

Appendix 17.1 Potential Significant Waste Effects

Site A – Redevelopment of existing golf course

Scheme Activity	Material use and potential to generate significant effects	Potential waste arisings and potential to generate significant effects
Site preparation	The following material resources are expected to be consumed as part of the site preparation phase: - timber and other products required for the erection of perimeter fencing and temporary barriers; - aggregate and stone for ground improvement at site, prior to use by heavy plant; and - granular and other fill required for preliminary landscaping works and embankments. Any impacts associated with material resource consumption are likely to be adverse, permanent and direct. There is – in combination with other lifecycle phases - potential to generate significant adverse environmental effects associated with material resource consumption during site enabling and earthworks.	Wastes likely to be generated during site preparation include: - Vegetation and other above ground materials produced by site clearance (potentially, including invasive weeds); - Surplus topsoil and subsoil materials; and - Potentially hazardous or contaminated material found on or beneath the scheme. Recovery and disposal routes are currently unconfirmed. Any impacts associated with waste disposal to landfill would be adverse, permanent and direct, and could – in combination with other lifecycle phases - give rise to significant adverse effects. Some impacts might be precluded where arisings e.g. top soil and sub soil, can be recovered and diverted from landfill.
Demolition	No potential significant effects identified with regards to material resource consumption during the demolition of the current log cabin on site. It is not anticipated that materials will be required to achieve this activity.	Wastes generated during demolition of on-site structures are likely to include: - broken out concrete and road surface planings; - timber and other materials from demolition of the log cabin; - hazardous or contaminated material found on or beneath the scheme; and - other demolition wastes. Waste in this phase of the works would, for example, be produced as part of alterations to the existing highway for new junctions and demolition of any existing infrastructure to allow construction of the scheme works. Recovery and disposal routes are currently unconfirmed. Where diverting site arisings from landfill is not possible, the impacts associated with disposing of waste would be adverse, permanent and direct, and could – in combination with other lifecycle phases - give rise to significant adverse effects. Some impacts might be precluded where arisings are recovered and diverted from landfill.
Construction	Bulk construction material resources likely to be required for the scheme are anticipated to include: - earthworks (volumes will be dependent on the cut and fill balance); - road paving materials, including sub-base and bituminous materials; - steel – for structures; - concrete including for pre-cast or prefabricated elements; - bricks and aggregate; - timber for fencing and formwork; - new street furniture and signage; - cabling; and	Waste is likely to be generated during the construction of the scheme, particularly from: - vegetation and other above ground materials produced by site clearance (potentially, including invasive weeds); - surplus topsoil and subsoil materials; - hazardous or contaminated material found or generated on site; and - general, mixed construction and commercial waste e.g. packaging, ducting. The volumes of waste likely to be generated and disposed of as result of the scheme will be identified and assessed as the scheme progresses. Impacts as a result of waste generation would be adverse and direct, and are generally accepted to

Scheme Activity	Material use and potential to generate significant effects	Potential waste arisings and potential to generate significant effects
	other general construction materials, including those from glazing and roofing. Any impacts associated with primary material resource consumption would be adverse, permanent and direct and could – in combination with other lifecycle phases - give rise to significant adverse effects.	be permanent in nature. The resultant adverse effects would be a reduction in landfill void capacity. As far as possible, all site arisings (with the potential to become waste) are expected to be targeted for reuse or recycling either on, or off, the scheme. Where this is not possible, disposal is likely to be required. Depending on how wastes are managed during construction, and based on the size and nature of the scheme, there is – in combination with other lifecycle phases - the potential for significant adverse environmental effects.
Operation and maintenance	Operational materials and waste: physical assets In the first year of operation, minor amendments and changes to the scheme assets may be required. Depending on the extent of these changes, the potential to consume material resources (including recovered site arisings), and to produce and dispose of waste may be required. The extent of changes within the first year of operation is not currently known, but professional judgement strongly indicates that for a scheme of this scale and nature, there are unlikely to be significant adverse environmental effects. Similarly, beyond the first year of operation, it is predicted that there will be no significant adverse effects. Operational materials and waste: municipal waste Municipal waste will be generated as part of the occupation of Site A. However, the extent to which impacts these can be controlled through the Site A designs is limited to the provision of adequate space and community facilities for recycle; furthermore, the day-to-day management of these arisings will remain under the control of the local waste authority / contracted third parties. Using professional judgement, it can be asserted that the type and volume of waste generated by the residential buildings in operation - particularly taking into account with increasing measures locally (including Arun's "<i>aspiration to achieve 'zero waste to landfill' by 2031</i>") and nationally (e.g. reducing kerbside collections), will both be minimal and reduce over the life of the Proposed Scheme. For these reasons, it is predicted that operational waste from municipal sources will not give rise to significant adverse effects. In summary Operational effects for both materials and waste on Site A will therefore not be considered further in this assessment.	
Deconstruction	In accordance with best practice, the 'end of life' stage is a material consideration in the environmental assessment of materials and waste. However, at this early stage, it is not possible to ascertain with certainty the measures and mechanisms by which built and other assets across Site A will be deconstructed or demolished. On the basis that today's best practice measures will be enhanced and improved over time, it is reasonable to assert – using professional judgement – that circular economy techniques will be applied with maximum positive influence at end of life, and effects from material resource consumption and waste to landfill, will not be significant. Accordingly, effects at the deconstruction (end of life) stage will not be assessed further in this chapter.	

Site B – Relocation of golf course

Scheme Activity	Material use and potential to generate significant effects	Potential waste arisings and potential to generate significant effects
Site preparation	The following material resources are expected to be consumed as part of the site preparation phase: - timber and other products required for the erection of perimeter fencing and temporary barriers; - aggregate and stone for ground improvement at site, prior to use by heavy plant; and - granular and other fill required for preliminary landscaping works and embankments. Any impacts associated with material resource consumption are likely to be adverse, permanent and direct. There is – in combination with other lifecycle phases - potential to generate significant adverse environmental effects associated with material resource consumption during site enabling and earthworks.	Wastes likely to be generated during site preparation include: - Vegetation and other above ground materials produced by site clearance (potentially, including invasive weeds); - Surplus topsoil and subsoil materials; and - Hazardous or contaminated material found on or beneath the scheme. Recovery and disposal routes are currently unconfirmed. Any impacts associated with waste disposal to landfill would be adverse, permanent and direct, and could – in combination with other lifecycle phases - give rise to significant adverse effects. Some impacts might be precluded where arisings e.g. top soil and sub soil, can be recovered and diverted from landfill.
Demolition	Not applicable.	Not applicable.
Construction	Bulk construction material resources likely to be required for the scheme are anticipated to include: - earthworks (volumes will be dependent on the cut and fill balance); - bricks and aggregate; - timber for fencing and formwork; - new street furniture and signage; - cabling; and - other general construction materials. Any impacts associated with material resource consumption would be adverse, permanent and direct and could – in combination with other lifecycle phases - give rise to significant adverse effects.	Waste is likely to be generated during the construction of the scheme, particularly from: - vegetation and other above ground materials produced by site clearance (potentially, including invasive weeds); - surplus topsoil and subsoil materials; and - general, mixed construction and commercial waste e.g. packaging. The volumes of waste likely to be generated and disposed of as result of the scheme will be identified and assessed as the scheme progresses. Impacts as a result of waste generation would be adverse and direct, and are generally accepted to be permanent in nature. The resultant adverse effects would be a reduction in landfill void capacity. As far as possible, all site arisings (with the potential to become waste) are expected to be targeted for reuse or recycling either on, or off, the scheme. Where this is not possible, disposal is likely to be required. Depending on how wastes are managed during construction there is – in combination with other lifecycle phases - the potential for significant adverse environmental effects.
Operation and maintenance	Operational materials and waste: physical assets In the first year of operation, minor amendments and changes to the scheme assets may be required. Depending on the extent of these changes, the potential to consume material resources (including recovered site arisings), and to produce and dispose of waste may be required. The extent of changes within the first year of operation is not currently known, but professional judgement strongly indicates that for a scheme of this scale and nature, there are unlikely to be significant adverse environmental effects. Similarly, beyond the first year of operation, it is predicted that there will be no significant adverse effects. Operational materials and waste: commercial waste Commercial waste will be generated as part of the use of Site B. However, the extent to which impacts these can be controlled through the Site B designs is limited to the provision of adequate space and facilities for recycle; furthermore, the day-to-day management of these arisings will remain under the control of the local waste authority / contracted third parties.	

Scheme Activity	Material use and potential to generate significant effects	Potential waste arisings and potential to generate significant effects
	Using professional judgement, it can be asserted that the type and volume of waste generated by the Site B buildings in operation - particularly taking into account with increasing measures locally (including Arun's "<i>aspiration to achieve 'zero waste to landfill' by 2031</i>") and nationally (e.g. reducing kerbside collections), will both be minimal and reduce over the life of the Proposed Scheme. For these reasons, it is predicted that operational waste from municipal sources will not give rise to significant adverse effects. In summary Operational effects for both materials and waste on Site B will therefore not be considered further in this assessment.	
Deconstruction	In accordance with best practice, the 'end of life' stage is a material consideration in the environmental assessment of materials and waste. However, at this early stage, it is not possible to ascertain with certainty the measures and mechanisms by which built and landscaping assets across Site B will be deconstructed or demolished. On the basis that today's best practice measures will be enhanced and improved over time, it is reasonable to assert – using professional judgement – that circular economy techniques will be applied with maximum positive influence at end of life, and effects from material resource consumption and waste to landfill, will not be significant. Accordingly, effects at the deconstruction (end of life) stage will not be assessed further in this chapter.	