

## 18 Summary of Residual Impacts

## 18 Summary of Residual Impacts

A summary of the residual environmental impacts and corresponding mitigation measures are provided for both the construction and operational phases of development as set out in Tables 18.1 and 18.2.

The Environmental Impact Assessment (EIA) Regulations (1999) stipulate that an Environmental Statement (ES) should identify, describe and assess the likely significant impacts of the development on the environment, including a consideration of:

- Beneficial and adverse impacts;
- Short, medium and long-term impacts;
- Direct and indirect impacts; and
- Cumulative impacts and impact interactions.

The ES predicts the likely impacts of the scheme in relation to every stage of the proposed development, from site preparation and construction to its final use and operation. Impacts are assessed taking account of any mitigation measures and consideration of their positive or negative influence.

Environmental impacts were predicted using current best practice and accepted methodology for EIAs, and with reference to definitive standards and legislation where available. Where it has not been possible to quantify impacts, qualitative assessments have been carried out, based on available knowledge and professional judgement. Where uncertainty exists, this has been noted in the assessment Chapter.

In order to provide a consistent approach to assessing significance and facilitating comparison between impacts from the various studies undertaken as part of the EIA, the following prescribed terminology has been used throughout the ES. Impacts have been expressed as:

**Adverse** – detrimental or negative impacts to an environmental resource or receptor;

**Beneficial** – advantageous or positive impact to an environmental resource or receptor; or

**Negligible** – no significant impacts to an environmental resource or receptor.

Where adverse or beneficial impacts have been identified, these have also been assessed against the following scale:

**Minor** – slight, very short term or highly localised impact;

**Moderate** – limited impact (by extent, duration or magnitude) which may nonetheless be considered significant in the context of the site and/or surrounding areas; or

**Major** – considerable impact (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.

In the context of the proposals, **short to medium term** impacts are generally considered those associated with the demolition and construction phase of the development. **Long-term** impacts relate to the completed, operational development. **Local** impacts are those affecting neighbouring receptors such as local residents. **District, Regional and National** impacts are also considered, where relevant

**Table 18.1 SUMMARY OF RESIDUAL IMPACTS DURING CONSTRUCTION**

1) *Nature of Impact:* ST = Short Term; MT = Medium Term; LT = Long Term; I = Intermittent; T = Temporary; P = Permanent;  
 D = Direct; IND = Indirect (use as many as required)  
 2) *Geographic Level of Importance:* I = International; N = National; R = Regional; D = District; L = Local.

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
<b>5. Coastal Hydrodynamics &amp; Geomorphology</b>	Sediment plume deposition – beyond northern and southern borrow areas and Eastside.	I/P/D	I	Negligible	Assuming use of a trailing suction hopper dredger (TSHD): a) Optimise trailing velocity, suction head and pump discharge to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing; c) Apply return flow method, if the TSHD has this facility, to increase sediment density and reduce overflowing; d) Avoid unnecessary overflowing through operational method.	Negligible
	Seabed sediment composition of northern and southern borrow areas and Eastside above 0.1m affected by deposition of dredging induced sediment plumes.	I/P/D	I	Minor Adverse	Assuming use of a TSHD: a) Optimise trailing velocity, suction head and pump discharge to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing;	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Transboundary effect on seabed bathymetry in Spanish waters with sediment deposition above 0.1m in 15m of water.	I/P/D	I	Minor Adverse	<p>c) Apply return flow method, if the TSHD has this facility, to increase sediment density and reduce overflowing;                      d) Avoid unnecessary overflowing through operational method.</p> <p>To reduce sediment suspension:                      a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead;                      b) Try to reduce water intake to increase sediment density and reduce need for overflowing;                      c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing;                      d) Avoid unnecessary overflowing through operational method;                      To reduce sediment plumes:                      a) Undertake dredging in southern borrow area to avoid Spanish waters;                      Or,                      b) Undertake dredging from northern borrow area as far south as possible to reduce dispersion into Spanish Waters.</p>	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Transboundary effect on seabed bathymetry elsewhere in Spanish waters.	I/P/D	I	Negligible	To reduce sediment suspension: a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing; c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing; d) Avoid unnecessary overflowing through operational method; To reduce sediment plumes: a) Undertake dredging in southern borrow area to avoid Spanish waters; Or, b) Undertake dredging from northern borrow area as far south as possible to reduce dispersion into Spanish Waters.	Negligible
<b>6. Water Quality</b>	Water quality of the areas affected by dredging induced sediment plumes (by increased total suspended solids (TSS) less than 10mg/l).	ST/T/D	L/D/R	Negligible	Assuming use of a TSHD: a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing;	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing; d) Avoid unnecessary overflowing through operational method.	
	Water quality of the areas affected by dredging induced sediment plumes (by increased TSS from 10mg/l to 50mg/l).	ST/T/D	L/D/R	Minor Adverse	Assuming use of a TSHD: a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing; c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing; d) Avoid unnecessary overflowing through operational method.	Minor Adverse
	Water quality of the areas affected by dredging induced sediment plumes (by increased TSS equal to or greater than 50mg/l).	ST/T/D	L/D/R	Moderate Adverse	a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing;	Moderate Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing; d) Avoid unnecessary overflowing through operational method.	
	Water quality of the areas affected by surface and storm water run-off.	ST/T/D	L	Negligible	Recommend petrol/oil interceptors are included in drainage system.	Negligible
	Transboundary effect of sediment plumes on Spanish water quality from increase TSS by 64mg/l to 128mg/l.	ST/T/D	I	Moderate Adverse	To reduce sediment suspension: a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing; c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing; d) Avoid unnecessary overflowing through operational method; To reduce sediment plumes: a) Undertake dredging in southern borrow area to avoid Spanish waters; Or,	Negligible-Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					b) Undertake dredging from northern borrow area as far south as possible to reduce dispersion into Spanish Waters.	
	Transboundary effect of sediment plumes on water quality at Spanish shoreline.	ST/T/D	I	Negligible	<p>To reduce sediment suspension:</p> <p>a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead;</p> <p>b) Try to reduce water intake to increase sediment density and reduce need for overflowing;</p> <p>c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing;</p> <p>d) Avoid unnecessary overflowing through operational method;</p> <p>To reduce sediment plumes:</p> <p>a) Undertake dredging in southern borrow area to avoid Spanish waters;</p> <p>Or,</p> <p>b) Undertake dredging from northern borrow area as far south as possible to reduce dispersion into Spanish Waters.</p>	Negligible



Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Transboundary effect of sediment plumes on water quality of Spanish water areas offshore.	ST/T/D	I	Negligible	To reduce sediment suspension: a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing; c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing; d) Avoid unnecessary overflowing through operational method; To reduce sediment plumes: a) Undertake dredging in southern borrow area to avoid Spanish waters; Or,  b) Undertake dredging from northern borrow area as far south as possible to reduce dispersion into Spanish Waters.	Negligible
<b>7. Sediment Quality</b>	Sediment quality within seabed areas (deposition from northern and southern borrow areas).	ST/T/D	L	Negligible	No mitigation measures are recommended.	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Transboundary effect on sediment quality (following dredging at northern borrow area).	ST/T/D	I	Negligible	No mitigation measures are recommended.	Negligible
<b>8. Soil Quality</b>	Human beings - The health of site construction workers could be affected through dermal contact with and/or ingestion of arsenic, lead, nickel, polycyclic aromatic hydrocarbons (PAH), copper, asbestos and zinc in the deposited materials and to copper, zinc and ammoniacal nitrogen in the groundwater. Risks to visitors to the site and adjacent neighbours could also occur from contact with dust borne contaminants mobilised during the on site remediation works.	MT-LT/P/D	L	Moderate-Major Adverse	Provision of suitable personal protective equipment (PPE) and adhering to good site working practices.	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Controlled waters - Impact upon groundwater and sea water quality due to migration of contaminants from the rubble tip.	ST/T/D	L	Minor Adverse	<p>It is recommended that the risk of migration of contaminants within groundwater towards seawaters or offsite requires further assessment to support a definitive opinion on the need for mitigation measures.</p> <p>However, the data presented in the original ground investigation report suggests that mitigation measures against groundwater migration are unlikely, especially given the use of clean fill material at the seaward side to form the new land mass and construction of the revetment.</p>	Negligible
<b>9. Ecology</b>	Loss/disturbance to subtidal ecology due to dredging.	MT/T/D	L	Minor Adverse	No mitigation measures are recommended but some degree of natural recovery can be expected.	Minor Adverse
	Provision of adequate rocky substrate within intertidal and subtidal areas.	LT/P/D	L	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial
	Marine ecology affected by dredging induced sediment plumes.	ST/T/D	L/D/R	Minor-Moderate Adverse	<i>P. ferruginea</i> : Either more dredging from the northern borrow area, or dredging from the southern borrow area subject to prevailing currents and/or winds to limit transport of sediment plumes	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					Monitoring of known <i>P. ferruginea</i> sites will be undertaken as part of the Environmental Management Plan (EMP).	
				Negligible	<i>E. verrucosa</i> and rocky outcrops: No mitigation measures are recommended.	Negligible
				Negligible	<i>M. argus</i> and the caves: No mitigation measures are recommended.	Negligible
	Marine ecology affected by sediment deposition.	ST/T/D	L	Negligible	<i>P. ferruginea</i> : No mitigation measures are recommended.	Negligible
				Negligible	<i>E. verrucosa</i> and rocky outcrops: No mitigation measures are recommended.	Negligible
				Negligible	<i>M. argus</i> and the caves: No mitigation measures are recommended.	Negligible
	Marine ecology affected by sediment deposition re-distribution contaminants.	ST/T/D	L	Negligible	No mitigation measures are recommended.	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Terrestrial ecology (on lower part of talus slope) affected by construction (dust, noise)	ST/T/D	L	Minor Adverse	a) Implementation of best practicable means to minimise nuisance. b) See mitigation measures detailed in Section 12.5. c) See mitigation measures detailed in Section 13.5.	Negligible
	Transboundary effect on marine ecology from sediment plumes (from dredging at northern borrow area).	ST/T/D	I	Moderate Adverse	To reduce sediment suspension: a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing; c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing; d) Avoid unnecessary overflowing through operational method; To reduce sediment plumes: a) Undertake dredging in southern borrow area to avoid Spanish waters; Or, b) Undertake dredging from northern borrow area as far south as possible to reduce dispersion into Spanish Waters.	Negligible-Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Transboundary effect on marine ecology ( <i>E. verrucosa</i> and rocky outcrops) from sediment plumes.	ST/T/D	I	Negligible	No mitigation measures are recommended.	Negligible
	Transboundary effect on marine ecology by sediment deposition ( <i>E. verrucosa</i> and rocky outcrops) from sediment plumes.	ST/T/D	I	Negligible	No mitigation measures are recommended.	Negligible
<b>10. Nature Conservation</b>	Integrity of the southern waters of Gibraltar Marine Nature Area (MNA) affected by dredging.	ST/T/D	L/D/R	Minor Adverse	Avoid dredging in the southern borrow area if impact to MNA integrity unacceptable. Monitoring will be undertaken as part of the EMP.	Negligible
	Integrity of the Rock of Gibraltar Nature Conservation Area affected by dredging.	ST/T/D	L/D/R	Negligible	No mitigation measures are recommended.	Negligible
	Protected species under Annex IV (a) to the European Union (EU) Habitats Directive ( <i>P. ferruginea</i> ) affected by dredging.	ST/T/D	L/D/R	Minor - Moderate Adverse	Either more dredging from the northern borrow area, or dredging from the southern borrow area subject to prevailing currents and/or winds to limit transport of sediment plumes. Monitoring will be undertaken as part of the EMP.	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Opportunities for littoral and coastal habitat creation.	LT/P/IND	L	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial
	Cumulative effects on protected species under Annex IV (a) to the EU Habitats Directive ( <i>P. ferruginea</i> ) affected by dredging.	LT/P/IND	L/D/R	Minor Adverse	No mitigation measures are recommended.	Minor Adverse
<b>11. Transport</b>	Increase in goods vehicles on the road network (Sundial roundabout, junction of Devil's Tower Road/Eastern Beach Road And Catalan Bay Road at junction into site).	LT/T/D	L	Minor-Moderate Adverse	Efficient management/ scheduling for arrival and departure/ construction traffic using different access points to the operational phase traffic.	Minor Adverse
<b>12. Air Quality</b>	Potential Dust Nuisance - Residential properties within 100 metres of site boundary.	ST/I/D	L	Minor Adverse	Suitable dust control measures to suit construction techniques and practices adopted will be implemented to ensure best practicable means (BPM). Measures will be specified in Construction Environmental Management Plan (CEMP).	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
<b>13. Noise</b>	Construction activities - Buildings in Catalan Bay and Eastern Beach overlooking site.	LT/T/D	L	Minor-Major Adverse depending on distance and construction activity	Compliance with European Commission (EC) Directives, United Kingdom (UK) Statutory Instruments and best practicable measures as described in BS5228 Part 1. Preparation of an Environmental Management Plan (EMP) to identify and mitigate for potential impacts. Recommend monitoring stations are set up at noise sensitive receptors.	Major Adverse
	Construction activities – the Caleta Hotel.	LT/T/D	L	Moderate-Major Adverse	Compliance with EC Directives, UK Statutory Instruments and best practicable measures as described in BS5228 Part 1. Preparation of an EMP to identify and mitigate for potential impacts. Recommend monitoring stations are set up at noise sensitive receptors.	Major Adverse
	Construction activities – Sunrise View.	LT/T/D	L	Moderate Adverse	Compliance with EC Directives, UK Statutory Instruments and best practicable measures as described in BS5228 Part 1. Preparation of an EMP to identify and mitigate for potential impacts. Recommend monitoring stations are set up at noise sensitive receptors.	Negligible-Moderate Adverse
	Construction activities on haul route.	ST/T/D	L	Negligible	Compliance with EC Directives, UK Statutory Instruments and best practicable measures as described in	Negligible



Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					BS5228 Part 1. Preparation of an EMP to identify and mitigate for potential impacts. Recommend monitoring stations are set up at noise sensitive receptors.	
<b>14. Landscape &amp; Visual Impact Assessment</b>	Long distance views from the sea (3-15km).	LT/T/D	R	Negligible	No mitigation measures are recommended.	Negligible
	Middle distance views from the sea (1-3km).	LT/T/D	L	Minor Adverse	No mitigation measures are recommended.	Minor Adverse
	Middle distance views from approaches to site from south (1-3km).	LT/T/D	L	Moderate Adverse	Limited scope for implementation of mitigation measures.	Moderate Adverse
	Near distance views from the sea (under 1km).	I/T/D	L	Moderate Adverse	Limited scope for implementation of mitigation measures.	Moderate Adverse
	Near distance views from local approaches to site from the south (under 1km).	ST/T/D	L	Moderate Adverse	Once the southern end of construction is complete, the land remediation activities and construction of the buildings in the northern end will be largely screened by those in the southern end. Otherwise, there is limited scope for the implementation of mitigation measures.	Moderate Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Near distance views from local approaches to site from the north (under 1km).	LT/T/D	L	Negligible	No mitigation measures are recommended.	Negligible
	Near distance views from Catalan Bay - properties including Caleta Hotel (under 1km).	MT/T/D	L	Major Adverse	a) From ground level, it may be possible to mitigate through the erection of visual screens - these will need to be designed with care to avoid further adverse visual intrusion; b) Once the southern end of construction is complete, the new buildings will screen the majority of the activities of construction for the northern end.	Major Adverse
	Near distance views from Catalan Bay - beach (under 1km).	MT/T/D	L	Major Adverse	Once the southern end of construction is complete, the new buildings will screen the majority of the activities of construction for the northern end.	Major Adverse
	Near distance views from Eastern Beach (under 1km).	MT/T/D	L	Moderate Adverse	Implementation of well designed ground-level screening.	Moderate Adverse
	Landscape character of Upper Rock.	LT/T/D	L	Minor Adverse	Limited scope for implementation of mitigation measures.	Minor Adverse
	Landscape character of Catalan Bay.	LT/T/D	L	Moderate-Major Adverse	Limited scope for implementation of mitigation measures.	Moderate-Major Adverse
	Landscape character of Eastern Beach.	LT/T/D	L	Moderate Adverse	Limited scope for implementation of mitigation measures.	Moderate Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Landscape character around Devil's Tower Road.	MT/T/D	L	Minor Adverse	Limited scope for implementation of mitigation measures.	Minor Adverse
<b>15. Archaeology &amp; Cultural Heritage</b>	Cave archaeology affected by deposition from dredging induced sediment plumes.	I/P/D	L	Minor Adverse	Either more dredging from the northern borrow area, or dredging from the southern borrow area subject to prevailing currents and/or winds to limit transport of sediment plumes.	Negligible
	Sediment deposition on offshore wrecks (for both impact scenarios).	I/P/D	L	Negligible	No mitigation measures are recommended.	Negligible
	Movement of the Sikorski memorial, the cairn to the Black Watch and the plaque to San Roque residents.	ST/P/D	L	Minor Adverse	Compliance with Gibraltar Heritage Trust guidance, if features need to be relocated: a) liaise with Trust regarding re-location;  b) do not dismantle features unless a risk to features is posed; c) re-site as close to original position as possible; d) re-site in a location with suitable cultural prominence; e) re-site to add value to surroundings.	Minor Adverse

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	Accidental damage to two pill boxes (risk)	I/P/IND	L	Minor Adverse (risk)	Simple protection measures to be implemented by contractor, as a contract condition e.g. awareness of construction workers, fencing off pill boxes.	None
	Transboundary effect of sediment deposition on offshore wrecks.	I/P/D	I	Negligible	No mitigation measures are recommended.	Negligible
<b>16. Recreation &amp; Tourism</b>	Changes to environmental quality.	LT/T/IND	L	Major Adverse	<p><i>Landscape (near distance views/ &lt;1km):</i> Screen and enhance immediate views, where possible.</p> <p><i>Landscape (middle/ 1-3km and long distance views/ 3-15km):</i> Limited scope for implementation of mitigation measures.</p> <p><i>Air Quality:</i> Best practicable means are recommended to minimise dust nuisance (see Section 12.5).</p> <p><i>Noise nuisance/ disturbance:</i></p>	Major Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					a) Measures specified in the various EC Directives and UK Statutory Instruments that limit noise emissions from a variety of construction plant;	
					b) In accordance with British Standard 5228 <i>Noise and vibration control on construction and open sites</i> ; c) Precise measures to be discussed and agreed with the Local Authorities; d) Preparation of an EMP to assist in identifying potential impacts and provide specific mitigation where necessary; e) Recommended setting up of noise monitoring stations.  <i>Beach Users:</i> No mitigation measures are recommended for restrictions to beach use.	

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Navigation - Speed boat racing events.	ST/T/IND	D/R	Major Adverse	<p>Liaison with Gibraltar Port Authority (GPA) and Gibraltar Motorboat Racing Association (GMRA) to identify and thereby minimise, potential risks.</p> <p>Recommend Risk Assessment to identify and mitigate for potential risks. Measures may include Notices to Mariners, moving the racing course, temporarily stopping marine works in open water such as dredging, appropriately marking hazards etc.</p>	Negligible
	Water bathers (if works take place between May-September ie the bathing season)	ST/T/D	L	Minor Adverse	<p>Undertake works outside of the bathing season (May-September); however, dredging during Winter months may be impractical due to adverse sea conditions.</p> <p>Or, works are undertaken during bathing season but restricted to times when prevailing currents and/or winds limit transport of sediment plumes.</p>	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Cumulative effects of activities on recreation and tourism environment.	LT/T/IND	L	Negligible	<p><i>Landscape (near distance views/ &lt;1km):</i> Screen and enhance immediate views, where possible.</p> <p><i>Landscape (middle/ 1-3km and long distance views/ 3-15km):</i> Limited scope for implementation of mitigation measures.</p> <p><i>Air Quality:</i> Best practicable means are recommended to minimise dust nuisance (see Section 12.5).</p> <p><i>Noise nuisance/ disturbance</i></p> <p>a) Measures specified in the various EC Directives and UK Statutory Instruments that limit noise emissions from a variety of construction plant;</p> <p>b) In accordance with British Standard 5228 <i>Noise and vibration control on construction and open sites;</i></p> <p>c) Precise measures to be discussed and agreed with the Local Authorities;</p> <p>d) Preparation of an EMP to assist in identifying potential impacts and provide specific mitigation where necessary;</p> <p>e) Recommended setting up of noise monitoring stations.</p>	Negligible

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	Cumulative effects of activities on navigation (speed boat racing events).	ST/T/IND	D/R	Major Adverse	Liaison with GPA and GMRA to identify and thereby minimise, potential risks. Recommend Risk Assessment to identify and mitigate for potential risks. Measures may include Notices to Mariners, moving the racing course, temporarily stopping marine works in open water such as dredging, appropriately marking hazards etc.	Negligible
	Transboundary effect of activities on recreation and tourism environment.	LT/T/IND	I	Negligible	<i>Landscape (near distance views/&lt;1km):</i> Screen and enhance immediate views, where possible.	Negligible
<i>Landscape (middle/1-3km and long distance views/3-15km):</i> Limited scope for implementation of mitigation measures.						
<i>Air Quality:</i> Best practicable means are recommended to minimise dust nuisance (see Section 12.5).						
					<i>Noise nuisance/ disturbance:</i>	



Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					a) Measures specified in the various EC Directives and UK Statutory Instruments that limit noise emissions from a variety of construction plant;  b) In accordance with British Standard 5228 <i>Noise and vibration control on construction and open sites</i> ; c) Precise measures to be discussed and agreed with the Local Authorities;  d) Preparation of an EMP to assist in identifying potential impacts and provide specific mitigation where necessary;  e) Recommended setting up of noise monitoring stations.	
	Transboundary effect of sediment plumes on water quality.	ST/T/D	I	Negligible	To reduce sediment suspension: a) Optimise trailing velocity, suction head and pump discharge with respect to one another to reduce sediment losses around the draghead; b) Try to reduce water intake to increase sediment density and reduce need for overflowing;	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					c) Apply return flow method if the TSHD has this facility to increase sediment density and reduce overflowing; d) Avoid unnecessary overflowing through operational method; To reduce sediment plumes: a) Undertake dredging in southern borrow area to avoid Spanish waters; Or, b) Undertake dredging from northern borrow area as far south as possible to reduce dispersion into Spanish Waters.	
<b>17. Socio-Economics</b>	Creation of new construction employment.	LT/T/D	N (with international spillovers)	Major Beneficial	No mitigation required to reduce the scale of this positive impact	Major Beneficial

**Table 18.2 SUMMARY OF RESIDUAL IMPACTS – WHEN OPERATIONAL**

1) *Nature of Impact: ST = Short Term; MT = Medium Term; LT = Long Term; T = Temporary; P = Permanent; D = Direct; IND = Indirect (use as many as required)*  
 2) *Geographic Level of Importance: I = International; N = National; R = Regional; D = District; L = Local.*

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
<b>5. Coastal Hydrodynamics &amp; Geomorphology</b>	Changes to tidal water levels.	I/P/IND	L	Negligible	No mitigation measures required as this is only a very localised effect.	Negligible
	Changes to storm surge conditions.	I/P/IND	L	Negligible	No mitigation measures required as this is only a very localised effect.	Negligible
	Changes to tide and wind driven currents for most of Gibraltar’s eastern coastal waters.	I/P/IND	R	Negligible	No mitigation measures required as this is only a very localised effect.	Negligible
	Changes to tide and wind driven currents in local waters around Eastside.	I/P/IND	L	Minor Adverse	No mitigation measures required as this is only a very localised effect.	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Changes to wave conditions, beyond a distance of about 500m to the north and about 200m to the south of Eastside.	I/P/IND	D	Negligible	Recommend inclusion within contract of clause that requires contractor to avoid dredging practices that create significantly deep channels or pits.	Negligible
	Changes to beach morphology (e.g. along-shore and cross-shore profiles) just south of northern groyne of Eastern Beach.	LT/P/IND	L	Moderate Adverse	If the Government of Gibraltar's (GoG) Catalan Bay project is not implemented, the following temporary measures may be required: a) Regular beach re-nourishment with sand to minimise offshore sediment losses; b) One-off formation of the equilibrium beach shape in one initial sand nourishment operation immediately after construction of Eastside.	Negligible
	Changes to beach morphology (e.g. along-shore and cross-shore profiles) just south of the central groyne of Eastern Beach and at southern end of Catalan Bay.	LT/P/IND	L	Major Adverse	If GoG's Catalan Bay project is not implemented, the following temporary measures may be required: a) Regular beach re-nourishment with sand to minimise offshore sediment losses;	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					b) One-off formation of the equilibrium beach shape in one initial sand nourishment operation immediately after construction of Eastside.	
	Beach accretion at southern end of Eastern Beach and northern end of Catalan Bay.	LT/P/IND	L	Moderate Beneficial	No mitigation recommended if a wider beach is considered to be desirable morphological quality.	Moderate Beneficial
	Sea bed morphology seawards of Eastside.	LT/P/IND	L	Minor Adverse	No mitigation is recommended because the impacts are very localised around Eastside.	Minor Adverse
	Sea bed morphology southwest and northwest of Eastside.	LT/P/IND	L	Minor Adverse	No mitigation is recommended because the impacts are very localised around Eastside.	Minor Adverse
	Sea bed morphology within northern borrow area.	LT/P/IND	L	Negligible	No mitigation is recommended because the impacts are very localised around Eastside.	Negligible
	Sea bed morphology within southern borrow area.	LT/P/IND	L	Negligible	No mitigation is recommended because the impacts are very localised around Eastside.	Negligible
	Sea bed morphology around borrow areas.	LT/P/IND	L	Negligible	No mitigation is recommended because the impacts are very localised around Eastside.	Negligible
	Cumulative effects on tides.	I/P/IND	L/R	Negligible	No mitigation measures are recommended.	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Cumulative effects on storm surge conditions.	I/P/IND	L	Negligible	No mitigation measures are recommended.	Negligible
	Cumulative effects on currents.	I/P/IND	L/R	Negligible	No mitigation measures are recommended.	Negligible
	Cumulative effects on wave conditions.	I/P/IND	L	Negligible	No mitigation measures are recommended.	Negligible
	Cumulative effects on beach geomorphology.	LT/P/IND	L	Negligible	No mitigation measures are recommended.	Negligible
	Cumulative effects on seabed morphology.	LT/P/IND	L	Negligible	No mitigation measures are recommended.	Negligible
	Transboundary effect on tides.	I/P/IND	I	Negligible	No mitigation measures are recommended.	Negligible
	Transboundary effect on storm surges.	I/P/IND	I	Negligible	No mitigation measures are recommended.	Negligible
	Transboundary effect on currents.	I/P/IND	I	Negligible	No mitigation measures are recommended.	Negligible
<b>6. Water Quality</b>	Discharges of surface and storm water run-off.	I/P/D	L	Negligible	As a precautionary measure, it is recommended to include petrol/oil interceptors in the drainage system.	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Risk of increased failure of bathing water quality standards at Eastern Beach.	I/T/IND	L	Minor Adverse	No mitigation is recommended with respect to coliform bacteria. However, with respect to water transparency and oily films, it is recommended to regularly remove litter and debris from the southern end of Eastern Beach.	Minor Adverse
	Risk of increased failure of bathing water quality standards at Eastern Beach.	I/T/IND	L	Minor Adverse	If required flushing is recommended to reduce the impact even further.	Negligible
	Transboundary effect of surface and storm water run-off.	I/P/D	I	Negligible	Recommend petrol/oil interceptors are included in drainage system.	Negligible
	Transboundary effect of an unspecified conservative pollutant.	I/T/D	I	Negligible	Recommend petrol/oil interceptors are included in drainage system.	Negligible
<b>7. Sediment Quality - There are no Operational Impacts.</b>						
<b>8. Soil Quality</b>	Human beings - Impact on the health of site visitors and residents owing to exposure to contaminants in the made ground materials.	MT-LT/P/D	L	Moderate-Major Adverse	Carrying out contaminant screening on site during construction and adhering to good site working practices.	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					Provide a suitable "capping" layer of max 1.5m. The capping layer to consist of clean fill and hard standing.	
	Human beings - Impact on the health of site residents and visitors owing to migration of gases from the rubble tip into buildings.	MT-LT/P/D	L	Moderate-Major Adverse	It is suggested that the original ground investigation provides insufficient information to fully assess and quantify the risk of migration of ground gases (landfill gases and volatile components of hydrocarbons), both to buildings onsite and offsite, and to therefore effectively design mitigation measures.	Negligible
					However, based on the information available it is unlikely that this pathway will have material impact though the impacts should be considered further.	
	Controlled waters - Impact upon groundwater and sea water quality due to migration of contaminants from the rubble tip.	MT-LG/T/D	L	Minor Adverse	It is recommended that the risk of migration of contaminants within groundwater towards seawaters or offsite requires further assessment to support a definitive opinion on the need for mitigation measures.  However, the data presented in the original ground investigation report suggests that mitigation measures against groundwater migration are	Negligible



Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					unlikely, especially given the use of clean fill material at the seaward side to form the new land mass and construction of the revetment.	
	Landscape planting - Impact on landscape planting owing to exposure to contaminants.	ST-LT/P/D	L	Moderate Adverse	Carrying out construction contaminant screening and incorporating a suitable layer of imported clean capping soil over the rubble tip where planting will occur at ground level.	Negligible
<b>9. Ecology</b>	Terrestrial ecology of the lower part of the talus slope (noise disturbing birds).	LT/P/D	L	Negligible	No mitigation measures are recommended.	Negligible
	Cumulative effects on subtidal and intertidal ecology.	LT/P/D	L	Minor Adverse	No mitigation measures are recommended.	Minor Adverse
	Cumulative effects on terrestrial ecology of the lower part of the talus slope (noise disturbing birds).	LT/P/D	L	Negligible	No mitigation measures are recommended.	Negligible
<b>10. Nature Conservation</b>	Possible extension of existing littoral and coastal habitat.	LT/P/D	N/I	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
11. Transport	Increase in vehicular trips on the road network.	P/D	L	Minor Adverse	a) Provision of a box-junction at Winston Churchill roundabout minimising queuing traffic; b) It is recommended all occupiers of commercial/office space undertake a travel plan, with cycling/shower facilities, car sharing option and provision of an employee shuttle bus service;	Minor Adverse
					c) Suggested improvements of public transport access e.g. re-routing of Bus Route 4, with a more frequent and extended service; d) Improvement of on-site pedestrian, cycle and taxi facilities thereby offering a greater choice of transport mode.	
	Link capacity.	P/D	L	Negligible-Minor Adverse	a) Provision of a box-junction at Winston Churchill roundabout minimising queuing traffic; b) It is recommended all occupiers of commercial/office space undertake a travel plan, with cycling/shower facilities, car sharing option and provision of an employee shuttle bus service;	Negligible-Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					c) Suggested improvements of public transport access e.g. re-routing of Bus Route 4, with a more frequent and extended service; d) Improvement of on-site pedestrian, cycle and taxi facilities thereby offering a greater choice of transport mode.	
	Junction analysis.	P/D	L	Minor Adverse	a) Provision of a box-junction at Winston Churchill roundabout minimising queuing traffic; b) It is recommended all occupiers of commercial/office space undertake a travel plan, with cycling/shower facilities, car sharing option and provision of an employee shuttle bus service; c) Suggested improvements of public transport access e.g. re-routing of Bus Route 4, with a more frequent and extended service; d) Improvement of on-site pedestrian, cycle and taxi facilities thereby offering a greater choice of transport mode.	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
<b>12. Air Quality</b>	Effect on regional environment from additional emissions of gases causing acid rain, and on global environment from additional greenhouse gas emissions. Increase in total emissions is notable in comparison to emissions from Gibraltar but not in comparison to emissions from the region as a whole	LT/P/D & IND	I	Negligible-Minor Adverse	No mitigation measures are recommended, although any measures to reduce reliance on private transport would reduce emissions.	Negligible-Minor Adverse
<b>13. Noise</b>	Operational noise sources within 300m of local road network.	P/D	L	Minor Adverse	No mitigation measures are recommended. Resurfacing roads, over a large area, with a low noise surface, is beyond the scope of this development.	Minor Adverse
	Road traffic noise increase (1<3 dB(A)) - 142 residential properties within 300m of local road network.	P/D	L	Minor Adverse	No mitigation measures are recommended.	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Road traffic noise increase (3<5 dB(A)) - 110 residential properties within 300m of local road network.	P/D	L	Moderate Adverse	No mitigation measures are recommended.	Moderate Adverse
	Road traffic noise increase (5<10 dB(A)) - 17 residential properties within 300m of local road network	P/D	L	Moderate Adverse	No mitigation measures are recommended.	Moderate Adverse
	Road traffic noise decrease (1<3 dB(A)) - 3 residential properties within 300m of local road network.	P/D	L	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial
	Road traffic noise decrease (1<3 dB(A)) - 2 residential properties within 300m of local road network.	P/D	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Cumulative effects of noise (1<3 dB(A)) on 214 residential properties within 300m of local road network.	P/D	L	Minor Adverse	No mitigation measures are recommended.	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Cumulative effects of noise (3<5 dB(A)) on 113 residential properties within 300m of local road network.	P/D	L	Moderate Adverse	No mitigation measures are recommended.	Moderate Adverse
	Cumulative effects of noise (5<10 dB(A)) on 17 residential properties within 300m of local road network.	P/D	L	Moderate Adverse	No mitigation measures are recommended.	Moderate Adverse
	Cumulative effects of noise (1<3 dB(A)) on 3 residential properties within 300m of local road network.	P/D	L	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial
	Cumulative effects of noise (1<3 dB(A)) on 2 residential properties within 300m of local road network.	P/D	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
<b>14. Landscape &amp; Visual Impact Assessment</b>	Middle distance views from the sea (1-3km).	LT/P/D	L	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial
	Middle distance views from Rock ridge (1-3km).	LT/P/D	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Middle distance views from approaches to site from the south (1-3km).	LT/P/D	L	Moderate Adverse	Limited scope for implementation of mitigation measures, however, these may include:	Moderate Adverse
					a) an Environmental Colour Assessment (ECA) as part of detailed design process to integrate development into local landscape character; b) highly reflective materials to be kept to a minimum or avoided.	
	Middle distance views from the airport (1-3km).	LT/P/D	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Middle distance views from night time visual impacts (1-3km).	LT/P/D	L	Negligible-Minor Adverse	Impact of lighting scheme to be assessed during detailed design stage.	Negligible-Minor Adverse
	Near distance views from the sea (under 1km).	LT/P/D	L	Moderate-Major Beneficial	No mitigation measures are recommended.	Moderate - Major Beneficial

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Near distance views from local approaches to site from the south (under 1km).	LT/P/D	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Near distance views from local approaches to site from the north (under 1km).	LT/P/D	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Near distance views from Catalan Bay properties (under 1km).	LT/P/D	L	Major Adverse	Limited scope for implementation of mitigation measures, however, these may include: a) an ECA as part of detailed design process to integrate development into local landscape character; b) highly reflective materials to be kept to a minimum or avoided.	Major Adverse
	Near distance views from Catalan Bay beach, including Caleta Hotel (under 1km).	LT/P/D	L	Negligible-Moderate Beneficial	No mitigation measures are recommended.	Negligible-Moderate Beneficial
	Near distance views from Devil's Tower Road.	LT/P/D	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Near distance views from Eastern Beach (under 1km).	LT/P/D	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial



Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Landscape character of Upper Rock.	LT/P/D	L	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial
	Landscape character of Catalan Bay.	LT/P/D	L	Moderate-Major Adverse	Limited scope for implementation of mitigation measures, however, these may include:	Moderate-Major Adverse
					a) an ECA as part of detailed design process to integrate development into local landscape character;  b) highly reflective materials to be kept to a minimum or avoided.	
	Landscape character south of Catalan Bay.	LT/P/D	L	Moderate Adverse	Limited scope for implementation of mitigation measures, however, these may include: a) an ECA as part of detailed design process to integrate development into local landscape character; b) highly reflective materials to be kept to a minimum or avoided.	Moderate Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Landscape character of Eastern Beach.	LT/P/D	L	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial
	Landscape character around Devil's Tower Road.	LT/P/D	L	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial
	Landscape character of the site.	LT/P/D	L	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial
<b>15. Archaeology and Cultural Heritage</b>	Coastal morphology changes on offshore wrecks.	LT/P/D	L	Negligible	No mitigation measures are recommended.	Negligible
<b>16. Recreation &amp; Tourism</b>	Changes to environmental quality.	LT/P/IND	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Recreation and tourism activities – Visitor accommodation.	LT/P/IND	D	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Navigation - If re-routing of course for speed boat racing events is required on grounds of safety.	LT/P/IND	D/R	Minor Adverse	Liaison with GPA and GMRA to identify and thereby minimise, potential risks.	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Changes to beach morphology (e.g. along-shore and cross-shore profiles) – just south of central groyne of Eastern Beach and at southern end of Catalan Bay.	LT/P/IND	L	Major Adverse	<p>If GoG’s Catalan Bay projects are not implemented, the following temporary measures may be required:</p> <p>a) Regular, relatively small-scale beach nourishment with sand. Ideally this should take place before the Spring season;</p> <p>b) One-off formation of equilibrium beach shape immediately after construction of Eastside, including sand being placed below mean sea level to speed up process of coastal profile development.</p> <p>c) To allow for more severe seasons, a monitoring plan should be set-up.</p>	Negligible
	Changes to beach morphology (e.g. along-shore and cross-shore profiles) – just south of the northern groyne of Eastern Beach.	LT/P/IND	L	Moderate Adverse	<p>If GoG’s Catalan Bay projects are not implemented, the following temporary measures may be required:</p>	Negligible

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
					b) One-off formation of equilibrium beach shape immediately after construction of Eastside, including sand being placed below mean sea level to speed up process of coastal profile development.  c) To allow for more severe seasons, a monitoring plan should be set-up.	
	Beach accretion at southern end of Eastern Beach and northern end of Catalan Bay.	LT/P/IND	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Beach self-cleaning at southern end of Eastern Beach.	LT/P/IND	L	Minor Adverse	Regular cleaning measures eg litter and debris removal to allow for reduction of natural self-cleaning beach conditions.	Negligible
	Risk of increased failure of bathing water quality standards.	I/P/IND	L	Minor Adverse (risk)	No mitigation measures are recommended because there is no direct impact on areas where failures already occur.  With respect to water transparency and oily films, it is recommended litter and debris is removed on a regular basis.	Minor Adverse

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
	Risk of increased failure of bathing water quality standards.	I/P/IND	L	Minor Adverse (risk)	If flushing is required, it is recommended to install a culvert with a water pump to open sea.	Negligible
	Cumulative effects on recreation and tourism activities.	LT/P/IND	L	Negligible	No mitigation measures are recommended.	Negligible
	Cumulative effects on recreation and tourism facilities.	LT/T/IND	L	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Cumulative effects of activities on navigation.	LT/P/IND	D/R	Minor Adverse	Liaison with GPA and GMRA to identify and thereby minimise, potential risks.	Minor Adverse
	Cumulative effects on beach morphology.	LT/P/IND	L	Negligible	No mitigation measures are recommended.	Negligible
	Transboundary effect of activities on recreation and tourism - middle distance views (1-3km) from Playa de la Atunara and southern edge of La Linea.	LT/P/IND	I	Minor Beneficial	No mitigation measures are recommended.	Minor Beneficial

Receptor / Environmental Resource	Description of Impact	Nature of Impact <sup>(1)</sup>	Geographic Level of Importance <sup>(2)</sup>	Significance of Effect	Mitigation Measures	Residual Significance
<b>17. Socio-Economics</b>	New jobs created.	LT/P/D	N (with some international influence)	Major Beneficial	No mitigation measures are recommended.	Major Beneficial
	New visitors attracted to Gibraltar.	LT/T/D	N (with some international influence)	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Capacity to support a population growth.	LT/P/D	N/I	Moderate Beneficial	No mitigation measures are recommended.	Moderate Beneficial
	Positive externalities - spillover impacts on the local economy.	LT/P/IND	N (with some international influence)	Major Beneficial	No mitigation measures are recommended.	Major Beneficial
	Provision of leisure facilities.	LT/P/D	N	Major Beneficial	No mitigation measures are recommended.	Major Beneficial
	Provision of new employment area.	LT/P/D	N	Major Beneficial	No mitigation measures are recommended.	Major Beneficial
	Provision of new dwellings.	LT/P/D	N	Major Beneficial	No mitigation measures are recommended.	Major Beneficial
	Demand for new community infrastructure.	LT/T/IND	N	Minor Adverse	Existing community infrastructure (including health and educational facilities) may need to be reinforced to accommodate any increase in Gibraltar's population base.	Negligible