

## Appendix 1: Healthy Urban Development Unit Checklist

1. Direct Influences				
Issue	Included in proposal	Details and evidence	Potential health impact, relative to baseline	Action or mitigation required
<b>1.1 Housing and Neighbourhood Amenity</b>				
Does the proposal have the potential to impact upon existing housing amenity?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	<p>The Environmental Statement identifies the potential for dust impacts on amenity if appropriate mitigation is not adopted.</p> <p>The Environmental Statement identifies an increase in traffic flows above existing levels.</p>	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal have the potential to impact upon existing visual amenity?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement identifies the potential impact on visual amenity from the proposed development. The Environmental Statement reported a significant visual impact from loss of woodland although <i>mitigation measures</i> would be put in place to reduce any impact.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal protect and enhance green space?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement includes measures to protect and <i>enhance green space</i> .	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal provide high quality amenity space?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	The proposed development will not be open to the public and the site is not currently open to the public.	<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	
Does the proposal have the potential to impact upon existing landscape of the area?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	<p>The Environmental Statement identifies the potential impact on the visual impact on landscape character and visual amenity of the proposed development.</p> <p>Residents have raised concerns regarding the removal of the rock spur</p>	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal have the potential to impact upon the existing Odour climate in the area?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement assesses Odour in the Air Quality chapter and identifies mitigation measures to reduce any generation of odour.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.

			<input type="checkbox"/> +ve	
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			20%	Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.

Issue	Included in proposal	Details and evidence	Potential health impact, relative to baseline	Action or mitigation required
<b>1.2 Access to Public Services</b>				
Does the proposal facilitate multiple building uses for different public services?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	The proposed development will not be open to the public and the site is not currently open to the public.	<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	
Are community facilities provided within the proposal?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	The proposed development will not be open to the public and the site is not currently open to the public.	<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			0%	Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.

Issue	Included in proposal	Details and evidence	Potential health impact, relative to baseline	Action or mitigation required
<b>1.3 Opportunities for Physical Activity</b>				
Does the proposal prioritise and encourage walking (e.g. Home Zones, walking plans, wide and safe streets etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The transport chapter within the Environmental Statement suggests measures to improve pedestrian access to the site (for employees and visitors) to be addressed further in the Work Place Travel Plan	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed. Mitigation is considered necessary to protect cyclists and pedestrians.
Does the proposal prioritise and encourage cycling (e.g. cycle lanes, secure cycle stands, office shower facilities)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The transport chapter within the Environmental Statement suggests measures to improve access to the site via cycling, which is to be addressed further in the Work Place Travel Plan	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed. The negative impact on cycling by residents and visitors must be addressed.
Does the proposal ensure that buildings are designed to maximise physical activity (e.g. positioning of stairwells, shower rooms, secure cycle parking)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	Secure cycle parking and showers are provided.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	
Does the proposal address open space and natural space deficiency for the Plant Employees?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a		<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			50%	<b>Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.</b>
Issue	Included in proposal	Details and evidence	Potential health impact, relative to baseline	Action or mitigation required
<b>1.4 Air Quality and Noise</b>				
Does the proposal minimise construction impacts (including dust and noise)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement identifies the potential for construction dust impacts on amenity and the appropriate mitigation measures to be adopted.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.

Blasting noise and vibration (amenity and distraction).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The effect of noise from blasting during the construction phase and mitigation measures are discussed as part of the overall construction noise levels in the Noise and Vibration Chapter of the Environmental Statement.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Blasting vibration (amenity and structural effects).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The effect of vibration and air overpressure from blasting during the construction phase and mitigation measures are discussed in the Noise and Vibration Chapter of the Environmental Statement.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal minimise air pollution?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement identifies the potential impact on air quality and details the appropriate mitigation measures to be adopted to minimise any impact.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal minimise noise pollution?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement identifies the potential impact on noise levels and details the appropriate mitigation measures to be adopted to minimise any impact.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed. N
Does the proposal promote good air quality (through for example planting of trees or provision of green/brown roofs etc)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement identifies mitigation measures to improve air quality at the site.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			0%	<b>Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.</b>
<b>Issue</b>	<b>Included in proposal</b>	<b>Details and evidence</b>	<b>Potential health impact, relative to baseline</b>	<b>Action or mitigation required</b>
<b>1.5 Accessibility and Transport</b>				
Is the proposal including buildings, accessible for people with mobility problems or disability impairment?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The proposed development will not be open to the public; however, access to the existing site office building and the proposed IBA Processing Building will be at ground level.	<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	

Is the proposal easily accessible and well served by public transport?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The transport chapter within the Environmental Statement identifies access to the site (for employees and visitors) by public transport, which will be addressed further in the Work Place Travel Plan.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide assurance that the workplace travel plan will promote sustainable travel to work.
Does the proposal minimise the need to travel especially by car (e.g. by cutting down trips as result of good access or incorporation of local facilities)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The transport chapter within the Environmental Statement identifies access to the site (for employees and visitors), which will be addressed further in the Work Place Travel Plan that is under development.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal incorporate measures to assist people who are car dependent (e.g. disabled Blue Badge holders etc)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	Disabled parking to be included.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	
Does the proposal incorporate traffic calming measures aimed at reducing and minimising road traffic injuries (e.g. use of Home Zones and 30 mph limit)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	The transport chapter within the Environmental Statement assess accidents and safety in the area surrounding the site. The Highways report suggests some mitigation.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			<b>60%</b>	<b>Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.</b>

<b>2. Indirect Influences</b>				
<b>Issue</b>	<b>Included in proposal</b>	<b>Details and evidence</b>	<b>Potential health impact, relative to baseline</b>	<b>Action or mitigation required</b>
<b>2.1 Crime Reduction and Community Safety</b>				
Has the proposal 'designed out crime'?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a <input type="checkbox"/> D/k	Yes security measures are incorporated to discourage crime on site.	<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	Evidence of security provision needs to be provided
Has the local community been engaged and consulted with regards to the proposal?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	MVV is committed to developing and sustaining the Local Liaison Committee. Planning Application Supporting Statement includes Statement of Community Involvement. An Open Day was held on 5 <sup>th</sup> November 2011). There were 162	<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve	Proposals for future engagement with communities must be provided.

		visitors and 25 feedback forms were filled in.	<input type="checkbox"/> +ve	
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			0%	<b>Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.</b>
<b>Issue</b>	<b>Included in proposal</b>	<b>Details and evidence</b>	<b>Potential health impact, relative to baseline</b>	<b>Action or mitigation required</b>
<b>2.2 Access to Healthy Food</b>				
Does the proposal facilitate local access to healthy food supply?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	It is intended to arrange for a mobile food delivery company to visit site to provide lunch/snack items to reduce the number of individual car trips (from PASS Transport Assessment). Local food producers have raised potential negative impact	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that access to healthy food will be provided.
Does the proposal avoid food being monopolised locally by a single provider?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	It is intended to arrange for a mobile food delivery company to visit site to provide lunch/snack items to reduce the number of individual car trips (from PASS Transport Assessment).	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			0%	<b>Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.</b>
<b>Issue</b>	<b>Included in proposal</b>	<b>Details and evidence</b>	<b>Potential health impact, relative to baseline</b>	<b>Action or mitigation required</b>
<b>2.3 Access to Work</b>				
Does the proposal provide access to employment and training opportunities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	New employment opportunities at both the IBA and MRF facilities. Details are provided in the Planning Application Supporting Statement	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide evidence of local benefit with regard to local employment and training
Does the proposal provide diversity in jobs for local residents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	Range of employment opportunities provided within the facility. Details are provided in the Planning Application Supporting Statement	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve	The applicant needs to provide evidence of local benefit with regard to local employment and training

			<input checked="" type="checkbox"/> +ve	
Does the proposal provide childcare facilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/a		<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	
Does the proposal provide opportunities for local businesses?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	Potentially supply of materials during construction phase. Food provision and other supply opportunities during operational phase.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The negative impact on wider businesses is addressed in other sections
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			<b>100%</b>	<b>Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.</b>
<b>Issue</b>	<b>Included in proposal</b>	<b>Details and evidence</b>	<b>Potential health impact, relative to baseline</b>	<b>Action or mitigation required</b>
<b>2.4 Social Cohesion and Social Capital</b>				
Does the proposal contribute towards opportunities for social interaction?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a		<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	
Has the proposal addressed local inequalities?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	Health inequalities exist between the northern and southern/surrounding Buckfastleigh, the proposal does not reduce health inequalities. Perception of residents that will make it worse. See appendix 3	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to consider the impact on local health inequalities
Does the proposal incorporate community facilities?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	The proposed development will not be open to the public and the site is not currently open to the public.	<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	
Does the proposal provide voluntary sector opportunities?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a		<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve	

			<input type="checkbox"/> +ve	
Does the proposal avoid community severance (by major roads, large commercial schemes etc)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The transport chapter within the Environmental Statement assess community severance. The transport authority is currently reviewing this issue on behalf of the planning officer.	<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal impact on House values?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a	Not directly mentioned in the Environmental Statement, but effect on amenity is discussed in section 1.1 of this table. Use of best practicable means for construction elements. Longer term operational impacts have been assessed and mitigation measures included where appropriate at the detailed design are intended to minimise loss of amenity (e.g. transport, landscape, air quality and noise and vibration).	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	
Does the proposal impact on tourism in the area?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement has a Chapter dedicated to tourism and socioeconomic factors, considering the effects on many aspects of tourism and the local economy. The Environmental Statement identifies that the development does not present any significant threat to the future viability of the tourism sector in Buckfastleigh, Dartmoor National Park and the English Riviera or other tourism operations in the surrounding area.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			<b>0%</b>	<b>Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.</b>
<b>Issue</b>	<b>Included in proposal</b>	<b>Details and evidence</b>	<b>Potential health impact, relative to baseline</b>	<b>Action or mitigation required</b>
<b>2.5 Resource Minimisation</b>				
Does the proposal make best use of existing land?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement discusses the sites location and any alternatives to the proposed development considered.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.



Does the proposal encourage recycling (including building materials)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement identifies the recycling and re use of materials at the site.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal incorporate sustainable design and construction?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement presents the design and construction of the facility.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Are waste management facilities incorporated within the proposal?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The proposal is for IBA and MRF facilities. The MVV proposal does not detail arrangements for the management of waste generated on site although there is a legal duty of care to manage such waste.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input type="checkbox"/> -ve <input checked="" type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Have Environmental Health, Environment Agency or Health Protection Agency been informed about potential hazards related to the proposal?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement identifies the need for an Environmental Permit at the site.	<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			60%	<b>Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.</b>
<b>Issue</b>	<b>Included in proposal</b>	<b>Details and evidence</b>	<b>Potential health impact, relative to baseline</b>	<b>Action or mitigation required</b>
<b>2.6 Climate Change</b>				
Does the proposal incorporate renewable energy?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/a		<input type="checkbox"/> n/a <input checked="" type="checkbox"/> no diff <input type="checkbox"/> -ve <input type="checkbox"/> +ve	
Does the proposal provide a sustainable approach to transport?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The transport chapter within the Environmental Statement identifies access to the site (for employees and visitors), which will be addressed further in the Work Place Travel Plan that is under development.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.

Does the proposal maintain or enhance biodiversity?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement includes measures to maintain and enhance biodiversity.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Has the proposal been flood risk assessed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement includes a Flood risk assessment (Chapter 10).	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
Does the proposal incorporate sustainable drainage systems to safely deal with surface runoff?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/a	The Environmental Statement includes within it measures on drainage systems and dealing with increased surface water run-off.	<input type="checkbox"/> n/a <input type="checkbox"/> no diff <input checked="" type="checkbox"/> -ve <input type="checkbox"/> +ve	The applicant needs to provide assurance that the impacts can be effectively mitigated using the controls proposed.
<b>Overall positive impacts for this category</b> (Add up the total number of positive impacts and divide by the number of relevant issues above and multiply by 100, this gives a percentage outcome)			0%	<b>Outcomes above 50 percent equal a positive outcome for this category, while that below equals a negative outcome for health. This informs the tick box Summary Table outlined in Stage 3 of the Checklist.</b>

**Feedback:** A key purpose of Watch Out for Health is as a tool to improve policies, projects and planning applications so as to not only better consider health but also help realise actual positive outcomes from implementation. Going through the Checklist at Stage 2 should enable you to come up with an appreciation and assessment of the extent to which health has been covered in a plan, project or proposal. A simple overview can be gained by using Table 3 below in relation to the two main sections (i.e. direct and indirect influences) analysed.

**Table 3: Summary overview**

<b>1. Direct influences</b>			
	<b>Potential health impact</b>		
	<b>Positive (✓)</b>	<b>Negative (✓)</b>	<b>N/A/ Neutral (✓)</b>
1.1 Housing & Neighbourhood		(✓)	
1.2 Access to Public Services			(✓)
1.3 Opportunities for Physical Activities			(✓)
1.4 Air Quality and Noise		(✓)	
1.5 Accessibility and Transport	(✓)		
Overall Impact		(✓)	

<b>2. Indirect influences</b>			
	<b>Potential health impact</b>		
	<b>Positive (✓)</b>	<b>Negative (✓)</b>	<b>N/A/ Neutral (✓)</b>
2.1 Crime Reduction and Community Safety			(✓)
2.2 Access to Healthy Food		(✓)	
2.3 Access to Work	(✓)		
2.4 Social Cohesion and Social Capital		(✓)	
2.5 Resource Minimisation	(✓)		
2.6 Climate Change		(✓)	
Overall Impact		(✓)	

## Appendix 2

# Health Profile of Buckfastleigh and Objections Maps (Summary)

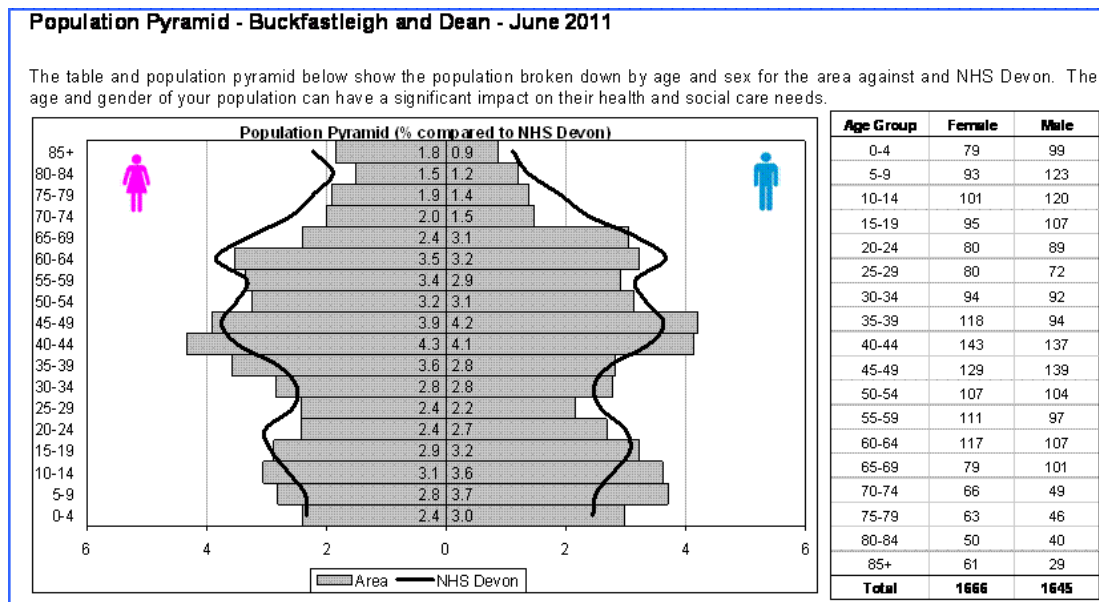
“Health Profiles” are the Department of Health’s programme to improve availability and accessibility to health and health-related information in England. The profiles give a snapshot overview of health for each local authority in England. Health Profiles are produced annually by the Public Health Observatories in England working in partnership and are commissioned by the Department of Health. A link to the latest profile for Teignbridge is provided below for information. It shows that the health of people in Teignbridge is generally better than the England average. It notes that the priorities in Teignbridge relate to lifestyle factors.

[http://www.apho.org.uk/default.aspx?QN=HP\\_METADATA&AreaID=50422](http://www.apho.org.uk/default.aspx?QN=HP_METADATA&AreaID=50422)

### Health Profile Data

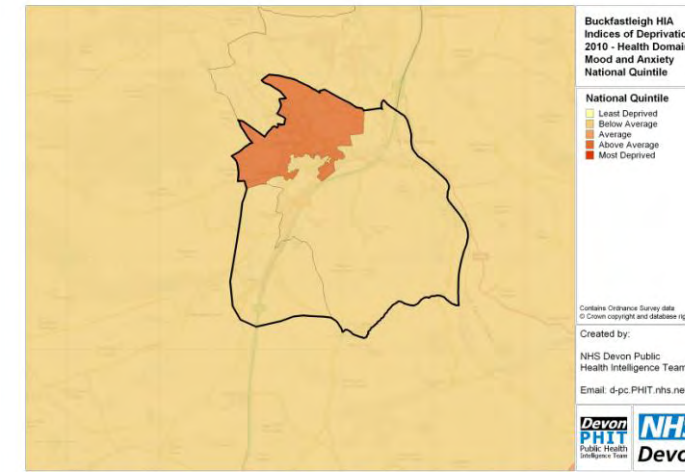
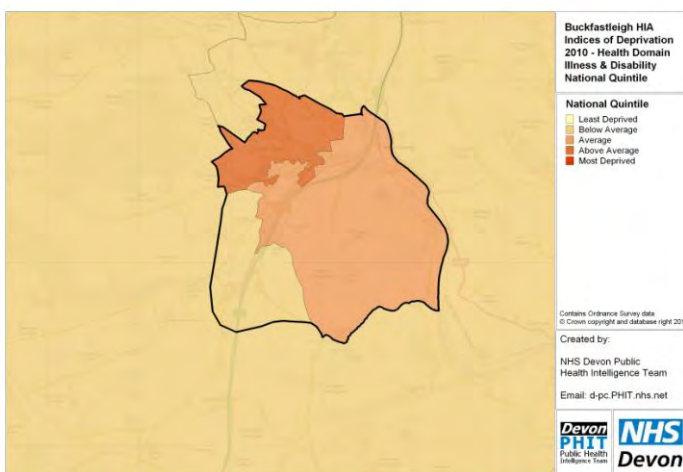
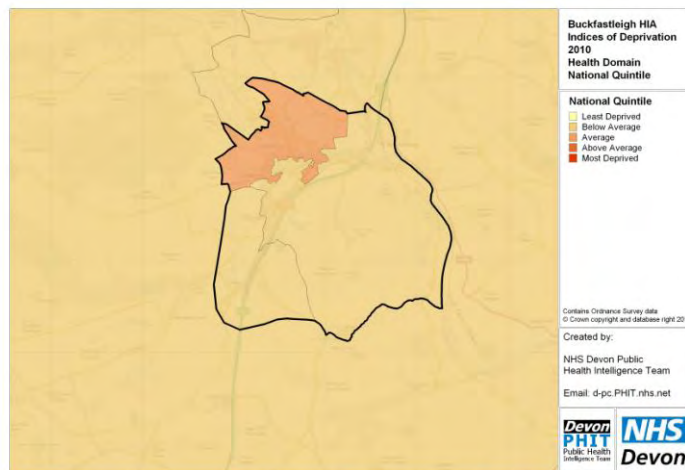
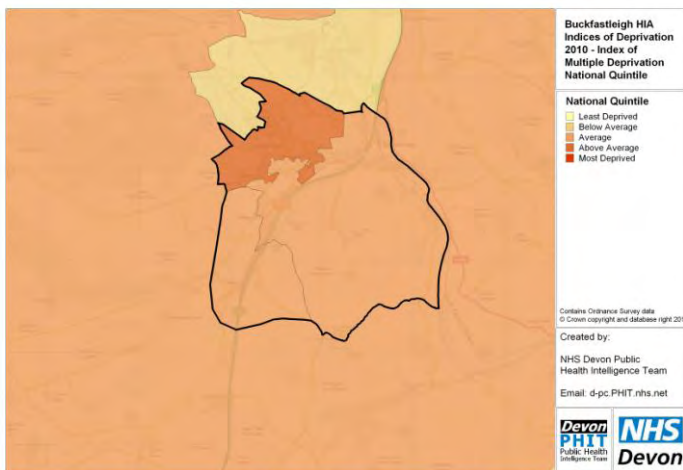
### Population Profile

Buckfastleigh has a higher younger and working age population than Devon as a whole. This highlights its position as a commuter location with large working age population.



### Deprivation Indices

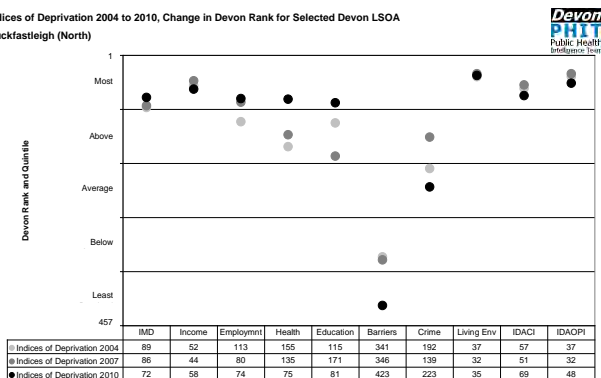
The indices of multiple deprivation in the Buckfastleigh area are in the below average quintile and one area is average. For the health domain the area is in the least deprived quintile nationally and only one Lower super output area (LSOA) is below average. The illness and disability domain is below average and one area average, one area is in the average quintile for mood and anxiety the remaining area is below the national average.



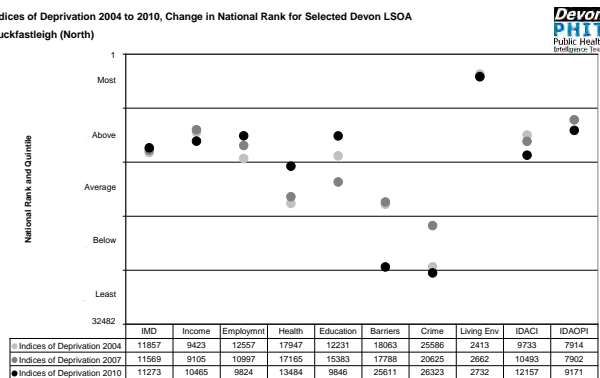
## Changes in Deprivation

Over time (IMD 2004-2010) Buckfastleigh North is becoming more deprived in most domains and Buckfastleigh South and surrounding are becoming less deprived, particularly in employment, health and education.

Indices of Deprivation 2004 to 2010, Change in Devon Rank for Selected Devon LSOA  
Buckfastleigh (North)



Indices of Deprivation 2004 to 2010, Change in National Rank for Selected Devon LSOA  
Buckfastleigh (North)



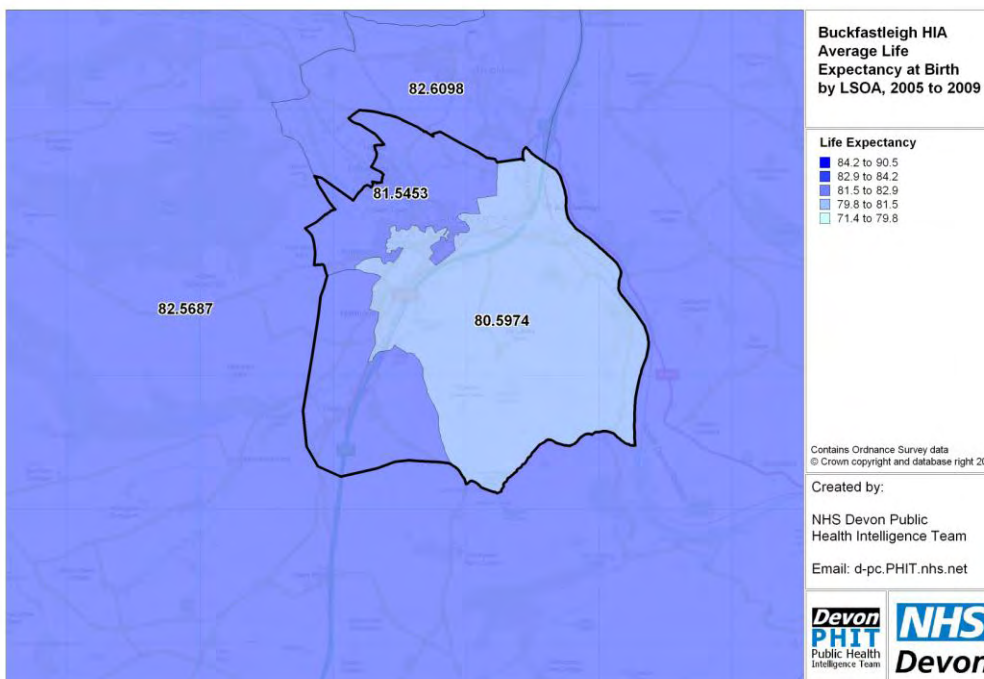
## Health Indicators

Life expectancy in the area is high when compared nationally and to Devon, emergency admissions are significantly higher than Devon in the most deprived part of Buckfastleigh, with a standardised rate of 8509.7 per 100,000 population compared to 5215.09 in the more rural area. Emergency admissions for circulator conditions are not significantly from Devon but are higher in the more deprived area, emergency admissions for respiratory conditions are significantly higher in the most deprived area.

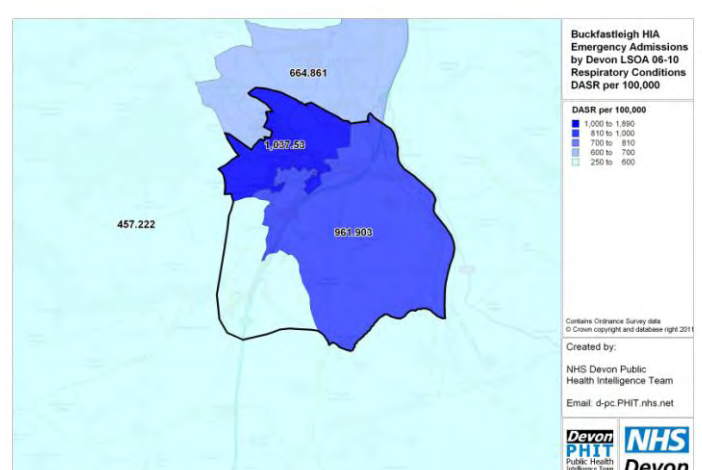
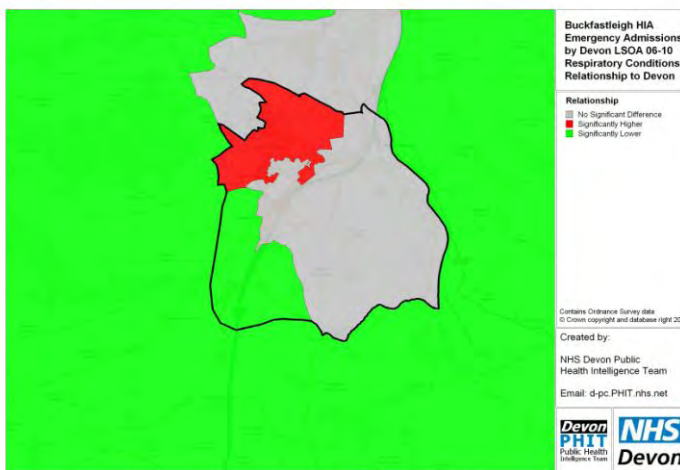
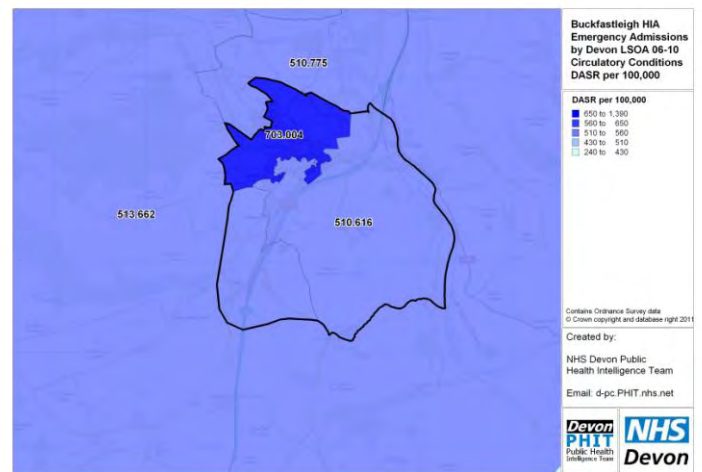
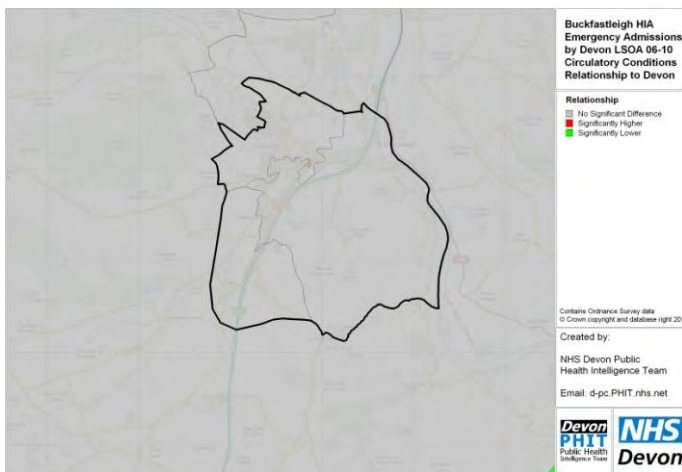
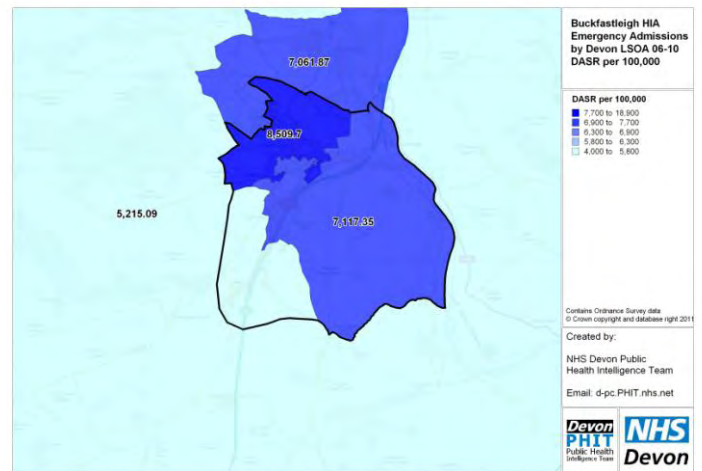
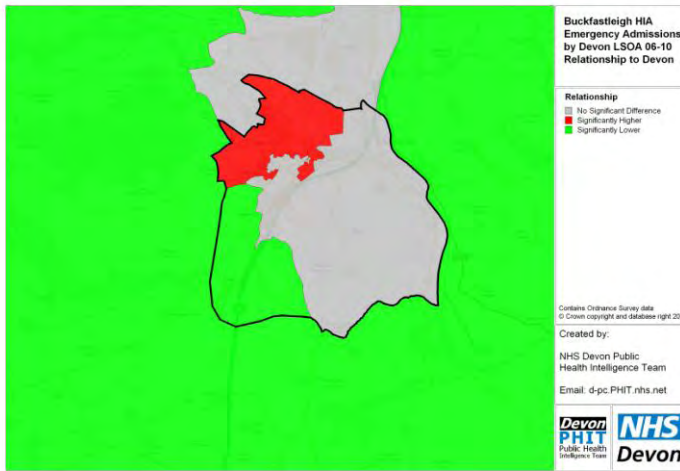
The health of Buckfastleigh residents compares well with Devon and national statistics. The most deprived area is not closest to the site.

## Vulnerable populations

The area has one GP practice where a large proportion of the area will be registered. The practice population have a prevalence of many disease conditions significantly lower than Devon, learning disability prevalence is significantly higher. This is due to the Camp Hill facility and associated local settling of the learning disability population in the local community. There is no community hospital and two nursing home facilities. The nearest community hospital is in Ashburton, secondary care needs are met predominantly from Torbay hospital. The area has two day nurseries a children's centre and a primary school which are situated in the town centre area which is not directly situated adjacent to the site but residents living adjacent to the site will access these facilities. There is a playing field opposite the site. There will be pockets of deprivation within communities and cases of individual poor health which may be exacerbated by poor air quality and exposure to dust. There are individuals who will be more anxious about potential health risks and this could have an impact on their emotional health and well-being.

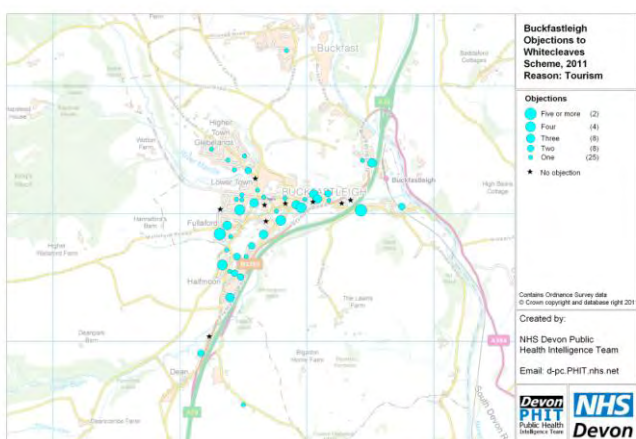
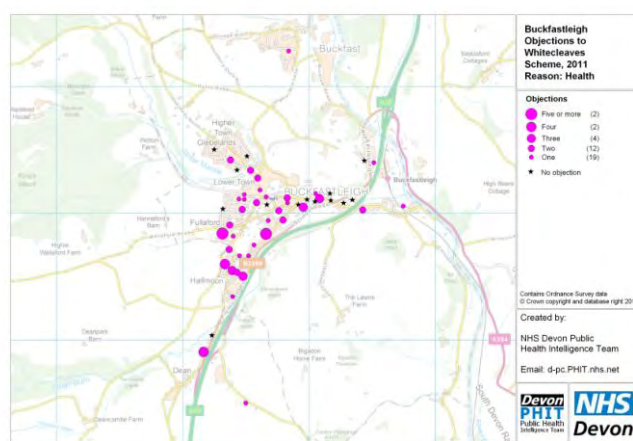
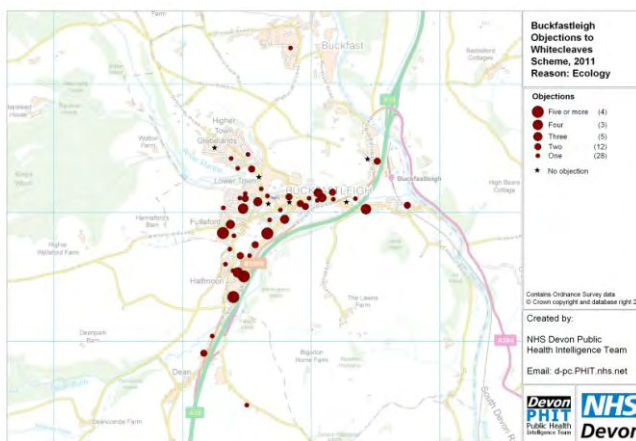
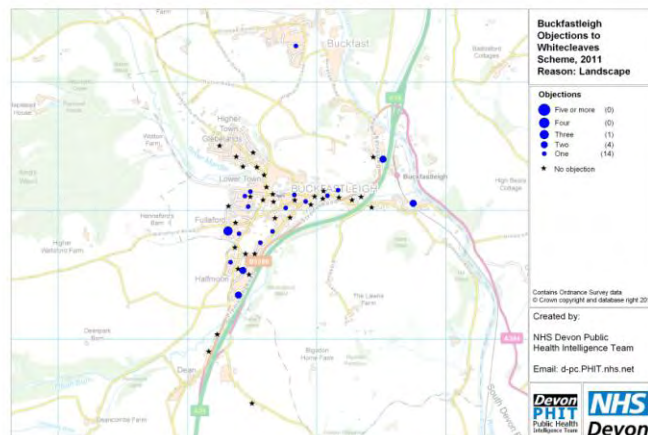
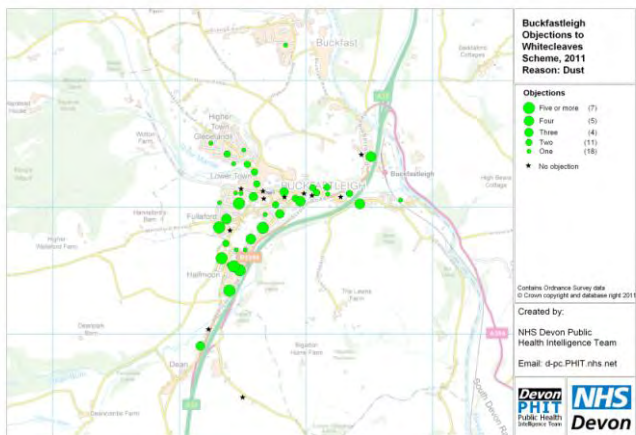




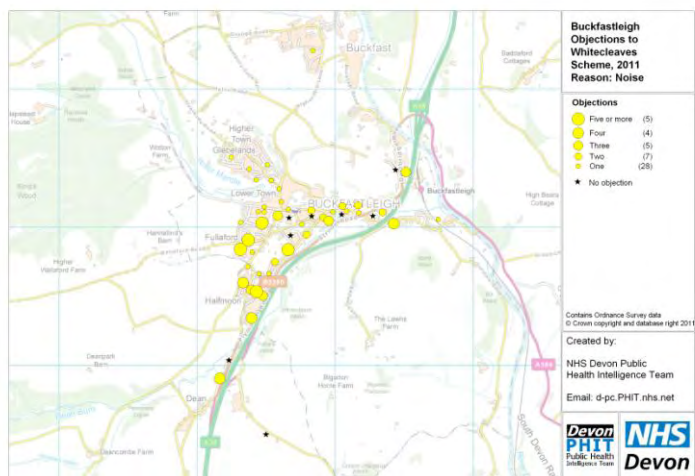
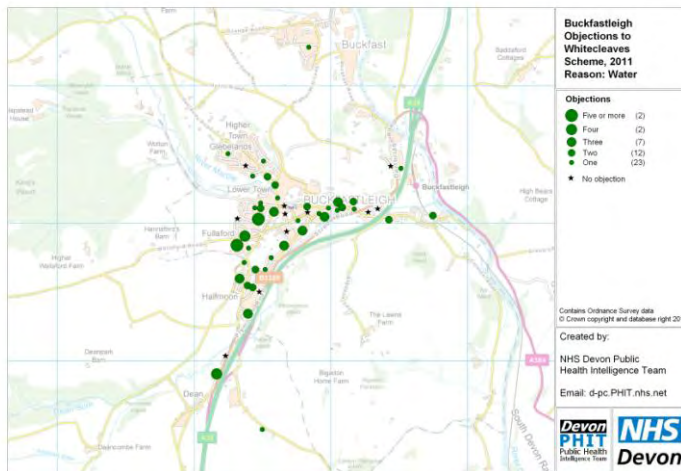
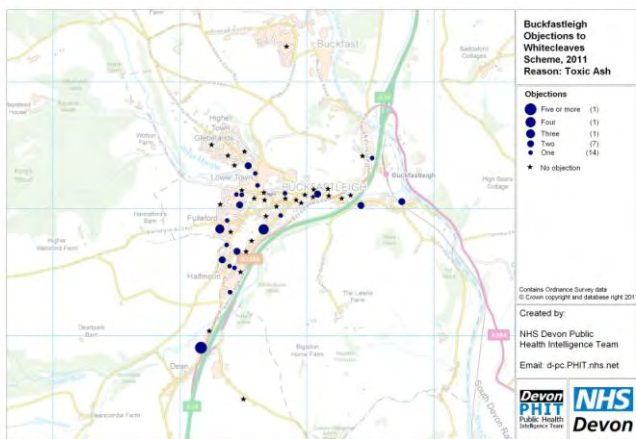


## Residents concerns by area

The objection letters show the spread of concern by postcode, the larger the dot the greater number of objections.







## Appendix 3

### Brief Literature Review

#### **A rapid evidence review on the impact of incinerator bottom ash on human health.**

##### **Introduction**

This brief literature review on the potential impact of incinerator bottom ash (IBA) to human health and wellbeing has been conducted to inform a desk-top health impact assessment of the IBA processing facility and the Material Recycling Facility (MRF) proposed at Whitecleave Quarry, Buckfastleigh. The review has drawn together headline findings from relevant secondary literature sources to summarise published impacts on health arising from the management of IBA as a waste material.

In relation to health impacts, NHS Evidence, PubMed and Scirus were searched using the following terms: 'Bottom Ash', 'Health', 'Health Impact', 'Health Effect', 'Health Risk', 'Hazard' and 'Exposure' combined with Boolean operators AND/OR as appropriate. Online searches of the HIA Association of Public Health Observatories Gateway \_ and the World Health Organisation HIA site [www.who.int/hia/en](http://www.who.int/hia/en) were conducted to identify additional secondary literature sources.

Abstracts were reviewed to discern relevance to the situation at Whitecleave Quarry and health impacts concerning IBA that would be relevant to the local population as outlined via the steering group meetings. Studies concerning more generalised topics about IBA namely the products created from recycling have not been considered in this review.

The Environment Agency website, the Health Protection Agency website and The Infrastructure Planning Commission website produced other relevant publications and documents for the literature review.

##### **Summary:**

A brief review of the literature highlights the paucity of robust studies that consider the potential health impact of close and direct exposure to the workforce and indirect exposure to residents and others geographically close to a processing site especially in relation to a UK context. Although evidence provided by the EA (2002), almost a decade ago reports no additional health risk posed by IBA from municipal solid waste incinerators, this is based on analysis of IBA from sites over a short period of time, focusing on dioxin exposure and based on the knowledge-base of toxigenicity / toxic equivalence at that time.

Due to limitations in the study design and focus of the studies identified they provide limited value in relation to this enquiry.

On that basis, a cautionary approach should be applied within a risk management framework and demonstrated in relation to the planning application for the transport, storage, handling and processing of IBA.

**Studies reviewed:**

**Bell, A. 2002. *Solid Residues from Municipal Waste Incinerators in England and Wales - A report on an investigation by the Environment Agency.* Environmental Agency.**

This report outlines a study conducted by the Environment Agency (EA) into solid residues produced between 1996 and 2000 by municipal waste incinerators in England and Wales. The study is a response to public concern over exposure to dioxins in various ash piles stored in the South East of England.

The study assessed the materials contained in the IBA and the risks to health as a consequence of exposure based on what was known at time of reporting in relation to toxicity and toxic equivalency of what was identified.

Despite the limited controls to IBA storage in the sites concerned, the EA found that stored IBA (at the incinerator or other storage sites) did not provide additional risk to the public's exposure to dioxins, described at levels similar to urban soils.

*'Bottom ash, whether at the incinerators themselves or at sites where the ash is either stored, recovered or disposed of, does not contribute significantly to the public's exposure to dioxins...Dioxins are present in incinerator bottom ash at levels similar to urban soils and to other commonly used secondary aggregates.'* (pp. 2-3).

Changes that have occurred following publication of this study in relation to the composition of waste itself (e.g. increase in reuse and recycling) alongside incineration and processing technologies may impact on the generalisability of findings in relation to the Whitecleave Quarry development.

**University of Birmingham, ENVIROS. 2004. *Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes.* Department of Environment, Food & Rural Affairs.**

Although limited in its consideration of storing and processing IBA, this report outlines a possible process of exposure and potential harms using the source, pathway and receptor model (p.15):

- Source – bottom ash created through incineration resulting in the potential emission of metals (zinc, lead, copper, arsenic) dioxins and furans;
- Pathway – residues to land via re-use and storage;
- Receptor – sensitive receptors exposed to ash deposits / products from re-use.

In relation to potential harms, authors report that some of the constituent emissions that make-up bottom ash have been investigated in connection with cancer and birth defects (p. 15) but do not comment further on the findings of these studies.

Authors report that *'the existence of less information on solid residues compared to emissions to air should not be taken to imply that solid residues are of less concern. Instead, it highlights a need for further research...'* (p.256)

The authors also advocate for further investigation into the potential exposure to contaminants following re-use of municipal solid waste incinerator ash under conditions specific to the UK.' (p. 261).

**Stern, A.H., Munshi, A.A., Goodman, A.K. 1989. Potential Exposure Levels and health Effects of Neighbourhood Exposure to a Municipal Incinerator Bottom Ash. *Archives of Environmental Health.* 44,1, pp.40-48.**

Authors study the adverse health effects resulting from neighbourhood exposure to soil and dust from a municipal incinerator ash landfill site. Findings cannot be generalised to the Whitecleaves proposal as there were no pollution control devices for the incinerator of interest and ash was sent to landfill and not for treatment / recycling.

Health risk modelling on the basis of soil samples indicated an elevated level of lead (which 'could lead to a blood lead level in exposed children above that currently defining a case of lead poisoning,') (p. 47). However, authors report a small health effect based on exposure to other substances and no significantly increased cancer risk.

**Chen, H.L., Chen, I.J., Chia, T.P. 2010. Occupational Exposure and DNA strand breakage of workers in bottom ash recovery and fly ash treatment plants. *Journal of Hazardous Materials.* 174, pp. 23-27.**

This paper explores differences in DNA strand breakage between blue and white collar workers working in either a bottom ash recovery plant or from three different fly ash treatment plants. The total sample is small (37 workers in

the bottom ash factory and 41 from the three fly ash plants). It is not possible to discern from the text the proportion of white and blue collar workers in each setting which could be a cause of bias in the study). Authors conclude that workers in the fly ash sites had higher levels (statistically significant) of DNA damage compared to those in the bottom ash site and that not using protective equipment was an additional risk factor.

Important limitations with this study include:

- No population baseline levels of DNA strand breakage provided for comparison or clarity on what researchers considered to be a clinically important difference from the outset of the study;
- No clinical context regarding the long term health impacts of DNA breakage and at what level;
- Generalising this study to a UK context is an issue. The setting of the study is Taiwan where there may be several differences in: municipal solid waste / waste policies, the incineration process, governance and health and safety practices on site.

**Liu, H.H., Shih, T.S., Chen, I.J., Chen, H.L. 2008. Lipid Peroxidation and Oxidative Status Compared in Workers at a Bottom Ash Recovery Plant and Fly Ash Treatment Plants. *Journal of Occupational Health*. 50: pp. 492-497.**

Using the same sample of workers as Chen et al. (2010), the authors compare oxidative damage using biological markers. Authors report that little is known about oxidative stress in workers at bottom and fly ash treatment plants. Despite differences in baseline characteristics between those working at fly ash and bottom ash sites (e.g. length of time worked), the analysis shows that when age, working period and smoking are considered and adjusted for, there was a positive correlation between working at a fly ash site and an increase in one of the markers used.

Important limitations with this study include:

- No population baseline levels of the biological markers used are provided for comparison or clarity on what researchers considered to be a clinically important differences at the beginning of the study;
- No clinical context regarding the long term health impacts of oxidative stress or threshold levels of the different biological markers used;
- Whether this study can be generalised to a UK context is an issue. The setting of the study is Taiwan where there may be several differences in: municipal solid waste / waste policies, the incineration process, governance and health and safety practices on site.

#### **Mitigation measures summary:**

Information about the effectiveness of the mitigation measures adopted at existing IBA processing and storage facilities, with respect to the protection of health, is very limited. Measures adopted have been the same as those typically adopted at other installations handling dusty materials or materials with the potential to pollute freshwater systems.

Based on the evidence review it is important to note that 'absence of evidence of risk' should never be confused with, or taken as, 'evidence of absence of risk' (WHO 2007) and it is proposed that a cautionary approach within a risk management framework is adopted when determining any planning controls and determining the application.