.9	RC detailed how the residences within the signalled zone have been considered in the design.	
4.10	DP ran through the proposed lighting design. It has been designed in coordination with the ecologist to ensure minimal impact to the local wildlife following full ecological survey works.	
5	**Contractor Update**	
5.1	GB ran through the background to Wills Bros and their current activities on the project. Currently looking at design to improve it where possible. The general layout is unlikely to change significantly.	
5.2	SV is now based nearby for the duration of the works. The site clearance is now starting, overseen by an ecologist. The main works are due to start in June.	
7	**Any Other Business**	
7.1	(7.3) HE have approved the final traffic modelling output with some minor comments.	
7.2	MH raised the need for a parking location for tourist buses with associated power supply as they sometimes park along the road to the waste transfer station. There is no space in the North or South car parks but may be accommodated in the overflow in future.	
7.3	MH asked about wider signage. This is included in the planning approval so will be installed by Wills Bros. There is the possibility of addition signage within St Erth for large vehicles. SEPC to be	

	given the opportunity to review signage once designed by Wills Bros.	
7.4	MH requested a defibrillator is installed at the Station. This is to be discussed with GWR. **NW** to forward contact details to MH and review potential funding streams.	NW
8	**Next Meeting**	
8.1	Next meeting to be arranged for June '17.	

LUDGVAN PARISH COUNCIL MEETING 12TH APRIL 2017
ITEMS FOR INFORMATION

Cornwall Council – Planning Decisions etc. Advised to Council - For information

(a) PA17/00860 - McDonalds Restaurant Long Rock Penzance Cornwall - Application for advertisement consent for the installation of 4 no. new signs and the relocation of 4 no. existing drive thru signs. - McDonald's Restaurants Ltd McDonald's Restaurants Ltd - **Approved**

(b) PA17/00859 - McDonalds Restaurant Long Rock Penzance Cornwall - Application for Planning Permission for reconfiguration of the drive thru lane and kerb lines to provide a side-by-side order point including a new island for signage and associated works to the site. Alterations to elevations which include the construction of extensions totalling 24.5 sqm, incorporating extending the dining area and back of house. Replacement drive thru booths to be installed with new cladding surrounds. The installation of 2 no. new Customer Order Displays (COD) and a Goal Post height restrictor with a new drive thru signage suite. - McDonald's Restaurants Ltd McDonald's Restaurants Ltd - **Approved**

(c) PA16/09346 - Land N Of Chy An Mor Roundabout Jelbert Way Eastern Green Penzance - A replacement heliport comprising a terminal building, hangar, helicopter landing pad, emergency vehicle garage, 274 staff and customer parking spaces, access from Jelbert Way, internal access roads and servicing, operational equipment and apparatus, fuel storage facility, landscaping, foul and surface water drainage, boundary fencing, lighting, acoustic mitigation, associated works and infrastructure. - Mr Robert Dorrien-Smith Penzance Heliport Ltd - **Approved**

(d) PA17/01514 - B & M Retail Ltd Jelbert Way Eastern Green Penzance - Variation of condition number 5 (restricting sale of food or drink to sale for consumption on site from a restaurant or coffee shop ancillary to the main use of the site) in respect of decision 1/88/P/0800/F dated 20/09/1988 to also allow sale of food and drink from up to 291sqm provided the store is occupied by a single retailer selling comparison (non-food) goods - Mr Andrew Wells B&M Retail Ltd - **Approved**

(e) PA17/01351 - Lower Menwidden Cottage Vellanoweth Ludgvan Penzance - Proposed two-storey extension. - Mrs Stephanie Hutchison - **Approved**

(f) PA17/01246 - 31 Godolphin Road Long Rock TR20 8JW - Demolition of existing ground floor extension and construction of replacement
ground floor extension - Mrs S Newnham - **Approved**

(g) PA17/00338 - Hannaville Gilly Lane Whitecross TR20 8BZ - Surfacing of access, change of use of land and creation of parking area, erection of retaining walls and erection of studio/shed in garden - Mr Iain Paterson - **Approved**

(h) PA16/11800 - Badgers Croft Trencrom Lelant Downs Hayle - Two storey rear kitchen and bedroom extension in place of existing dilapidated
Structure - Mr And Mrs H Young - **Approved**

(i) PA17/00164 - Land ESE Ludgvan House Lower Quarter Ludgvan Penzance - Conversion and extension of outbuilding to form residential unit -Mr Andrew Perkin - **Refused**

(j) PA16/09935 - Land ESE Of The Old Inn Lower Quarter Ludgvan Cornwall - Conversion and extension of outbuilding to form a residential unit - Mr Andrew Perkin - **Refused**

Cornwall Council - Planning Enforcement, Appeals etc.

(a) EN16/01928 - Layby Off A30 Near Newtown Lane Long Rock Cornwall - Alleged unauthorised display of sign advertising Andy's Tyres - **case closed, breach resolved**

(b) EN16/01758 - Gonew View Lelant Downs Hayle Cornwall TR27 6NH - Alleged new building 20ft long currently being constructed - **case closed; application submitted**

(c) EN17/00537 - Land W Of Wyevale Garden Centre Nut Lane Lelant Cornwall - Alleged unauthorised display of an advertisement for the Cottage Boutique on an agricultural vehicle -

course of action agreed

12. <u>Other items for Information</u>

(a) Road Traffic Regulation Act 1984 S.14: Temporary Prohibition of Through Traffic
Location: Footpath 31 and Bridleway 31, Ludgvan and Bridleway 55 Madron
Timing: 3rd April 2017 to 3rd October 2017 (24 hours)
Contact: Colin Bayes, Cormac Solutions, Tel: 0300 1234 202

(b) Road Traffic Regulation Act 1984 S.14: Temporary Prohibition of Traffic
Location: Footpath 3 and 58, Ludgvan
Timing: 3rd April 2017 to 29th June 2017 (24 hours)
Contact: Darren Painter, Kier, Tel: 01392 312679