BOOK I

PART I – THE TEXT OF THE EIA REPORT

THE DESCRIPTION OF THE ASSESSMENT OF THE POTENTIAL ENVIRONMENTAL IMPACT OF THE PLANNED ECONOMIC ACTIVITY (THE SUMMARY OF THE EIA REPORT)

Klaipėda city is the biggest and the most important center of transport in the Republic of Lithuania, which combines sea, land and railway routes. The country's main highways of land roads meet at the seaport: the seaport is the endpoint of the IX railway transport corridor with the B branch: Kiev (Ukraine) – Minsk (Belarus) – Kena – Vilnius – Kaišiadorys – Šiauliai – Klaipėda; Klaipėda State Seaport is the main cargo and logistics center of Lithuania.

Considering the exceptional importance of the object to the national economy, and the fact that each year the amount of goods transported by railway increases by 2 million tons, and this railway junction has not enough existing roads and infrastructure capacity, JSC „Lithuanian Railways" provides for development of the Klaipėda railway junction. For this purpose, the JSC „Lithuanian Railways" commissioned, and the German company „Eisenbahn - und Bauplanungsgesellschaft Erfurt MBH" prepared the Feasibility study on development, complex reconstruction and modernization of the Klaipėda railway junction. The Feasibility study is prepared according to the aspects of development of existing stations on the Klaipėda railway junction or construction of new ones, on improvement of technical condition of existing infrastructure and on the road development to the port.

One of the options examined in the Feasibility study – the extension of Pauostis station tracks to 1050 m and the need for additional tracks. In 2009 the project „The design of the Pauostis station tracks reconstruction" has been started to execute on the basis of the option analyzed in the Feasibility study.

According to the nature of economic activity, the reconstruction of Pauostis station tracks falls into the list of activities (Clauses 8.5 and 10 of the Annex of the EIA law "The building of main public use railways" and "The change or extension of planned economic activity included into the list of types of planned economic activity, which environmental impact must be assessed, in those cases when such change or extension meets the limit values set in this Annex, if they are set"), which are subject to the procedures provided by the EIA law.

In July – October 2009, JSC "Sweco Lietuva" developed the program for the Environmental Impact Assessment (hereinafter EIA) of the Pauostis station tracks reconstruction. The EIA was developed and agreed with stakeholders and on 1 December 2009 it was approved by the Klaipėda Regional Environmental Protection Department of the Ministry of Environment.

During the period November 2009 – February 2010, JSC "Sweco Lietuva" carried out the EIA of the Pauostis station tracks reconstruction and prepared the report on „The Environmental Impact Assessment of the Pauostis station tracks reconstruction of the Klaipėda railway junction".

<u>Pauostis station tracks reconstruction</u>

The main development of the station tracks is carried out to to the east and north (from the Giruliai station to the south). Two main tracks are expected between the Pauostis and Giruliai stations. Thereby the freight

trains on the Giruliai station would avoid the need to stop and let the train units leaving Pauostis station tracks pass.

Pauostis station tracks are equipped with the extra reception-departure tracks, thus providing the opportunity to break up the rolling stock and to divert the necessary rolling stock from this station directly to the terminals of „Klaipėdos nafta“ and KLASCO without passing the station in Klaipėda.

The existing tracks will be extended to 1050 m thereby ensuring that the rolling stock of 6 thousand tons (load), which is pulled by the ER 20CF locomotive, could arrive and stop.

The EIA report examined 4 railway development alternatives (0-3): variant 0 (present situation), variant I (minimum), variant II (moderate) ir variant III (maximum). The Environmental Impact Assessment embraces the variant III (consisting of phases I and II). Phase I: the diversion of the track No. 1 eastwards to make space for the construction of the other three tracks of 1050 m length; the installation of three new tracks of 1050 m length; the extension of the 3 – 11 tracks up to the useful length of 1050 m (northwards); the installation of the exhaust 19 track (800 m of useful length, northwards); the installation of protective film under the new tracks; the installation of the third departure track from the station towards the port adjacent to the 12 or 16 track; the installation of the second track between the Giruliai station and Pauostis station tracks; the removal of the fire protection water tanks to the different location; the installation of the two-level viaduct over the railway at the sourthern border of the Vasarotojų str. Phase II: the installation of Giruliai circuit.

Impact on water

Several different types of pollution of wastewater emerges on the territory of the station tracks: domestic sewage and surface run-off (rain and snowmelt). Pauostis station tracks are equipped with the networks of domestic sewage and rain run-off. Drainage system is installed. The territory is equiped with water treatment plants for contaminated rainwater, water pumping station for domestic sewage and cleaned rainwater as well as pressure sewerage networks for sewage disposal to the city's sewerage network. Domestic sewage results in domestic premises (sanitary fittings, showers). During the station tracks reconstruction it is provided that the domestic sewage formation will change slightly, therefore, the new self-flowing wastewater networks are not designed.

More notable changes are predicted for the surface run-off (rain and snowmelt) formation. It is planned that, after the Pauostis station tracks reconstruction, the rainwater from the existing and designed station tracks and drainage water will be collected by existing gutters and networks as well as by newly designed networks and it will be cleaned by newly designed rainwater treatment facilities with the planned capacity of 80 l/s. Existing treatment plant capacity is not sufficient in connection with the extension of the station tracks. It is also provided to relay the existing rainwater networks into the rainwater and drainage collection network of DN400 mm. The current pumping capacity of 20 m^3/h is sufficient after the extension of the station tracks. The regulatory capacity for the amount of rainwater is provided in connection with restrictions on the discharge of sewage from the station tracks to the city sewage networks.

The existing rainwater treatment facilities must operate during the construction period. They will be dismantled only if new networks and treatment facilities are constructed. Due to the extension and

reconstruction of the station tracks, it is necessary to extend the existing culverts or change them into new ones. Due to the extension of culverts, it is recommended to adjust the channel, ditch or stream bed at the culverts. The contaminant capture film, which is used for the collection of surface run-off at the Pauostis station tracks of Klaipėda station, also will be newly installed under the extended tracks.

The domestic sewage and surface run-off on the territory of Pauostis station tracks will not be directly discharged into surface water bodies. It is planned that the domestic sewage and surface run-off resulted on the territory of Pauostis railway station tracks will be directed to the Klaipėda city sewage networks.

The surface run-off from the railway tracks between the Pauostis and Giruliai stations will flow further through the rainwater collection ditches into the network of nameless streams around the station tracks and into the existing culverts in the enbankments in the tracks of Pauostis railway and Melnragė-Giruliai, and then it wil infiltrate into the ground.

Due to the extension and reconstruction of the station tracks, it is intended to extend the existing culverts or change them into new ones. Due to the extension of culverts, it is intended to adjust the channel, ditch or stream bed at the culverts. The protective geomembrane, which is used for the collection of surface run-off at the Pauostis station tracks of Klaipėda station, also will be newly installed under the extended tracks.

After the implementation of reconstruction solutions provided in the technical project, Pauostis station tracks will have no adverse effects on the aquatic environment during the normal operation.

Additional technical measures are intended for potentially possible emergency events (automatic locking device and automatic alarm system; closing armature; emergency shutdown valve), which will prevent contaminants from entering surface and underground water bodies.

Impact on ambient air

The subject of research includes only the mobile sources of pollution – the railway locomotives (traction rolling stock) with internal combustion engines. As the fuel is burning in the internal combustion engines of locomotives, the following pollutants are released into the ambient air: carbon monoxide, nitrogen oxides, hard particles, volatile organic compounds and sulfur dioxide.

In order to assess the impact of the railway on ambient air, the mathematical modeling of dispersion of pollutants, emiseed by locomotives, into the ambient air is carried out in the EIA report. Air pollution dispersion modeling was completed by using the software package „ISC-AERMOD View".

On completion of the mathematical modeling of dispersion of pollutants, emissed by the railway transport in Pauostis station tracks and in the railway section Pauostis – Giruliai, into the ambient air, it was estimated that the concentration of any pollutant in the ambient air does not exceed the limit values considering the background contamination. The pollution modeling has been carried out by assessing the worst possible situation, i.e. by assessing the maximum traffic intensity per hour and taking into account that there would be only the freight trains. It was also estimated that two switching locomotives are operating at the same time at Pauostis station tracks.

The calculated concentration of nitrogen dioxide was the closest to the limit values. The reason is that the pollution emission from the railway transport is the largest compared with other pollutants assessed. The

pollution from nitrogen oxides is more noticeable in the limits of Pauostis station tracks and the analyzed railway segment.

The pollution of volatile organic compound was calculated not only from the internal combustion engines of railway transport, but also from the transportation of petroleum products. The estimated maximum concentrations did not exceed the limit values, and they quite small as compared with the limit value – about 0,5 percent of limit value.

The calculated pollution of hard particles and sulfur dioxide is minimal, the concentrations are close to zero, therefore, the impact on the current background contamination is minimal.

In respect of the ambient air pollution, by comparing with each other possible options of the railway development, as well as of the current situation, it can be concluded that the ambient air pollution practically remains unchanged or can change very minimally in case with particular pollutants.

Impact on soil

Young gleyic podzols and gleyic arenosols of small thickness (8-14 cm) and with unstable structure are characteristic of the whole territory of the planned reconstruction of Pauostis station tracks. The neat plowing, collection and use of the soil of such type for environmental management works during the planned earthwork during the railway reconstruction are practically unrealizable task.

It is planned that the soil will be mixed with the common mass of excavated ground during the earthwork on all the construction sites of intended reconstruction. The total (maximum) soil removal area will constitute about 110 thousand m^2 (with Giruliai circuit). This represents about 7,6 % of all the territory for the planned activities.

Considering the fact that the water-permeable sand soils are prevailing on the territory of the planned reconstruction, it is necessary to provide for preventive measures (e.g. to cover the top of the track formation with less conductive clay layer of 10 cm thickness) to stop the potentially possible leak of petroleum products into the track formation of the station tracks during the operation of developed infrastructure.

There is no hazard of water erosion on the quite flat area of the territory of the planned reconstruction. The hazard of wind erosion can occur only there, where due to the technical reasons it would be necessary to form the higher track formations.

It is necessary to provide the recultivation for the damaged soil surface of the station tracks and during the installation of railway route for all the technical solutions of construction works of the planned reconstruction.

It is also predicted, that there will be no direct effect on fertile soil layer during the normal operation of objects (it will be analogous to current). Different levels of chemical contamination of soil is possible only in emergency situations.

Impact on the entrails of the earth

During the construction of objects, the temporary mechanical (by excavating and partly changing with other primer) maximum (Giruliai circuit variant) area of the territory with primer damaged by aeration may reach about 166 thousand m^2. The depth of the damages will reach 0,3 – 3,1 m. Such expected depth of the

earthworks in the northern part of the planned reconstruction will have more impact on groundwater aquifers than in the southern and central part of Pauostis station tracks.

However, the impact on groundwater aquifers during the construction of objects will be minimum, i.e. it will be expressed only in temporal hydrodynamic changes without any remanant effects in the upper part of underground hydrosphere, because pile foundations of most of the projected constructions will not lead to the formation of grounwater head or other negative underground phenomena.

It is expected that about 5 300 (minimum variant) – 80 4000 (moderate variant) - 106 800 (maximum variant) m^3 of primer will be excavated during the Pauostis reconstruction.

The impact on the entrails of the earth is not expected, if Pauostis station tracks are working in normal operating mode and in safe working and environmental conditions. The impact of different levels on the entrails of the earth is possible only in emergency situations, i.e. when hazardous substances fall on the primer and penetrate into the entrails of the earth.

Impact on biodiversity

The Pauostis station tracks reconstruction probably will make the most significant impact on local biological diversity (vegetative cover and fauna).

Through the specialized study it was found that the most sensitive vegetation complexes are in the north-eastern part of the territoty of the planned activity (Purmalės river valley and adjacent soggy plots) and in the forested area to the north from the Pauostis railway junction (33, 39 and 40 forest districts), where the location of 91E0 **Alluvial forests* and 9080 **Deciduous swamp forests* of bad security conditions were diagnosed as well as the indigenous forest locations having a lot of indicative properties, which all are close to the planned construction sites.

In order to preserve and not to touch the sensitive vegetation complexes, the most important condition for the planned activity is that it is essential not to change the local hydrological regime settled in these parts of the territory. The solutions of technical fulfillment of this condition must be included in the technical project of the Pauostis station tracks reconstruction.

Also there was carried out the assesment (estimation) of wood volumes and forest areas expected to be cut during the planned Pauostis station tracks reconstruction under each variant of the planned activity. It is estimated that during the implementation of the minimum variant of the reconstruction – the forest will be cut on the area of 3,0 ha with 554 m^3 of wood cut; during the implementation of the moderate variant of the reconstruction – the forest will be cut on the area of 9,4 ha with 1 807 m^3 of wood cut, and during the maximum variant of the reconstruction – the forest will be cut on the area of 29,9 ha with 6 114 m^3 of wood cut. These are the most highest rates of potential deforestation.

In accordance with comments on adjustment of the provided EIA report introduced in the letter No. (4.36)-R2-2485) of 06-08-2010 by the Klaipėda City Municipality Administration (Book II of the EIA report “Appendices”, part IV “The conclusions of evaluable subjects of the EIA report and the records of public discussion”), the adjustment of concept drawing of special plan was completed and the technical solutions of the reconstruction were specified. Based on the assesment of the volumes of deforestation under the

adjusted deforestation limits, it was estimated that during the implementation of the minimum variant of the reconstruction - the forest will be cut on the area of 1,1 ha with 203 m^3 of wood cut; during the implementation of the moderate variant – the forest will be cut on the area of 5,5 ha with 1 057 m^3 of wood cut, and in the maximum case of the reconstruction - the forest will be cut on the area of 13,7 ha with 2 801 m^3 of wood cut.

In order to compensate the loss of forest stands during the Pauostis station tracks reconstruction, it is recommended to reproduce them in the ratio 1:1 or greater in currently unused adjacent areas of Klaipėda city lands, or, if the old railway segment is dismantled, on its route. The projects of deforestation and reforestation activities will be coordinated with the forest manager – Public Institution „Kretinga Forest Enterprise“.

Upon the assesment that, in legal terms, the forests of Giruliai and Klaipėda on the territory of the planned reconstruction, according to the resolution No. 1651 of 21-10-2002 of the Government of the Republic of Lithuania (Official Gazette, 2002; No. 107-4800), are assigned to the group of ecosystem protection and recreational forests (II), in which the smooth cutting is banned, and only the sanitary and educative cuttings are allowed, it is necessary to make change in assignment of the existing forest to the mentioned group under the procedure indicated in the clause 8 of the article 3 of the Forest Law of the Republic of Lithuania (22 November 1994, No. I-671; Official Gazette, 2001, No. 35-1161).

In terms of the impact on fauna it was determined, that the planned road building works on the Pauostis railway routes will not affect the populations of amphibians, reptiles and invertebrates, because these species are plastic and are dominant in the anthropogenic landscape. However, after the evaluation of the most intensive zone of amphibian migration, it is recommended to build the fence with bandwidth for amphibians along the newly created track formations. There will be no significant negative impact on the individual protected birds and/or mammals populations of the country or region-wide because of the low abundance of them on the analyzed territory.

Any significant impact on big huntable fauna (moose, deer) was not determined, because the local population is quite insignificant at regional level (animal families are calculated in units), transit tracks of big huntable fauna migration were not confirmed.

Any significant impact on protected bird species is not expected. It is expected that, after the deforestation, the general area of habitat suitable for propagation of black woodpecker and small flycatcher will be decreased on the route of the new Giruliai circuit railway branch.

It is recommended not to carry out the noisy road building works on the Giruliai circuit railway branch during the period of bird propagation and migration, i.e. April-July and September-October.

Impact on landscape

The planned Pauostis station tracks reconstruction, except the maximum variant of the reconstruction, will not have any significant adverse effects on landscape aesthetic value and other indicators defining its quality, if the landscaping works are carried out properly throughout the area affected by the reconstruction.

In case of the maximum variant of the planned reconstruction, the landscape stability of the area will decrease due to the planned deforestation on the forested area of 29,9 ha. In case of this variant of the reconstruction, the mosaic character of the landscape will decrease and the biotope fragmentation will increase in the northern part of the territory, where the new railway route will run on the northwestern edge of the indigenous forest habitats and territories which are important in botanical point of view.

Impact on the cultural heritage objects

The territory of the planned Pauostis station tracks reconstruction includes Giruliai railway station, which in acordance with the Act No. KL-RM-33 of the Immovable Cultural Heritage Assessment Board of the Klaipėda City Minicipality of 20-01-2009 was included in the database of the mentioned register (unique code of the cultural heritage value **32565**).

The building of Giruliai railway station must be preserved during the planned Pauostis station track reconstruction.

Upon the evaluation of all three variants of the planned Pauostis station tracks reconstruction, the certain physical impact is possible only in implementation of the second (moderate) and the third (maximum) variants of the reconstruction, when two new tracks will be equipped during the construction works. In order to maximally reduce the potential physical impact on the Giruliai railway station building during the abovementioned construction, in the preparation of the technical project for the Pauostis station tracks reconstruction there must be prepared the technical solutions for the protection of the object and must be provided the specific physical protection measures during the phase of construction works. On the other hand it is predicted that the special vibration absorbing flooring will be laid under the reconstructed and newly builded rails on the territory of the reconstruction. This technical measure should greatly reduce the vibration emerging from the wagon rolling stock of the passing freight train during the operational phase following after the construction.

Meanwhile, in implementation of the first (minimum) and the third (maximum) variants of the reconstruction any impact on the Giruliai railway station building is not expected.

Other identified cultural heritage objects are at the distance of 0,43 – 1,17 km (the first and the second old cemetery of Melnragė) from the target areas of economic activity, therefore, the impact of the provided Pauostis station tracks reconstruction on these cultural heritage objects is unlikely.

Impact on public health

The most important aspects of population health, which are related with the planned activities, are the following: noise and vibration; ambient air pollution; water pollution due to the ground and underground contamination; railway emergencies.

After the examination of potential impacts on public health, the following conclusions were made:

- The noise limit values at the residential buildings will not exceed the allowable limits, if 2 high acoustic wall is constructed 3,8 m from the axis of the outermost track in the Giruliai village – of 3-3,5 m. and in the gardeners community „Diana“ – of 4-4,3 m,

- The maximum ambient air pollution generated by the railway traffic in the environment of Pauostis station tracks does not exceed the limit values of living environment pollution,
- Water pollution due to the ground and underground contamination is unlikely because of the groundwater flow direction (toward the Baltic Sea) and because of the rain collection and treatment systems which are being installed and the protective geomembrane which is laid under the rails.

In accordance with comments on adjustment of the provided EIA report introduced in the letter No. (4.36)-R2-2485) of 06-08-2010 by the Klaipėda City Municipality Administration (Book II of the EIA report "Appendices", part IV "The conclusions of evaluable subjects of the EIA report and the records of public discussion"), and, by assessing the solutions of the Giruliai detailed plan which is approved by the decision No. T2-177 of 26-05-2005 of the Klaipėda City Municipality Board, the EIA report which is reintroduced for the coordination, presents the extension of the noise insulating wall up to 282 meters, which is in the Giruliai village limits at the existing and projected sites, on which currently there is no structures, but their construction is intended in the future.

Upon the assessment of the expected environmental pollution, it was found that the phase I of the variant III of the Pauostis station tracks development will not have any negative impact on population health.

After the implementation of the phase II of the variant III of the Pauostis station tracks development, the environmental conditions in Giruliai will significantly improve and respectively the better conditions will be made for the population health.

Cross-border impact

The planned economic activity will not have perceptible (physically measurable) cross-border impact on any of the environmental component. In case of the intended implementation of the Pauostis railway station reconstruction of the Klaipėda railway, the cross-border impact could be analyzed only in the context of Lithuania's economic development, i.e. how the cross-border flows of goods will change due to the interaction between the Klaipėda seaport and Lithuanian railway network, and what impact this will have on cross-border trade (imports, exports of goods), and at the same time on the state's economy.

Analysis of alternatives

The EIA report examined 4 railway development alternatives (0-3): 0 variant (present situation), variant I (minimum), variant II (moderate) ir variant III (maximum). Alternative assessment was conducted in a qualitative way, by comparing the development alternatives with each other.

The analysis of alternatives shows that the worst variant is the alternative I, when the development is carried out at the least scope and the required benefit is not achieved, and the impact on the environment and the population, although minimal, is made.

The best alternative according to the chosen assessment methodology is the IIIrd (Giruliai circuit), as it has scored the most points. Despite the fact that the realization of this alternative will be accompanied by significant intervention into the pristine natural environment, the highest evaluation score resulted in positive changes in living environment, the lowest possible accidents and accident probability, the need of the high

development and intended pollution prevention measures, due to which the environmental impact will be monitored.

The IInd alternative, which includes the moderate variant of the station tracks development, scored less points despite the relatively less intervention into the pristine natural environment. The lower selection score was largely driven by strong negative impact on social and health factors, as well as negative public approach to the planned development of the station tracks in the living environment alongside.

The best alternative is intended to be implemented in the second phase of development.

In accordance with the planning conditions issued by the Klaipėda City Municipality, in the first phase of development there must be implemented the moderate variant of the station tracks development, which differs from the maximum basically in Giruliai circuit. Therefore, the maximum variant will be implemented in the second phase of the station tracks development, upon the receipt of adequate funding.

Environmental monitoring

The accomplished assessment of the the potential impact of planned economic activities on the ambient air, water and entrails of the earth shows that the activities of the reconstructed Pauostis station tracks will practically have no negative impact on the environment during the normal operation, and there is no need to organize the monitoring of the impact on the quality of the abovementioned environmental elements.

In accordance with the Environmental monitoring provisions of economic subjects, the monitoring of the impact on the quality of ambient air is not required for the examined economic activities.

However, considering the comment and proposal provided by the Klaipėda City Municipality Administration in the letter No. (4.36)-R2-2485) dated 06-08-2010 (**Part IV of the Book II** of the EIA report "The conclusions of evaluable subjects of the EIA report and the records of public discussion"), the environmental monitoring is intended. For this purpose, in the content of the technical project of the Pauostis station tracks reconstruction, in accordance with the requirements of the "Environmental monitoring provisions of economic subjects" (Official Gazette 2009, No. 113-4831) approved by the order No. D1-546 of 16-09-2009 of the Minister of Environment of the Republic of Lithuania, the monitoring program must be prepared and coordinated, in accordance with the procedure, with the Klaipėda Regional Environmental Protection Department of the Ministry of Environment.

The assessment of potential hazards of accidents and risk

After the accomplishment of the qualitative risk assessment of the planned economic activities, it was determined that the object falls within the medium risk category. In practice, it often means that implementation of additional accident prevention measures is not necessary in the objects. The possible oil spill fires pose the biggest risk, the oil spill – the lowest. The fires are seen as probable (once every 10-100 years), the spill - likely (once every 1-10 years). The probability was determined on the basis of the analysis of the data on the accidents happened on the Lithuanian railways.

As compared with the current situation, after the reconstruction and modernization works, the technical level of Pauostis station tracks and of the railway section Pauostis-Giruliai will be much higher. At the same time the risks of possible accidents will significantly reduce. Upon the implementation of the railway development,

not only the railway traffic control system will be modernized, but also many of accident prevention measures will be introduced: the new fire water supply and fire tanks, access roads for fire fighting vehicles, the fenced territory of the station tracks, the system for collection of the surface run-off and drainage system, the surface run-off treatment equipment, the protective geomembrane under all the railway tracks. Also, after the extension of Pauostis station tracks, the number of operations on the formation/dissolution of the surplus rolling stock will significantly decrease, and that will also reduce the potential risk of accidents.

INTRODUCTION

The planning of the Pauostis station tracks reconstruction

Klaipėda city is the most important and the biggest center of transport in the Republic of Lithuania, which combines sea and land routes. The country‘s main highways of land roads meet at the seaport; the seaport is the endpoint of the IX railway transport corridor with the B branch: Kiev (Ukraine) – Minsk (Belarus) – Kena – Vilnius – Kaišiadorys – Šiauliai – Klaipėda; Klaipėda State Seaport is the main cargo and logistics center of Lithuania.

Considering the exceptional importance of the object to the national economy, and the fact that each year the amount of goods transported by railway increases by 2 million tons, and this railway junction has not enough existing roads and infrastructure capacity, JSC „Lithuanian Railways“ provides for development of the Klaipėda railway junction. For this purpose, the JSC „Lithuanian Railways“ commissioned, and the German company „Eisenbahn - und Bauplanungsgesellschaft Erfurt MBH“ prepared the Feasibility study on development, complex reconstruction and modernization of the Klaipėda railway junction /**1**/. The Feasibility study is prepared according to the aspects of development of existing stations on the Klaipėda railway junction or construction of new ones, on improvement of technical condition of existing infrastructure and on the road development to the port.

One of the options examined in the Feasibility study – the extension of Pauostis station tracks to 1050 m and the need for additional tracks. In 2009 the project „The design of the Pauostis station tracks reconstruction“ has been started to execute on the basis of the option analyzed in the Feasibility study.

The composition of the project:

- The Special plan of Pauostis station tracks of the Klaipėda railway station;
- The technical project of the Pauostis station tracks reconstruction (is developed in accordance with the prepared Special plan).

In order to implement this project, the Procurement Office of the JSC „Lithuanian Railways“, in accordance with the Law on Public Procurement (1996 08 13, No. I – 1491; Official Gazette, 1996, No. 84-2000; 2006, No. 4-102), has organized and carried out the open public tender. The successful tenderer and the project executive – the group of companies acting on the joint venture basis, which consists of the German company Eisenbahn und Bauplanungsgesellschaft Erfurt MBH, JSC „Sweco Lietuva“ and JSC „Ernst & Young Baltic“ (Lithuania).

In accordance with the requirements of the „Regulations for Drafting the Special Communications plans“ approved by the order No. 3-453/D1-549 of 24 November 2006 of the Minister of Transport and Communications of the Republic of Lithuania and the Minister of Environment of the Republic of Lithuania (Official Gazette, 2006, No. 130-4924; 2008, No. 115-4389), and, in accordance with the order No. 3-160 of 27 April 2009 of the Minister of Transport and Communications of the Republic of Lithuania (**Text annex 1**), JSC “Sweco Lietuva” (hereinafter – the Planner) starts to prepare the special plan of the Pauostis station

tracks reconstruction (hereinafter – the Special plan). According to the procedure of the abovementioned regulations, the functions of the planning organizer are assumed by the JSC „Lithuanian Railways“ (hereinafter – the Planning organizer). The planning conditions for the preparation of the Special plan were issued by the Architecture and Urban Planning Department of the Klaipeda City Municipality Administration (the order No. AD1-1503 of 15 September 2009 of the Director of the Klaipeda City Municipality Administration dated 15-09-2009; **Text annex 2**).

Also in accordance with the requirements of the abovementioned regulations and in accordance with the law on the change of the law on the Environmental Impact Assessment of the planned economic activities of the Republic of Lithuania (2005 06 21, No. X-258; Official Gazette, 2005, No. 84-3105; hereinafter – the EIA law), the Environmental Impact Assessment documents must be prepared in the content of the Special plan which is being developed.

The objective, purpose and principal provisions of the preparation of the EIA report of the Pauostis station tracks reconstruction

In accordance with the regulatory requirements applicable in Lithuania and the European Union, all the planned economic activity, which may have an impact on the environment, must be assessed in the aspect of the potential environmental impact.

According to the EIA law (No. X-258 2005 06 21; Official Gazette, 2005, No. 84-3105) /**3**/ all the planned economic activity is divided into two categories: the activity for which the Environmental Impact Assessment is obligatory and the activity for which the selection regarding the obligatory Environmental Impact Assessment must be carried out.

According to the nature of economic activity, the reconstruction of Pauostis station tracks falls into the list of activities (Clauses 8.5 and 10 of the Annex of the EIA law “The building of main public use railways“ and “The change or extension of planned economic activity included into the list of types of planned economic activity, which environmental impact must be assessed, in those cases when such change or extension meets the limit values set in this Annex, if they are set”), which are subject to the procedures provided by the EIA law /**3**/.

Considering the EIA law and the law No. D1-370 of 15 July 2005 of the Minister of Environment of the Republic of Lithuania “Regarding the public information and the approval of the procedure of participating in the Environmental Impact Assessment process of the planned economic activity” (Official Gazette, 2005, No. 93-3472) and the order No. D1-311 of 23 June 2006 “Regarding the confirmation of the procedure description of examination of the documents of the Environmental Impact Assessment of the planned economic activity in the Ministry of Environment and its subordinate institutions” (Official Gazette, 2006, No. 75-2882), the organizer of the planned activity or his liable organizer of the preparation of the documents of the Environmental Impact Assessment, shall prapare and coordinate the program of the Environmental Impact Assessment of the planned economic activity with the subjects of the Environmental Impact Assessment, introduce to the public and provide for consideration and approval of the Klaipėda Regional Environmental Protection Department of the Ministry of Environment.

The JSC „Lithuanian Railways“, with its intention to reconstruct Pauostis station tracks, through the signed agreement obliged the developer of Environmental Impact Assessment documents – JSC “Sweco Lietuva“, to perform the Environmental Impact Assessment of the planned economic activity, i.e. to prepare the Environmental Impact Assessment program and report, to discuss the prepared documentation with the public, to coordinate with the subjects of the Environmental Impact Assessment and to provide for consideration and approval of the Klaipėda Regional Environmental Protection Department of the Ministry of Environment.

In July – October 2009, JSC “Sweco Lietuva” developed the program for the Environmental Impact Assessment (hereinafter EIA) of the Pauostis station tracks reconstruction. The EIA was developed and agreed with stakeholders and on 1 December 2009 it was approved by the Klaipėda Regional Environmental Protection Department of the Ministry of Environment. The copies of documents of the EIA program coordination and information are presented in **Text annex 3**.

During the period November 2009 – February 2010, JSC “Sweco Lietuva” carried out the EIA of the Pauostis station tracks reconstruction and prepared the report on „The Environmental Impact Assessment of the Pauostis station tracks reconstruction of the Klaipėda railway junction“.

The EIA report is prepared pursuant to the requirements of the EIA law and in accordance with the EIA program which was agreed with the concerned institutions and approved by the Klaipėda Regional Environmental Protection Department of the Ministry of Environment (**Text annex 3**), and following the „Regulations for the preparation of the Environmental Impact Assessment program and report“ approved by the order No. D1-636 of 23-12-2005 of the Minister of Environment of the Republic of Lithuania (Official Gazette, 2006, No. 6-225) and their amendments (Official Gazette, 2008, No. 79-3138; approved by the order No. D1-368 of 08-07-2008 of the Minister of Environment of the Republic of Lithuania) and „The methodological guidance for the public health impact assessment” approved by the order No. V-491 of 01-07-2004 of the Minister of Health of the Republic of Lithuania (Official Gazette, 2004, No. 106-3947), and also taking into account the activity specifics of the planned object. The source data for the preparation of the EIA program, as well as the report, were accepted through the information provided by the JSC „Lithuanian Railways“ and the German company Eisenbahn und Bauplanungsgesellschaft Erfurt MBH.

The Chapter 2 of the EIA report provides general information on the organizer and developers of the EIA documentation, the general description of the technological process (activity) of Pauostis station tracks being planned to reconstruct, the materials used in the activity, the waste which will emerge and the used energy resources. The geographical and natural conditions of the area of the planned activities are also described. The assessment of the potential impact on water arising out of the planned economic activity is presented in the Chapter 3, the potential impact on ambient air is assessed in the Chapter 4. The separate Chapter 5 examines the impact on other components of the environment arising out of the planned economic activity: soil, entrails of the earth, vegetation and fauna, landscape. The potential impact on public health is assessed in the separate section of this Chapter. This section also describes the intended impact mitigation measures. The Chapter 9 reviews the possibilities of occurrence of emergencies and their consequences. The summary of the report with key findings of the Environmental Impact Assessment is provided in the separate part.

THE OBJECTIVE OF THE ENVIRONMENTAL IMPACT ASSESSMENT:

- to identify, describe and assess the potential direct and indirect environmental impact of the planned reconstruction of Pauostis station tracks (on public health, fauna and vegetation, soil, land surface and its entrails, air, water, climate, landscape and biodiversity, material assets and immovable cultural property and the interplay between these components);
- to determine whether the planned economic activity is allowed in the chosen area after the assessment of its nature and environmental impact.

THE DATA OF THE PAUOSTIS STATION TRACKS RECONSTRUCTION

General Data

DATA OF THE ORGANIZER OF THE PLANNED ECONOMIC ACTIVITY

Company name	JSC “LITHUANIAN RAILWAYS”
Address, telephone, fax, website	Mindaugo str. 12/14, LT-03603, Vilnius, Lithuania Tel. (8 ~5) 2693300, Fax. (8~5) 2692128; Website: www.litrail.lt
Contact person's name, surname, position, telephone number, e-mail	GEDIMINAS RIMDŽIUS JSC “LITHUANIAN RAILWAYS” Chief Specialist of the Environmental Sector of the Development Division of the Department of Development; Tel. (8~5) 2692430; Mob. tel.: (8~618) 88975; E-mail: g.rimdzius@litrail.lt

DATA OF THE DEVELOPER OF THE DOCUMENTS OF THE ENVIRONMENTAL IMPACT ASSESSMENT OF THE PLANNED ECONOMIC ACTIVITY

Company name	The Lithuanian and Swedish JSC “Sweco Lietuva”
Contact person's name, surname, position	ANTANAS JURKONIS Project Manager (Qualification Certificates No. No. 14855, 24918)
Address, telephone, fax, e-mail, website	V. Gerulaičio str. 1, LT-08200 Vilnius Tel. (8~5) 2196576, Fax (8~5) 2617507; E-mail: antanas.jurkonis@sweco.lt; Website: www.sweco.lt

THE NAME, PURPOSE, DESCRIPTION AND TERMS OF IMPLEMENTATION OF THE PLANNED ACTIVITY

Name of the object:	The Pauostis station tracks reconstruction of the Klaipėda railway junction
Stage of the project:	Environmental Impact Assessment

Location of the planned economic activity:	Melnragė and Giruliai Parish; Klaipėda City Municipality
The purpose of the planned economic activity *(in accordance with the Feasibility study on development, complex reconstruction and modernization of the Klaipėda railway junction /***1***/)***:**	To ensure the development of the Klaipėda railway junction through the implementation of modernization and reconstruction of Pauostis station tracks in accordance with the coordinated capacities of the northern and southern parts of the Klaipėda junction.
The purpose and capacity of the planned economic activity:	To increase the capacity of Pauostis station tracks in accordance with the calculations of cargo traffic predicted for 2011 (the volume of cargo transported by railway to/from the Klaipėda seaport up to 25 million tons) and coordinated capacities of the northern and southern parts of the Klaipėda junction.
The implementation terms for the construction of the object:	Start: End: **Phase I** (with viaduct; **Text annex 5**): 2011 2014 **Phase II**: 2015 2025
The expected operating time of the objects:	Unlimited
The planned investment:	**Phase I** (with viaduct): 105 million Lt **Phase II**: 27 m Lt

THE INTERFACE BETWEEN THE ENVIRONMENTAL IMPACT ASSESSMENT AND DESIGN PHASES AND VALID TERRITORIAL PLANNING DOCUMENTS

The Environmental Impact Assessment is carried out for the territorial planning document:

Planning and design phases	Environmental Impact Assessment phases
The special territorial plan	The EIA program and report

For the preparation of the Special plan of the territory of the planned reconstruction of Pauostis station tracks of the Klaipėda railway station, the Architecture and Urban Planning Department of the Klaipėda City Municipality, on 15 September 2009, issued the planning conditions, which were approved by the order No.

AD1-1503 of 15-09-2009 of the Director of the Klaipėda City Municipality Administration (**Text annex 2**) for the preparation of the mentioned special planning document. The digest of the special planning conditions indicates that in assessment of the planning objectives and tasks, for the planned territory must be applied the requirements of regulations of solutions of the valid planning documents of territories of appropriate level, as well as other strategic documents and programs:

General plans:

- ✓ Klaipėda city general plan, approved by the decision No. T2-110 of 05-04-2007 of the Klaipėda City Municipality, the register No. 07-22 **/2/** (the graphics are presented in **Graphic annex 1**);

The graphic material of the Klaipėda city general plan shows the Giruliai circuit route and the existing railway route through Giruliai is removed. The circuit is not indicated in the textual part of the general plan. The development of Pauostis is provided in the Klaipėda city general plan.

Special plans:

- ✓ The scheme of bicycle transport infrastructure development in Klaipėda city, approved by the decision No. 55 of 20-03-2000 of the Klaipėda City Board, the register No. 00-15 /**43**/;
- ✓ The transport scheme of the northern part of Klaipėda city, approved by the decision No. 173 of 22-10-1998 of the Klaipėda City Board, the register No. 98-41;
- ✓ The complex scheme of greenery system of Klaipėda city, approved by the decree No. 259 of 28-04-1994 of the Klaipėda City Board, the register No. 94-2;
- ✓ The scheme of the layout of high-rise buildings in Klaipėda city (special plan), approved by the decision No. T2-201 of 28-06-2007 of the Klaipėda City Municipality Board, the register No. 07-30;
- ✓ The special plan on visual information and outdoor advertising of Klaipėda city, approved by the decision No. T2-267 of 28-07-2005 of the Klaipėda City Municipality Board, the register No. 05-32;
- ✓ The special plan and regulations on the selection of energy type and the use for heating in Klaipėda city, approved by the decision No. 254 of 08-11-2001 of the Klaipėda City Municipality, the register No. 01-62;
- ✓ The special plan on water supply and wastewater treatment infrastructure dvelopment in Klaipėda city, approved by the decision No. T2-74 of 31-03-2005 of the Klaipėda City Municipality Board (amended by the decision No.T2-221 of 29-05-2009), the register No. 05-7;
- ✓ The special plan on rain run-off in Klaipėda city and adjacent areas, approved by the decision No. T2-9 of 29-01-2009 of the Klaipėda City Municipality, the register No. 09-9.

Detailed plans:

- ✓ The detailed plan of Giruliai, approved by the decision No. T2-177 of 26-05-2005 of the Klaipėda City Municipality Board, the register No. 05-18;

- ✓ The detailed plan of the road from Medelyno str. across Labrenciškės village to Giruliai, approved by the decision No. T2-47 of 28-02-2008 of the Klaipėda City Municipality Board, the register No. 08-14 /**42**/;
- ✓ The project on detailed layout of individual residential district of Labrenciškės, approved by the decree No. 711 of 23-12-1993 of the Klaipėda City Board, the register No. 93-4.

It is essential to note that the direct impact on both the Special plan solutions and solutions examined in this EIA report is made by two planning documents of the named territories - the detailed plan of the road from Medelyno str. across Labrenciškės village to Giruliai /**42**/ and the detailed plan of Giruliai.

The direct impact on the project of the Pauostis station tracks reconstruction is also made by the Klaipėda county general plan /**41**/ and the special plan of crude oil and light oil products transportation pipeline in Telšiai and Klaipėda counties, which is currently started to prepare by the JSC "Orlean Lietuva" (until 28-08-2009 it was called "Mažeikių nafta"). The planning conditions for the latter were approved by the Director of the Klaipeda City Municipality Administration on 29-10-2008.

The more detailed description of the solutions of the Klaipėda county general plan, Klaipėda city general plan /**2**/ and the detailed plan of the road from Medelyno str. across Labrenciškės village to Giruliai /**42**/ is presented in the Chapter „Data on the anthropogenic environment".

The brief description of the technological process

CURRENT SITUATION

Pauostis station tracks are in Klaipėda, between the viaduct of P.Lideiko str. and the Giruliai railway station.

Pauostis railway station was built to serve the JSC "Klaipėdos nafta", and through the Anglynės station tracks – the JSC „Klaipėda Stevedoring Company" (KLASCO).

38 switches are centralized on the station tracks. Electrical switch gears are controlled by three-phase AC motors. The station tracks are equipped with 42 lens light signals and diesel power station. The Pauostis station tracks reconstruction was carried out in 1999-2002.

Currently the petroleum products are supplied from Pauostis station tracks to the companies „Klaipėdos nafta" or „Krovinių terminalas".

Pauostis station tracks consist of nine reception-departure tracks (No. 3, No. 4, No. 5, No. 6, No. 7, No. 8, No. 9, No. 10, No. 11), the length of which is of 771 m to 865 m (**Fig. Figure** Error! No text of specified style in document.**-1**), one main track (No. I) and three departures to the northern direction of Klaipėda seaport. There is the direct entrance to the Klaipėda oil terminal from the Pauostis station.

To the north (from Pauostis station tracks) there is the Guruliai station, the cultural heritage value (unique code of the object **32565).** The Giruliai and Pauostis stations are connected by the short side track of about 1,5 km (single-track railway line).

To the south from Pauostis station tracks there is the Klaipėda station.

The rails R65 are laid on the concrete sleepers on the tracks No. 3, No. 4, No. 5, No. 6, No. 7, No. 8, No. 9 of the Pauostis station. The rails UIC 60 are laid on the tracks No. I (the main), No. 10, No.11. The track-laying years are from 1986 to 2002.

The wooden and ferroconcrete sleepers are laid on Pauostis station tracks. The ferroconcrete sleepers are on the main and all the side receprtion-departure tracks. The wooden sleepers are laid on each access of switches (with interval up to 70 m between switches) and couplers.

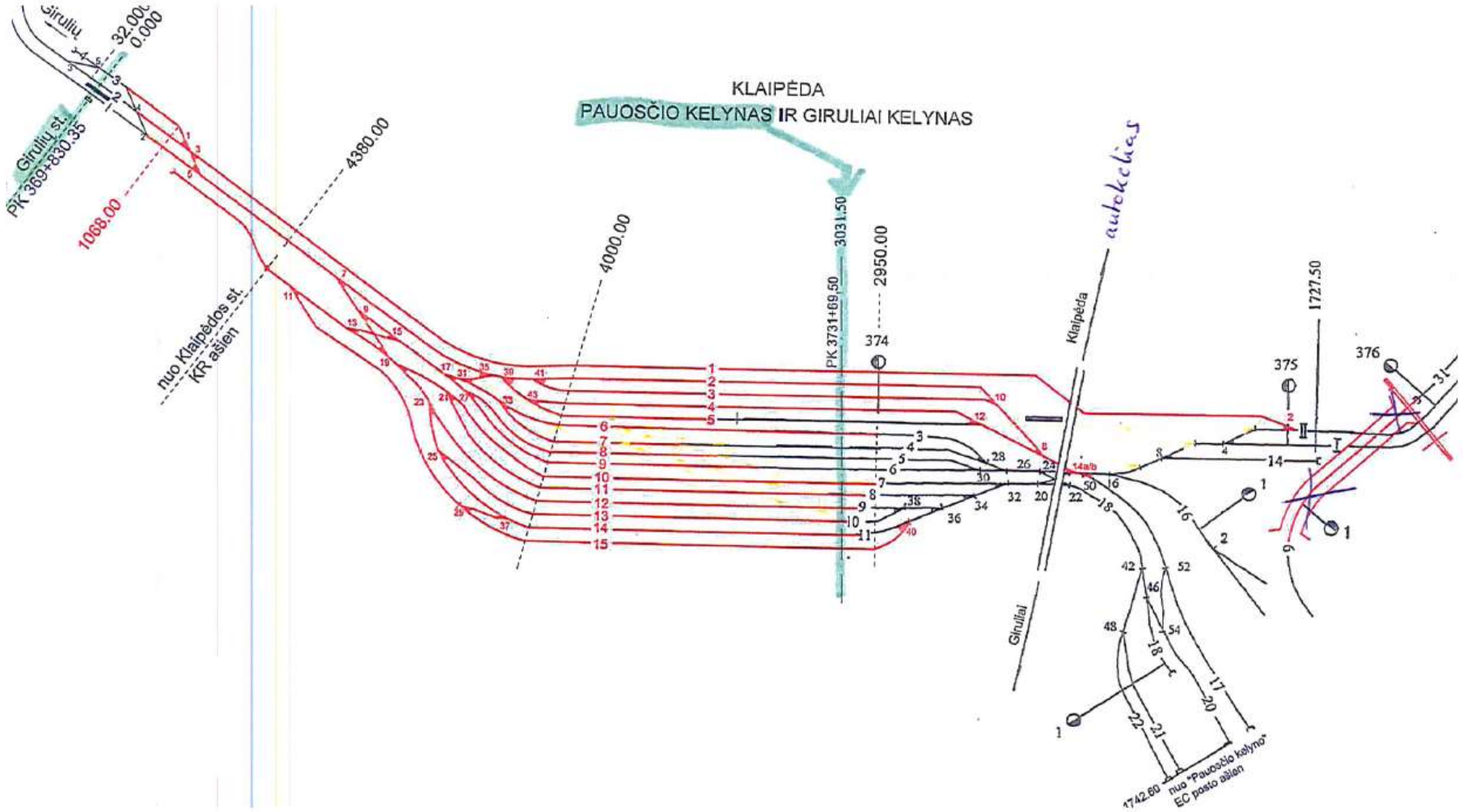
All the switches at the Pauostis station are laid on the wooden switch beams. Electric heating is equipped on switches on all reception-departure tracks.

The protective geomembrane Bentofix is equipped under all the Pauostis station tracks. After the Bentofix geomembrane is laid, the sand is laid on it – 5 cm layer, gravel – 20 cm, rubble – 35 cm, sleepers and rails.

The Pauostis station is equipped with the surface run-off collection system. The system consists of longitudinal pipe (d 200) mm between 7 and 8 tracks and cross pipes (d 150) are equipped every ≈50,00 m. The surface water is directed through the cross pipes to the concrete duct, equipped along the track No. 11, from which water flows into the existing contaminated rainwater treatment facilities, from them – into the pumping station and is pumped into the sewage treatment plant in Klaipėda.

There are no platforms on Pauostis station tracks.

Figure Error! No text of specified style in document.**-1. The scheme of Pauostis station tracks**



The followng buildings and facilities are at the Pauostis station (**Figure Figure** Error! No text of specified style in document.**-2**):

- Pauostis station building, which comprises the workers' domestic premises,
- Transformer substation,
- Fire reservoir,
- Rainwater and wastewater treatment plants.

Figure Error! No text of specified style in document.**-2. Pauostis station**

The territory is equipped with existing drinking water networks with water metering unit equipped in the building, domestic sewage and rain run-off networks with metering unit, drainage system. Drinking water is supplied from the centralized networks of Klaipėda city. The tight water supply network of d 200 mm in both directions and the branches with fire hydrants for filling the reservoirs are equipped from the city‘s circular water supply.

There are equipped operating contaminated rainwater treatment facilities, domestic sewage and rain run-off pumping stations, and pressure sewerage networks for sewage disposal to the city's sewerage networks.

On the territory, the amount of water, which is necessary for fire-fighting in buildings and station tracks, is stored in the fire-fighting reservoirs equipped on both sides of the station tracks.

THE PURPOSES OF THE PLANNING

If the Pauostis station is used more rationally, the flow of the freight trains, transporting oil into the Klaipėda railway station, would be reduced. Less oil cargo would be processed in the Klaipėda station, and the vast majority of them would be transported through the Pauostis station directly to the „Klaipėdos nafta“ and KLASCO. If additional tracks are equipped in Pauostis station tracks, not only petroleum products, but also fertilizers, seeds would be supplied directly to the port.

Another reason for development of Pauostis station tracks is the exploitation of diesel freight locomotives „ER 20 CF“ of „Eurorunner“ in the Lithuanian railway company. Now the used locomotives are able to pull the rolling stock of four thousand tons. The implemented locomotives will be able to carry the rolling stock of six thousand tons. Due to the new, significantly longer rolling stock, their reception tracks must be extended up to 1050 meters.

On the request of JSC „Lithuanian Railways, in 2007, the German company Eisenbahn- und Bauplanungsgesellschaft mbH Erfurt together with JSC „Kelvista“ developed Feasibility study on the development of the Klaipėda railway junction. The study examines 3 variants of junction development (**Figure Figure** Error! No text of specified style in document.**- 3**).

1. Minimum variant. The modernization measures are limited to Pauostis station tracks and „Draugystė“ station, since that is the place where the main movement of freight is in process and the classification works are carried out.

2. Moderate variant. At all stations the switch connectors are being simplified, the extension of existing tracks is intended, the northern entrance to the port is greatly simplified. The signaling technology development is expected at all stations. Electrical heating is provided for switches, as well as development of station lighting.

3. Maximum variant. The main idea of this variant – the total dispossession of freight railway transport from the Klaipėda city. At the same time, in accordance with the international practice, the building of the new track maintenance section, by making the circuit of Klaipėda as far as possible parallel to the bypass (Klaipėda-Palanga, Klaipėda - Šilutė), combining two types of transport – highway traffic and railway. Thus, the negative environmental impact would be significantly reduced as well as the occupation of territories would be lower. If this variant is implemented, the Klaipėdos station would become the station of destination.

In respect of Pauostis station tracks, the development variants are presented in the scheme of comparison of the variants of the planned Pauostis station tracks reconstruction (**Figure Figure** Error! No text of specified style in document.**- 4**):

Variant 0 (present situation)

I. variant (minimum)

- the extension of the 7-10 tracks up to the useful length of 1050 m;
- the extension of the 11 track up to about 300 m;

- the extension of the 19 track up to the useful length of 800 m;
- the need for alarm technology adaptation and development;
- two-level viaduct (tunnel) over the railway at the southern border of Vasarotojų str.

Figure 3.3

II. variant (moderate)

- the diversion of the main 1 track eastwards in order to make space for the construction of the other three tracks of 1050 m length;
- the installation of three new tracks of 1050 m length;
- the extension of the 3-11 tracks up to the useful length of 1050 m (northwards);
- the installation of the exhaust 19 track (800 m of useful length northwards);
- the installation of protective film under the new tracks;
- the installation of the third departure track from the station towards the port adjacent to the 12 or 16 track;
- the transfer of the existing fire protection water tanks beyond the newly built tracks and the installation of additional tanks;
- the installation of the second track between the Giruliai station and Pauostis station tracks;
- the two-level viaduct (tunnel) over the railway at the sourthern border of the Vasarotojų str.

III. variant (maximum)

- the installation of two main tracks from the northern city borber to the southern border of the Vasarotojų str. (Giruliai circuit);
- the two-level viaduct (tunnel) over the railway at the sourthern border of the Vasarotojų str;
- the diversion of the main 1 track eastwards in order to make space for the construction of the other three tracks of 1050 m length;
- the installation of three new tracks of 1050 m length;
- the extension of the 3-11 tracks up to the useful length of 1050 m (northwards);
- the installation of the exhaust 19 track (800 m of useful length northwards);
- the installation of geotextile protective film under the new tracks;
- the installation of the third departure track from the station towards the port adjacent to the 12 or 16 track;
- the transfer of the existing fire protection water tanks beyond the newly built tracks and the installation of additional tanks.

The assessment of 4 examined alternatives (0-3) is presented in the separate Chapter of this report.

In accordance with the Planning conditions for the preparation of the special planning documents for Pauostis station tracks of the Klaipėda railway station issued on 15-09-2009 by the order No. AD1-1503 of the Director of the Klaipėda City Municipality Administration, one of the objectives of the special planning is to select the appropriate variant of the Pauostis station tracks reconstruction, bypassing Giruliai village.

Figure Error! No text of specified style in document.**-4. Variants of the planned Pauostis station tracks reconstruction**

This report presents in detail the technical data of the variant II of the Feasibility study, which is the phase I of the variant III of the EIA. In current situation, the technical planning data of Giruliai circuit are not available. The exception is the scheme of the plan of the Pauostis station tracks situation of the special plan of Pauostis station tracks of the Klaipėda railway station (**Graphic annex 17**).

The Medelyno str. tunnel is planned by the detailed plan of the road from Medelyno str. across Labrenciškės village to Giruliai, approved by the decision No. T2-47 of 28-02-2008 of the Klaipėda City Municipality Board, the register No. 08-14, and it is not detailed in this report.

The Environmental Impact Assessment shall include the variant III (phases I and II).

THE OBJECTS DESIGNED DURING PHASE I

Agreeably to the Planning conditions for the preparation of the special planning documents for Pauostis station tracks of the Klaipėda railway station, the Pauostis station tracks reconstruction will include the following works:

Phase I: in current situation the planning works were started, for the works being planned there is the possibility to receive the European Union support for the development of the transport system:

1 the diversion of the main 1 track eastwards in order to make space for the construction of the other three tracks of 1050 m length,

2 the installation of three new tracks of 1050 m length,

3 the extension of the 3-11 tracks up to the useful length of 1050 m (northwards),

4 the installation of the exhaust 19 track (800 m of useful length, northwards),

5 the installation of protective film under the new tracks,

6 the installation of the third departure track from the station towards the port adjacent to the 12 or 16 track,

7 the installation of the second main track between the Giruliai station and Pauostis station tracks,

8 the transfer of the existing fire protection water tanks beyond the newly planned tracks,

9 the installation of underground fire-fighting reservoirs of 2 groups of 4 units of 100 m^3 capacity equipped on both sides of the station tracks,

10 the installation of the two-level viaduct over the railway at the sourthern border of the Vasarotojų str.

Phase II: in current situation the planning works were not started, for the works being planned there is no possibility to receive the European Union support for the development of the transport system:

11 The installation of Giruliai circuit.

Project proposals have been developed for the works listed in 1-8, and for the work indicated in 9, i.e. for the implementation of the installation of the two-level viaduct over the railway (or tunnel under the railway) at the sourthern border of the Vasarotojų str., the detailed plan of the road building from Medelyno str. across

Labrenciškės village to Giruliai is prepared, approved by the decision No. T2-47 of 28-02-2008 of the Klaipėda City Municipality Board.

The planning documents for Giruliai circuit were not prepared, therefore, this report does not present the technical data of the installation of this circuit.

The solutions of project proposals of works 1-8 are presented in **Graphic annex 14**.

Railway development

The main development of the station tracks is carried out to to the east and north (from the Giruliai station to the south).

Two main tracks are expected between the Pauostis and Giruliai stations. Thereby the freight trains on the Giruliai station would avoid the need to stop and let the train units leaving Pauostis station tracks pass.

Pauostis station tracks are equipped with the extra reception-departure tracks, thus, providing the opportunity to break up the rolling stock and to divert the necessary rolling stock from this station directly to the terminals of „Klaipėdos nafta“ and KLASCO without passing the station in Klaipėda.

The existing tracks will be extended to 1050 m thereby ensuring that the rolling stock of 6 thousand tons (load), which is pulled by the ER 20CF locomotive, could arrive and stop.

The specification of the planned works is presented in **Table Table** Error! No text of specified style in document.**-1.**

New rails are built on districts of altered way routes and districts of track extension.

New ferroconcrete sleepers are laid on the districts of altered way routes and of extended ones as well as on the newly designed tracks.

All switches are designed on the g/b switch beams, except switches in curves, double cross switches and lead crosses, which are designed on the oak switch beams.

The relaid and new rails will be joined without fish-plates, but joined by welding. It will reduce the noise (thunder) when the wagon‘s wheel pair crosses the rail connectors.

Table Error! No text of specified style in document.**-1. The scope of the planned works**

Pauostis station tracks

Serial No.	Track No.	Segment			Works
		From, km+pk	To, km+pk	Length (m)	
1	I	371+790	374+374	≈ 2584	The installation of the main track No.I on the new site/renovation (R65 rails on the g/b sleepers)
2	2	372+480	373+800	≈1320	Installation of the Track No. 2 on the new site (R65 rails on the g/b sleepers)
3	3	372+595	373+800	≈1205	Installation of the Track No. 3 on the new site (R65 rails on the g/b sleepers)

Serial No.	Track No.	Segment			Works
		From, km+pk	To, km+pk	Length (m)	
4	4	372+600	373+790	≈1190	Installation of the Track No. 4 on the new site (R65 rails on the g/b sleepers)
5	5	372+600	373+000	≈ 400	Extension of the Track No. 5 northwards (R65 rails on the g/b sleepers)
6	6	372+440	373+000	≈ 560	Extension of the Track No. 6 northwards (R65 rails on the g/b sleepers)
7	7	372+440	373+000	≈ 560	Extension of the Track No. 7 northwards (R65 rails on the g/b sleepers)
8	8	372+380	373+000	≈ 620	Extension of the Track No. 8 northwards (R65 rails on the g/b sleepers)
9	9	372+380	373+000	≈ 620	Extension of the Track No. 9 northwards (R65 rails on the g/b sleepers)
10	10	372+382	373+000	≈ 618	Extension of the Track No. 10 northwards (R65 rails on the g/b sleepers)
11	11	372+390	373+000	≈ 610	Extension of the Track No. 11 northwards (R65 rails on the g/b sleepers)
12	12	372+370	373+000	≈ 630	Extension of the Track No. 12 northwards (R65 rails on the g/b sleepers)
13	13	372+470	373+000	≈ 530	Extension of the Track No. 13 northwards (R65 rails on the g/b sleepers)
14	14	372+470	373+000	≈ 530	Extension of the Track No. 14 northwards (R65 rails on the g/b sleepers)
15	15	372+200	373+600	≈ 1400	Installation of the Track No. 15 on the new site (R65 rails on the g/b sleepers)
16	19	371+318	371+960	≈ 642	Extension of the exhaust track No.19 from the existing exhaust track (R65 rails on the g/b sleepers)
17	I	371+200	371+790	≈ 590	Installation/renovation of the main track No. I from the reception track of the Pauostis station to the reception track of the Giruliai station (R65 rails on the g/b sleepers)
18	II	371+200	371+790	≈ 590	Installation of the main track No. II from the reception track of the Pauostis station to the reception track of the Giruliai station (R65 rails on the g/b sleepers)

Giruliai station

Serial No.	Track No.	Mileage			Works
		From, km+pk	To, km+pk	Length (m)	
1	I	370+500	371+200	≈ 700	Extension/renovation of the main track No. I to the direction of the Pauostis station (R65 rails on the g/b sleepers)
2	II	370+500	371+200	≈ 700	Extension/renovation of the main track No. II to the direction of the Pauostis station (R65 rails on the g/b sleepers)
3	3	369+796	371+009	≈ 1213	Extension/renovation of the reception-departure track No.

					3 (R65 rails on the g/b sleepers)
4	4	371+040	371+119,80	≈ 79,80	Installation of the safety blind pass No. 4 (using the old grate) R65 rails on the g/b sleepers
5	5	369+685	369+782	≈ 97	Installation of the safety blind pass No. 5 (using the old grate) R65 rails on the g/b sleepers

The connection of the designed constructions to the existing engineering networks

The constructions are not designed, therefore, this section presents the data on development and reconstruction of only existing engineering infrastructure.

Fire extinguishing system (networks, hydrants, reservoirs)

In order to meet the fire protection needs on the planned territory, it is proposed to design the circular DN200 mm water supply network from the existing d200 mm water supply. The underground or above-ground fire hydrants are placed on the designed network every 150-200 m.

Additionally it is provided to design the underground reservoirs of 4 units of 100 m³ capacity on both sides of the station tracks.

Two existing reservoirs, which fall under three railway tracks being planned to install, are liquidated, instead of them the new underground reservoirs of 4 units of 100 m³ capacity are designed on the territory beyond the new tracks.

It is planned to reconstruct the fire-fighting reservoirs which are on the territory of the Pauostis railway station in the western part of the station tracks.

Rain run-off treatment facilities, culverts

The rainwater from the existing and designed station tracks and drainage water will be collected by existing gutters and networks as well as by newly designed networks and it will be cleaned by newly designed rainwater treatment facilities with the capacity of 80 l/s. The sampling well is installed on the outlets from the treatment facilities. After treatment, the wastewater will fall into the rain run-off regulation reservoir of 100 m³, and then into the existing pumping station for rainwater and domestic sewage, from which the sewage is pumped into the city‘s networks.

Due to the extension and reconstruction of the station tracks, it is necessary to extend the existing culverts or change them into new ones. Due to the extension of culverts, it is recommended to adjust the channel, ditch or stream bed at the culverts.

The elevation of existing electrical networks, lighting, the transfer of communication cabling routes

The following works are provided:

- lighting of the reconstructed reception tracks and station tracks;
- laying of 10kV OL between the Giruliai railway station and Pauostis;
- elevation of modular transformer No. 2;
- dismantling the existing lighting piers;

- lighting of the designed tracks;
- elevation or protection of the underground electrical networks which prevent the construction of railway tracks;
- elevation of communication cable channels out of the newly designed railway tracks and switching of existing communication cables to the operating communication networks.

Retaining wall between the tracks

Different heights emerge between the main track and the extended exhaust track No. 19, therefore, it is proposed to install the retaining wall, the height of which would reach from 0 m to ~3.5 m (at the end of the exhaust track No. 19), and the length would be ~500 m. The thickness of the retaining wall should be about 400 mm. Duo to the large differences in height, it is necessary to install the fence on the retaining wall.

Fire track, fencing

Part of the newly designed tracks and the engineering constructions, which are necessary for servicing and maintenance of the Pauostis station, do not fit into the existing site. Lawfully, the site must be extended.

Due to the newly designed tracks, it is necessary to move and extend the fencing. It is proposed to provide the area for relaid and new engineering networks near the fencing in the inner side. In the inner side of fencing, it is suggested to install the passage of 3.5 m width with gravel surface used in case of fire. Under the passage, it is suggested to install the water supply networks with fire hydrants near the passage.

THE TECHNOLOGY PROCESS PARAMETERS OF THE PHASE I

The load rolling stock does not stop at the Giruliai station and comes to the reception-departure track and stops. The uncoupled locomotive leaves the station tracks by appointment. Via available switching track diesel locomotive arrives to the rolling stock and uncouples the necessary wagons or tanks of the rolling stock, and then pushes to the lead track which is to the north of the reception-departure tracks. The part of the rolling stock is pulled via available track (free track is always left) to the appointed terminal of the Klaipėda port. Switching diesel locomotive gets back to the station tracks with or without rolling stock.

3 switching diesel locomotives operate simultaneously.

The break up rolling stock and towing takes up to one hour.

The broke-up or broke-up trains stay on the station tracks until the track in the terminal of object appointment is released.

Loading works are not carried out on the station tracks.

The existing stream of trains (forward-backward) reaches about 50 per day. The increase of the stream by 10 percent is predicted after the development of the station track, i.e. it will reach about 55 trains per day. The maximum stream is observed in the first half of the day and in the evening. The stream of trains decreases at the day and night time.

It is estimated that the maximum stream reaches 3 trains per hour, and moderate – 2 trains per hour.

Operation mode

Pauostis station tracks operate around the clock throughout the year.

Data on the usable raw materials, manufactured products and industrial wastes

This section provides information about the planned use of raw materials and chemical substances.

The use of raw materials and chemicals is presented in **Table Table** Error! No text of specified style in document.**-2**.

Table Error! No text of specified style in document.**-2. Data on the usable raw materials, chemical substances and preparations**

Name of raw material, chemical substance or preparation	Quantity per year, t	Classification and labeling of chemical substance or preparation		
		category	indication of danger	risk phases
Diesel fuel	222,5	Irritant	Xn; R40	Xn R: 40 S: 24-36/37

Cargo storage in Pauostis station tracks is not provided, however, the loaded rolling stock may temporarily stay up to 1-1,5 days on the station tracks, if there is no possibility to receive it in the destination site. In exceptional situations, the load can stay on Pauostis station tracks longer than 1,5 day. The temporary storage conditions for raw materials and chemical substances in parked rolling stocks are summarized in **Table Table** Error! No text of specified style in document.**-3**.

Table Error! No text of specified style in document.**-3. Storage of raw materials, chemical substances and preparations**

Serial No.	Name of raw material, chemical substance or preparation	Mode of transport	Quantity, stored at place	Storage mode
1	Materials required for activity are not stored at the planned territory	-	-	-
2	Petroleum products, fertilizers, grain and other bulk products	Railway	up to 6000 t (one rolling stock)	In closed wagons and tanks in manufacturer's packaging

Manufactured products

Products will not be manufactured in the planned activity.

Wastes, their management

Waste formation is not provided in relation to the planned activity, because production activity will not be carried out on the planned territory.

Diesel locomotive drivers will use domestic premises on Pauostis station tracks. There will form a small amount of household waste. Oil-contaminated sludge will form in the rain run-off treatment facilities. Indicative waste formation is presented in **Table Table** Error! No text of specified style in document.**-4**.

Table Error! No text of specified style in document.**-4. Waste formation**

Code of waste	Name of waste	Hazard	Quantity, t/m
20 03 01	Mixed municipal waste	Not hazardous	2.5
13 05 02	Sludge of petroleum products/water separators	Hazardous	0,5

Fuel and energy consumption

Types of fuel and energy resources are presented in **Table Table** Error! No text of specified style in document.**-5**.

Table Error! No text of specified style in document.**-5. Fuel and energy consumption**

Energy and technological resources	Unit of measurement, t, m^3, kWh, etc.	Consumed per year	Sources of obtainable resources
Electrical energy	kWh	Additional needs of supply for electrical equipment caused by new tracks are about 192 kW. 152 kW of which are for switch heating and 40k W – for additional lighting and traffic lights.	Western distribution networks
Diesel fuel	t	222,5	Railway‘s fuel base

The use of natural gas is not expected.

SCOPE OF WORKS OF THE PHASE II

During the second phase, the double-track Giruliai circuit will be built on the route provided in the Klaipėda‘s general plan.

In current situation, the technical planning data of Giruliai circuit are not available. The scheme of the Special plan is presented in **Graphic annex 17**.

THE COMPARISON OF THE PROPOSED TECHNIQUES OF THE PHASE I WITH THE BEST AVAILABLE TECHNIQUES (BAT) IN THE EUROPEAN UNION

In accordance with the requirements of „The rules on issuance, renewal and cancellation of integration pollution prevention and control permits“ approved by the order No. D1-330 of 29 June 2005 of the Minister of Environment of the Republic of Lithuania (Official Gazette, 2005, No. 107), the limit values of pollution caused by the planned new facilities must be designed in accordance with the best available techniques (BAT). Usually BAT are the starting point for the Environmental Impact Assessment report in making conclusions on the performance of the planned technology as well as in assessing the object that is planned to be constructed. In this respect, the general BAT help in identifying the appropriate, „BAT-based“ conditions for the planned economic activity in accordance with the article 96/61/EB 9(8) of the Council Directive.

The Environmental Protection Agency provides information documents on the best available techniques (hereinafter - BAT) applicable in the European Union for various industries. BAT for the railways are not prepared. **Table 2-6** presents the BAT comparison in terms of their impact on particular components of the environment.

Table Error! No text of specified style in document.**-6. The comparison of the proposed techniques with the BAT**

BAT	**Match / mismatch**
Unidentified	Not applicable
Environmental aspect	**The measure applied to reduce the impact**
Noise	Rail connections without fish-plates, because of that the thunder will be avoided.
Noise and air pollution	Single-track changes the double-track, so trains do not need to stop at the Giruliai station in order to let the train from Klaipėda pass.
Air pollution	Diesel locomotives of the old model are replaced with UIC II corresponding to the pollutant emission standard of the International Union of Railways in accordance with UIC 624 (Union Internationale des Chemins de fer, UIC; ER 20 CF diesel locomotive). Switching diesel locomotives are modernized – the new fuel-friendly engines were introduced.
Underground pollution	The protective geotextile is laid under the rails, the rain run-off are collected and treated in the newly constructed

	treatment facilities.

The characteristics of the location of the planned economic activity and administrative subordination of the area

GEOGRAPHICAL LOCATION

Pauostis station tracks of the Klaipėda railway junction is in the northern part of Klaipėda – the third largest city of Lithuania. The whole object of the planned reconstruction is located in the forest of Giruliai – Klaipėda, from the northern border of Klaipėda city to P.Lideikio street. The station tracks are in parallel with Giruliai highway which is 400 – 500 m to the west from them; in the southern part the station tracks „crash" into the viaduct installed on P.Lideikio street. The most convenient access to the administration building of station tracks by motor transport – through the unsurfaced road which is perpendicular to P.Lideikio street and coincident with the Klaipėda forest clearing district. The similar way of access also is to Giruliai crossing – via Giruliai highway towards Melnragės 2, at the end of Melnragė, turn to the right, as well entering the track by the forest clearing district.

In administrative terms, the analyzed territory belongs to the Melnragė and Giruliai parish of the Klaipėda City Municipality.

The synoptic map of surroundings of Pauostis station tracks of the Klaipėda railway junction is presented in **Graphic annex 2**, and the overall view of the station tracks and accesses to them is presented in **Figure - Figure** Error! No text of specified style in document.**-5**.

Figure Error! No text of specified style in document.**-5. The overall view of the site of Pauostis station track of the Klaipėda railway junction and accesses**

The location of the site of Pauostis station tracks in respect of protected natural areas

The site of the planned activity (reconstruction) does not fall into the protected natural areas. However, according to the natural and cultural values, the most important and the largest protected areas of the region – the southern boundary of the Seaside Regional Park passes the northern outskirts of the Klaipėda city.

The Seaside Regional Park was established in 1992. The main purpose of the park is:

a. to preserve the landscape of the continental part of the Lithuanian seaside with coastal dunes, Great and Small coastal cliffs, Placio lake of the sea plain, Nemirseta dunes and coastal continental cliffs formed by the Litorinic sea, sea boulders, ethnographic Karklė village;

b. to preserve the stability of natural ecosystem, biota components, unique flora and fauna, rare plant communities and habitats, the areas which are important during the period of waterfowl nesting and resting during migration;

c. to allow the development of educational tourism and recreation.

The location of Pauostis station tracks of the Klaipėda railway junction in respect of the nearest protected natural areas is presented in **Graphic annex 3**, and their description – in **Table Table** Error! No text of specified style in document.**-7**.

Table Error! No text of specified style in document.**-7. Protected natural areas which are the nearest to Pauostis station tracks of the Klaipėda railway junction and the values stored in these areas**

Protected area	**Protection status**	**Preliminary area of habitats, ha/ the shortest distance from the object center, km**	**Preserved values**
The Seaside Regional Park	Regional Park of the Republic of Lithuania	5033 (approximately 30 km^2 of the area is in the sea)/4,4	Lithuanian coastal area between Klaipėda and the old Palanga with coastal landscape, natural and cultural heritage values, biological diversity of the Baltic Sea
Coastal dunes	NATURA 2000; Area which is important to the natural habitat preservation	422 The part of the Seaside Regional Park (the part of conservation of Nemirseta, Šaipė landscapes and Plazė reservation)/0,98	2110, Embryonic shifting dunes; 2120, White Dunes; 2130, Grey dunes; 2170, Dune osier-beds; 2170, Dune osier-beds; 2180, Tree-covered coastal dunes; 2320, Coastal sand steppes; 6210, Steppe meadows; 6510, Mesophile hay meadows.
Nemirseta sand meadows	NATURA 2000; Area which is important to the bird preservation	150,70 The part of the Seaside Regional Park /5,8	Tawny Pipit (*Anthus campestris*).
Kursiu Nerija National Park	NATURA 2000; Area which is important to the bird preservation	24995,87/1,85	Black kites (*Milvus migrans*), white tailed sea eagles (*Haliaeetus albicilla*), woodlarks (*Lullula arborea*), tawny pipits (*Anthus campestris*); the areas of concentration of migratory and wintering waterfowl in the Baltic

Protected area	Protection status	Preliminary area of habitats, ha/ the shortest distance from the object center, km	Preserved values
			Sea and The Curonian Lagoon, as well as areas of convergence of bird migration flows.
Smeltė botanical reserve	Area which is important to the preservation of rare plant species	3,645/8,8	Rare species of plants.
Kalotė botanical and zoological reserve	Area which is important to the preservation of rare species of plants and animals	613 The part of the Seaside Regional Park /4,5	Kalotė lake coastal plants; natural and introduced plant communities, rare coastal peaty grassland plants, endangered and rare plants: early coralroot, water-blinks, Veronica hederifolia, twinflower, sessile oak and others; rare animals: all kinds of bats, otters, badgers, grass snakes, birds nesting and resting during migration.
"Dutch cap" landscape reserve	Clayey coastal escarpment	123 The part of the Seaside Regional Park /5,0	Baltic sea cliff (Great coastal cliff) and its natural environment.

***** - information is taken from the websites of the Geological Survey of the Republic of Lithuania: http://lgt.lt./ /**4**/ and the State Service for Protected Areas under the Ministry of Environment: http://vstt.lt./ /**5**/.

The characteristic of protected areas and the impact on protected areas are examined in detail in the chapter „Biodiversity" of this EIA.