



DEVOLL HYDROPOWER PROJECT
PROJEKTI HIDROENERGJETIK I DEVOLLIT
REPLACEMENT ROADS INFRASTRUCTURE
INFRASTRUKTURA E RRUGEVE ZEVENDESUESE

Banja-Gramsh Road and Trashovica Bridge
Rruga Banje-Gramsh dhe Ura e Trashovices

ESIA DRAFT REPORT - DRAFT RAPORTI I VNMS

EXECUTIVE SUMMARY - PERMBLEDHJA EKZEKUTIVE

September / Shtator 2014

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NON-TECHNICAL SUMMARY

1. PROJECT BACKGROUND AND PURPOSE

Devoll Hydropower Sh.A. ("DHP") on 19.12.2008 was awarded the right to develop hydropower projects on Devoll river in Albania, through a Concession Agreement signed with the Government of Albania. This Concession Agreement, in force since 1st of April 2009, gives DHP a Build, Own, Operate and Transfer (BOOT) Concession for developing and utilising the hydropower potential in Devoll river.

The Concession Area is located about 60-80 km southeast of Tirana.

In the framework of this Concession, more specifically to the construction and operation of the Banja Hydropower Plant, the existing Banja-Gramsh Road will become either unusable or inundated.

Based in the Concession Agreement, the Government of Albania has the obligation for the construction of the entire Replacement Infrastructure that shall be inundated or become unusable because of the implementation of the DHP project. Further to the Concession Agreement, through an Agreement signed between the Ministry of Energy and Industry, the Albanian Road Authority and DHP, on 14.02.2014, DHP shall construct the Banja – Gramsh road and Trashovice Bridge.

Following this agreement, DHP engaged the JV ITALCONSULT and SGAI, as the Design Company for the Banja - Gramsh Road and Trashovice Bridge, which prepared the Preliminary Design accompanied with the Environment and Social Scoping and Screening Reports which detailed the impact assessments.

DHP, Designer and the Albanian Road Authority in cooperation, performed a Public Hearing on 30.07.2014, on which were disclosed these impacts and three alternatives were proposed for the Replacement Road Banja - Gramsh and the Trashovice bridge.

Based on the conclusion of the Public Hearing, as well the approval of the Albanian Road Authority's Technical Council on the coastal shore alternative, the Designer developed the Detailed Design of such road and bridge.

The present summary comprises a brief evaluation of the Environmental and Social Impact Assessment (ESIA) of the project.

This document is prepared in the frame of the ongoing consultations on the ESIA with planning authorities. In particular it constitutes the vehicle by which the Designer has sought opinions from

PERMBLEDHJE JO-TEKNIKE

1. HISTORIKU DHE QELLIMI I PROJEKTIT

Devoll Hydropower Sh.A. ("DHP") ne 19.12.2008 ju dha e drejta e zhvillimit te projekteve te hidrocentraleve mbi lumin Devoll ne Shqiperi, permes Marreveshjes Koncesionare te firmosur me Qeverine Shqiptare. Kjo Marreveshje Koncesionare, ne fuqi qe prej 1 Prillit 2009, i jep DHP Koncesionin per Ndertim, Zoterim, Operim dhe Transferim (BOOT) per zhvillimin dhe shfrytezimin potencial te fuqise hidrike ne lumin Devoll.

Zona e Koncesionit ndodhet rreth 60-80 km ne jug-juglindje te Tiranës.

Ne kuadrin e ketij koncesioni, vecanerisht te ndertimit dhe shfrytezimit te Hidrocentralit te Banjes, rruga ekzistuese Banje – Gramsh do te behet ose e paperdorshme ose do te jete nen uje.

Bazuar ne Marreveshjen Koncesionare, Qeveria Shqiptare ka detyrimin per te ndertuar teresisht Infrastrukturen Zevendesuese qe do te jete nen uje ose qe do te behet e paperdorshme per shkak te zbatimit te projektit te DHP. Pavec Marreveshjes se Koncesionit, permes nje Marreveshjeje te firmosur midis Ministrise se Energjise dhe Industrise dhe Autoritetit Rrugor Shqiptar dhe DHP, ne 14.02.2014, DHP do te ndertoje rrugen Banje – Gramsh dhe Uren e Trashovices.

Bazuar ne kete marreveshje, DHP angazhoi JV ITALCONSULT dhe SGAI, si Kompani Projektuese per Rrugen Banje – Gramsh dhe Uren e Trashovices, te cilet pergatiten Projektin Paraprak se bashku me Raportet Ekzaminues dhe Qellimor Mjedisor dhe Social te cilet detajuan vleresimin e ndikimeve.

DHP, Projektuesi dhe Autoriteti Rrugor Shqiptar ne bashkepunim, realizuan nje Degjese Publike ne 30.07.2014, ne te cilen u publikuan keto ndikime dhe u propozuan tre alternativa per Rrugen Zevendesuese Banje – Gramsh dhe Ura e Trashovices.

Bazuar ne perfundimin e Degjeses Publike, si edhe miratimin e Keshillit Teknik te Autoritetit Rrugor Shqiptar mbi alternativën pergjate vijes se bregut, Projektuesi zhvilloi Projektin e Detajuar te kesaj rruge dhe ures.

Prezantimi aktual perfaqeson nje vleresim te permbledhur te alternativës se vijes se bregut qe ka zhvilluar Projektuesi si Projekt te Detajuar te kesaj rruge dhe ures edhe Vleresimin e Ndikimit Mjedisor e Social (VNMS) e ketij projekti

Ky dokument eshte pergatitur ne kuadrin e vazhdimësisë se konsultimit mbi VNMS me autoritetet planifikuese. Ne vecanti ai perben

planning authorities and other stakeholders with which final designs are to be developed.

2. LEGAL FRAMEWORK

The ESIA process has been undertaken in compliance with the requirements of **Albanian Law, the European Union Directives and in the context of the IFC performance standards.**

The legal framework for ESIA procedure in Albania is based on:

- Law No. 10440 “On Environmental Impact Assessment” dated 7th of July 2011.
- Decision of the Council of the Ministers, no. 247, dated 30.04.2014 “On prescription of the regulations, requirements and procedures related to the information and involvement of the community on environmental and decision making”.

The Law introduces two levels of assessment:

- Profound process and
- Summary (outlined) process

Different categories of project and size limits of project, falling into each category are presented in the Appendices to the law.

Based in the above Legal Framework as well to be in line with IFC’s Performance Standards, a harmonization between national and international requirements was necessary.

During this process, the relevant Laws and Regulations governing presently are:

- Concession Agreement, Law no. 10083, dated 23.02.2009, “On the approval of the Concession Agreement entered into between Ministry of Economy, Trade and Energy, as Contracting Authority and EVN AG, Statkraft AS and Devoll Hydropower Sh.A. as co-concessionaire related to design, finance, construction, ownership, operation, maintenance and transfer of Devoll Hydropower Project on the Devoll River in Albania”, as amended.
- Replacement Agreement signed between the Ministry of Energy and Industry, the Albanian Road Authority and DHP, on 14.02.2014 “Related to design, tender of the Replacement Infrastructure (Roads and bridges)...”
- Law no. 10 440, dated 7.07.2013 “On the Environmental Impact Assessment”

mjetin me te cilin Projektuesi ka kerkuar opinionet nga autoritetet planifikuese dhe grupet e tjera te interesit me te cilet do te zhvillohet planifikimi perfundimtar.

2. KUADRI LLIGJOR

Procesi ESIA eshte realizuar ne perputhje me kerkesat e **Legjislacionit Shqiptar, Direktivat e Bashkimit Evropian dhe ne kontekstin e Standarteve te performances se IFC.**

Kuadri ligjor per procedurat e VNMS ne Shqiperi bazohet ne:

- Ligjin No. 10440 mbi “Vleresimin e Ndikimit ne Mjedis” date 07 Korrik 2011.

Vendimin e Keshillit te Ministrave, nr. 247, date 30.04.2014 “Për përcaktimin e rregullave, të kërkesave e të procedurave për informimin dhe përfshirjen e publikut në vendimmarrjen mjedisore”.

Ligji prezanton dy nivele te vleresimit:

- Procesin e thelluar dhe
- Procesin paraprak (ne vija te pergjithshme)

Kategori te ndryshme projektesh dhe projekte te permasave te ndryshme paraqiten ne Shtojcat e ligjit te ndara sipas kategorive.

Bazuar ne Kuadrin Ligjor te mesiperem si edhe per te qene ne perputhshmeri me Standartet e Performances se IFC me referencat e Bankes Boterore, ishte i nevojshem nje harmonizim midis kerkesave kombetare dhe nderkombetare.

Ligjet dhe Rregulloret respektive qe qeverisin aktualisht gjate procesit jane:

- Marreveshja Koncesionare, Ligji nr. 10083, date 23.02.2009, “Per miratimin e Kontrates se Koncesionit ndermjet Ministrise se Ekonomise, Tregtise dhe Energjetikes, si Autoriteti Kontraktues, dhe EVN AG, Statkraft AS dhe Devoll Hydropower Sh.A. si bashkekoncesionare, per projektimin, finacimin, ndertimin, marrjen en pronesi, shfrytezimin, mirembajtjen dhe transferimin e projektit te hidrocentralit ne lumin Devoll ne Republiken e Shqiperise”, i ndryshuar.
- Mareveshja Zevendesuese nenshkruar mes Ministrise se Energjise dhe Industrise, Autoritetit Rrugor Shqiptar dhe DHP, me 14.02.2014 “Lidhur me projektimin, tenderimin e Infrastruktures Zevendesuese (Rruget dhe urat)...”
- Ligji nr. 10 440, date 7.07.2013 “Mbi Vleresimin e Ndikimit ne Mjedis”

- Law no. 10431, dated 9.06.2011 “On Environment Protection”
- Draft ESIA Report disclosure and Public Hearing performed for the Preliminary Design of the Road Banja Gramsh and coastal shore alternative selected, dated 30.07.2014;
- Ligji nr. 10431, date 9.06.2011 “Per Mbrojtjen e Medisit”
- Publikimi i Draft Raportit te VNMS-se dhe Degjesa Publike e realizuar per Projektin Paraprak te Rruges Banje - Gramsh dhe perzgjedhja e alternativës pergjate bregut, date 30.07.2014;

IFC Performance Standards consist of:

- Performance Standard 1: Social and Environmental Assessment and Management System
- Performance Standard 2: Labour and Working Conditions
- Performance Standard 3: Pollution Prevention and Abatement
- Performance Standard 4: Community Health, Safety and Security
- Performance Standard 5: Land Acquisition and Involuntary Resettlement
- Performance Standard 6: Biodiversity Conservation and Sustainable Natural Resource Management
- Performance Standard 7: Indigenous People
- Performance Standard 8: Cultural Heritage

Following the stated standards the procedure shall be implemented on these steps:

- **Scoping:** the process by which stakeholders are consulted to contribute to the identification of key issues to be investigated as part of the ESIA.
- **Stakeholder Engagement:** a comprehensive approach to the communication and consultation with the identified stakeholders throughout the whole project lifecycle.
- **Focus on Social Issues:** whereas the Albanian legislation mainly refers to environmental impacts the IFC approach also focuses on the identification of impacts on the communities.

3. PROJECT DESCRIPTION

The existing main public road between Banja and Gramsh follows the North Shore of the Devoll River and is approximately 19 km long. Most of this road will be inundated when the Banja dam is completed and a replacement road, including new bridges, has to be constructed. The new shore line of the reservoir at 175 m.a.s.l, will be long and will feature many deep inlets into steep valleys, which will create challenges with regards to stability of

Standardet e Performances se IFC jane:

- Standarti i Performances 1: Vleresimi Social dhe Mjedisor dhe Sistemi i Administrimit
- Standarti i Performances 2: Kushtet e Punesimit dhe Punes
- Standarti i Performances 3: Parandalimi dhe Pakesimi i Ndotjes
- Standarti i Performances 4: Shendetit, Mbrojtja dhe Sigurimi i Komunitetit
- Standarti i Performances 5: Blerja e Tokes dhe Zhvendosja e Pavullnetshme e Banimit
- Standarti i Performances 6: Konservimi i Biodiversitetit dhe Administrimi i Qendrushem i Burimeve Natyrore
- Standarti i Performances 7: Popullatat Indigjene
- Standarti i Performances 8: Trashegimia Kulturore

Bazuar ne keto standarde procedura do te zbatohet duke ndjekur keto hapa:

- **Ekzaminimin:** nje process prej te cilit palet e interesuara konsultohen te kontribuojne ne identifikimin e ceshtjeve kyc qe duhet te investigohen si pjese e VNMS.
- **Angazhimi i Grupeve te interesit:** nje perafirim gjithepershires per komunikim dhe konsultim me palet e interesuara te identifikuara gjate ciklit jetesor te projektit.
- **Fokusi mbi Ceshtjet Sociale:** ndersa legjislacioni Shqiptar i referohet kryesisht ndikimeve mjedisore, perafrimi i IFC fokuson gjithashtu mbi identifikimin e ndikimeve mbi komunitetet e ndikuara.

3. PERSHKRIMI I PROJEKTI

Rruga kryesore publike ekzistuese midis Banjes dhe Gramshit pervijon Bregun Verior te Lumit Devoll dhe eshte rreth 19 km e gjate. Shumica e rruges do te permytet kur te perfundoje diga e Banjes, dhe per kete arsye nevojitet ndertimi i nje rruge zevendesuese perfshire ketu edhe ura. Vija e re e bregut te rezervuarit ne kuoten 175 m mbi nivelin e detit do te jete e gjate dhe do te perbehet nga mjaft futje te thella ne luginat e thepisura, ku

steep slopes. There will also be several large bridges with length up to 350 m.

Three main alignment alternatives for the Banja – Gramsh Replacement Road (A coastal shore, B hilly and C mountainous) and two alternatives for the Trashovice bridge (one lane and double lane) were proposed to the Community during the Public Hearing performed on 30.07.2014 in Gramsh.

The Public decision as well the Technical Council of ARA concluded on the coastal shore alternative and Trashovice Bridge with two lanes.

Based on these conclusions the Designer developed the Detailed Design of the road and bridge with the following characteristics.

The technical specific characteristics of these objects are given as below:

- The length of the road shall be 15, 234 km.
- The standard cross-section of this road is planned to be as per the agreed standard with the Albanian Road Authority Replacement Agreement, Appendix 1. A modified Cat IV, Class C'2 with a carriageway width of 5.5 m and 0.5 m of shoulders on each side and surfaced with asphalt is envisaged for this road.
- Number of lanes = 2;
- Lane Width = 2.75 m;
- Lane cross fall = 2.5%
- Shoulder width = 0.50 m;
- Shoulder cross fall = 2.5%
- Verge: a 0.50 m wide
- Embankment slopes: 1:3 for H < 3.00 m – 2:3 for H > 3.00 m;

Trashovice bridge characteristics:

During the inundation of the Banja reservoir, the existing pedestrian wood bridge connecting Gramsh to Trashovice village will be flooded.

The wood pedestrian bridge will be replaced by a vehicular bridge connecting Gramsh and Trashovice, which as concluded in the First Public Hearing and approved by ARA Technical Council in addition, shall be a double lane bridge.

Below it is provided a detailed analysis on the developed detailed design, as well as a combined evaluation of criteria related to technical features and environmental & social impacts. Project Area

do të krijohen sfida persa i takon qendrueshmerise te shpateve te pjerreta. Do te kete gjithashtu edhe ura te medha me gjatesi deri ne 350 m.

Ishin tre alternativa kryesore per Rugen Zevendesuese Banje - Gramsh (A pergjate bregut, B kodrinore dhe C malore) dhe dy alternativa per uren e Trashovices (me nje dhe me dy karexhata) qe iu propozuan ne komunitetit gjate Degjeses Publike me 30.07.2014 ne Gramsh.

Vendimi i Publikut si edhe Keshilli Teknik i ARRSH pergjodhi alternativën e rruges pergjate bregut dhe Uren e Trashovices me dy karexhata.

Bazuar ne keto perfundime Projektuesi zhvilloi Projektin e Detajuar te rruges dhe ures me karakteristikat vijuese.

Karakteristikat specifike teknike te ketyre objekteve jane si me poshte:

- Gjatesia e rruges do te jete 15, 234 km.
- Seksion terthor tip i kesaj rruge planifikohet te jete sipas standartit te marreveshjes me Autoritetin Rrugor Shqiptar per Marreveshjen Zevendesuese, Aneksi 1. Per kete rruge parashikohet nje Kat IV, Klasa C'2 e modifikuar me gjeresi karexhate 5.5 m dhe shpatulla 0.5 m ne cdo ane, me siperfaqe te asfaltuar.
- Numri i karexhatave = 2;
- Gjeresia e karexhates = 2.75 m;
- Kendi i pjerresise per karexhate = 2.5%
- Gjeresia e Shpatullave = 0.50 m;
- Kendi i pjerresise per shpatull = 2.5%
- Gjeresia e bankines 0.50 m
- Raportet e shpateve me mbushje: 1:3 per H < 3.00 m – 2:3 per H > 3.00 m;

Karakteristikat e Ures se Trashovices:

Gjate mbushjes se rezervuarit te Banjes, ura aktuale prej druri e kembesoreve qe lidh Gramshin me fshatin Trashovice do te permbytet.

Ura prej druri e kembesoreve do te zevendesohet me nje rruge automobilistike per te lidhur Gramshin dhe Trashovicen, qe sic edhe u percaktua ne Degjesen e Pare Publike dhe u miratua ne vijim nga Keshilli Teknik i ARRSH, do te jete nje ure me dy karexhata.

Me poshte jepet analiza e detajuar mbi projektin e detajuar qe eshte zhvilluar, si edhe nje vleresim i kombinuar per kriteret lidhur me vecorite teknike dhe ndikimet mjedisore dhe sociale.

Project Area

The road project is located in the Elbasan District area, in the territory of Gostime Comune (Shushice e Vogel village), Tregan Comune (Kaçivel Village), Pishaj Comune (Cingar i Poshtem, Drize, Ceruje, Qerret, Çekin, Pishaj and Trashovice villages) and Gramsh Municipality.

Zona e Projektit

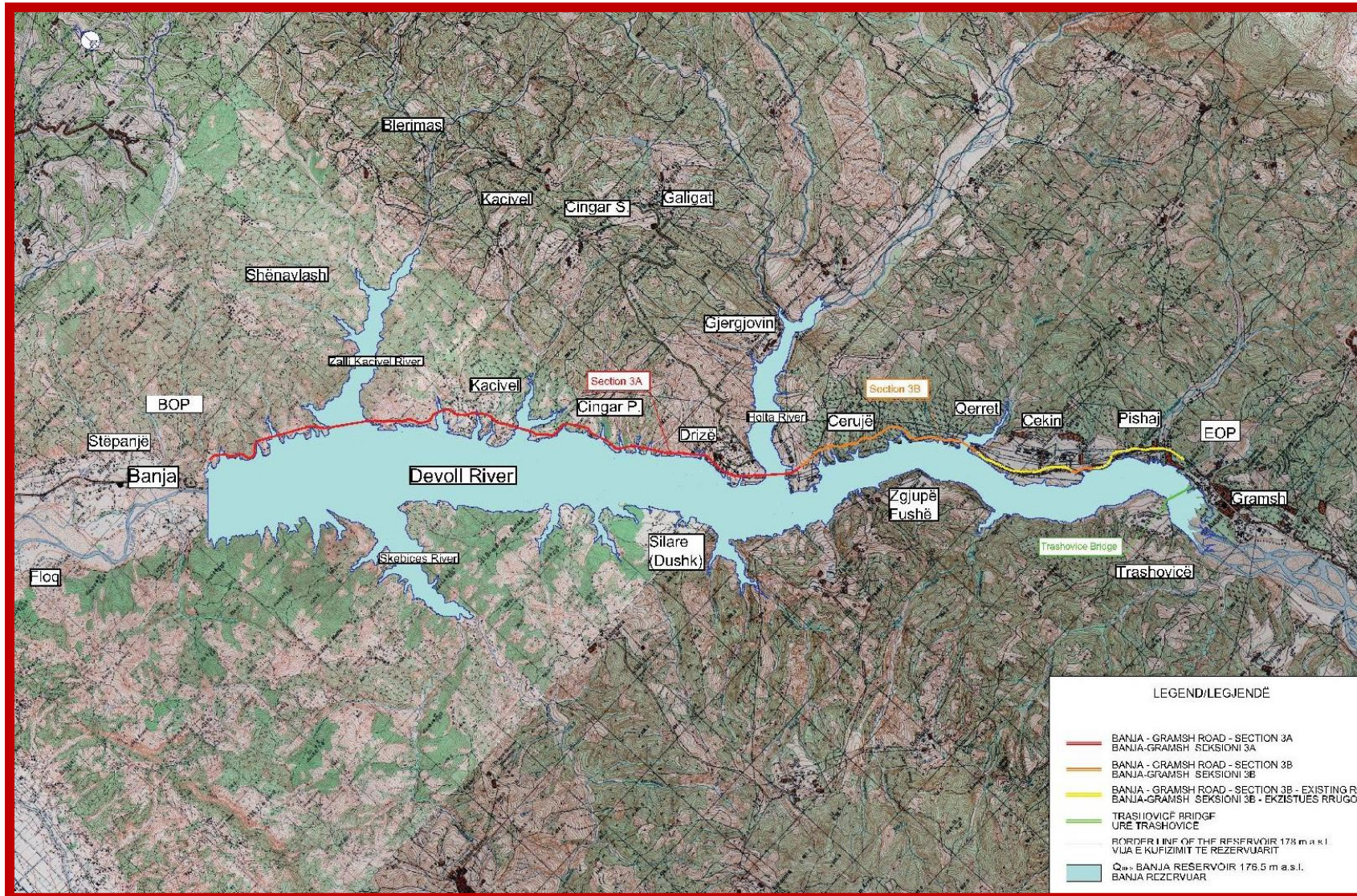
Projekti i rruges shtrihet ne Qarkun e Elbasanit, ne territorin e Komunes Gostime (Fshati Shushice e Vogel), Komunes Tregan (Fshati Kaçivel), Komunes Pishaj Comune (Fshatrat Cingar i Poshtem, Drize, Ceruje, Qerret, Çekin, Pishaj dhe Trashovice) dhe bashkise Gramsh.

Overview of the Detailed Design (Road & Trashovice Bridge)

- Detailed Design Road Alignment—**Red, Brown and Yellow**
- Trashovice Bridge—**Green**

Pamje teresoree Projektite Detajuar (Rruga dhe Ura e Trashovices)

- Trajektorja e Projektit te Detajuar te Ruuges— e **Kuqe, Kafe** dhe e **Verdhe**
- Ura e Trashovices— e **Gjelbert**



4. BASELINE CONDITIONS AND IMPACTS

4.1 COASTAL SHORE ROAD AND TRASHOVICE BRIDGE

The alignment, in the majority of the route follows the lower part of the Banja – Gramsh coastal shore of the future Banja Reservoir. It has a length of approx 15.23 km and considers a driving time along this alignment of less than 19 min, considering that the existing road with 16.75 km is covered in average for approx 22 min. The driving time is calculated to be more stable, which means that less than 3% of driving time will be below the speed of 50 km/h, instead of the actual of around 17% on the existing road. It can be considered that this alignment will be an added value for the future constructed landscape architecture of the region, as regards to the type of terrain and type of habitats that this alignment pass through. Although the construction structures (mainly bridges and other structures) are much more in number and locations, the best engineering practices have been selected during the design and implementation so as to produce minimal impacts to the environment and communities.

This alignment is the most appropriate option for the local communities as a Replacement Road, as it increases the safety considerations while reducing the driving time, resulting in a road which is better than the existing one.

As regards the main negative impact that this alignment could have is the loss of a few agriculture parcels of land. The identification of affected persons and activities in the early phase and following the Albanian legislation with guidance from IFC principles through the process of ESIA consultation, no migration trend is expected due to land loss with a minimal impact for a short period during construction.

Due to the low terrain and reusing part of the existing route (parts above the buffer zone of banje HPP reservoir which may be rehabilitated), it is considered an alignment with low geological and soil stability risks.

This alignment would fulfill the needs of the local community similar to the current road due to its location close to all the affected communities.

From the environmental point of view, there is little to no impact on wildlife habitat disturbance, erosion etc. Impacts during construction and operation phases will be most easily mitigated with this alignment.

From the social point of view, the alignment is a similar or better replacement to the existing road and will serve the same community that will lose access due to the existing road inundation. Hence, there will be no access or mobility issues for locals. The one benefit is that the driving time is the shorter

4. KUSHTET BAZE DHE NDIKIMET

4.1 RRUGA PERGJATE BREGUT DHE URA E TRASHOVICES

Gjurma, ne pjesen me te madhe te tij, ndjek pjesen e ulet te vijes se bregut Banje – Gramsh, qe ne te ardhmen do te perbeje Rezervuarin e Banjes. Ka nje gjatesi rreth 15.23 km dhe konsiderohet qe koha e udhetimit neper kete gjurme te jete ne me pak se 19 min, duke konsideruar qe ne rugen ekzistuese prej 16.75 km kryhet per rreth 22 min. Koha e udhetimit perlogaritet te jete me e qendrueshme, qe do te thote se vetem per me pak se 3% e kesaj kohe udhetimi do te kryhet nen shpejtesine 50 km/h, nderkohe qe kjo e tanishmja rezulton ne rreth 17% te kohes. Mund te konsiderohet qe kjo gjurme te perbeje ne te ardhmen nje vlere te shtuar ne peisazhin arkitekturor te rajonit, lidhur me llojin e terrenit dhe te habitateve permes te cilave ajo kalon. Edhe pse strukturat ndertimore ne kete shtrirje (kryesisht ura dhe struktura te tjera) jane me te shumta ne numer dhe vendodhje, jane perzgjedhur praktikant me te mira inxhinierike per t'u perdorur gjate projektimit dhe zbatimit, keshtu qe do te prodhohen ndikime minimale ne mjedis dhe komunitete.

Kjo gjurme eshte opsioni me i pershtatshem per komunitetet lokale si Rruge Zevendesuese, sepse rrit karakteristikat te sigurise dhe ne te njejten kohe redukton kohen e udhetimit, duke sjell enje rruge qe eshte me e mire se rruga ekzistuese.

Per sa i takon ndikimit kryesor negativ qe mund te kete kjo rruge, eshte humbja e disa parcelave te tokes bujqesore. Identifikimi i personave dhe aktiviteve te prekura ne nje faze te hershme dhe ne zbatim te legjislacionit Shqiptar dhe udhezim nga parimet e IFC gjate procesit te konsultimit te VNMS, nuk priten tendenca migrimi per shkak te humbjes se tokes dhe priten ndikime minimalene kohe te shkurter gjate ndertimit.

Per shkak te terrenit te ulet dhe duke riperdorur pjese te rruges ekzistuese (pjeset qe jane mbi zonen e sigurise se rezervuarit te HEC Banje qe mund te rehabilitohen), konsiderohet qe Alternativa te paraqes rrezik te ulet gjeologjik dhe te qendrueshmerise se terrenit.

Kjo gjurme permbush nevojat e komunitetit lokal njelloj me rruget ekzistuese per shkak te vendodhjes se saj afer me te gjitha komunitetet.

Nga kendveshtrimi mjedisor, ka ndikim te ulet ose aspak ne habitatet e gjallesave te egra, erozion, etj.. Ndikimet gjate fazave te ndertimit dhe shfrytezimit do te jene me lehtesisht te zbutura ne kete gjurme.

Nga kendveshtrimi social, gjurma eshte nje zevendesim i ngjashem ose me i mire se rruga ekzistuese dhe do t'i sherbej te njejtit komunitet qe do te humbas lidhjet per shkak te permbytjes se rruges ekzistuese. Rrjedhimisht, nuk do te kete

compared with the other alternatives and it is considered less than the current driving time on the existing road.

The main features of the alignment are listed below:

| Technical Features | |
|--------------------------------|--------|
| Length (m) | 15,234 |
| Bridges length (m) | 2,275 |
| % alignment with Ds < 50km/h | 0.89% |
| Traveling time (min) | 18.36 |
| % Travel time respect existing | -15.5% |
| Tortuosity Value | 1.08 |

| Environmental and Social Impacts | | |
|---|----|----|
| Negative and Positive Impacts (* - Low; ** - Medium; *** - High) | - | + |
| Soil and Water Impacts | * | * |
| Biological Impacts | * | * |
| Geological Risks | ** | Λ* |
| Village Impacts | * | ** |
| Economy Impacts | * | ** |
| Cultural Heritage Impacts | - | * |
| Landscape & Built Heritage Impacts | * | * |
| Natural Resources Impact | * | * |
| Air & Noise Impacts | * | * |
| Traffic & Access Impacts | * | * |

4.2 PHYSICAL IMPACTS

Main impacts during which could be encountered during construction include: temporary physical interference with features and resources, changes to groundwater quality and flows, the planned or unforeseen disturbance of contaminated soils, accidental or inadvertent release of contaminated

problematika lidhjeje (aksesi), apo levizshmerie per banoret e zones Perfitimi kryesor eshte se koha e udhetimit eshte me e shkurter krahasuar me alternativat e tjera dhe konsiderohet edhe me e shkurter se koha e tanishme e udhetimit ne rrugen ekzistuese.

Me poshte jane listuar tiparet kryesore te gjurmes:

| Vecorite Teknike | |
|---|--------|
| Gjatesia (m) | 15,234 |
| Gjatesia e urave (m) | 2,275 |
| % e shtrirjes me Ds < 50km/h | 0.89% |
| Koha e udhetimit (min) | 18.36 |
| % Kohe udhetimi krahasuar me te tashmen | -15.5% |
| Vlera e lakimit / perdredhjes | 1.08 |

| Ndikimet Mjedisore dhe Sociale | | |
|--|----|----|
| Ndikimet Negative dhe Pozitive (* - Ulet; ** - Mesem *** - Larte) | - | + |
| Ndikime ne Toke dhe Ujra | * | * |
| Ndikime Biologjike | * | * |
| Rreziqet Gjeologjike | ** | Λ* |
| Ndikimet ne Fshatra | * | ** |
| Ndikimet ne Ekonomi | * | ** |
| Ndikimet ne Trashegimine Kulturore | - | * |
| Ndikimet ne Peisazh & Ndertimet | * | * |
| Ndikimet ne Burimet Natyrore | * | * |
| Ndikimet ne Ajer & Zhurmat | * | * |
| Ndikimet ne Trafik & Perqasje | * | * |

4.2 NDIKIMET FIZIKE

Ndikimet kryesore qe mund te hasen gjate ndertimit perfshijne: nderhyrje e perkohshme fizike me vecorite dhe burimet, ndryshimet ne cilesine dhe prurjet e ujerave nentokesore, shqetesimi i planifikuar apo i paparashikuar i dherave te ndotur, leshimi aksidental apo i pakujdesshem i materialeve

materials during the transport of contaminated spoil off-site.

The impacts associated with permanent landtake and operation will comprise permanent physical interference with features and resources, including direct loss of or damage to abstraction well infrastructure and drains which will be mitigated as required under Albanian law.

4.3 BIOLOGICAL IMPACTS

During the construction phase there are several minor impacts, such as: temporary and permanent landtake for construction sites, temporary fragmentation of habitats and changes in surface and groundwater hydrology, depositing of materials at sites, littering or accidental spillage of fuels or materials, dust deposition (e.g. on foliage or soil surface), disturbance of species from noise, vibration and light emissions, non-specific disturbance to species (e.g. birds) due to presence of construction crews and equipment.

During the operational phase the main impacts that will occur are: permanent landtake due to construction of new structures, permanent changes to the hydrology of surface and ground waters, soil degradation due to operational spillage, loss of access to sites of amenity value because of their nature conservation interest, reinstatement and/or creation of new habitat.

The major biological issues have been studied and are contained in the main ESIA developed for the Devoll Hydropower Project.

4.4 SOCIAL IMPACTS

POPULATION AND DEMOGRAPHICS

For all communes/villages situated along the Project, impacts are evaluated for land use, road infrastructure, water supply network, power supply, health, education, culture and sport facilities as well as agriculture and business to ensure that none are significantly affected by the creation of the road, and if so, these are mitigated.

Potential impacts during the construction stage may comprise:

- *temporary landtake from community areas;*
- *temporary severance or diversion of public rights-of-way or key access routes; and*
- *temporary impacts on local amenity due to noise, dust, traffic and visual intrusion (each will be assessed and reported separately within the full ESIA).*

te ndotura gjate transportimit te dheut te ndotur jashte zones.

Ndikimet qe lidhen me marrjen e perhershme te tokes dhe me shfrytezimin perbejne nje nderhyrje te perhershme fizike ne vecorite dhe burimet, perfshire humbjen direkte apo demtimin e infrastruktures se puseve te marrjes se ujit dhe te kullimit te cilet do te zbuten ne baze te kerkesave te legjislacionit shqiptar.

4.3 NDIKIMET BIOLOGJIK

Gjate fazes se ndertimi ka disa ndikime te vogela, sic jane: marrje e perkohshme dhe e perhershme e tokes, ndarje e perkohshme e habitateve dhe ndryshime ne hidrologjine siperfaqesore dhe nentokesore, depozitim dhe materialeve ne sheshe, ndotja apo derdhjet aksidentale te karburantit e materialeve te tjera, depozitimi i pluhurit (psh mbi gjethe apo siperfaqen e dheut), shqetesim i specieve nga zhurma, dridhjet dhe drita, shqetesim jo-specifik per specie (psh zogjte) per shkak te pranise se punetoreve dhe makinerive te ndertimit

Ndikimet kryesore qe do te shfaqen gjate fazes se shfrytezimit jane: marrje e perhershme e tokes nga ndertimi i strukturave te reja, ndryshime te perhershme ne hidrologjine siperfaqesore dhe nentokesore, degradim i dherave prej derdhjeve nga shfrytezimi, humbje e perqasjes ne zonat me vlera pamore per shkak te interesit per mbrojtjen e natyres se tyre, rivendosje dhe/ose krijim i habitatit te ri.

Problematikat kryesore biologjike jane studiuar dhe jane referuar ne Raportin kryesor te VNMS te zhvilluar per Projektin Hidroenergjetik te Devollit.

4.4 NDIKIMET SOCIALE

POPULLSIA DHE DEMOGRAFIA

Per te gjitha komunat/fshatrat qe gjenden pergjate projektit ndikimet vleresohen lidhur me perdorimin e tokes, infrastrukturen rrugore, rrjetin e furnizimit me uje, furnizimin me energji, shendetin, edukimin, kulturen dhe sportin, si dhe bujqesine dhe biznesin per te siguruar qe asnje nuk ndikohet ndjeshem nga krijimi i rruges, dhe nese ndikohet, ndikimet.

Ndikimet potenciale gjate fazes se ndertimit do te permbajne:

- *marrje te perkohshme e tokes prej zonave te komunitetit;*
- *ndarje apo devijim i perkohshem i te drejtes se publikut per te kaluar apo i rrugeve kyc te perqasjes; dhe*
- *ndikime te perkohshme mbi komoditetet lokale per shkak te zhurmes, pluhurit, trafikut dhe*

Potential impacts associated with the operation of the scheme may comprise:

- *permanent landtake from community areas;*
- *permanent severance or diversion of public rights-of-way or key access routes;*
- *permanent impacts on local amenity due to noise, dust, traffic and visual intrusion (each to be assessed and reported separately within the ESIA);*
- *Improvement of accessibility to the adjacent properties and communities;*
- *reduction of accidents and pollution.*

The assessment considers both primary and secondary impacts. Primary impacts include demolition of, or landtake from, a facility and severance/diversion of a public right- of-way or key access route. Secondary impacts can arise from the accumulation of primary impacts e.g. impairment to amenity by noise, visual intrusion or traffic. The cumulative effects of different impacts are also considered.

The significance of an effect will be based on the magnitude of the impact and the nature of the resource/receptor, taking into account the availability of alternative resources in the locality.

ECONOMY AND WEALTH

AGRICULTURE

The main impacts on agriculture will be: temporary/permanent loss of access to fields, temporary/permanent deviation of access to fields, temporary/permanent landtake, reloaction of livestock drinking point, permanent splitting of the original properties, and permanent disturbance of drainage and/or irrigation works.

SOCIO – ECONOMIC ISSUES

Potential impacts during the construction stage to be considered will be:

- *temporary or permanent disruption to businesses due to temporary landtake or other construction effects;*
- *direct changes in the demand for construction employees;*
- *indirect changes in the demand for employees due to the purchase of materials or services and the spending of incomes associated with construction of the project.*

nderhyrjeve pamore (secila do te vleresohet dhe trajtohet vecmas ne VNMS-ne e plote).

Ndikimet potenciale qe lidhen me fazen e shfrytezimit te skemes do te permbajne:

- *marrjen e perhershme te tokes ne zonat e komunitetit;*
- *ndalimi/devijimii perhershem i te drejtes se publikut per te kaluar apo hyrene rruget kyc;*
- *ndikime te perhershme mbi komoditetet lokale per shkak te zhurmes, pluhurit, trafikut dhe nderhyrjeve pamore (secila do te vleresohet dhe trajtohet vecmas ne VNMS);*
- *permiresim i qasjes tek pronat dhe komunitetet ne afersi;*
- *reduktim i aksidenteve dhe ndotjes.*

Vleresimi merr ne konsiderate si ndikimet paresore, ashtu dhe ato dytesore. Ndikimet paresore perfshijne prishjen apo marrjen e tokes nga nje strukture, si dhe humbjen e te drejtes se publikut per kalimne nje rruge kyc. Ndikimet dytesore mund te vijne nga grumbullimi i ndikimeve paresore, p.sh. demi i komoditetit prej zhurmes, nderhyrjes pamore, ose trafikut. Jane merre ne konsiderate dhe efektet kumulative te ndikimeve te ndryshme.

Rendesia e nje efekti do te mbeshtetet tek madhesia e ndikimit dhe natyra e burimit/receptorit, duke marre ne konsiderate disponibilitetin e burimeve alternative ne zone.

EKONOMIA, DHE MIREQENIA

BUJQESIA

Ndikimet kryesore ne bujqesi do te jene: humbje e perkohshme / perhershme e perqasjes tek fushat bujqesore, ndryshim i perkohshem / perhershem i perqasjes tek fushat bujqesore, marrje e perkohshme / perhershme e tokes, rivendosje pikave ku pi uje bagetia, copezim i perhershem i pronave fillestare, shqetesim i perhershem i punimeve te ujitjes dhe/ose kullimit.

CESHTJET SOCIAL-EKONOMIKE

Ndikimet potenciale qe duhen marre ne konsiderate gjate fazes se ndertimit do te jene:

- *nderprerje e perkohshme apo e perhershme e bizneseve, nga marrja e perkohshme e tokes dhe efektet e ndertimit;*
- *ndryshimet e drejtperdrejta ne kerkesen per punetore ndertimi;*
- *ndryshimet e terthorta ne kerkesen per punetore per shkak te blerjes se materialeve apo sherbimeve dhe shpenzimit te te ardhurave qe lidhen me ndertimin e projektit.*

Potential impacts associated with the operation of the Replacement Roads Project will be related to employment and regeneration issues.

Employment impacts will consist of:

- *displacement or disruption of existing businesses and / or provision of new businesses directly due to permanent landtake;*
- *indirect changes in the demand for employment due to reductions in spending associated with the displacement of businesses by the project;*

SITES OF SOCIO- CULTURAL IMPORTANCE

ARCHAEOLOGY

There is a potential of chance finds for archaeological remains in the area. This will be mitigated in accordance with the required Albanian regulations.

LANDSCAPE, TOWNSCAPE AND BUILT HERITAGE

Impacts on landscape/townscape character and built heritage are assessed during construction and during operation.

Impacts on landscape or townscape character and built heritage are likely to occur within those character areas affected directly or indirectly by proposal. Direct impacts may occur as a result of physical changes to landscape, townscape or built heritage features whereas indirect impacts may occur as a result of visual intrusion that could affect the character of the landscape/townscape or the setting of built heritage features. The physical extent over which impacts may occur will therefore be dependent upon the baseline character appraisal as well as the extent of the visual envelope of the proposed works. Impacts will be either temporary or permanent.

NATURAL RESOURCES

Main impacts associated with the construction phase include: temporary changes to the flow of watercourses due to the establishment of bridges; temporary physical interfaces with features/resources, including direct damage to aquatic habitats and watercourses; changes to surface water quality due to contaminant release; modification of flood defence structures.

During operation, the expected impacts include: permanent changes to surface water, where altered flow conditions could affect sediment erosion and deposition as well as aquatic habitats; permanent physical interference with features and resources, including direct loss of or damage to watercourses and aquatic habitats; changes to surface water quality due to contamination, which may result from accidental or routine emissions such as

Ndikimet potenciale qe lidhen me shfrytezimin e Projektit te Rrugeve Zevendesuese do te lidhen me ceshtjet e punesimit dhe te rigjenerimit.

Ndikimet ne punesim do te perbehen nga:

- *zhvendosje apo nderprerje e bizneseve ekzistuese dhe/ose hapje direkt e bizneseve te reja nga marrja e perhershme te tokes;*
- *ndryshime indirekte ne kerkesen per punesim, per shkak te reduktimit te shpenzimeve, qe lidhet me zhvendosjen e bizneseve per arsye te projektit;*

VENDE ME RENDESI SOCIO- KULTURORE

ARKEOLOGJIA

Ekziston mundesia e gjetjeve te rastesore per mbetje arkeologjike ne zone. Kjo do te zbutet ne perputhje me kriteret dhe rregulloret shqiptare.

PEISAZHI DHE TRASHEGIMIA NDERTIMORE

Ndikimet mbi peisazhin dhe trashegimine ndertimore vleresohen gjate ndertimit dhe gjate shfrytezimit.

Ndikimet ne karakterin e peisazhit dhe trashegimine ndertimore mund te ndodhin ne ato zona karakteristike qe ndikohen direkt ose indirekt nga propozimet. Ndikimet direkte ndodhin si rezultat i ndryshimeve fizike te vecorive te peisazhit apo te trashegimise ndertimore, ndersa ndikimet indirekte mund te ndodhin si rezultat i nderhyrjes pamore qe ndikon ne karakterin e peisazhit apo ne pozicionimin e tipareve te trashegimise ndertimore. Pra shtrirja fizike mbi te cilen ndodh ndikimi do te varet nga vleresimi i karakteristikave baze dhe nga shtrirja pamore e punimeve te propozuara. Ndikimet do te jene te perkohshme ose te perhershme.

BURIMET NATYRORE

Ndikimet kryesore qe lidhen me fazen e ndertimit perfshijne: ndryshim i perkohshem i drejtimit te rrjedhave ujore per shkak te ndertimit te urave; nderveprim i perkohshem fizik me vecorite/burimet, perfshire demtim direkt te habitateve ujore dhe rrjedhave ujore; ndryshime ne sasite e ujerave siperfaqesore prej shkarkimit te ndotesve; modifikimi i strukturave mbrojtese nga permbytjet.

Ndikimet e pritshme gjate shfrytezimit perfshijne: ndryshime te perhershme te ujerave siperfaqesore, ku ndryshimet ne rrjedhje mund te prekin erozionin dhe depozitimin e sedimenteve, si dhe habitatet ujore; nderveprim i perhershem fizik me vecorite dhe burimet, perfshire humbje direkte apo demtim te rrjedhave ujore dhe te habitateve ujore; ndryshimet ne cilesine e ujerave siperfaqesore prej ndotjes, qe mund te shkaktohet nga emetimet aksidentale apo rutine sic eshte mirembajtja, dhe prej depertimit tendotesve ne ujerat nentokesore apo siperfaqesore

maintenance, and where contaminants could enter ground or surface waters via the carriageway drainage; and permanent disturbing of flood discharge (barrier effect)

AIR QUALITY

Impacts that have been assessed include:

- dust and airborne particulate emissions associated with demolition and construction works sites;
- any changes in road traffic exhaust emissions due to increased journey times resulting from temporary or permanent closure of roads;
- any increases in exhaust emissions due to increases in operational road traffic;

NOISE AND VIBRATION

Main impacts during construction are: construction site noise and vibration, construction road traffic noise, and noise impacts due to changes in traffic flow.

During operation phase: noise and vibration from use of new or altered sections of roads and corresponding supporting structures if relevant, noise from changes in road traffic flow, and noise and vibration resulting from changes in service patterns and changes in traffic nature.

VISUAL AMENITY

Impacts associated to the construction: opening up of new views, blocking of existing views or intrusion into views, change in character or quality of views; intrusion of traffic into views, change in views at night.

Impacts associated to the operation: opening up of new views, change in character and quality of views, intrusion into views including new landmarks and focal points; intrusion into, or screening of, existing views, change in light levels and visual focus at night.

TRAFFIC AND ACCESS

Impacts that are expected to occur and, therefore assessed, during construction, include: changes in road traffic flows arising from temporary road closures; temporary increases in public road traffic; temporary increases in traffic flows due to construction vehicles crossing roads; temporary changes in the routing of agricultural circulation; temporary changes to pedestrian routes and footways; increased traffic and network modifications. Traffic safety regulations will be managed in accordance with the relevant Albanian legislation.

prej kullimit te trasese se rruges; shqetesim i perhershem i shkarkimit te permbytjeve (efekti barriere).

CILESIA E AJRIT

Ndikimet qe u vleresuan perfshijne:

- emetimin e pluhurit dhe pjesezave ne ajer, qe lidhen me punimet e prishjes dhe ndertimit ne zone;
- cdo ndryshim ne shkarkimet e trafikut rrugor per shkak te rritjes se koheve te udhimit, qe rezultojne nga mbyllja e perkohshme apo e perhershme e rrugeve;
- cdo rritje te shkarkimeve nga marmitat per shkak te shtimit te trafikut gjate shfrytezimit

ZHURMA DHE DRIDHJET

Ndikimet kryesore gjate ndertimit jane: zhurmat dhe dridhjet ne kantierin e punimeve, zhurma e trafikut te ndertimit te rruges, zhurma si pasoje e ndryshimeve ne rrjedhen e trafikut.

Gjate fazes se shfrytezimit: zhurma dhe dridhjet per shkak te perdorimit te seksioneve rrugore te rinj ose ndryshuar, dhe strukturave mbeshtetese korresponduese, nese ka; zhurma nga ndryshimet ne rrjedhen e trafikut; dhe zhurma e dridhjet qe vijne nga ndryshimet ne tiparet e sherbimeve dhe ndryshimeve ne natyren e trafikut.

KENAQESIA PAMORE

Ndikimet qe lidhen me ndertimin: hapje e pamjeve te reja, bllokim i pamjeve ekzistuese apo nderhyrje tek pamjet, ndryshim ne tiparet apo cilesine e pamjeve; nderhyrje e trafikut tek pamjet, ndryshimi i pamjeve gjate nates

Ndikimet qe lidhen me shfrytezimin: hapje e pamjeve te reja, ndryshim ne tiparet apo cilesine e pamjeve, nderhyrje tek pamjet, perfshire pikat e reja te referimit dhe ato fokale; nderhyrje tek, apo shfaqje e pamjeve ekzistuese; ndryshime ne nivelet e ndricimit dhe fokusit pamor gjate nates.

TRAFIKU DHE PERQASJA

Ndikimet qe pritet te ndodhin, pra dhe te vleresohen, gjate ndertimit, perfshijne: ndryshimet ne rrjedhen e trafikut rrugor prej mbylljesse perkohshme te rruges; rritje e perkohshme e trafikut ne ruget publike; rritja e perkohshme e trafikut prej makinerive te ndertimit ne rruge; ndryshimet e perkohshme ne levizjen e mjeteve bujqesore; ndryshimet e perkohshme ne levizjen e kembesoreve; rritje e trafikut dhe modifikimeve te rrjetit rrugor. Rregullat e sigurise se trafikut do te menaxhohen ne perputhje me rregulloret perkatese e lgjislacionit shqiptar

Ndikimet gjate shfrytezimit perfshijne: ndryshimet e perhershme te niveleve te rrjedhes se trafikut

Impacts during operation include: permanent changes in road traffic flow levels; permanent changes the routing of agricultural circulation; permanent changes to pedestrian routes and footways.

5. MITIGATION STRATEGY

Environmental Design Management

A fundamental part of the ESIA process is the feedback of the emerging results into the design and decision-making processes. The most cost-effective way of applying mitigation is by designing it into the project. As potential significant adverse effects are identified these were fed into the design process so that, where possible, they can be mitigated until the residual effects are deemed to be “as low as reasonably practicable” (ALARP). The iterative “predict-evaluate-mitigate” sequence is at the core of ESIA and design. This sequence is applied to the identification of positive opportunities (predict-evaluate-enhance).

The ALARP principle is most applicable in the context of addressing individual effects. Determining what is ‘reasonably practicable’ is something that the ESIA team cannot achieve in isolation. Factors such as safety, technical feasibility, constructability and operability all feature in ALARP. The other key factor is cost. In defining ALARP for an impact/mitigation measure, the proportionality of the cost to the benefit must be given proper consideration.

6. MITIGATIONS AND CONCLUSIONS

ARCHAEOLOGY

From the information provided by the literature it is reported (incl. the data from the National Archaeological Agency) that the new road will go through areas with potential for archaeological remains, although it will not affect the already identified archaeological site of Tumulus of Ceruja.

A clear procedure has been also explained in the new Cultural Heritage Law passed in the Albanian Parliament in 2003 and amended in 2006. During the works for the construction of the road, in case of identification of artefacts, the site works will be suspended temporary and collaboration with certified archaeologists will be established in order to minimise potential damage to sites and monuments. In all the planning stages of this public infrastructure it should be considered that the new road goes through an area that has been an important human settlement throughout the history, and thus, modern investment should be respectful to the earlier achievements of humanity.

rrugor; ndryshimet e perhershme ne levizjen e mjeteve bujqesore; ndryshimet e perhershme ne levizjen e kembesoreve.

5. STRATEGJIA E MASAVE ZBUTESE

Administrimi i Projektimit Mjedisor

Nje pjese themelore e procesit te VNMS eshte reagimi prej rezultateve te zhvilluara ne procesin e projektimit dhe vendimarrjes. Menyra me me kosto efektive per aplikimin e masave zbutese eshte permes projektimit te tyre ne projekt. Pasi efektet e rendesishme potenciale te kunderta u identifikuan ato u perfshine ne procesin e projektimit keshtu qe ku eshte e mundur ato mund te zbuten deri sa efektet e mbetura te konsiderohen si “aq te ulta sa te jene praktikisht te arsyeshme” (ALARP). Vazhdimesia perseritese “parashiko-vlereso-zbut” eshte zemra e VNMS dhe projektimit. Kjo vazhdimesi aplikohet ne identifikimin e mundesive pozitive (parashiko-vlereso-realizo).

Parimi ALARP eshte me i aplikuar ne kontekstin e adresimit te efekteve individuale. Duke percaktuar se cfare eshte “praktikisht e arsyeshme” eshte dicka qe ekipi i VNMS nuk mund ta arrije i izoluar. Faktore sic jane siguria, besueshmeria teknike, ndertueshmeria dhe shfrytezueshmeria te gjitha pasqyrohen ne ALARP. Faktori tjetër kyc eshte kostua. Ne percaktimin e ALARP per nje mase ndikuese/zbutese, proporcionaliteti i kostos ne perfitim duhet te jepet me konsideratat e duhura.

6. MASAT ZBUTESE DHE KONKLUZIONET

ARKEOLOGJIA

Prej informacionit te dhene nga literatura raportohet (perfsh. Te dhenat nga Agjensia Kombetare e Arkeologjise) se rruga e re do te kaloje permes zonave me potencial per te patur mbetje arkeologjike, megjithese rruga nuk do te preke zonen arkeologjike, tashme te identifikuar, te “Varreve te Cerujes”.

Nje procedure e qarte eshte shpjeguar gjithashtu ne Ligjin e Ri per Trashegimine Kulturore te miratuar ne parlament ne vitin 2003 dhe ndryshuar ne vitin 2006. Gjate punimeve per ndertimin e rruges, ne rast identifikimi te artefakteve, punimet ne terren do te nderpriten perkohesisht dhe bashkepunimi me arkeologe te certifikuar do te vendoset me qellim minimizimin e demit potencial ne zona dhe monumente. Ne te gjitha fazat e planifikuar te kesaj infrastrukture publike duhet te merret ne konsiderate se rruga kalon permes nje zone e cila ka qene nje vendbanim i rendesishem njerezor pergjate historise, dhe prandaj, investimi modern duhet te respektoje arrijten e meparshme te njerezimit.

LANDSCAPE AND VISUAL AMENITY

As with any road development, the Project by means of its very presence and notwithstanding the various impacts from severance through to visual impact will have a permanent and therefore residual impact on the character of its immediate environs along its entirety.

The permanent nature of the impact will also affect surrounding residential and other property in these and other areas especially where such property is at proximity to the proposed road and remote from other roads. However, in mitigation considerable effort has been given to minimizing such adverse or residual impacts and will be in line with the national regulations for such.

CLIMATE

The insignificant impact of construction on the local climate will not leave any residual impacts on natural vegetation and cultivated lands.

Residual impacts on global climate are expected as the project and other human activities will contribute to CO₂ emissions. This contribution could be partially compensated through national forestry activity, such as reforestation.

RELIEF, GEOLOGY, SOIL AND GROUNDWATER

Despite mitigation residual impacts are possible. These include:

- *Depending on ground conditions encountered, construction dewatering is likely to be required.*
- *Ground may be contaminated by spills.*
- *Soft ground areas will require removal and replacement or engineered measures.*
- *Highly fractured or weathered areas of rock may require monitoring and maintenance.*
- *Deterioration of materials for re-use may occur.*

HYDROGRAPHY AND SURFACE WATER

Measures to mitigate impacts of the proposed alignment on flooding, aquatic ecology and water quality and fisheries have been incorporated into the drainage design.

In non karstic areas, where the road cuts into the existing topography, the base of the cutting may be below the existing water table. This can result in the lowering of the water table in the vicinity of the cut and the dewatering of shallow wells. The best engineering practices have been applied in detailed design and the same is going to be monitored during implementation of works.

PEISAZHI DHE KENAQESIA PAMORE

Si ne cdo ndertim infrastrukturor rrugor, edhe Projekti, me vete pranine e tij dhe pavaresisht ndikimeve te ndryshme qe nga hapja e rruges e deri ne ndikimin pamor, do te kete nje ndikim te perhershem, dhe rrjedhimisht nje ndikim te mbetur ne karakterin e mjedisit prane gjithe gjatesise se tij.

Fakti qe ndikimi eshte i perhershem do te preke gjithashtu edhe zonat e banimit dhe hapesira te tjera perreth, vecanerisht kur keto hapesira gjenden ne afersi te rruges se propozuar dhe larg rrugeve te tjera. Megjithate, tek masat zbutese, perpjekje e konsiderueshme i eshte kushtuar minimizimi te ndikimeve te tilla te pafavorshme apo te mbeten dhe do te jene ne perputhje me rregulloret kombetare rreth kesaj.

KLIMA

Ndikimi i paperfillshem i ndertimit mbi klimen lokale nuk do te shkaktoje ndonje ndikim qe do te mbartet mbi bimesine natyrore dhe token bujqesore.

Priten ndikime mbartese mbi klimen globale, pasi projekti dhe aktivitetet humane do te kontribuojne ne clirimin e gazit karbonik CO₂. Ky kontribut do te kompensohet pjeserisht permes aktiviteve pyjore kombetare, sic eshte pyllezimi.

RELIEVI, GJELOGJIA, TOKA DHE UJERAT NENTOKESORE

Megjithate masat zbutese ka disa ndikime qe mbeten. Keto ndikime jane:

- *Ne varesi te kushteve tokesore qe ndeshen, ka mundesi qe te kerkohet largimi i ujerave gjate ndertimit.*
- *Toka mund te ndotet prej derdhjeve.*
- *Zonat ku toka eshte e bute do te kerkojne zhvendosje & rivendosje, ose masa inxhinierike.*
- *Zonat shkembore te thyera apo te gerryera mund te kerkojne monitorim dhe mirembajtje.*
- *Mund te ndodhe prishja e materialeve per riperdorim.*

HIDROGRAFIA DHE UJERAT SIPERFAQESORE

Masat per zbutjen e ndikimeve te shtrirjes se propozuar mbi rrjedhat ujore, ekologjine dhe cilesine e ujit, si dhe peshkimin, jane perfshire ne projektin e kullimit.

Ne zonat jo-karstike, ku rruga pritet me topografine ekzistuese, baza e prerjes mund te jete poshte nivelit ekzistues te ujit. Kjo mund te rezultojte ne uljen e nivelit te ujit ne afersi te prerjes dhe ne dehidratimin e puseve te ceket. Praktikat me te mira inxhinierike jane aplikuar per projektin e detajuar dhe e njejta gje do te monitorohet gjate zbatimit te punimeve.

In extreme rainfall events there may be temporary flooding of points where the route will cross fiords.

HABITAT AND BIODIVERSITY

The impacts related to the construction phase of the new alignment, have a minor magnitude over the impacted habitats and biodiversity, provided that the proposed mitigation measures (being also part of the Contractor's Environmental Management Plan) are implemented in a timely and correct manner.

As regards operation the proposed road would result in higher traffic speeds and a slight increased volume of traffic. Traffic signs can be used to alert drivers to areas in more populated areas thereby reducing the risk of accidents.

Higher noise levels along the proposed road scheme can be expected to result in a minor increase in the disturbance of birds. This impact is not predicted to be significant. Traffic signs can be used to alert drivers to areas where this is likely to occur.

AIR QUALITY

During the construction phase the emission of dust is associated with various activities such as the removal of vegetation and topsoil, the excavation of earth material and the placement of the same material in embankments and the construction of structures. The emission of dust depends firstly on the weather conditions and on the level of activity and the type of operations being carried out. Also dust is raised by the wheels of the local vehicles and the heavy construction vehicles as they pass along the construction site during dry weather conditions.

It is assumed that contractor's compliance with its Environmental Management Plan is likely to reduce airborne dust arising under normal weather conditions from construction activities.

Pollutants typical for road traffic (CO_x, NO_x, C_xH_y, fine particulate matter (PM₁₀), heavy metals and dust) generally affect areas adjacent to the current roads. Diesel vehicles, in particular, tend to produce increased levels of particulates that are increasingly identified as a significant threat to health. This is of particular interest in a country where a very high population of old diesel powered vehicles is found. Law enforcement and the economy improvement will minimise this impact, but that need to be implemented in the right time when both factors will match.

Part of the areas along the studied alignments is generally open, rural areas, with rather small villages and settlements, and they are therefore not prone to significant air quality problems. However, as the

Ne rastet e rreshjeve ekstreme mund te kete permbytje te perkoheshme te pikave ku rruga kryqezohet me fiordet.

HABITATET DHE BIODIVERSITETI

Ndikimet qe lidhen me fazen e ndertimit te rruges se re, kane nje magnitude te ulet mbi habitatet e prekura dhe biodiversitetin, kjo duke konsideruar qe masat zbutese te propozuara (te cilat jane gjithashtu pjese e Planit te Kontraktorit per Menaxhimin e Mjedisit) jane zbatuar ne menyre korrekte dhe ne kohen e duhur.

Persa i perket shfrytezimit, rruga e propozuar do te rezultojte ne rritje te shpejtesise se trafikut si dhe ne rritje te lehte te volumit te trafikut. Mund te perdoren shenja trafikuro per te paralajmeruar shoferet ne zonat ku mund te ndodhe kjo gje, duke reduktuar keshtu rrezikun e aksidenteve.

Nivelet me te larta te zhurmës pergjate shtrirjes se propozuar te rruges pritet qe te rezultojne ne nje rritje te vogel te shqetesimit te zogjve. Nuk pritet qe ky ndikim te jete i rendesishem. Mund te perdoren shenja trafikuro per te paralajmeruar shoferet ne zonat ku mund te ndodhe kjo gje-

CILESIA E AJRIT

Gjate fazes se ndertimit emetimi i pluhurit shoqerohet me aktivite te ndryshme sic jane skarifikimi i bimesise dhe heqja e shtreses se siperme te dheut, germimi i tokes dhe perdorimi i materialit qe eshte marre nga germimi, per ne argjinatura dhe ndertimin e strukturave. Emetimi i pluhurit fillimisht varet nga kushtet e motit dhe nga niveli i aktivitetit, si dhe nga lloji i operacioneve te kryera. Gjithashtu pluhuri ngrihet edhe nga gomate e mjeteve lokale dhe te renda te ndertimit kur ato kalojne neper kantierin e ndertimit gjate motit te thate.

Supozohet qe perputhshmerite e kontraktorit me Planin e Menaxhimit Mjedisor te tij do te bejne te mundur pakesimin e ngritjes se pluhurit ne ajer ne kushte normale te aktiviteteve ndertimore.

Ndotsit tipike per trafikun rrugor (CO_x, NO_x, C_xH_y, grimcat e imeta (PM₁₀), metalet e renda dhe pluhuri) ne pergjithsi ndikojne ne zonat perreth rugeve aktuale. Mjetet e transportit me nafte, ne vecanti, kane tendence te rritin nivelin e grimcave, te cilat identifikohen gjithnje e me rrezik serioz per shendetin. Kjo eshte vecanerisht e rendesishme ne vendet ku ka nje numer te madh te automjeteve qe perdorin nafte te cilesise se dobet. Forcimi i ligjit dhe permiresimi i ekonomise do te minimizojne kete ndikim, por kjo ka nevojte te zbatohet ne kohen e duhur kur te dy faktoret perputhen.

Nje pjese e zonave pergjate shtrirjes eshte pergjithesisht e hapur, jane zona rurale, me fshatra dhe vendbanime te vogla, keshtu qe nuk kane probleme te dukshme te ndotjes se ajrit. Megjithate, perderisa projekti kalon permes disa zonave te

project passes through several inhabited areas, the emissions from the vehicles are likely to have a slight negative impact on those receptors during construction phase.

NOISE

During the construction phase of the project there will be some impact on nearby residential and business properties due to noise emissions from site traffic and other activities. The application of binding noise limits and hours of operation, along with implementation of appropriate noise control measures, will ensure that noise impact is kept to a minimum.

LOCAL COMMUNITY AND SOCIO-ECONOMICS

With the expected creation of the Banje reservoir the new road is expected to encourage the tourist industry which has such huge potential in Historical and Archaeological Tourism, Scientific tourism, Sun-Water tourism, Nature or Ecotourism, Business tourism etc. The following are some overall recommendations towards the local end central government of Albania, which can help maintain this investment as much as possible as a powerful sustainable development instrument:

- *Native and foreign business should be directed towards the most important economic sectors by the help of targeted projects.*
- *The traditional profitable productions should be stimulated.*
- *Tourist sector should be better assisted, stimulated and restructured (coastal, urban, familiar, cultural, historic etc.) making the community more aware and improving the tourist infrastructure.*
- *Population increase should be preceded by studies and plans regarding regulation and protection of nature through stimulation of new policies.*
- *The interests and priorities should be well-harmonized in order for economic development to increase the positive and not to impact on the environment.*
- *The extension of the city on agricultural lands and sectors of ecological interest (specific ecosystems) should be forbidden.*

7. ENVIRONMENTAL & SOCIAL MANAGEMENT AND MONITORING

Preparation by DHP of the final documents on the Resettlement Action Plans (RAP) and Environmental and Social Management and Monitoring Plan (ESMMP) will follow in the coming activities. These documents are not required by the

banuara, emetimet nga makinat duket se kane nje ndikim te vogel negativ tek keta receptore gjate fazes se ndertimit.

ZHURMA

Gjate fazes se ndertimit te rruges do te kete disa ndikime tek vendbanimet dhe bizneset ne afersi te rruges, per shkak te emetimit te zhurmes nga trafiku ne kantier dhe aktivitetet e tjera. Aplikimi i barrierave per zhurmen dhe oreve te punimeve, se bashku me marrjen e masave te duhura per kontrollin e zhurmes, do te siguroje se ndikimi i zhurmes eshte mbajtur me minimum.

KOMUNITETI LOKAL DHE CESHTJET SOCIAL-EKONOMIKE

Me krijimin e pritur te rezervuarit te Banjes rruga e re pritet te inkurajoje industrine turistike e cila ka nje potencial te madh ne Turizmin Historik dhe Arkeologjik, Turizmin Shkencor, Turizmin Diell-Uje, Turizmin Natyror apo Ekoturizmin, Turizmin e Biznesit etj. Me poshte jepen disa rekomandime te pergjithshme per qeverisjen vendore dhe qendrore te Shqiperise, te cilat mund te ndihmojne ne mbajtjen e ketij investimi, sa me shume qe te jete e mundur, si nje instrument i fuqishem i zhvillimit te qendrueshem:

- *Bizneset e vendit dhe ato te huaja duhet te orientohen drejt sektoreve me te rendesishem ekonomike, me ndihmen e projekteve te planifikuara.*
- *Duhet te stimulohen prodhimet tradicionale fitimprurese.*
- *Spektori i turizmi duhet te ndihmohet me shume, te stimulohet dhe ristrukturohet (turizmi pergjate bregut, ai urban, familiar, kulturor, historik etj.) duke e bere komunitetin me te ndergjegjshem dhe duke permiresuar infrastrukturen turistike.*
- *Rritja e popullsisë duhet te paraprihet nga studime dhe plane qe lidhen me rregullimin dhe mbrojtjen e natyres permes stimulimit te politikave te reja.*
- *Interesat dhe prioritetet duhet te mireharmonizohen me qellim qe zhvillimi ekonomik te rrite efektet pozitive dhe te mos ndikojë ne mjedis.*
- *Duhet te ndalohet zgjerimi i qytetit ne toka bujqesore dhe sektore me interes ekologjik (ekosisteme specifike).*

7. ADMINISTRIMI DHE MONITORIMI MJEDISOR & SOCIAL

Pergatitja nga ana e DHP e dokumentave finale mbi Planet e Veprimeve per Risistemimin (RAP) dhe Planin e Menaxhimit dhe Monitorimit te Mjedisit dhe Social (PMMMS) do te vijoje ne aktivitetet qe vijne. Keto dokumente muk kerkohen nga legjislacioni

Albanian Law and will be used for internal compliance only.

8. NEXT STEPS

Following the draft ESIA Report, the next steps on the process will be:

- Preparation of the final ESIA report after receiving all the comments/opinions provided by the stakeholders during the public hearing.

shqiptar dhe do te perdoren vetem per perputhshmeri te brendshme.

8. HAPAT VIJUES

Ne vijim te draft VNMS Raportit, hapat vijues te procesit do te jene si me poshte:

- Hartimi i raportit final te VNMS pas marrjes se te gjitha komenteve/opinioneve te shprehura nga grupet e interesit gjate degjeses publike.