West of Yarmouth Major Bid Option 1

Plan Option/ Measure	West of Yarmouth Major Bid – engineering works to reinstate the A3054			**Worksheet completed by:**	WSP Environmental and ENVIRON	
SEA Criteria	**Performance against SEA Sub-criteria**	**Description of the value and vulnerability of the area likely to be affected**	**Description of the magnitude of the effect including timing, duration, & potential cumulative effects**	**Level of certainty (H/M/L), and assumptions**	**Mitigation measure(s) proposed**	**Significance of the residual effect (ie after mitigation)**
Air Quality To develop the transport network to maximise access whilst minimising detrimental impacts on air quality. - To reduce congestion in Newport - To limit traffic growth. - To increase travel choice and the proportion of people using public transport, cycling and walking - To reduce number of car trips - To improve air quality Overall significance after mitigation: **No effect**	Not likely to affect congestion in Newport.	Congestion a problem in Newport at peak times. Currently no air quality issues or congestion identified within Yarmouth, Totland or Freshwater.	Magnitude dependent on overall traffic growth on the Island and public transport use. Reversible effect- movement onto public transport if problem with air quality levels Temporary engineering works – potential impact to local AQ by production of dust Should maintain current levels of traffic along the road.	Moderate Assume traffic growth of no more than 3% per annum on the A3054 in line with LTP2 target.	Improve public transport services on the A3054 to encourage a modal shift.	No effect
	Not likely to directly increase vehicle movements.					No effect
	Uncertainty over increase travel choice only if linked to public transport initiatives, no potential increase of cycling and walking initiatives due to distance.					Slight positive – improved public transport service
	Will not reduce number of car trips unless linked to public transport initiatives.					No effect
	Will not improve overall air quality but potential to impact local air quality through construction works..					No effect
Soil and geology To ensure the transport network does not adversely impact upon geology and soils, and which reduces the risk of erosion and instability due to human activity. - To reduce the risk to property and people from erosion and instability - Avoid damage to the coastline or the loss of amenity as a result of human activity. - To avoid contamination of land - To protect areas important for geological processes Overall significance after mitigation: **Moderate positive**	Will reduce the risk to property and people from erosion and instability.	Section of A3054 as the road enters Yarmouth from the east is actively slumping and carriageway is suffering rooted cracking and distortion. Residential property on the south side of the road. Sea defences currently in place Area has not been identified as being important for geological processes – nearest is SSSI Bouldnor Hamstead Cliffs to the east of this section of road but not likely to be affected by engineering works.	Scheme will reduce risk to property and people. Do not know if this is a permanent solution until further investigatory work has been undertaken. May be a temporary loss of amenity during engineering works.	High – assuming scheme is a permanent solution	Ensure that work is on existing defences only Ensure appropriate measures are put in place to prevent contamination.	Moderate positive - reduction of risk to property and people from erosion and instability
	Likely to avoid damage to the coastline or the loss of amenity through reinforcement of the existing sea defences and not constructing any new defences.					No effect – avoiding damage to the coastline and loss of amenity
	Low risk of contribution to contamination of land					No effect - unlikely to contribute to contamination of land
	Unlikely to lose areas important for geological processes as work will be undertaken in areas of existing sea defences					No effect - To achieve no loss of areas important for geological processes
Water To maintain and improve the quality of the Island's watercourses, groundwater systems and to prevent an increase in risk from flooding. - To ensure that highways works do not give rise to increases in surface run-off. - To protect the quality of water by controlling transport related development likely to adversely affect groundwater, surface water, bathing water, and estuaries quality. Overall significance after mitigation: **No effect**	Unlikely that highways works will give rise to increases in surface run-off.	Currently no groundwater protection zones in areas of Yarmouth. Section of road is adjacent to beach.	Limited geographical area effected – length of works is 500m Permanent effects	Low – further studies required	Flood risk assessment would be required to ascertain whether section of road is at risk from flooding. Ensure engineering works involve sustainable drainage works which do not increase surface run-off, result in accelerating the slumping process and / or result in negative impacts on beach water quality	No effect – however flood risk assessment and design of engineering works needed to confirm this assessment
	Likely to only have a limited potential impact on water quality.					

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Landscape and townscape To protect and enhance the Island's landscape and settlement character. - To protect the landscape and settlement character of the Island and ensure that transport and its associated infrastructure does not negatively impact on the existing character of the area. - Positively enhance landscape and settlement character. - Conserve and enhance the AONB in line with its designated status, purpose and the AONB Management Plan. - Conserve and enhance the Tennyson and Hamstead Heritage Coasts in line with their status, purpose and AONB management plan. Overall significance after mitigation: **No effect**	Unlikely to alter the existing landscape and settlement character of the Island and local area however there is still the potential for local effects if the engineering works are visually intrusive and to affect the setting of a small part of the AONB. Avoids routing traffic through the AONB on a permanent basis No impact on the Tennyson and Hamstead Heritage Coasts	This section of the A3054 does not lie within the AONB, however a strip of land between the north of the road and the beach is within the AONB. This land is reported to be mainly private gardens. The road towards Yarmouth from this section (although exact section not known) runs into the AONB. Yarmouth is also within the AONB.	Magnitude unknown Limited geographical area effected – length of works is 500m however there is still a potential for local effects particularly on the setting of the AONB to the north of the road, if the engineering works are visually intrusive and if this section of AONB is sensitive to this type of visual intrusion.. Permanent	Moderate – however do not know design of engineering works	Ensure that the engineering works do not impact on the local character of the area or the setting of the AONB	No effect - design of engineering works and sensitivity of the section of AONB to the potential visual intrusion needed to confirm this assessment
Biodiversity, fauna and flora To conserve and enhance the Islands biodiversity, fauna and flora. - To avoid net loss (direct and indirect), damage to, or fragmentation of designated wildlife sites and the qualifying habitats and species on which they depend (Marine, estuarine, terrestrial and freshwater). - To maintain biodiversity and the variety of habitats on the Island Overall significance after mitigation: **Moderate negative**	Not likely to result in loss or fragmentation to designated wildlife sites although potential to damage through disturbance and change in hydrological regime due to drainage works.	The Yar Estuary SSSI and SINC in proximity to the section of road to the south west, however they are not immediately adjacent to it.	Potential temporary effects on species due to engineering works. Potential permanent effects due to drainage works, small geographical area.	Low certainty – unknown effects of works and location of compound associated with the works (i.e. where site office is located and equipment and materials stored). Unknown effect of drainage works on SINC and SSSI	Ensure engineering works compound is located away from the SSSI and SINC. Ensure that effect of drainage works on SSSI and SINC is assessed. Ensure that English Nature is consulted with regard to this scheme.	Moderate negative– due to uncertainty
	Not likely to affect biodiversity or the variety of habitats on the Island because large scale development works are not envisaged	There are no BAP habitats abutting the section of road in question. However, coastal floodplain and razing marsh, reed beds and wet woodland lie to the south west of the road, beyond the residential areas	Potential temporary effects due to engineering works. Potential permanent effects due to drainage works, small geographical area.	Do not know exact position of section of road which requires the engineering work. Therefore low certainty that BAP habitats won't be abut the works.	Ensure that engineering works compound is located away from BAP habitats as mapped by English Nature. Ensure that effect of drainage works on BAP habitats is assessed. Use existing car park nearby as site office. Ensure that English Nature is consulted with regard to this scheme.	Slight negative
Archaeology and cultural heritage To protect the Islands historic environment and cultural resource - To protect the fabric and setting of designated and non-designated archaeological sites, monuments, historic parks and gardens, maritime heritage and listed buildings locally important historic buildings and conservation areas Overall significance after mitigation: assessment incomplete	Unlikely to adversely affect the historic environment although engineering works could disturb unknown archaeological remains.	Likelihood of previously undiscovered remains in the area where engineering works due to occur unknown. Location of heritage sites in immediate area currently unknown to appraisers. No historic parks or gardens will be affected.	Magnitude unknown. Potential for permanent effects through engineering works	Low – Although designated and undesignated sites and monuments are recorded, the exact locations of sites and monuments in the west unknown to appraisers at present. Further consultation with Conservation team necessary.	Assess potential impacts on heritage sites. Preserve any archaeological remains *in situ* in the first instance.	Assessment incomplete
Climatic factors To reduce the Islands contribution to climate change and to limit transport development at risk from flooding and the effects of	Will not reduce the amount of greenhouse gas emissions on the Island and is likely to enable an increase in emissions through keeping the road operational and allowing	Emission of greenhouse gases is a global issue and targets exist to reduce emissions.	Magnitude of emissions unknown Potential to contribute to a cumulative impact with relation to increases in greenhouse gas emissions by enabling easy access via private	Moderate certainty Assume that large scale development in the west which might significantly increase traffic levels is unlikely to	Improve public transport services on the A3054 to encourage a modal shift.	Moderate negative – potential for cumulative impact

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climate change - To reduce the amount of greenhouse gas emissions on the Island - To increase the amount of renewable fuels / technology used to power vehicles - To limit development at risk from flooding and the effects of climate change Overall significance after mitigation: **Moderate negative**	direct access to Newport		motor vehicles.	occur.		
	Will have no effect on the amount of renewable fuels / technology used to power vehicles	-	No effect	High	None	No effect
	Unknown whether development of transport infrastructure will increase risk from coastal flooding. Due to location it could be at risk from effects of climate change.	Section of road is in close proximity to the coast and therefore could be at risk from increased storm events and wave action	Permanent effect	Low – further studies required	Flood risk assessment would be required to ascertain whether section of road is at risk from flooding taking into account future climate change scenarios.	Moderate negative
Human health and safety To protect and improve the safety and health of the population. - To make the Island's roads safer and reduce accidents - To increase opportunities for walking and cycling Overall significance after mitigation: **Moderate positive**	Will make Island's roads safer	Road is currently at risk from failure due to slumping. Poses risk to people and property if failure occurred. Alternative is to reroute traffic along unsuitable, narrow roads which would pose more risks to safety from accidents.	Long term effect but depends on ability of engineering works to reduce effect of slumping on the road.	Moderate certainty that engineering works will improve safety although risk of failure is not known.	Through further investigatory works, ensure that engineering works will address the cause of the damage to the road.	Moderate positive
	Will maintain current opportunities for walking and cycling	Walking and cycling currently possible along this stretch of road. There is a footpath on the northern side of the road.	Permanent	Moderate Assume will not affect opportunities to walk or cycling to Newport due to distance. Would have to close road temporarily so reduced opportunities for walking and cycling during this period along this stretch of road.	None Look into diversions for walkers and cyclists whilst road is closed temporarily due to engineering works.	No effect
Noise and Vibration To limit the risk of negativenoise and vibration effects and protect tranquil areas. - To limit / reduce the risk of the adverse noise and vibration effects of vehicle movements at the ferry ports - To limit / reduce the risk of the adverse noise and vibration effects of transport movement in the urban centres - To protect tranquil areas on the Island and avoid risk to them from light and noise pollution due to increases in traffic Overall significance after mitigation: **Slight negative**	Not likely to affect the negative noise and vibration effects of vehicle movements at ferry ports although in the long term could enable increase in ferry activity at Yarmouth by maintaining access to the rest of the Island for vehicles along the A3054	No complaints regarding noise at Yarmouth ferry port. No significant residential areas in close proximity to the port area.	Effect unlikely to occur. If does would be in the long term future and would occur at peak times. Seasonal variation. Reversible	Assume large scale residential or employment or tourism development does not occur in the west of the Island which would significantly increase vehicle movements at Yarmouth ferry port. Assume Yarmouth ferry port continues current activity	Assess potential noise and vibration impacts at the ferry ports if large scale development is proposed in the west of the Island.	No effect
	Not likely to cause an increase in noise and vibration effects in the short term when works complete. Noise and vibration effects probable during engineering works. Vehicles getting on and off the Yarmouth ferry may have to be redirected during engineering works which could cause noise and vibration effects in Totland and Freshwater due to a temporary increase in traffic.	Dwellings along south side of road could be considered sensitive receptors to noise and vibration effects, also other sensitive receptors along diversion route.	Temporary impacts during engineering works Diversion route and proximity of sensitive receptors along potential diversion route (i.e. dwellings, nursing homes etc) not known	Low certainty regarding need to temporarily redirect traffic during engineering works. Low certainty regarding location of sensitive receptors High certainty of noise and vibration effects during engineering works	Put in place suitable working arrangements during engineering works to limit noise and vibration impacts for sensitive receptors on the on the south side of the road i.e. suitable working hours. Avoid rerouting traffic near to sensitive receptors if possible	Slight negative – effect during works will be temporary
	Not likely to affect tranquil areas on the Island in the long term but short term impacts could occur during engineering works if traffic is rerouted through he AONB.	AONB to the south, west and east of the road	Temporary impacts during engineering works if traffic is rerouted through Totland and Freshwater and then along the boundary of the AONB along the B4301to Newport and the rest of the Island	Low certainty regarding the need to temporarily redirect traffic during engineering works and the diversion route.	Avoid rerouting traffic through the AONB or the most rural parts of the Island if possible	Slight negative – but effect will be temporary
Population To improve accessibility for all sectors of the community, and minimise severance by sea. - To minimise the impact of severance by sea - To ensure transport is accessible for all sectors of the community regardless of age, income and mobility	Will not affect the impact of severance by sea.	-	No effect	High	None	No effect
	Will maintain current levels and potentially improve access to public transport for people living in Yarmouth, Totland and Freshwater and along the A3054	Currently bus service provided in the west of the Island to connect Yarmouth, Totland and Freshwater with Newport and the rest of the Island in the east.	Affects approximately 11,000 residents of 'West Wight' Reversible as level of service provision is flexible.	Low certainty of improvements which could be possible (i.e. punctuality, frequency etc).	Ensure that public transport services are improved if possible along the A3054 servicing residents along the road and those in Yarmouth, Totland and Freshwater.	Slight positive - because it should maintain and improve current public transport services for people living in Yarmouth, Totland and Freshwater and along the A3054.

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- To improve access to services and facilities (e.g. retail, education, employment, health, leisure, sporting, cultural etc) - To increase access to the countryside Overall significance after mitigation: **Moderate positive**	Will maintain current access to services and facilities and will improve future potential for access because without repairing the road it will eventually either fail or be closed for safety reasons.	At present the A3054 is the strategic highway route connecting residents in the west of the Island with Newport and the rest of the Island. Newport is the principal town at which many key services and facilities are accessed by residents in the west (e.g. further education, health care, comparison shopping, employment)	Affects approximately 11,000 residents of 'West Wight' Reversible	Moderate certainty Assume residents of the west need to travel to Newport for services and facilities on a regular basis and will wish to in the future.	Ensure that public transport services are improved if possible along the A3054 servicing residents along the road and those in Yarmouth, Totland and Freshwater to provide access to Newport via public transport and encourage modal shift away from the private car.	Moderate positive
	Will not affect access to the countryside	-	No effect	High	None	No effect
Material assets To improve and maintain the physical quality of the Island's transport infrastructure network - To ensure the use of recycled materials for road repair and construction. - To improve the physical quality of the island's transport infrastructure network through appropriate investment Overall significance after mitigation: **Moderate positive**	Has potential to use recycled materials.		Potential to use recycled materials but likelihood and proportion (i.e. magnitude) that could be used is unknown until further work is undertaken.	Low certainty and assume that some recycled materials could be used in the engineering works.	Ensure a significant proportion of materials used in engineering works are recycled.	Slight positive – because although there is a potential to use recycled materials, the magnitude of potential is not known at this stage.
	Will improve the physical quality of the Island's transport infrastructure network.	Urgent need to repair road which is suffering deep rooted cracking and distortion and to avoid risk of failure.	Only improves one small section of Island's road network therefore small geographical magnitude. Should be long term improvement to this section of road.	Moderate certainty	None required	Moderate positive – because it will help contribute to improving the physical quality of the Island's transport network

Notes

This Worksheet has been adapted from the worksheet template suggested in TAG guidance on SEA of LTPs. It has been amended to reflect the specifics of the SEA of the proposed Isle of Wight LTP2 SEA. The worksheet has been developed to provide a useful mechanism for assessing and recording the environmental effects of different options for measures/actions in the LTP2 and has therefore been structured to allow recording of effects against all SEA criteria on one worksheet. Separate worksheets have been completed for each alternative measure/option.

To aid consistency of appraisals and ease of comparison of alternatives, standardised scales of impact magnitude and impact significance have been used. These are based on the following:

Major negative – moderate negative – slight negative – no effect – slight positive – moderate positive – major positive