

Qualitative review of risks to highlight areas where risk profile differs across options

Risk / Risks around	comment	Potential Difference between options			
		Option 1 (Stage 1 Option 1)	Option 2 (Stage 1 Option 2)	Option 3 (Stage 1 Option 7)	Option 4 (stage 1 Option 8)
Statutory Undertakers Risks	Protection/lowering/diversion of numerous services at tie in. Limited diversions at other locations	Tie ins to existing A47 - numerous diversions etc. required. Extensive works required over length of scheme as services in existing verges	Tie ins to existing A47 - numerous diversions etc. required. Existing gas main to south of existing A47 will require diverting where alignment crosses	Tie ins to existing A47 - numerous diversions etc. required. Existing gas main to south of A47 will require diverting where new alignment crosses	Tie ins to existing A47 - numerous diversions etc. required. Existing gas main to south of existing A47 will require diverting possibly over the majority of new alignment
Geotechnical – Ground water	Risks associated with groundwater	Water table expected to be high with existing topography relatively flat	Water table expected to be high with existing topography relatively flat	Water table expected to be high with existing topography relatively flat	Water table expected to be high with existing topography relatively flat
Geotechnical risks around exiting ponds and watercourses	Existing ponds will require draining and excavating prior to filling	No major watercourses, ditch course to south of existing A47 running parallel at western end	Large pond / pond	No major watercourses, ditch course to south of existing A47 running parallel at western end. Large pond / 2 ponds	No major watercourses, ditch course to south of existing A47 running parallel at western end. 2 large ponds /1 pond
Geotechnical – compressible soils	Potential for compressible soils has been identified and the risks associated are likely to vary Also potential for shrinking/swelling of existing ground and running sand	Risk for option	Risk for option	Risk for option	Risk for option

Geotechnical – historic excavations “opencast”	Backfilled historic localised excavations have been identified by the desk study these present a risk	Risk for option	Risk for option	Risk for option	Risk for option
Geotechnical – contaminated ground	Risk of possible contamination of ground from existing useages and traffic contamination	Risk for option at tie ins to existing A47 High risk of contamination of existing carriageway construction and of adjacent verges from traffic pollution	Risk for option at tie ins to existing A47. High risk of contamination of existing A47 verges from traffic pollution	Risk for option at tie ins to existing A47	Risk for option at tie ins to existing A47. High risk of contamination of existing A47 verges from traffic pollution
Lack of diversionary routes	Risks due to lack of diversionary routes in area	Higher risks for online option as existing A47 will not be available	Risk for option	Risk for option	Risk for option
Local Roads unsuitable for haul routes	Risks due to local road network with the exception of the A47 being unsuitable for delivery / use for construction traffic	Higher risks for online option as existing A47 will not be available	Risk for option	Risk for option	Risk for option
Traffic management and disruption/delays		Sever risk for online option	Risk for option at tie ins to existing A47nand side roads	Risk for option at tie ins to existing A47nand side roads	Risk for option at tie ins to existing A47nand side roads

Property / Land	Risks due to the acquisition of land and property and possibility of blight.	Included within land estimate, likely to be less for the online option as existing highway owned by HE.	Included within land estimate	Included within land estimate	Included within land estimates.
Accommodation Works	Risks due to the level of accommodation works required to maintain access etc and accommodation works not being defined at this stage	Access to existing frontages and side roads harder to maintain with the online option hence higher risk	Risk for option	Risk for option	Risk for option
Environmental / ecology – ponds		No major watercourses, ditch course to south of existing A47 running parallel at western end	Large pond / pond	No major watercourses, ditch course to south of existing A47 running parallel at western end. Large pond / 2 ponds. Numerous additional ponds adjacent to route with potential higher risk.	No major watercourses, ditch course to south of existing A47 running parallel at western end. 2 large ponds /1 pond
Environmental species habitats		Option online and within the constraints of the existing carriageway corridor	Risk for option	Risk for option	Risk for option
Environmental Mitigation – planting etc		Risk of option low as following the existing carriageway corridor	Risk for option lower	Risk for option higher risk for woodland mitigation due to	Risk for option higher risk for woodland mitigation due to

		which is low in woodland species		amount of woodland effected	amount of woodland effected
Environmental Mitigation – listed buildings	There are 20 listed buildings in the study area; 3 grade I listed churches and 11 other grade II listed buildings.	Risk for option	Higher risk due to proximity of route to St Andrews church and listed buildings in North Burlingham	Risk for option	Risk for option
Environmental – historic Saxon and Medieval deposits		Risk for option	Risk for option	Risk for option	Risk for option