

Appendix E Commitments Register



Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A1	1.01	Aggregates will only be sourced from licensed sources as approved by MENRP	5.2.5 and 10.2
A1	1.03	The Project will give preference to using existing borrow pits where reasonably practical	5.2.5 and 10.2
A1	1.05	Environmental audits will be undertaken at any proposed third-party borrow pits and/or spoil disposal pits before they are used. Periodic audits will be undertaken while they are in use by the Project and will include checks that no illegal extraction is occurring	10.2
A1	1.07	All excavated materials will be screened and reused (e.g. for padding, backfilling, etc.) to the extent deemed feasible by Company to minimise the need for new aggregates	5.2.5 and 10.2
A1	1.09	All temporary borrow pits will be reinstated (unless instructed otherwise by regulatory authorities)	10.2
A1	1.11	Excavated surplus subsoil will be stored on the ROW or in agreed temporary storage areas; if disposal is necessary, it will be transported to an approved disposal site	5.4.6 and 10.7
A1	1.12	Trench spoil will be spread evenly beneath the topsoil and not left on the surface	5.4.11, 10.3 and 10.7
A0	1.13	The construction contractor will have a documented and operational ESMS aligned with the requirements of ISO 14001 Environmental Management Systems prior to mobilisation	10.1.3
A2	2.01	Load-bearing materials, such as bog mats, will be used to support heavy loads in areas of soft ground (including wetland areas) unless deemed impractical by the Company	10.3 and 10.7
A24	2.02	Vehicle movements will be restricted to defined access routes and demarcated working areas (unless in the event of an emergency)	10.3, 10.7, 10.8, 10.11, 10.12 and 10.13
A2	2.03	Driving along the ROW will not be permitted in excessively wet conditions unless otherwise approved by the Company	10.3, 10.7 and 10.12
A2	2.04	Temporary drainage will be provided where necessary (as determined by the Company) to prevent ponding or waterlogging of the working area	10.3
A13	2.05	Backfill will be adequately (but not excessively) compacted to prevent future settlement	10.3, 10.7 and 10.12
A2	2.07	After backfilling, the subsoil beneath the running track will be ripped prior to reinstatement of agricultural land	10.3 and 10.7
A3	3.03	Erosion control measures will be implemented to achieve erosion Class 3 or better	10.3, 10.5, 10.12
A3	3.05	Temporary dewatering or trench stabilisation will be undertaken where required to minimise slumping of trench walls	10.3 and 10.5
A3	3.07	Trench breakers will be installed where downhill flow within the backfilled trench may lead to erosion	10.3, 10.5, 10.6 and 10.7
A3	3.08	Soil loss will be monitored and corrective actions taken if it exceeds erosion class 3	4.4 and 10.3
A17	3.09	Local people will be actively discouraged from using the new and redundant ROW as an access road (through use of signage, public education, leaflets etc.)	10.3, 10.7 and 10.12
A4	3.11	Once the topsoil has been replaced it will be stone picked to remove any large stones that are not in keeping with the surrounding soil texture; surplus stone will be disposed of in accordance with the Waste Management Plan	10.3, 10.7 and 10.12
A17	3.14	A monitoring plan will be developed to determine the success of re-vegetation and biorestation activities, including the appropriateness of species composition	10.4 and 10.7
A2	3.15	Upon completion of subsoil and topsoil reinstatement, the contractor and Company personnel will inspect reinstated areas jointly to assess compliance with the standards set out in the Reinstatement Plan and Project Reinstatement Specification; remedial measures will be implemented, if necessary	10.3 and 10.12

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A7	3.17	The rate of discharge of water will be controlled to reduce the risk of soil erosion	10.3, 10.5, 10.6 and 10.7
A34	3.19	Field boundaries will be reinstated to pre-existing condition on completion of construction	10.4, 10.12 and 10.13
A10	3.21	Measures to minimise scour and reduce sediment load will be implemented at locations of discharges to watercourses or to land	10.5
A7	3.23	At watercourses, bank and bed material will be stored separately, away from the active channels and will not be placed where flow or drainage will be obstructed	5.4.6 and 10.3
A3	3.24	At locations where water discharge causes scour or soil erosion, eroded areas will be reinstated	10.3 and 10.5
A2	3.26	Surface water drainage from construction areas including access roads and temporary storage sites will be designed to minimise soil erosion in accordance with sustainable urban drainage systems (SUDS) principles	10.3
A3	3.28	Temporary erosion control measures will be developed and implemented after initial land disturbance and if construction activity on the working areas is suspended over the winter before reinstatement has been completed	10.3
A3	3.30	When discharge velocities have the potential to create erosion, energy dissipaters will be used to establish sheet flow. Trenches will be dewatered in such a manner that no heavily silt-laden water flows into any wetland or water body	5.4.10 and 10.5
A3	3.34	If water accumulates in the open trench (either from rainfall or because of a high water table), it will be pumped out before the pipe is lowered into the trench	5.4.10 and 10.11
A8	3.35	Erosion protection measures will be installed on ridges and side slopes as required by the Project Reinstatement Specification	5.4.12, 10.3, 10.4 and 10.13
A3	3.37	Where new sections of temporary road are required, drainage ditches will be included where necessary to reduce erosion/flooding of the road or adjacent land by rain or snow melt	5.4.4 and 10.3
A4	4.02	Excavated subsoil and topsoil will be segregated and stored in free-draining stacks outside the running track to avoid mixing or compaction by construction plant/vehicles	5.4.6, 10.3 and 10.7
A4	4.04	Topsoil stacks will be regularly inspected for compaction and erosion and if topsoil is stored for more than six months, the stacks will also be regularly monitored for anaerobic conditions; corrective measures will be implemented (including manual aeration) if any anaerobic conditions, compaction or erosion is identified	10.3 and 10.7
A3	4.07	Where the Project considers that ground is sufficiently steep (generally greater than 25%), topsoil stockpiles will be protected with silt fence to help reduce washout and loss of topsoil during heavy rains	10.5
A3	4.08	The topsoil and subsoil stack surface will be compacted sufficiently with the aim of preventing erosion, without leading to the development of anaerobic conditions	10.3 and 10.7
A24	4.09	Reinstatement will be undertaken as early as practicable and in accordance with the Project Reinstatement Specification	10.3, 10.4, 10.7, 10.8, 10.11, 10.12 and 10.13
A3	4.12	The construction contractor(s) will produce method statements incorporating plans for erosion control, sediment control and reinstatement before work begins at river crossings	5.7.7, 10.3 and 10.5
A7	4.14	In the case of an unplanned event, any damage will be reinstated and compensated where appropriate	10.3
A7	4.15	A soil survey of temporary works areas will be undertaken prior to construction to measure the depth of the topsoil layer and will be used to determine the depth of topsoil stripping	10.3

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A6	6.01	The baseline contamination survey of temporary works areas will be repeated before construction begins and identified areas of surface contamination within the Project footprint will be cleared before construction begins	10.3, 10.5 and 10.6
A39	6.03	The Pollution Prevention Plan will identify requirements and procedures for the storage of hazardous materials and contaminated soil, which will include the establishment of designated impermeable hazardous materials storage areas located at least 50m from any surface watercourse or seasonal water channel; minimisation of storage volumes; and the segregation of potentially reactive materials	10.3, 10.5, 10.6, 10.7 and 10.11
A39	6.05	A refuelling procedure will be developed by the Contractor, which will include a restriction on refuelling within 50m of any watercourse. Any deviation will be subject to approval by the Company	10.3, 10.5, 10.6, 10.7, 10.8 and 10.11
A39	6.06	The Pollution Prevention Plan will detail requirements for record keeping and onsite maintenance of material safety data sheets (MSDS)	10.3, 10.5, 10.6 and 10.7
A39	6.09	Relevant personnel will be trained in safe use and handling of hazardous materials as well as in use of spill kits and disposal practices	10.3, 10.5, 10.6, 10.7 and 10.11
A39	6.12	Spill response equipment (absorbents etc.) will be available in hazardous materials storage areas, and a trained rapid response team mobilised in the event of spillage of hazardous materials	10.3, 10.5, 10.6, 10.7 and 10.11
A7	6.13	The need for remedial work in any specific area will be determined on the basis of the observed contaminants, sampling and analysis to determine their concentrations and the risks that they may pose to local receptors (social and environmental) in accordance with Project Environmental Standards (Appendix F); a site specific remedial action plan will be developed if an environmental risk from contamination is identified	10.3
A7	6.16	The preferred options for the treatment of contaminated soil will be based on the risks posed by the material. In keeping with the aim of minimising the transportation of hazardous materials and minimising waste generation, preference will be given to in situ and low technology remedial approaches	10.3
A6	6.18	Any contaminated material storage areas will be provided with containment measures (for example bunds, ditches, impermeable base membranes, covers) to help minimise run-off and airborne losses	10.3, 10.5 and 10.6
A39	6.20	Vehicles delivering fuel or hazardous liquids will carry appropriate spill kits to allow an initial response to any spill to be deployed	10.3, 10.5, 10.6, 10.7 and 10.11
A7	6.21	All mobile plant (excluding vehicles) will be integrally bunded or will be equipped with a bund or drip tray that will be regularly inspected and emptied to prevent rainwater accumulating	10.3 and 10.7
A31	6.22	The Company will carry out a due diligence exercise to identify and manage the risk of anthrax	10.3 and 10.11
A7	6.24	Disposal of drilling mud will be subject to an environmental risk assessment	10.3
A31	6.25	If any animal burial pits are identified during construction, works will cease in this location until the affected area has been subject to sampling by qualified personnel to determine if there is a risk of anthrax	10.11
A7	6.26	Drilling mud will be stored in impermeable, lined, bunded areas or tanks	10.5
A39	6.27	The storage of hazardous materials in areas of known groundwater vulnerability will be carefully controlled under pollution prevention procedures	10.6
A7	7.01	Controlled or uncontrolled burning of waste will not be allowed (with the exception of Company approved incinerators)	10.3, 10.6, 10.8 and 10.11
A7	7.02	Non-hazardous waste will be disposed of at a Company and Government-approved landfill site	10.3, 10.5, 10.6 and 10.11

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A7	7.03	A secure hazardous waste accumulation area that meets Project requirements will be used for temporary storage at Project sites prior to transfer to an approved final hazardous storage or disposal facility	10.3, 10.5, 10.6 and 10.11
A7	7.04	Waste management practices will be subject to regular monitoring and auditing in accordance with the Waste Management Plan	10.3, 10.5, 10.6, 10.8 and 10.11
A6	7.05	Contaminated soil will be segregated from uncontaminated materials and stored at least 50m away from any surface water or seasonal surface water bed	10.3, 10.5 and 10.6
A7	7.08	Waste will be segregated to facilitate recycling and re-use	10.3
A7	7.10	Diesel storage tanks will be located in suitably sized bunded areas that are designed to be impervious to water and fuel. The bund volume will be designed to no less than 110% of the largest tank volume. Loading and off-loading connections will be located over secondary containment	10.3, 10.5 and 10.7
A7	7.12	Regular inspections and maintenance will be carried out of secondary containment areas to confirm that they are functioning effectively	10.3, 10.5 and 10.7
A7	7.13	Relevant training will be provided to those with responsibilities for monitoring of effluent discharges and emissions, such as effluent sample taking and chain of custody	10.3 and 10.5
A7	7.14	Information will be incorporated into the Site induction process and will outline the role of personnel in the management of waste and emissions from site and spill response procedures	10.3, 10.5 and 10.7
A7	7.15	Site induction training will be supplemented by regular 'toolbox' talks with relevant personnel if inspections or audits highlight failings in waste management	10.5 and 10.7
A39	7.16	The contractor will prepare a plan to respond to a release of drilling mud if this occurs during a non-open-cut crossing, including clean up and remediation of the release on land and liaison with downstream users in the event of a release to water	10.3 and 10.5
A8	8.04	Lights will be shrouded or directed with the aim of reducing off-site light spill at construction sites	10.4 and 10.7
A8	9.01	Re-contouring should be sympathetic and in keeping with the surrounding landscape, and as approved by the Company, where this is not precluded by risk to integrity of the pipeline or erosion considerations	10.4 and 10.12
A9	9.02	All potential subsoil disposal sites and disposal plans will be subject to an environmental and social review to confirm their suitability prior to their adoption	10.7
A9	9.03	Drilling muds used will be water based	10.5
A8	9.04	No side-casting of excess spoil outside the working area will be permitted	10.3, 10.4, 10.7 and 10.13
A10	10.02	The direct discharge of trench water to watercourses will be avoided where practical, with exceptions requiring discharge through a filtering medium	10.5
A10	10.06	Before hydrotesting, the Contractor will prepare, and submit for Company approval, a hydrotest plan	5.6.1 and 10.5
A7	10.08	A risk assessment will be undertaken before any chemicals are added to hydrotest water and prior to the discharge of hydrotest water	5.6.1, 10.5, 10.6, 10.7 and 10.12
A12	10.09	Hydrotest water will be re-used between sections, where practical, to minimise the volume required	10.5 and 10.7
A10	10.10	Water (including hydrotest water) will be tested prior to discharge and treated if necessary to meet the Project Environmental Standards	10.5, 10.6, 10.7 and 10.11
A10	10.11	The hydrotest water will be treated using diffusers to entrain oxygen (if necessary), and filtration will be used to minimise suspended solids, prior to discharge. Flow rate will be controlled to reduce the risk of soil erosion and disturbance to river bed sediment	10.5
A3	10.12	Sediment control fencing, drainage channels and trench barriers will be installed where appropriate	10.5

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A11	10.14	Watercourse banks disturbed by Project crossings will be assessed individually in accordance with the Reinstatement Plan and will be restored to near original condition. Any deviations (e.g. because hard reinforcement is required for erosion control) shall be subject to Company approval	10.5
A11	10.15	Sediment reduction measures will be implemented including, but not limited to, the use of break tanks or sediment mats to filter pumped water prior to discharge	10.5 and 10.7
A10	10.16	During the construction of river crossings, daily visual monitoring of turbidity will be undertaken and supplemented as necessary by probe monitoring	10.5 and 10.7
A39	10.18a	Only essential construction vehicles (as approved by the Company) will be allowed to enter rivers or streams and only with prior examination of the vehicles for fuel/lubricant leaks	10.5
A11	10.18b	Generally, the construction traffic will cross watercourses via a flume/culvert (piped bridge), which will be sized so as not to restrict the flow in the watercourse and allow fish and other aquatic organisms to pass through	10.7
A10	10.19	Protection measures will be put in place to prevent any water used for dust suppression from causing silt problems for nearby wetlands or watercourses	10.5
A10	10.22	Washing of Project plant and vehicles in watercourses will be prohibited	10.5
A11	11.01	Construction design of river and stream crossings will take account of the use requirements of downstream communities and will seek to ensure minimal interruption to flow by using measures such as pumping, channel diversions and fluming	5.4.6 and 10.5
A11	11.03	If temporary damming is required, a pre-construction engineering, social and environmental review will be undertaken including planning the work to minimise the duration of the flow interruption and determining the need to pump around to maintain flows	10.5 and 10.7
A13	11.04	Any temporary dams in watercourses to be removed as soon as pipe installation and reinstatement at that crossing is complete	10.5 and 10.12
A3	11.05	Watercourse crossing methods will be developed with the aim of minimising the mobilisation of sediments	10.5 and 10.7
A13	13.01	The Construction Contractor will monitor weather forecasts and avoid creating temporary dams in watercourses if flooding is likely	10.5 and 10.12
A13	13.02	Gaps will be left in soil stacks at strategic locations to allow water through	10.5 and 10.12
A13	13.03	Any flood defence banks breached by the pipeline will be replaced during reinstatement	10.5 and 10.12
A7	14.03	In areas of wetland and areas where the groundwater supplies wells for irrigation or potable use, the storage and use of hazardous materials will be carefully controlled	10.6
A14	14.04	Waste water will be reduced by efficient use of raw water and the implementation of water management schemes that require water to be reused, whenever practicable, prior to treatment and disposal	5.8.6 and 10.5
A7	14.09	The applicable discharge permits will be obtained for any new planned liquid discharges, prior to the discharge commencing	10.5
A15	15.01	Groundwater will not be used for pipeline hydrotesting unless an alternative source is not practicable	10.6
A15	15.02	All new and existing water abstractions for use by the Project will be subject to an environmental and social assessment to assess potential impacts; decisions on the acceptability of the source and appropriate abstraction rates will be based on the results of the review, in accordance with the abstraction permit	5.6.1, 10.6 and 10.7
A12	15.03	River flow will be assessed before and during abstraction. Abstraction rates will be based on the results of an evaluation of downstream water usage extraction will not exceed 10% of the water flow at any time	5.6.1, 10.5 and 10.7

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A15	15.04	The abstraction borehole, when completed, will be test pumped and a sustainable yield will be determined together with aquifer characteristics such as hydraulic conductivity and radius of influence	10.6
A15	15.05	Water features such as abstractions (boreholes, wells, springs) or environmental features (wetlands, springs, streams or surface water features in continuity with groundwater) will be identified within the likely radius of influence of the abstraction point	10.6
A13	16.01	The land drainage system will be reinstated to achieve pre-existing functionality	10.5
A8	17.05	Temporary works areas will be reinstated to near original condition (as compared to pre-construction survey reports or adjacent areas)	5.7.2, 10.4, 10.7 and 10.13
A17	17.07	The Project will seek to achieve an increasing trend in vegetation re-growth and species diversity (specifically species composition) in reinstated areas with reference to nearby areas undisturbed by Project activities, as recorded by the percent similarity and commonality indices	10.3, 10.4 and 10.7
A17	17.08	Compensation planting will be based on the number of trees to be removed. A re-planting ratio will be developed which will be species and region specific	10.7
A17	17.10	The re-establishment of vegetation will be monitored following reinstatement until it has reached Project near- and long-term re-vegetation targets. Corrective measures will be implemented if establishment of vegetation is not successful or if, following survey and data analysis, the species composition is considered by an experienced ecologist to be unsuitable for the area	10.3, 10.4 and 10.7
A32	17.14	A pre-construction survey will be undertaken to record the condition of access roads, laydown areas, rail offloading area and any special features along the pipeline ROW to inform the reinstatement work	5.2.8 and 10.12
A17	17.15	An inventory will be made of all trees that are likely to be felled during the Project, including Red Data Book species, in accordance with the requirements of national legislation	10.7
A17	17.20	The running track along redundant re-routed sections of pipeline will be reinstated in accordance with the Project Reinstatement Specification following removal from service, except where access is required e.g. by patrols or local users. Biorestitution measures will be defined for each of these sections in site-specific ecological management plans	10.7
A17	17.21	Where the ROW is through woodland with high biodiversity value, the working width will be reduced (subject to constructability constraints) with the aim of minimising impacts on these areas	4.4, 5.2.1 and 10.7
A17	17.22	The sale of bulbs from the ROW will be strictly prohibited	10.7
A17	17.23	Pre-construction ecological surveys will be undertaken to record details of rare species (GRL, IUCN, CITES, Caucasian endemic) that will be lost; this information will be used in development of biorestitution measures	4.4 and 10.7
A17	17.25	Protected species (e.g. GRL, IUCN) will be identified prior to construction and will be avoided where deemed practicable by the Company during the setting out of the ROW	4.4 and 10.7
A17	17.30	Compensation planting will be undertaken to off-set the removal of trees from non forest-fund land	4.4, 10.4 and 10.7
A17	17.33	Individual mature trees will be marked prior to construction and avoided as deemed practicable by the Company during the setting out of the ROW and access roads; retained trees will be protected from damage during construction e.g. by erecting fencing and warning barriers	4.4 and 10.7
A17	17.34	Initial biorestitution will be undertaken in the first growing season after completion of construction	4.4, 10.4 and 10.7
A17	17.39	The remnant forest on the left bank of the river Supsa will be retained and protected from encroachment of construction activities	10.7

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A17	17.40	An ecological survey of the new-build section of AR63a will be carried out by the Company prior to commencement of construction activities in order to determine the presence of sensitive vegetation or fauna and develop mitigation measures if required. This will be completed when the plants are most visible i.e. during or after the flowering season	10.7
A17	17.44	Compensation will be paid to offset the loss of trees from forest-fund land in accordance with national legislation	4.4 and 10.7
A17	17.45	At temporary works areas where high conservation value, spring flowering species have been recorded, pre-construction surveys will be undertaken between late April and late May to confirm their presence and mark populations	10.7
A17	17.46	Small populations (less than 50 specimens) of high conservation value species will be translocated to suitable habitat outside the working area if disturbance cannot be avoided	10.7
A17	17.47	Large populations (more than 50 specimens) of high conservation value species will be avoided during setting out if possible and protected from disturbance during construction. Where large populations cannot be avoided, and 50% or more of the recorded population is likely to be disturbed by WREP-SR activities, 20% of the entire population will be translocated to the nearest suitable habitat outside the project impact zone	10.7
A17	17.48	Translocated populations of high conservation value plants will be monitored to assess adaptation success; surveys will be undertaken twice a year during the flowering and fructification phases for at least three years	10.7
A17	17.49	If monitoring surveys indicate failure of the translocated populations of high conservation value plants, a mitigation plan will be developed and implemented. This plan will include collection of seeds from wild source populations occurring close to the project-affected sites, propagation of seedlings at ex situ conservation centres (botanical gardens) and re-introduction to suitable nearby habitats.	10.7
A17	17.51	Where Demeter's pear (<i>Pyrus demetrii</i> - GRL) cannot be avoided new stock will be raised from locally collected seed and planted at a ratio of 10:1 in nearby suitable habitat, outside the WREP SR Project impact zone. Replanting should be undertaken in late October/early November (i.e. before winter frosts) using saplings that are at least 25cm tall and 2-years old	10.7
A17	18.01	No invasive species, or species that are likely to out-compete the indigenous flora, will be used in seed mixes for erosion control or biorestore	10.7 and 10.13
A18	18.05	The Contractor shall inspect and wash, all plant and equipment prior to shipping to the country of use with the aim of ensuring, as far as practicable, it is free from soil and plant material	10.7 and 10.13
A19	19.03	If <i>Testudo graeca</i> (spur-thighed tortoise) is found within the work site, individuals will be moved a safe distance (50m+) from the works by the Project ecologist. Any eggs or hatchlings will be placed in a box of sand and transferred by the Project ecologist to suitable nearby habitat where a nest will be created	10.7
A21	19.04	Welded pipe sections will be capped to prevent entry	10.7, 10.11, 10.12 and 10.13
A19	19.05	No hunting, fishing or unauthorised gathering of products (including plants and cultural heritage artefacts) by the workforce will be permitted within the Project footprint	10.7 and 10.13
A19	19.06	Wildlife sensitivity to disturbance will be included in workforce training	10.7 and 10.13
A37	19.07	All drivers will undergo safety, and environmental and social awareness training to reduce the potential for accidents and disturbance; driving performance will be assessed and monitored with additional training provided if necessary	10.7, 10.11, 10.12 and 10.13
A7	19.08	Construction contractors will be required to manage the storage and disposal of food and organic wastes to avoid attracting vermin	10.7

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A19	19.10	Site Specific Ecological Management Plans will be developed for priority areas. The Contractor will incorporate the requirements of these plans into site-specific method statements, which shall be agreed with the Company prior to construction	10.7
A19	19.11a	The ROW and any other working areas will be checked prior to vegetation clearance and topsoil stripping to search for any IUCN Red List or Georgian Red List (GRL) animals	10.7
A19	19.11b	If any IUCN Red List or GRL species are found on the ROW or other working area outside of the breeding or hibernating season, they will be moved a safe distance away from the ROW and released into suitable habitat in accordance with the methods in the Site Specific Ecological Management Plans	10.7
A19	19.11c	If any IUCN Red List or GRL species are found hibernating on the ROW or other working area during the hibernating season (October to March inclusive) they will be carefully moved to a new hibernating site a safe distance from the ROW in accordance with the methods in the Site Specific Ecological Management Plans	10.7
A19	19.11d	If any IUCN Red List or GRL species are found nesting on the ROW or other working area they will be left undisturbed until a Company assessment has been carried out taking into account whether the species can be moved or whether it should remain in place until breeding has been completed and the young have moved away from the nest	10.7
A19	19.11e	The Company will produce a detailed Method Statement for the safe methods of moving any IUCN Red List or GRL species or other animals that cannot move easily away from the ROW, and suitable exclusion zones where required	10.7
A19	19.15	A pre-construction night bat emergence surveys will be carried out in June–July or late August–early September at locations where potential bat shelters were identified to determine bat species composition and abundance. If protected species of bats are found to be roosting in any structures or trees that will be removed, a mitigation strategy will be designed with the aim of reducing bat disturbance	10.7
A19	19.16	The banks of the river Supsa will be kept free of Project-related obstructions during construction so that the others can move freely up and down the river	10.7
A19	19.17	A pre-construction survey will be carried out (during April, May or June) by the Company to identify the presence of Imperial Eagle nest sites within the vicinity of the ROW where construction activities have the potential to impact them. If any nests are identified, a site-specific ecological management plan will be developed	4.4 and 10.7
A19	19.18	Where possible, potential roost trees will be removed during winter (late November – mid/late February) when bats are unlikely to be present. No removal will take place in late April to early October when bats most active. Removal is inadvisable in March–April and the second half October	10.7
A19	19.19	If removal of potential bat roosts in sub-optimal periods is unavoidable, the following actions will be taken: <ul style="list-style-type: none"> • bat specialist to be present during removal • ecologist to inspect removed trees with hollows • translocate any bats to suitable habitat away from construction areas • provide artificial bat shelters (compensation) at 1:3 ratio after reinstatement 	10.7
A20	20.01	Following consultation with local communities gaps will be left in soil stacks and pipe strings at strategic locations to allow passage of people, wildlife and livestock where the Project considers it safe to do so	5.4.7, 10.7, 10.11, 10.12 and 10.13
A20	20.03	Warning barriers and/or signs will be erected where the pipeline crosses locations identified with local communities as being heavily used by people, including herders	10.11 and 10.12
A21	21.01	The length of open excavations will be restricted to 3km of continuous trench in any one section	5.4.10, 10.7, 10.11, 10.12 and 10.13

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A21	21.02	Each section of open pipeline trench will have sloped ends or other mechanisms to aid egress from the trench	10.7, 10.11, 10.12 and 10.13
A19	21.04	The trench will be checked regularly for wildlife (particularly in sensitive locations e.g. where tortoises are found)	10.7
A22	22.02	The workforce training will include advice on minimising energy consumption	10.8 and 10.13
A23	23.02	Equipment and vehicles will be regularly maintained in accordance with the manufacturer's recommendations to maximise fuel efficiency and help minimise emissions	10.8, 10.9 and 10.11
A23	23.03	Preferentially, the Project will use fuel that has low sulphur content of 0.1%, where practical and available within Georgia	10.8
A24	23.05	Dust generation and concentrations in the air will be visually monitored during construction where activities are near communities. If dust is visible, additional mitigation measures, such as the imposition of tighter speed limits, will be implemented with the aim of avoiding causing disturbance to residents or land users	10.7, 10.8, 10.11, 10.12 and 10.13
A24	23.06	Vehicles carrying fine materials will be sheeted to help prevent dust blow and spillages	10.7, 10.8, 10.11, 10.12 and 10.13
A23	23.08	Cleaning and testing procedures will include safeguards which will aim to prevent the accidental release of nitrogen and discourage public access to areas in close proximity to sections filled with nitrogen	10.12
A32	23.14	The Company will compensate for crop loss across the ROW and other construction areas during the construction period in a specific area. Compensation will be in line with local market rates	5.2.8 and 10.12
A24	24.01	Contractor will be required to have an adequate supply of bowsers and to regularly damp down the ROW, access roads and village roads used by construction traffic during dry conditions; treated waste water should be used where possible	10.7, 10.8, 10.11 and 10.13
A24	24.02	A strict speed limit will be enforced for Project vehicles using unmade tracks and the ROW in accordance with speed limits defined in the Contractor's Transport Management Plan	10.7, 10.8, 10.9, 10.11 and 10.13
A24	24.05	The Project will prepare an inventory of bee hives within 300 m of pipeline construction areas and access routes before the start of construction. An independent bee expert will be employed to determine any impacts on bees and/or honey production and develop appropriate mitigation measures	10.7, 10.8, 10.11 and 10.13
A24	24.06	The Project will develop and implement a policy for the compensation of beekeepers adversely affected by Project impacts	10.8, 10.11 and 10.13
A24	24.08	The implementation and effectiveness of dust prevention measures at the dust sensitive locations listed in Table 10-16 will be closely monitored	10.8
A25	25.01	Construction work will generally be undertaken in daylight hours (excluding specified operations). Where people live in close proximity to the works, or there is a high potential for disturbance, a location-specific risk assessment will be undertaken for activities undertaken between 7pm and 7am	10.9, 10.11 and 10.13
A25	25.03	Project induction training will include instructions about minimising noise disturbance	10.7, 10.9, 10.11 and 10.13
A25	25.04	During construction the local community will be informed of when and where noisy activities will occur prior to the activity taking place	10.9, 10.11 and 10.13
A25	25.05	Noise will be monitored periodically against the Project Environmental Standards (Appendix F) at sensitive locations	10.7, 10.9, 10.11 and 10.13
A25	25.08	The Project will avoid vehicle reversing where practical, and will preferentially use white noise type reversing alarms	10.9

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A25	25.09	During construction of the pipeline where the works are less than 400m from residential buildings for longer than one month, periodic noise monitoring readings of 10 minutes duration (in accordance with the Project procedure) will be measured at the building facade at the start of the potentially noisy activities. If the noise exceeds Project Environmental Standards (Appendix F), measures will be implemented to aim to reduce noise levels (e.g. hoardings)	10.9
A19	25.11	During commissioning and testing, noise emissions from equipment will be minimised through use of acoustic insulation as deemed appropriate by the Project	10.7, 10.9, 10.11 and 10.13
A26	25.13	Vibration sensitive locations will be determined by the Contractor and listed in their Pollution Prevention Plan, together with details for monitoring vibration before and during movement of heavy equipment. Further actions will depend on the outcome of vibration monitoring.	10.9 and 10.13
A26	25.14	A survey will be undertaken to record the external condition of buildings in close proximity to the ROW or access roads prior to construction; this will provide baseline evidence in the event of claims for damage	10.7, 10.9 and 10.13
A26	25.15	The validity of any damage claims will be assessed; repairs will be undertaken or appropriate compensation paid if damage is associated with construction vehicle movements	10.7, 10.9 and 10.13
A26	25.16	Correct tyre pressures will be monitored and maintained	10.7, 10.9 and 10.13
A25	25.17	Planned releases of nitrogen and air during de-oiling will be addressed in method statements and include: a) prior notification to residents who are potential receptors b) provision of acoustic screens and/or silencers as deemed necessary by Company	10.9, 10.11 and 10.13
A27	27.01	A Cultural Heritage Management Plan will be implemented that includes the five-phase strategy for the progressive assessment and mitigation of the effects of construction	10.10
A27	27.05	A cultural heritage surveillance programme (watching brief) will be implemented during topsoil stripping and ROW trenching	10.10
A27	27.06	If cultural heritage artefacts or structures are found, archaeological advice will be sought from relevant approved Georgian heritage institutions and the Ministry of Culture and Monument Protection, and the Chance Finds Procedure followed	10.10
A27	27.07	If cultural heritage sites or artefacts are identified during construction, the archaeologists conducting the watching brief will advise on procedures to be followed by the Contractor (in line with the Chance Finds Procedure) and will be empowered to temporarily stop construction and manage the recording of finds	10.10
A27	27.08	The Company shall consider making minor adjustments to the route of the pipeline where to do so would avoid damage to a cultural heritage feature that is discovered during construction operations	10.10
A27	27.09	If the pipeline route cannot easily be adjusted to avoid damaging the cultural heritage feature discovered during construction, construction activities will be suspended at the site until the excavation and recording required by the authorities has been carried out	10.10
A27	27.10	Known cultural heritage sites within 50m of the pipe centreline or other construction activity will be demarcated throughout construction	10.10
A27	27.11	Issues relating to cultural heritage awareness (such as ownership of finds, notification of finds and protection of cultural heritage sites) will be included in induction training	10.10 and 10.14
A27	27.13	Any ripping or other ground disturbance activities required during reinstatement will be planned to avoid archaeological evidence that has been preserved in-situ	10.10
A27	27.15	Known cultural heritage sites will be marked out by the Cultural Heritage Monitor prior to construction	10.10
A27	27.17	Areas of potential cultural heritage impact will be examined and any necessary excavations conducted prior to construction	10.10

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A27	27.19	Schedule for work within the Mtskheta WHS LPZ and delivery of equipment and materials via the road to Jvari monastery (AR69) will be agreed in advance with Mtskheta Historic Monuments' stakeholders including NACHP, the Patriarchate of Georgia and community leaders	10.10
A28	28.01	BP's policy on local recruitment will be publicised e.g. via media announcements at regional and national levels	10.13
A28	28.02	Unskilled labour will be preferentially recruited from the Project affected communities	10.13
A28	28.03	Applications for employment will only be considered if submitted via the official application procedure	10.13
A28	28.04	Targets for local recruitment from PACs will be agreed with the Contractor	10.13
A28	28.05	The Project will seek to manage employment expectations by explaining the number and type of opportunities in advance to local communities via the Community Liaison Officers	10.13
A28	28.06	Recruitment procedures will be transparent, public and non-discriminatory and open with respect to ethnicity, religion, sexuality, disability, gender etc.	10.13
A28	28.07	Clear job descriptions will be provided in advance of recruitment and will explain the skills required for each post	10.13
A28	28.08	Community Liaison Officers will monitor that PACs are given priority in recruitment and that recruitment is non-discriminatory in terms of gender and ethnicity	10.13
A28	28.09	When appropriate, on-the-job training will be provided to enable local employees to gain new and/or improved skills while working on the Project	10.13
A28	28.10	The workforce training programme will include refresher and induction training with the aim of ensuring that all recruits have the necessary understanding and knowledge levels for each job, in particular with regard to HSE issues	10.13
A18	28.11	Environmental and social issues will be included in workforce and visitor induction training	10.7 and 10.13
A28	28.12	Particular emphasis will be paid to health and safety and community relations, with additional technical toolbox talks given on specific issues	10.13
A33	28.14	All workers will have contracts describing conditions of work and will have the contents explained to them	10.13
A33	28.15	As part of the recruitment programme community liaison teams will seek to manage any misconceptions about perceived differences in pay or conditions	10.13
A28	28.17	Job vacancies will be advertised in the PAC through appropriate and accessible media (consistent with employment targets)	10.13
A28	28.20	The Contractor will advise workers about risks of neglecting their land during the recruitment process	10.13
A28	28.22	The Contractor will explain the temporary nature of jobs during the recruitment process and explain to workers the need to manage their income wisely while employed	10.13
A29	29.03	The Procurement and Supply Plan will seek to maximise the purchase of goods and services from within Georgia provided that local suppliers are able to meet Project standards	10.13
A30	30.02	Community Liaison Officers (CLOs) appointed by the Contractor will participate in, or deliver, safety awareness training to local communities at sensitive locations e.g. where there will be major excavations and/or Project construction traffic close to schools or markets	10.11
A21	30.04	Protective barriers will be erected at excavations, close to a community or that are flooded temporarily; warning barriers will be deployed around areas of lesser risk to members of the public	10.11 and 10.13

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A20	30.06	Bridges will be provided across open trenches and welded pipes at locations where there is a demonstrable need for people to cross, if it is reasonable for them to do so and can be accommodated safely, taking into account works being undertaken in that area at the time	10.11 and 10.12
A21	30.09	Water will be removed from flooded excavations where a risk assessment concludes the flooding presents a safety risk; protective barriers and warning signs will be erected in areas of flooded excavations	10.11, 10.12 and 10.13
A30	30.10	The Project will implement the Voluntary Principles on Security and Human Rights	10.11
A30	30.12	During construction (and operations), due diligence will be applied to the selection of security providers, rules of engagement will be devised, and training provided to all personnel. Performance will be monitored and audited periodically	10.11 and 10.13
A33	30.15	Random drug and alcohol testing of the workforce will be conducted, recorded and audited regularly	10.13
A30	30.17	Warning posts and bunting will be erected to mark overhead cables and temporary crossing points	5.4.6 and 10.11
A37	30.18	Construction traffic warning signs will be positioned at road crossings and other appropriate locations as determined by the Project, for example along access routes before they are used by construction traffic	10.11 and 10.14
A30	30.21	At road crossings, measures to control road traffic and vehicles exiting from the working areas will be implemented with the aim of ensuring vehicles join the road in a safe manner	10.11
A30	30.22	The contractor will be expected to use the designated access roads. The selection of any further access roads to Project working areas will aim to avoid sensitive receptors and will be subject to Company approval	10.11 and 10.13
A17	30.23	The ROW and any additional temporary workspaces will be surveyed and set out (i.e. marked out and, where necessary, fenced off). The contractor will be required to keep within the designated footprint	5.4.6, 10.7, 10.11 and 10.13
A30, A37	30.26	Communities located along Project access roads that will require additional consultation to be undertaken before and during construction will be identified	10.8
A30	31.02	Risk assessments will be carried out to identify sensitive receptors such as hospitals and clinics along Project access routes. The Project will ensure that access to and from these facilities is not restricted by Project activities or that an alternative access is in place and has been agreed with the hospital or clinic staff	10.11
A31	31.04	The Project will apply a risk assessment approach to contaminated land management to evaluate the potential impact of soil, surface water or groundwater contamination on local receptors	10.3
A31	31.05	A risk assessment will be undertaken when considering waste water discharge options and locations	10.11
A31	31.06	Medical waste will be disposed of via a licensed medical contractor or a Company approved incinerator	10.11
A31	31.09	Food service operations, practices and facilities will be regularly inspected and non-compliance issues will be documented immediately in accordance with the food sanitation programme to be developed and implemented by the Contractor	10.11
A31	31.10	Worker education and awareness programmes will be conducted and will include the health risks associated with smoking, alcohol and substance abuse	10.11
A31	31.11	Pre-job fitness for task assessments will be implemented and will be repeated at regular intervals based on the employee risk profile	10.11
A31	31.20	A food-borne illness investigation procedure will be implemented and workers will be educated regarding the prevention of food related illnesses (e.g. hygiene practices)	10.11

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A31	31.22	Measures for preventing infectious, zoonotic and vector-related diseases transmission will be implemented	10.11
A32	32.01	The Project will consult with local government authorities, landowners and land users, including graziers, before restricting access to land	10.12 and 10.13
A35	32.03	Parking of Project-related vehicles will be restricted to designated areas	10.12
A32	32.04	The Project will provide a substitute for watering holes used by livestock that cannot be used due to Project-related actions. The substitute will be of a type, and in a location, to be agreed with representatives of the livestock owners and herders	10.12
A35	32.05	The Company Land Acquisition Team, environmental representative and the construction contractor will carry out an exit inspection of all land used during construction with the land owner and/or previous land user	10.12
A32	32.07	The Project will inform land owners/users about any restrictions that apply to land over/close to the new pipeline	10.12
A32	32.12	Compensation will be paid for temporary and permanent use of land in accordance with agreed rates for the Project	5.2.9 and 10.12
A32	32.13	In general, there will be no transfer of land ownership to the Company at any stage during construction or operations	5.2.9 and 10.12
A32	32.17	The Project will seek to identify whether any herders use the construction areas and aim to consult with them on potential restrictions during construction	10.12
A25	33.01	The Contractor will be required to develop and implement a Grievance Procedure to allow individuals to express grievances about Project-related activities and employees. A grievance register will be used to document all third party grievances, corrective actions and outcomes	10.9, 10.11, 10.12 and 10.13
A33	33.03	The Community liaison teams will maintain regular liaison with local communities before, during and after construction to ensure that disturbance of local communities (including local events e.g. weddings and funerals) by Project activities is minimised	10.11, 10.12 and 10.13
A33	33.04	An employee Code of Conduct will be prepared and issued to all recruits; the code will prohibit the workforce from participating in illegal activities, including use of illegal drugs, bribery and corruption or requesting or receiving gifts from communities	10.13
A33	33.09	Workforce training will include awareness of local issues and sensitivities	10.13
A33	33.15	The Project will review measures to mitigate community health and safety impacts regularly, and consult PAC leaders every six months, informing them on the status of implementation and results, and discussing any changes needed to the 'Pollution Prevention Plan' or the 'Community Health, Safety and Security Plan'	10.11 and 10.13
A20	33.19	Land users and local communities will be consulted to determine their requirements for access across the ROW	10.11
A33	33.20	The Project will aim to consult with the leaders of Project-affected communities located near forests about the extent of community use of forest products. Where access to forests is important to these communities Company will aim to keep access routes open if practicable	10.13
A33	33.23	Properties that may potentially be affected by the Project will be consulted before and during construction	10.8 and 10.12
A33, A37	33.24	Access to properties will be maintained throughout construction	10.11 and 10.12
A29	33.25	Consultation will be undertaken with the responsible authority before construction and the agreed measures will be implemented with the aim of minimising disturbance to visitors to Jvari monastery	10.13
A34	34.01	Any field boundaries that are removed will be replaced with temporary fencing to meet reasonable landowner/user requirements	10.12 and 10.13

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A35	35.01	The Infrastructure and Services Management Plan shall include measures to protect the integrity of third-party services that are acceptable to the service operator and procedures that facilitate the prompt repair of any either in consultation with, or by, the service operator	10.14
A35	35.03	Any planned diversion of services or road/track closures will be communicated to local authorities and affected communities at least 72 hours in advance of the works	10.14
A36	35.05	Surveys of irrigation and drainage systems will be undertaken before construction to determine their location and condition	10.12 and 10.14
A36	35.06	The Contractor will aim to maintain the integrity and viability of functional irrigation and drainage systems throughout construction, for example, by using measures such as pumping, channel diversions and fluming. Any deviations shall be subject to approval by the Company	5.4.6 and 10.12
A36	35.07	Affected landowners and occupiers will be consulted to determine their views on the requirement for temporary measures if irrigation systems are to be disrupted	10.12
A36	35.08	Any disrupted irrigation or drainage system will be reinstated on completion of construction to a standard at least equal to their original condition	10.12
A35	35.09	Pre-entry agreements including reinstatement requirements will be agreed prior to work affecting third party assets	10.12 and 10.14
A36	36.03	If any impacts to third party land or crops are caused by Project activity, for example due to interruption of irrigation or drainage, the Project's procedure for land and crop damage will be applied	10.12
A38	37.02	A bypass/alternative routes will be provided at locations where road closure is unavoidable	10.14
A38	37.03	Temporary traffic control (e.g. flagmen) and signs will be provided where necessary to improve safety and provide directions	10.14
A37	37.04	Temporary traffic control measures will be employed at road crossings and junctions (flagmen, temporary traffic lights) where a safety risk assessment has identified that traffic control measures will reduce the risk of traffic accidents	10.11, 10.12, 10.13 and 10.14
A30	37.06	At locations where schools are very close to a road used by WREP-SR traffic, the construction contractor will plan works to minimise the delivery of heavy loads at times when children are likely to be walking to and from school	10.11
A37	37.07	Following construction, the Contractor will repair roads to at least their pre-construction condition. For roads that have been upgraded, the Contractor will submit a close out report for Company approval	5.4.4, 10.13 and 10.14
A26	37.08	Surface of frequently used access roads will be subject to regular inspections and repair, with the aim of ensuring they are maintained in a good condition particularly where fragile buildings are close to roads (subject to site-specific survey)	10.7, 10.9 and 10.13
A30	37.09	All contractors and subcontractors will adhere to BP driving rules	10.11
A37	37.10	Night-time driving will be by exception only, as approved by the Company, to minimise driving risk and disturbance to communities	10.11 and 10.13
A37	37.11	The Project will aim to provide buses to transport workers to the construction sites	10.14
A37	37.14	Where it is necessary to maintain traffic flow, the crossing will be made in two stages, and only one half of the road width will be used at a time. Steel plates will be laid to maintain one lane of through traffic	10.14
A41	39.01	If there is a need for additional land take outside that described in the ESIA the relevant authorities will be consulted and environmental and social assessments will be undertaken if required to obtain the relevant permits and consents	5.4.4, 10.10 and 10.12
A41	39.04	Management of change procedures will include environmental and social assessment before any changes that may have detrimental effects on environmental or social receptors are adopted	10.1

Issue	Ref	Commitment (mitigation) measure	ESIA Section Reference
A42	42.01	The results of the risk assessment will be used to inform a Project-specific oil spill response procedure for OSR resource deployment priorities	12.6.3
A30	D11.02	There will be increased depth of cover at crossings: road crossings will generally be installed with 2.0m cover and unpaved roads will have at least 1.5m cover	5.4.13
A30	D11.03	Concrete slabs will be installed at open-cut road crossings to protect WREP from future road construction activities and excavations along roads or the verges	5.4.13
A13	D12.06	Each major river crossing will have a site-specific design which will be set to account for the expected maximum flow rates (1:200 year storm event), sediment movement patterns, anticipated changes to the river bed contour and the predicted extent of lateral erosion	5.4.13 and 10.5
	D5.001	The new pipeline sections will be protected from corrosion by an impressed current cathodic protection system	5.3.5
A35	D5.010	Where the WREP-SR pipeline crosses buried services or pipelines, trenchless or open cut crossing methods will be adopted. A minimum typical vertical separation between the WREP-SR pipeline and the existing service or pipeline will be 1500mm where trenchless techniques are used, and 900mm where open cut techniques are used	5.4.10
	D5.045	Existing third-party services and sensitive receptors that need to be avoided during construction (e.g. cultural heritage sites, or specific trees that are to be retained) will be marked	5.4.6
	D5.065	In sloping terrain (usually 10 degrees and over), trench breakers (e.g. bags filled with sand/cement mix) will be installed across the width of the trench at suitable intervals up to the graded ground level	5.4.11
A9	D5.066	Any surplus subsoil from trench excavations will normally be spread within the working width and within zones that exhibit similar subsoil types. The spreading work will be carried out in a manner that avoids the mixing of soil types to the greatest extent possible	5.4.11 and 10.7
A12	D5.079	Before extracting water the Project will consider the presence of any IUCN/Georgian Red List fish species particularly during fish spawning season (which normally occurs within the period May to June) and the mitigations such as 10mm fish screens will be determined by a site assessment and approval by the Company	5.6.1 and 10.5
A5	D5.086	To facilitate natural re-vegetation of the ROW, the separately stockpiled topsoil and vegetation debris will be spread over the surface of the ROW following completion of grading, as appropriate	5.7.6 and 10.3
A8	D5.093	Before construction personnel and equipment are demobilised, temporary buildings and equipment, tools and any excess material brought on site or generated during the construction and commissioning programme will be removed	5.7.5 and 10.4
A4	OP01	Sections of pipe that have been removed from service and left in-situ will be regularly monitored for indications of subsidence during operations	5.3.3, 10.3 and 10.11
A30	OP140	Local residents will be advised of activities that could threaten the integrity of the pipeline, such as the extraction of aggregate	10.12
A17	OP51	The Project will carry out annual monitoring and maintenance of planted or re-planted trees until the trees have become successfully established	10.4 and 10.7