

**Carlyon Bay
Environmental
Statement (2011)**

Chapter N

Inter-relationship &
Cumulative Effects

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N1.0 Introduction

- N1.1 This chapter draws together the findings from the individual inputs into the Environmental Statement ('ES'); defines inter-relationships between these assessments and any other developments in the area surrounding the site; and establishes whether there are any other residual effects on the identified sensitive receptors which may require additional mitigation not previously identified.
- N1.2 There are different inter-relationships between the various assessments within the ES and this section identifies the key links between any impacts identified and how these may influence each other. Where these relationships give rise to other combined direct effects arising from the development, it is necessary to identify how these impact on those defined sensitive receptors identified in this ES.
- N1.3 There may also be other indirect effects arising from the development when considered with other proposals or schemes in the surrounding area. These effects may also give rise to the need to consider additional mitigation measures; albeit it is necessary to consider the likelihood of those other schemes proceeding and the ability or necessity of the applicant to mitigate any such effects for other sites.
- N1.4 During the process of agreeing the scope of the Environmental Impact Assessment ('EIA') with Cornwall Council, the following developments were identified as requiring consideration in relation to potential indirect or cumulative effects: -
- 1 Wainhomes development at Treverbyn Road, St Austell
 - 2 Golphin Farm
 - 3 Burlawn Farm
 - 4 Midas site, Par Lane
 - 5 Metso
 - 6 Duporth Holiday Village
 - 7 Eden Geothermal Powerplant
 - 8 Various Tesco proposals
 - 9 Eco - Town likely submissions (West Carcalze/Baal, pilot phase of Baal, Par, Blackpool, Goonbarrow, Nanpean and Drinnick)
- N1.5 Sensitive receptors have been identified in individual chapters of the ES and are summarised in Section N2.0. They have varying degrees of sensitivity to environmental impact and change as a result of the proposals. Regard has been given to the sensitivity of the identified receptors to ensure consideration is then given to those which are potentially the most sensitive to impact, taking into account the extent of the effects arising. The professional judgement of

those undertaking the EIA as well as topic specific criteria, legislation or guidelines have been used to identify the degree of sensitivity.

N1.6 A consideration of the impacts arising from the construction and operational phases of the development has been carried out within each of the technical chapters and is also addressed in the assessment of the inter-relationship and cumulative effects arising from the scheme.

N1.7 In addition, and where appropriate, the potential difference in effects arising from the current proposals against the extant scheme are identified.

N1.8 The structure of this chapter is as follows: -

- 1 Section N2.0 - Summary of Effects Arising and identification of sensitive receptors
- 2 Section N3.0 - Inter-relationship of Direct Effects arising from the proposals
- 3 Section N4.0 - Cumulative Effects arising from the scheme when considered with other proposals in the surrounding area
- 4 Section N5.0 - Summary & Conclusions from both this chapter and from the Carlyon Bay ES (2011) as a whole
- 5 Section N6.0 - Abbreviations
- 6 Section N7.0 - References

N2.0

Summary of Effects & Sensitive Receptors

N2.1

This section summarises the key environmental effects identified in the ES as a means to identification of the sensitive receptors most likely to be subject to residual effects arising from the development. It is with regard to those receptors, that the analysis of any additional impacts associated with the cumulation of effects has been carried out. This accords with EIA legislation and best practice which focuses on the main or significant effects arising from the development. For example, paragraph 82 of Circular 02/99 (Environmental Impact Assessment) states: -

“Whilst every ES should provide a full factual description of the development, the emphasis of Schedule 4 is on the 'main' or 'significant' environmental effects to which a development is likely to give rise. In many cases, only a few of the effects will be significant and will need to be discussed in the ES in any great depth. Other impacts may be of little or no significance for the particular development in question and will need only very brief treatment to indicate that their possible relevance has been considered. While each ES must comply with the requirements of the Regulations, it is important that they should be prepared on a realistic basis and without unnecessary elaboration.”

Summary of Residual Effects

N2.2

Table N2.1 provides a summary of the main residual effects (after mitigation) identified in Chapters D to M as likely to arise during the demolition and construction phase and following completion of the development. It also provides a summary of how those effects compare to those anticipated for the extant scheme.

N2.3

As the phased demolition and construction period for the scheme is likely to give rise to effects which are, by their very nature, transitory or very short term – often relating only to a single phase during the wider anticipated 3.5 year construction period – those effects are considered together in the schedule below. Due to the longer term nature of effects which could be anticipated during the operation of the scheme – these are reviewed on a topic by topic basis.

Table N2.1 Summary of Residual Effects

Environmental Topic	Summary of Effects
Effects During Demolition & Construction	
All Topics	A range of effects have been identified during the different phases of the demolition and construction period, many of these have been reduced to negligible or neutral residual effects once mitigation measures incorporated into the Construction Environmental Management Plan ('CEMP') have been taken into account. Moderate beneficial residual socio-economic effects

Environmental Topic	Summary of Effects
	<p>are anticipated through the generation of 645 temporary jobs per year over the 3.5 year construction period. Some minor and moderate adverse effects are anticipated on some habitats and species, on some views (particularly short range views) and due to the effect of construction traffic. However these effects are short-term and transitory, often only affecting a single phase of the construction period or a limited period of time, are typical of those anticipated during the construction of a development, and mitigation is identified in the CEMP to reduce these adverse effects to a minimum.</p>
Effects During Operation of the Development	
<p>Water Resources</p>	<p>The effect on beach morphology is considered to be negligible/neutral after completion; albeit during storm events there may be short term localised changes to the beach profile having a temporary minor adverse effect on Crinnis but a negligible effect on Shorthorn due to the 'setback' position of the sea defence. The beach profile will be monitored through procedures established by the Sea Defence and River Management Manual.</p> <p>The effect on the Sandy River morphology is negligible; with possible benefits off site due to increased capacity.</p> <p>The presence of the sea defences reduces the flood risk to the site compared with the natural baseline. However, there are no habitable properties currently on the site and therefore the impact of the proposed scheme compared to the natural baseline is considered to be negligible in terms of flood risk. The assessment would change to substantial beneficial if the site was developed.</p> <p>The river flood protection embedded within the development will lead to a moderate beneficial effect on fluvial flood risk to the site. The impact of the pluvial drainage on flooding is considered to be negligible. The risk of development being flooded from groundwater in extreme conditions is considered to be negligible. Under extreme storm conditions areas of the promenade in Crinnis and parts of Shorthorn will be closed for pedestrians. A storm warning system will be set up.</p> <p>Due to an agreement in place between the applicant and South West Water, the effect of additional wastewater on local water quality is negligible.</p> <p>The increase in hardstanding and therefore water runoff associated with the development will lead to an increased risk of hydrocarbons (e.g. oil) having a moderate adverse impact on water quality. Mitigation measures including the use of filters will ensure the effect will be neutral.</p>
<p>Biodiversity</p>	<p>The incorporation of new nesting opportunities and sensitive lighting will lead to a neutral effect on breeding birds. The 'commuting corridor' at the bottom of the cliff and sensitive lighting will give rise to a neutral effect on bats.</p> <p>There will be a minor negative/neutral effect upon the invertebrate interest of the site but the maintenance of interest areas through the Landscape & Ecological Management Plan ('LEMP') will maintain interest and seek to maximise the potential</p>

Environmental Topic	Summary of Effects
	<p>for further gains. Following reptile translocation, the effect on the reptile population will be neutral.</p> <p>Following completion of the cliff stabilisation works, there will be a neutral effect on affected habitats.</p>
Socio-Economics	<p>The development is estimated to support, directly and indirectly, an estimated 435 net additional permanent jobs within the local area giving rise to a moderate beneficial economic effect. There will be a moderate beneficial effect on the local labour market.</p> <p>There will be a minor beneficial effect through the creation of an improved choice/quality of housing. The modest increase in population will have a negligible effect on local health care and community facilities. There will be a moderate/major beneficial effect on the local leisure market and the local tourism market.</p> <p>There may be a minor adverse effect on education provision at primary school level but this is capable of mitigation through s106 contributions to expand provision in the area which would reduce this effect to negligible/neutral.</p>
Transportation	<p>There will be an increase in traffic due to the development but the overall impact on highway links will be neutral/negligible. To mitigate the proposed increase in traffic flows, a comprehensive package of measures is proposed focused on sustainable transport strategies to reduce the demand on private car use generated by the development. A Travel Plan will be implemented to seek to reduce the number of trips made by the private car.</p>
Air Quality	<p>The effect of the proposed Energy Centre taking account of all relevant emissions is minor adverse but capable of mitigation through detailed design of the combustion plant to reduce the effect to neutral/negligible. The effect on air quality associated with road traffic is neutral/negligible.</p>
Noise and Vibration	<p>There will be a neutral/negligible effect due to additional road traffic associated with the development on all receptors with the exception of Sea Road (between Beach Road and Cypress Avenue) and Cypress Avenue which show minor adverse effects. With mitigation in place associated with the detailed building design, noise arising from specific uses will be neutral/negligible.</p>

Environmental Topic	Summary of Effects
Visual and Landscape Effects	<p>Following the incorporation of mitigation measures through the detailed design of buildings, the general effect on the majority of the landscape character areas is neutral/negligible. Locally, a moderate beneficial effect on the character of Crinnis can be anticipated with a substantial adverse effect on the landscape character of part of Shorthorn; but the latter only experienced in close proximity to this part of the site. The effect on the landscape character of lighting is generally neutral/negligible, with the exception of a slight adverse effect on Shorthorn and Polgaver Beach character area.</p> <p>The removal of detracting features from Crinnis will have a substantial/moderate beneficial effect on the majority of short range views towards this part of the site. The effect on other short-range views is largely neutral with the exception of a moderate/substantial adverse effect to one view from the east of the site looking west.</p> <p>At night, following mitigation the overall effect is likely to be neutral/negligible from views towards the site.</p>
Geology and Ground Conditions	<p>In the long term, the cliff stabilisation work will have a substantial beneficial effect on slope stability and a minor beneficial effect on site users by reducing health and safety risks.</p> <p>The potential for obscuring part of the RIGS may give rise to localised minor adverse effects but improvements to accessibility and the potential to preserve geological features will have a long term minor beneficial effect. A neutral/negligible effect on past mining and a neutral/negligible effect on ground contamination is anticipated. The increase in hardstanding will reduce rainwater infiltration and therefore have a minor beneficial effect on the potential for naturally occurring compounds to migrate.</p>
Waste	<p>Following mitigation a minor adverse effect is anticipated due to limited future capacity at local landfills.</p>
Heritage	<p>There will be neutral/negligible direct effects on below ground archaeology and above ground heritage assets and cultural heritage features following mitigation/detailed design.</p>
Effects as compared with the Extant Scheme	
Water Resources	<p>As the proposed scheme is less seaward in extent than the extant scheme, the impact on beach morphology and beach amenity is considered to be minor/moderate beneficial. The proposed new sea defences will provide a greater degree of flood protection, therefore the impact of the proposed scheme is considered to be minor beneficial when compared to the extant scheme.</p> <p>The extant scheme includes works within the intertidal area but this is unlikely to have a significant impact on water quality and hence the impact of the proposed scheme on water quality is considered to be neutral compared to the extant scheme.</p> <p>The extant and proposed schemes include similar works to the Sandy River. In respect of fluvial flood risk, the effect of the river flood protection of the proposed scheme compared with the</p>

Environmental Topic	Summary of Effects
	<p>extant is considered to be negligible.</p> <p>As the proposed development removes much of the hardstanding at Shorthorn, allowing the existing soakage regime to be maintained, compared to the extant permission, the impact of the proposed pluvial drainage proposal on flooding is considered to be minor beneficial.</p> <p>In terms of groundwater, the current proposals represent no change from the extant permission and therefore the impact is considered to be negligible.</p>
Biodiversity	<p>The extant scheme does not include any mitigation or compensation measures to balance any effects of the scheme upon biodiversity nor does it include provision for the implementation of a landscape and habitat management plan. The impact of the current proposal in comparison with the extant is therefore moderate beneficial.</p>
Socio-Economics	<p>Due to the similar nature of the proposed mix of uses, the impact of the current proposals in comparison with the extant scheme is neutral/negligible.</p>
Transportation	<p>A comparison of effects arising from the proposed development compared to the extant scheme concludes that the extant scheme would give rise to higher increases in traffic levels upon the local highway network, although the overall conclusions, both during construction and operation are the same i.e. the difference in effect is neutral/negligible with the development of the Travel Plan through the proposed development having a minor beneficial effect as the extant scheme incorporates no such plan</p>
Air Quality	<p>The extant scheme did not incorporate an Energy Centre. The overall reduction in vehicles associated with the proposed scheme in comparison with the extant will lead to a comparatively minor beneficial effect on air quality due to traffic.</p>
Noise and Vibration	<p>The difference in noise and vibration effects arising from the proposed scheme in comparison with the extant scheme is neutral/negligible.</p>
Visual and Landscape Effects	<p>The effects during construction would be similar between the proposed development and the extant scheme.</p> <p>It is anticipated that there would be a moderate beneficial effect on the landscape character of Crinnis and Shorthorn when comparing the proposed development with the extant scheme with the difference in effects on Polgaver being neutral.</p> <p>The overall effect on medium and long range views as a result of the proposed development will range from moderate beneficial to moderate/substantial beneficial in comparison to the extant scheme.</p> <p>In relation to short range views, the overall effect of the proposed development in comparison with the extant scheme is neutral.</p> <p>There will be beneficial effects on night time views in comparison with the extant scheme.</p>
Geology and Ground	<p>The proposed development has a minor beneficial effect on the RIGS when compared with the extant scheme which was</p>

Environmental Topic	Summary of Effects
Conditions	constructed over part of the Crinnis West RIGS. The smaller footprint of the proposed scheme compared with the extant scheme gives rise to a minor beneficial effect with regards to contamination and radon.
Waste	No waste management reports were submitted with the planning application for the extant scheme and therefore it is not possible to compare the effects of the two schemes. However as the extant scheme included no Site Waste Management Plan, it can be anticipated that the overall effect of the proposed scheme is likely to be minor beneficial in comparison with the extant.
Heritage	The effects of the proposed scheme in comparison with the extant scheme are anticipated to be generally neutral/negligible . However, the materials identified for the extant scheme (generally white in colour) when compared with the proposed natural palette of materials for the proposed scheme could ensure a comparatively minor/moderate beneficial effect on the setting of heritage assets when viewed from medium/long range views.

Summary of Sensitive Receptors

N2.4

The technical assessments contained within the ES have identified a range of sensitive receptors which have varying degrees of sensitivity to environmental impact and change as a result of the proposed development. Those receptors potentially sensitive to the effects identified in Table N2.1 are identified below.

- 1 Crinnis beach
- 2 Shorthorn beach
- 3 Polgaver beach
- 4 Sandy River
- 5 Carlyon West RIGS
- 6 Carlyon East RIGS
- 7 Cliffs surrounding the northern, eastern and western boundary of the site
- 8 On site habitats comprising coastal sand dunes, maritime cliffs and slope, lowland heath, open mosaic habitat on previously developed land, mixed deciduous woodland and river (ground conditions)
- 9 On site species comprising breeding birds, reptiles, invertebrates.
- 10 Transport users of Beach Road
- 11 Transport users of Sea Road
- 12 Transport users of Cypress Avenue
- 13 Residents on Sea Road
- 14 Residents on Beach Road
- 15 Users of Carlyon Bay Hotel
- 16 Users of Carlyon Bay Golf Course

17 Users of South West Coastal Path

18 Users of the 'Top car park'

19 Existing site users of the site including visitors to the beach and local area

20 Construction site workers

21 Local labour force/businesses

22 Charlestown Primary School

23 Surface, ground and bathing water quality

24 Designated heritage assets in the surrounding area

25 local waste management infrastructure

N2.5

The assessment of the potential for other direct or indirect effects arising from this development or others in the surrounding area has been carried out with regard to these receptors on the basis that their sensitivity means they are most likely to be subject to any additional significant effects. Other receptors identified in this ES have no or limited sensitivity to change and therefore are less likely to be subject to cumulative effects and have not been specifically identified in this chapter.

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N3.0

Inter-relationship of Effects

N3.1

This section considers the inter-relationship between the direct effects arising from the development. It takes account of the residual effects (following mitigation) as they relate to the key sensitive receptors identified in Section N2.0. The analysis identifies both positive and negative impacts and makes reference to the degree of effect as identified within the technical assessments. The objective is to identify where the accumulation of effects on particular receptor, and the relationship between those effects, may give rise to a need for additional mitigation not identified previously.

N3.2

This section focuses only on those issues where the effect identified is significant (i.e. where the effect is negligible or there is no effect it has not been considered). The EIA process has identified that for the majority of the technical assessments carried out the residual effects of the development (i.e. after mitigation) are either neutral or negligible against the baseline position. The proposed mitigation measures can be secured by a planning condition or obligation within a s106 Agreement.

N3.3

To assist in this analysis, the table below summarises the effects anticipated against each receptor and identifies where particular receptors may be subject to an accumulation of environmental impacts. As elsewhere in this ES, the comparative position when comparing the proposed development with the extant scheme is also identified:-

Table N3.1 Direct Residual Environmental Effects by Receptor

Receptor		During Demolition & Construction	During Operation of Development	Compared with Extant
1	Crinnis beach	(WR);(B)	(WR); (B)	WR; (B)
2	Shorthorn beach	(WR); (B); LV	WR; (B)	WR; (B)
3	Polgaver beach	X	B	(B)
4	Sandy River	(B)	WR; (B)	NC
5	Carlyon Bay West RIGS	X	(GC)	(B)
6	Carlyon Bay East RIGS	X	(GC)	NC
7	Cliffs	(B); (GC)	(B); GC	B
8	Site Habitats	(B)	B	B
9	Site Species	(B)	B	B
10	Transport users of Beach Road	(T)*	X	NC
11	Transport users of Sea Road	X	(T)	(T)

Receptor		During Demolition & Construction	During Operation of Development	Compared with Extant
12	Transport users of Cypress Avenue	(T)*	X	(AQ)
13	Residents of Sea Road	(T)*	(SE)	(AQ)
14	Residents of Beach Road	X	(SE)	(AQ)
15	Users of Carlyon Bay Hotel	(LV)	(SE)	NC
16	Users of Carlyon Bay Golf Course	(LV)	X	NC
17	Users of South West Coastal Path	(LV)	(SE); LV ¹ /(LV) ²	NC
18	Users of 'Top car park'	(LV)	(SE)	NC
19	Existing site users/local visitors	(B); (SE); LV	WR; B; SE; GC	WR; B
20	Construction workers	SE	X	(WR)
21	Local labour force/businesses	SE	SE	NC
22	Charlestown Primary School	(T)	(SE)	NC
23	Surface, ground and bathing water quality	X	(WR); (GC)	(B)
24	Heritage assets	(H)	(H)	NC
25	Local waste management infrastructure	(W)	(W)	Not known

Key: F - Water Resources/Flood Risk; B – Biodiversity; SE - Socio-Economics; T – Transportation; AQ - Air Quality; NV - Noise and Vibration; VL - Visual and Landscape Effects; GC - Geology and Ground Conditions; W – Waste; H – Heritage

RED – adverse effect; GREEN – beneficial effect; () – minor effect; X – no effect anticipated; * - transitory/short-term effect; NC – no comparative change (with reference to extant)

N3.4

Table N3.1 highlights residual effects on identified receptors after mitigation, however the following should also be taken into account: -

- 1 During construction, various adverse residual effects on site habitats and species are anticipated. For the maritime cliffs, breeding birds and reptiles, the effect will be minor and temporary and is not anticipated to result in a

¹ From viewpoints looking east and south along western and northern boundaries of site

² Single viewpoint looking west from path at eastern end of site

long-lasting detrimental impact. Adverse effects on open mosaic habitats and invertebrates will be compensated in the long term by the creation of new habitats as part of the proposed development.

- 2 The development will have a positive socio-economic effect on the local labour market during the construction and operational phases. There will also be a beneficial impact on the local tourism market. On completion a financial contribution via a s106 may be required to expand primary school provision in the local area.
- 3 Minor adverse transport effects are identified during the construction period on construction vehicle routes to the site. The impact will be transitory in nature and will be minimised by the implementation of a number of measures set out in the Construction Environment Management Plan. No residual adverse transport effects are anticipated after completion of the development.
- 4 Some minor adverse effects on short range views during the period of construction can be anticipated due to the types of on site activities during this period. These effects will be temporary and will not result in any long-lasting detrimental effects. The removal of derelict buildings from Crinnis is a beneficial effect of the proposed development.
- 5 A minor adverse effect on Cornwall waste management infrastructure capabilities and capacity is anticipated both during the construction and operational phases. However, the implementation of a site waste management plan is anticipated to reduce the total amount of waste generated by demolition and construction. After completion measures will be implemented to capture as much recycling as possible. Both of these measures will assist in reducing the impact of these effects.
- 6 During the construction phase of the development there will be slight temporary adverse effects on a number of heritage assets as a result of the introduction of tower cranes (if these are used in the construction process) above the height of the cliff in views of the bay. This is a short term effect that should be balanced with the beneficial effect after the scheme is operational.

N3.5 Table N3.1 identifies that there is potential for some receptors to be subject to additional effects arising from the interaction between impacts during the construction and operational phases of development. The majority of the adverse residual effects where combinations of impacts may occur are during the construction period. These combined effects would be generally restricted to short periods of time and should be balanced against the overriding beneficial effects anticipated following completion of the development.

N3.6 As an example, users of the top car park can be expected to experience some adverse visual effects in views towards the site during the construction period. Table N3.1 identifies the short transitory periods of time where this impact may be increased due to passing construction vehicles. Given the short time period in which this effect inter-relationship would occur, and such activities being expected during a construction period, it is considered that no additional

mitigation is required. In this example, the implementation of the CEMP which would seek to manage the timing of deliveries to the site would minimise the impact of this combined effect as far as is possible.

N3.7

The analysis above has identified that there is no requirement for the identification of additional mitigation measures to address effects arising from the inter-relationship between impacts on sensitive receptors as a result of the scheme. The effects of the proposed development in comparison with the extant scheme concludes that, on balance, the impacts arising are generally more significantly beneficial than those anticipated from the extant scheme.

N4.0

Cumulative Effects

N4.1

As identified in Chapter B to this ES, it has been agreed with Cornwall Council to carry out an assessment of whether any cumulative effects may arise from the proposed development when considered with various other schemes in proximity to the site. Cornwall Council has provided a list of schemes which should be given specific consideration in the ES. No other proposals have emerged since the issue of the scoping opinion which require consideration.

N4.2

The objective is to identify whether impacts from several developments which individually might be insignificant could, when considered together, cause a significant cumulative impact requiring mitigation.

Status of Schemes to be assessed

N4.3

Best practice dictates that cumulative assessments of this nature should have regard to those schemes which are 'reasonably foreseeable' (i.e. usually those under construction or with planning permission). The assessment is only capable of being carried out based on the information available at this time. The current status of the schemes identified by Cornwall Council in the EIA Scoping Opinion as well as other schemes identified which may require consideration are summarised in Table N4.1: -

Table N4.1 Schemes identified by Cornwall Council for consideration as part of a cumulative assessment

Ref	Location	Description of Development	Current Status
1	Northern Expansion, land at Treverbyn Road, St Austell, PL25 5RX	Outline application to include residential development of up to 1300 dwellings	Applicants appealed on non-determination. Public Inquiry held on 30 November 2010
		Outline application for residential development up to 495 dwellings, 4500sqm of employment floor space, ancillary retail floorspace; leisure; 60 bed care home; strategic landscaping and public open space; and associated engineering works, infrastructure, drainage and car parking	Refused 15 October 2010
2	Golphin Farm, Carclaze, St Austell, PL25 4EN	Development of 107 two and three storey dwellings and associated works	Approved 1 April 2010. Work has commenced on site but without all pre-commencement conditions being discharged
3	Burlawn Farm, Carclaze Road,	Erection of 24 dwellings, garages and parking spaces	Approved 21 January 2011

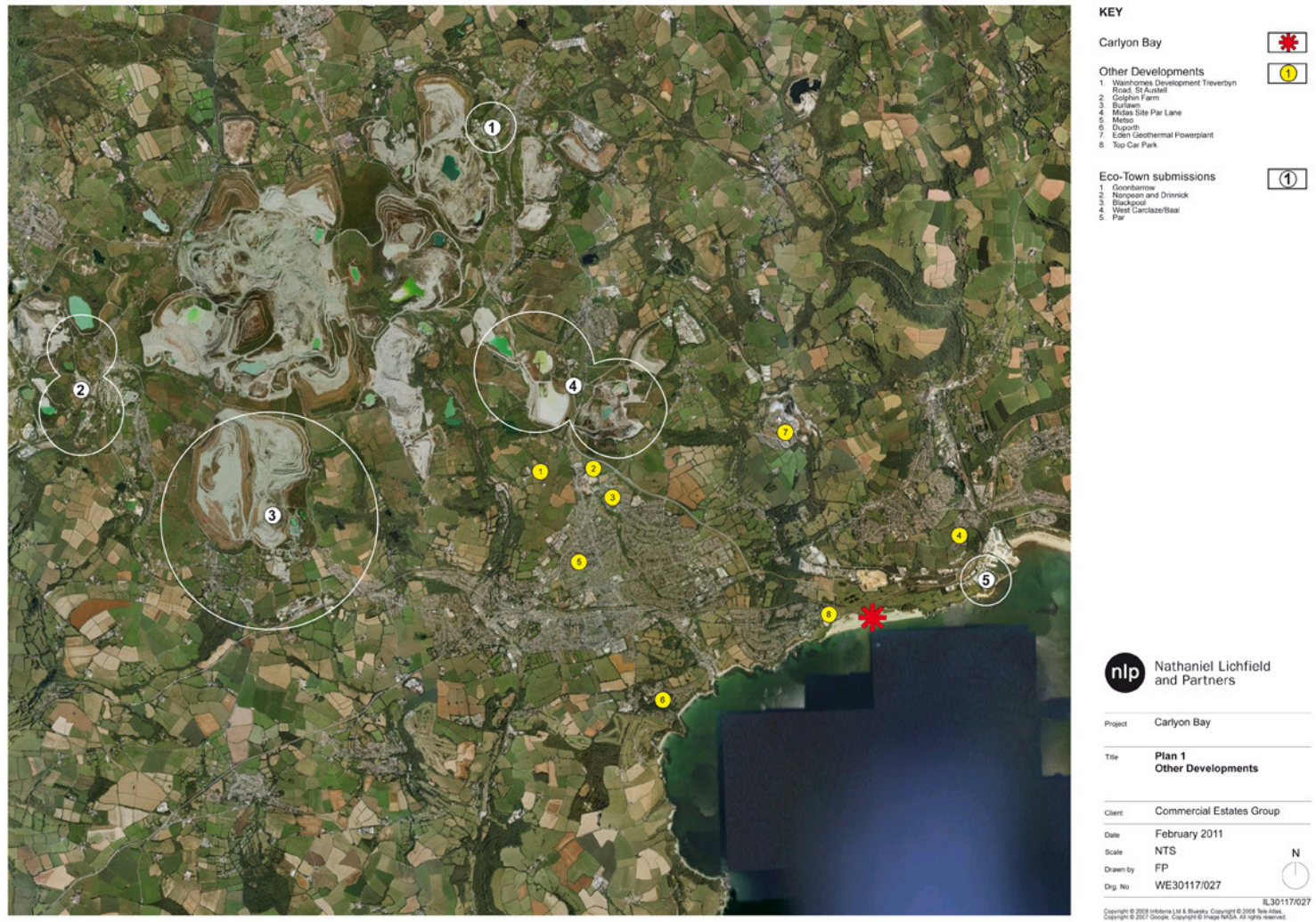
Ref	Location	Description of Development	Current Status
	PL25 3TA	together with road and sewers and associated works	
4	Midas Site, Land off Par Lane, Par, PL24 2BY	Construction of 150 dwellings, together with associated site works	Approved 24 March 2010
5	Former Metso site, PL25 3NW	7,200 sqm of Class B1 plus 103 residential units and community uses	Construction on site is nearing completion
6	Duport Holiday Village, Duport, PL26 6AJ	Construction of 314 residential units	Construction on site is nearing completion
7	Eden Geothermal Powerplant, The Eden Project, Boldelva Road, Boldelva, Par, Cornwall, PL24 2SG	Engineered deep Geothermal Energy Facility, two 4.5km deep wells, drilling rig and ancillary plant, mud lagoon, cuttings pit, means of access, ancillary infrastructure and connection to The Eden Project Energy /Centre, landscape and habitat strategy, and ancillary infrastructure	Approved 16 December 2010
8	Top Car Park, off Beach Road, Carlyon Bay	Re-surfacing works together with demarcation of parking spaces, cycle parking, associated landscaping, new surface water drainage system and re-siting of visitor information centre for a temporary period up to 7 years	Planning application submitted 18 November 2010 – currently under consideration
-	Possible Tesco proposals	No current proposals/applications	No current proposals/applications
Eco-Town			
1	West Carclaze/Baal	Up to 2,500 homes, 5ha of employment land, energy centre, mixed use centre including retail and commercial uses	Planning application due for submission February/March 2011. Construction of pilot phase anticipated to commence late 2011/early 2012. Subsequent phases could be constructed within 10-15 years
2	Par Docks	Up to 600 residential units	No planning application yet submitted/timetable for submission unknown. Construction anticipated 2014/15 – based on information publically available

Ref	Location	Description of Development	Current Status
3	Blackpool	Details and timescales unknown	Details and timescales unknown
4	Nanpean and Drinnick		
5	Goonbarrow		

N4.4

Figures N4.1 overleaf identifies the location of the schemes identified: -

Figure N4.1 Location of Developments for the purpose of Cumulative Assessment



N4.5 Figure N4.1 highlights that, with the exception of the planning application for works to the 'top car park', all of the developments reviewed in this chapter are located at some distance from the site (i.e. at least 1.5 km). For this reason it is considered unlikely that, due to the nature of impact arising, that any cumulative effects of the development with any of the above schemes could be anticipated with regard to Water Resources, Biodiversity, Air Quality, Noise and Vibration, Visual and Landscape Effects, Geology and Ground Conditions and Heritage. The main focus of the review of the potential for cumulative effects below therefore largely relates to the potential for cumulative socio-economic impacts, transportation impacts and waste impacts as the nature of these effects may be felt more widely. It should not, however, be implied from this that other issues have not been assessed as part of this process. Specific issues are highlighted where relevant.

Review of Potential Cumulative Effects

N4.6 The potential for significant cumulative effects arising from the proposed development with the other schemes identified above is considered followed by a review of overall effects likely if all schemes come forward. The assessment has been carried out on the basis of construction of the Carlyon Bay proposals commencing in 2012 and the development being operational by 2016 (see Chapter C of this ES for further details). Regard has been given to the extent to which each of the other developments identified is reasonably foreseeable.

Wainhomes, St Austell Northern Extension

N4.7 A decision on the proposal for the Northern Extension to St Austell has not yet been issued. A public inquiry took place in November 2010. The planning application for the development indicated that, in the event that planning permission had been granted, that construction works would have started on site in 2010 and be completed by 2019. The Northern Expansion application was accompanied by an ES.

N4.8 The assessment of the effects of transportation included in this ES (Chapter G and Appendix G1) has taken into account the likely effect of the Northern Extension scheme in the event that planning permission were granted and concluded that any cumulative effect would be negligible. No cumulative noise and air quality effects would be anticipated in association with transport.

N4.9 If the Northern Extension and Carlyon Bay schemes are constructed in the same time period, both would draw construction workers from the same local labour market. It is considered that given the prevailing economic conditions in the local area this would give rise to a positive socio-economic benefit. In addition, the mitigation measures (e.g. local training initiatives) already proposed as part of this ES (Chapter F) would assist in mitigating any impact of the two schemes together. Similar mitigation measures could be expected to be attached to any planning permission for the Northern Extension.

- N4.10 The provision of a primary school in the Wainhomes scheme and mitigation measures proposed for the Carlyon Bay development in relation to primary school places (if required) will ensure that there are no adverse cumulative socio-economic impacts.
- N4.11 The distance of the two schemes from each other mean that the potential for any other cumulative effects are considered unlikely.

Golphin Farm

- N4.12 A planning application was approved at appeal at Golphin Farm for 107 dwellings and associated works. Cornwall Council has advised that the development has commenced on site without the discharge of all pre-commencement conditions.
- N4.13 The assessment of the effects of transportation included in this ES (Chapter G and Appendix G1) has taken into account the likely effect of the Golphin Farm scheme in the event that planning permission were granted and concluded that any cumulative effect would be negligible.
- N4.14 In consideration of the Golphin Farm appeal, the Inspector did not consider the Golphin Farm scheme would harmfully increase the pressure on existing infrastructure with the exception of local schools. A financial contribution was sought for school provision in St Austell. This financial contribution, along with any mitigation associated with primary school provision associated with the Carlyon Bay development, will ensure that there are no adverse cumulative socio-economic impacts.
- N4.15 No other cumulative impacts are anticipated.

Burlawn Farm

- N4.16 An application for the erection of 24 dwellings, garages and parking spaces together with road and sewers at the above site was considered at the central sub-area planning committee on 6 October 2010 and it was resolved to grant planning permission subject to the signing of a s106 Agreement. No information is currently available on when construction of the development could commence.
- N4.17 Given the small scale of the Burlawn Farm scheme and its distance from Carlyon Bay, no cumulative effects are anticipated.

Midas Site

- N4.18 Planning permission for the construction of 150 dwellings with associated site works has been issued for the Midas site located at Par Lane in Par. No information is available on when construction is proposed to commence on this site.
- N4.19 The assessment of the effects of transportation included in this ES (Chapter G and Appendix G1) has taken into account the likely effect of the Midas site

scheme in the event that planning permission were granted and concluded that any cumulative effect would be negligible.

N4.20 No financial contributions were sought in relation to school provision for the Midas site. Mitigation measures for the Carlyon Bay development in relation to primary school places if required will ensure that there are no adverse cumulative socio-economic impacts.

N4.21 No other cumulative impacts are anticipated.

Metso

N4.22 The Metso development of 103 units at Carclaze to the northwest of the Carlyon Bay site is under construction and Cornwall Council has acknowledged that the development is near completion.

N4.23 As the Metso development will be completed prior to the start of construction of the Carlyon Bay development there will be no cumulative effects resulting from the construction of the development.

N4.24 The assessment of the effects of transportation included in this ES (Chapter G and Appendix G1) has taken into account the likely effect of the Metso site scheme in the event that planning permission were granted and concluded that any cumulative effect would be negligible.

N4.25 No other cumulative impacts are anticipated.

Duporth Holiday Village

N4.26 Construction of 314 units at the Duporth Holiday Village is nearing completion. As this development will be completed prior to the start of construction of the Carlyon Bay development there will be no cumulative effects resulting from the construction of the development.

N4.27 The assessment of the effects of transportation included in this ES (Chapter G and Appendix G1) has taken into account the likely effect of the Duporth scheme in the event that planning permission were granted and concluded that any cumulative effect would be negligible.

N4.28 No other cumulative impacts are anticipated

Eden Geothermal Powerplant

N4.29 Planning permission has been granted for a deep Geothermal Energy Facility at the Eden Project. The application did not give rise to the need for an EIA but was accompanied by information on noise, landscape and visual effects, biodiversity, water resources, ground conditions, transport, air quality and heritage. The development is anticipated to produce up to 5 MW of electricity and 3.5 MW of heat. Eden will use approximately 1 MW of electricity and 1 MW of heat and the remainder will be exported back to the local grid or to power local district heating systems.

N4.30 No significant residual environmental effects are anticipated from the power plant and no cumulative effects are anticipated when considered with the Carlyon Bay development. The power plant scheme will assist Cornwall in delivering for its energy needs in a clean and sustainable way and in supporting schemes such as Carlyon Bay in their sustainability objectives.

N4.31 No other cumulative impacts are anticipated.

Top Car Park

N4.32 CEG has submitted a planning application for the improvement to the top car park located immediately adjacent to the western boundary of the application site for works to tarmac and demarcate the car park, install cycle parking, landscaping and surface water drainage and temporarily relocate the existing Visitor Centre from Crinnis to a new location on the newly resurfaced car park. No decision has yet been made on the application.

N4.33 Whilst small in scale, the proximity of the site and its potential relationship to the Carlyon Bay proposals have been reviewed in terms of cumulative effects. As the works are likely to be complete prior to any construction works starting for the Carlyon Bay proposals it is not anticipated that any cumulative effects would arise during this period.

N4.34 Following completion of the development, the works to the top car park are considered to give rise to a positive visual and socio-economic cumulative impact through the improvement to the appearance of the entrance into Carlyon Bay and the quality of the visitors' experience. Additional beneficial transportation effects are anticipated by improving facilities for visitors to the site.

N4.35 No other cumulative impacts are anticipated.

Possible Tesco Proposals

N4.36 The scoping opinion from Cornwall Council highlighted the need to review the potential for cumulative effects arising from the Carlyon Bay development alongside a scheme for the supermarket operator Tesco. Cornwall Council indicated that initial discussions have taken place with the operator regarding possible proposals.

N4.37 No specific site, proposed development or timescales are available for any proposal and therefore it is not possible to review the potential for cumulative effects.

Eco-Town Proposals

N4.38 No planning applications have yet been submitted for proposed Eco-town located as a string of six sites to the north of Carlyon Bay. Information available indicates that the development of the sites could be brought forward over a number of phases over the next 15-20 years.

- N4.39 The anticipated first phase is at West Carclaze/Baal for which an outline planning application could be submitted in Spring 2011 for up to 2,500 homes, 5ha of employment land, an energy centre, a mixed use centre including retail and commercial uses, primary school and informal green space. An initial first phase of this development (a pilot scheme of about 50 homes) could be constructed from late 2011/early 2012. Given the distance between this location and the Carlyon Bay site, and the nature of the 'eco-town' concept, no cumulative environmental effects are anticipated.
- N4.40 A second phase of development is likely to be at Par Docks to comprise up to 600 residential units, retail and leisure, hotel, marina, business/office space, community green space, new access, infrastructure and landscaping. It is not known when a planning application will be submitted for this proposal. At this stage it is anticipated that construction on the development will commence in 2014/15 but no further information is available to enable a cumulative assessment to be undertaken other than at an indicative level.
- N4.41 Whilst no other details are known at this stage, the site would be located in the same visual envelope as the Carlyon Bay proposals when viewed from long range views towards the top/north of the wider bay within which the two sites are located. The regeneration of both the Carlyon Bay site and the Par Docks site could be expected to have a beneficial visual and cultural heritage cumulative effect in improving current views and the replacement of current detracting features. The regeneration of both sites could also be anticipated to give rise to positive socio-economic cumulative effects in regenerating the wider St Austell area. Development at the Carlyon Bay site and the Par Docks site could possibly have an impact on traffic levels on Par Moor Road. No other cumulative effects are identified.
- N4.42 No information is yet available on the likely final three phases at Blackpool, Goonbarrow and Nanpean and Drinnick. Given the lead-in times for bringing forward development at these sites it has been assumed that there will be no overlap in construction of the Carlyon Bay development with any of these proposed sites and any operational effects associated with these schemes when considered with Carlyon Bay can be addressed at the time that those developments come forward.

Summary of Cumulative Impact Assessment

- N4.43 Table N4.2 below summarises the potential for cumulative effects to arise from the schemes identified above when considered with the Carlyon Bay development:-

Table N4.2 Summary of Potential for Cumulative Effects of Schemes with the Carlyon Bay development

Ref	Location	Potential for Cumulative Effects	
		During Construction	Following Completion
1	St Austell Northern Expansion	None anticipated or mitigation already assumed	None anticipated or mitigation already

Ref	Location	Potential for Cumulative Effects	
		During Construction	Following Completion
		is acceptable	assumed is acceptable
2	Golphin Farm	None anticipated or mitigation already assumed is acceptable	None anticipated or mitigation already assumed is acceptable
3	Burlawn Farm	None anticipated	None anticipated
4	Midas Site	None anticipated or mitigation already assumed is acceptable	None anticipated or mitigation already assumed is acceptable
5	Former Metso site	Not applicable	None anticipated
6	Duporth Holiday Village	Not applicable	None anticipated
7	Eden Geothermal Powerplant	Not known/not applicable	None anticipated
8	Top Car Park	Not applicable	Positive effects
-	Possible Tesco proposals	Not applicable	Not applicable
Eco-Town			
1	West Carclaze/Baal	None anticipated	None anticipated
2	Par Docks	None anticipated	None anticipated
3	Blackpool	Not known/not applicable	Not known/not applicable
4	Nanpean and Drinnick	Not known/not applicable	Not known/not applicable
5	Goonbarrow	Not known/not applicable	Not known/not applicable
All developments		Not applicable	None anticipated or mitigation already assumed is acceptable

N4.44

Based on information available, the assessment shows that no cumulative effects are anticipated from the Carlyon Bay development in consideration with other schemes giving rise to a need for additional mitigation measures that have not been previously identified.

N5.0

Summary & Conclusions

N5.1

The Carlyon Bay ES (2011) has been prepared on behalf of Commercial Estates Group ('CEG') and sets out the findings of an EIA of proposals for the development of land at Carlyon Bay near St Austell, Cornwall. It is submitted with the hybrid planning application for a mixed use development of residential accommodation and commercial leisure floorspace with associated works, sea defences and promenade, works to Sandy River and cliff stabilisation.

N5.2

The ES has assessed the potential for the effects in relation to the following environmental matters: -

- 1 Water Resources
- 2 Biodiversity
- 3 Socio-Economics
- 4 Transportation
- 5 Air Quality
- 6 Noise and Vibration
- 7 Visual and Landscape Effects
- 8 Geology and Ground Conditions
- 9 Waste
- 10 Heritage

N5.3

A range of mitigation measures have been identified throughout the ES which are capable of being enforced through planning conditions or a s106 Legal Agreement in relation to the development.

N5.4

Some minor negative residual effects remain in relation to specific sensitive receptors in relation to biodiversity, visual and landscape effects and waste. However, these must be balanced against the significant beneficial environmental effects on water resources, on other key views towards the site and on socio-economics. In comparison with the extant proposals, the scheme also gives rise to more positive environmental effects.

N5.5

The relationships between the effects identified on site do not give rise to a need for additional mitigation measures in relation to the development. There are no cumulative effects arising from the development when considered with other developments in the surrounding area.

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Abbreviations

- 1 ES - Environmental Statement
- 2 EIA - Environmental Impact Assessment
- 3 CEMP - Construction Environmental Management Plan
- 4 RIGS – Regionally Important Geological Site
- 5 LEMP - Landscape & Ecological Management Plan
- 6 HGV – Heavy Goods Vehicle

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References

- 1 www.cornwall.gov.uk (for details of identified applications)