



KESKKONNAMINISTEERIUM



Summary of the Erra River Habitats Restoration Project (C.14)

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Summary

The cleaning of the Erra River and the Kiviõli ditch from residual pollution consists of three phases. A total of 4.8 km of the Erra River and a 1.3 km long Kiviõli ditch will be remediated. CleanEST contributes to the first phase of the Erra River works, in which the 2.4 km section of the Erra River will be cleaned from hazardous sediments (Picture 1). The second and third phases will be implemented with funding from the European Union Cohesion Fund (complimentary action). The deadline for works is October 1, 2023.



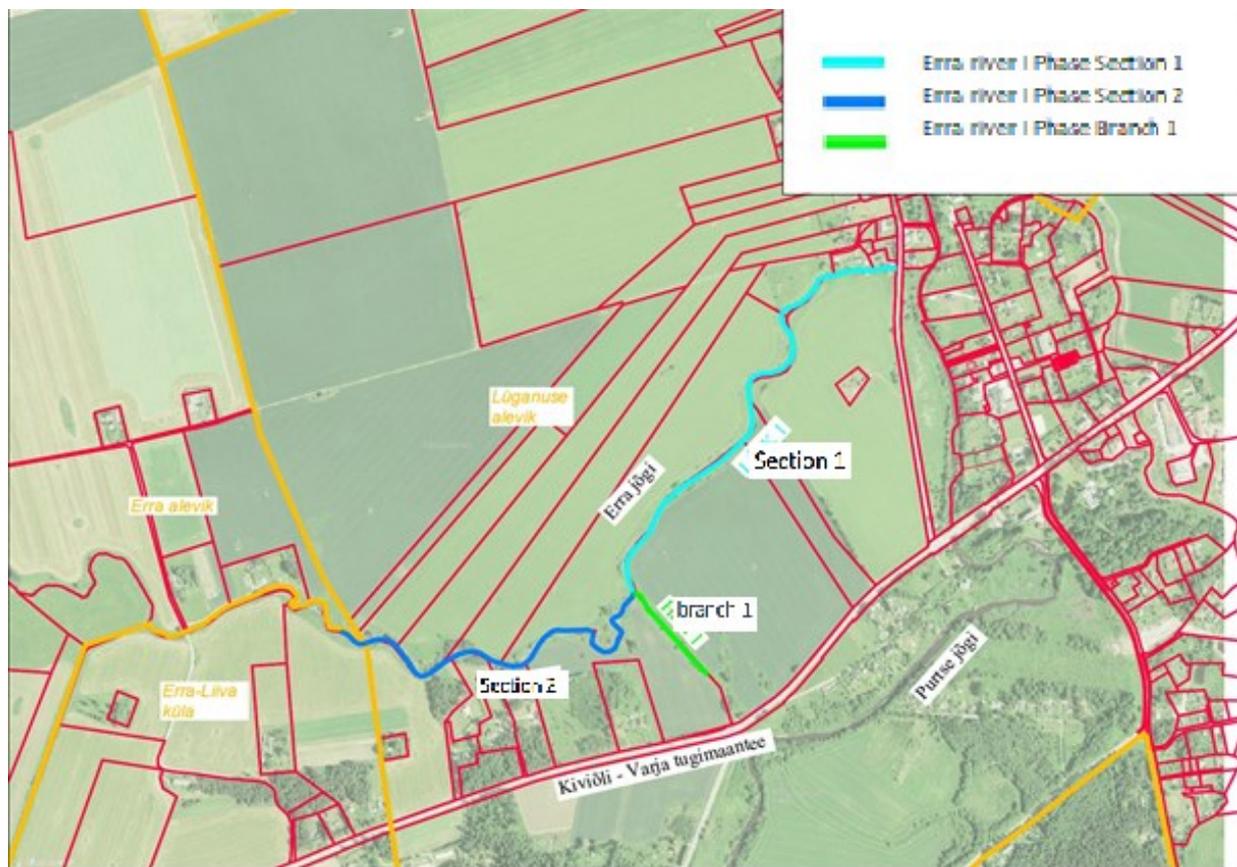
Picture 1. Division of the Erra River residual pollution elimination into phases

For the cleaning of the first phase, Kobras AS has prepared a work project (Annex 1), which was ordered by AS Pinnasepuhastuse OÜ.

Phase I of the Erra River Residual Pollution Safety Project provides a technical solution for the elimination of residual pollution from the lower reaches of the Erra River (approx. 2.1 km) and the additional branch to the right bank of the Erra River (approx. 0.26 km). (Picture 2) The aim of the work is to achieve a compliance with the limits of hazardous substances of residential land in the working area.

The planned residual pollution elimination works will take place at the Uhaku Landscape Protection Area and are in accordance with the protection objective of the Uhaku Landscape Protection Area. The protection procedure applies to Uhaku landscape protection in accordance with the Nature Conservation Act and the protection rules of Uhaku landscape protection area provided by Government of the Republic Regulation No. 157 of 11.11.2013.

The conservation objective of the protected area is the protection of rare and scientifically valuable karst landforms and the protection of turloughs (3180 *), water courses of plain to montane levels (3260) and alvar (6280 *) of habitat types.



Picture 2. A diagram of the location of the working sections and adjacent properties

In the working area, the Erra River is dry for most of the year and flows underground due to the presence of a karst, in a so-called secret river. As the Erra River bed is dry during the works (except for a few local water loops), it is not necessary to build temporary bypass ditches or access roads, as the residual pollution elimination work can be carried out in the Erra River bed within the pollution area.

Phase I of this work project provides solutions for the following elements:

- Preparatory work;
- Excavation of residual pollution of the first section of the Erra River - approx. 2.1 km;
- Excavation of residual pollution of branch 1 of the Erra River - approx. 0.26 km;
- Maintenance works after the construction works of the first section and branch 1 of the Erra River;
- Treatment of eliminated residual pollution.

Preparatory work

The owners of adjacent properties (border neighbours) must be informed of all work carried out on their land or directly affecting their interests (eg use of an access road). Land use agreements must be concluded with the owners of the real estate related to the work project before the construction activities. In order to carry out the work, it is first necessary to eliminate shrubs and woody vegetation from the work area, including uprooting to the extent necessary for carrying out the work. The technology of felling and uprooting is chosen by the contractor. The area of the work area to be freed from shrubs and woody plants is approximately 14,000 m².

Excavation of residual pollution

The total length of the sections of the Erra River (Phase I) to be treated is approx. 2.35 km (incl. branch 1) and the total volume of pollution on the sections is approx. 15,935 m³, which is further divided as follows:

- Erra River polluted mud and soil – 9940 m³;
- A hardened pitch on the banks of the Erra River and in the bed – 5995 m³;

In Phase I of the work project, it is planned to remove residual pollution from the Erra River (sections 1 and 2) and the Erra River branch (branch 1). (Picture 2) It is first planned to remove the pollution from the Erra branch, then from the Erra River section 1 and only then from the Erra River section 2.

If there is water in the karst funnels of branch 1, the performance of work there is prohibited and in this case the work must be started from other sections. The order of work must be determined exactly before the construction work on the basis of an external inspection. Residual pollution elimination works must be carried out during the shallow water period, if there is no water flow in the bed of the river Erra (and branch 1)

Management of eliminated residual pollution.

The excavated contaminated soil is intended to be disposed of in the hazardous waste landfill of VKG OIL AS. The transport of residual pollution must take place in leak-proof boxes of vehicles, and the transport of residual pollution leaking out of the box or overflowing into the box is prohibited.

1000 m³ of contaminated surface is intended to be treated by thermodesorption method. Soil intended for thermal desorption treatment must be transferred to a pre-treatment site or treatment immediately after excavation. If the location and operator of the thermodesorption treatment is not

known at the time of the works, the aforementioned picket range of the Erra River section 2 shall not be cleaned until the details of the treatment are known. As a possible option, SUEZ RR IWS Remediation NV equipment is used for soil treatment.

Restoration work

After the removal of contaminated soil, it is necessary to design the stream bed in such a way as to ensure both good water management of the watercourse and the natural condition at the same time. After removing contaminated mud, soil and pitch stains, maintenance work must be carried out. According to the habitat experts who inventoried the area, the soil used to restore the banks of the Erra River must not be brought from another place. Also, there is no need to sow different plant communities on the surfaces. The area must be left for natural recovery. Once the residual pollution has been removed from the slopes together with the soil, the slope is designed to be as original and close to nature as possible. To ensure the natural situation, the stones excavated from the riverbed (larger than 30 cm) will be installed back.

The actual situation

If during the excavation works it has become clear that the pollution spreads beyond the boundary of the area to be cleaned as described in the preliminary design, the Engineer shall decide whether it is necessary to carry out further clean-up work in this area. If it is decided to carry out the cleaning work beyond the boundary of the area to be cleaned, it shall be carried out until the elimination of all pollution or other orders of the Engineer.

Monitoring

The purity of the soil is checked for the following pollution components: 1-basic phenols, petroleum products, polycyclic aromatic hydrocarbons. Pollution assessment - "contaminated" or "non-polluted" is given in accordance with the limit values of residential land established by Regulation No. 26 of the Minister of the Environment of 28.06.2019. When contamination is detected, the Engineer shall specify the need for additional sampling and components. After excavation of contaminated soil, it is checked that all contaminated soil has been excavated. For this purpose, after excavation work, 5 samples per 100 m of river section (5 sub-samples per river cross-section) shall be taken from the exposed clean soil in the presence of the Engineer. If limestone is exposed during the decontamination, no samples will be taken (sampling is not reasonable). Sampling points shall be selected by the Engineer. Before sampling, a boundary line indicating residual pollution must be marked on the drawings of the work design in nature.