

## WORK ORDER FOR ADDITIONAL PROJECT DESIGN

**Concerning:** Maritza Highway Lot 2

**Section :** from km 36+400 to km 70<sup>+620</sup>

**Part:** Road

**Phase:** DETAILED WORKING DRAFT PROJECT

**Location:** District of Haskovo

**Type of terrain:** hilly

### **I. GROUNDS AND PURPOSE OF THE PROJECT**

The additional project design is imposed above all from the requirement for constructing the site by stages, as well as the events, related to environment protection and conformity assessment.

### **II. DIRECTIONS FOR THE TECHNICAL SOLUTION**

#### **1. Basic requirements**

The project design shall provide all the project materials, needed for the successful completion of site. The designed project materials and details shall not cause hesitation or lack of understanding by the Contractor.

- "Large facilities" part

Statistic check of facilities construction components for seismic impact resistance shall be accomplished in accordance with Ordinance № 2 dated 23.07.2007 for design of buildings and facilities in earthquake affected regions. If the check proves necessity of construction drawings revisions, the latter shall be agreed with the Contracting Authority and following its approval the amendments shall be reflected on the drawings. The expenses for statistic check and drawings revisions shall be at the Contractor's account.

Part "**Displacement**" of "Dimitrovgrad – Podkova" railway track, km 41+597

The presented technical project for displacement shall comply with the changes in the norms and regulations in force and shall comprise

- Working out of technical specification for railway infrastructure of the reconstructed section and their agreement with Contracting Authority ;
- Working out of work projects for activities regarding the upper and lower construction of the railway, activities for railway facilities (bridges, culverts etc), facilities and devices for signaling system and telecommunication from the railway infrastructure, for design speed;
- Materials supply and construction and assembly works implementation as well as other activities according to the worked projects for reconstruction (shifting));
- Additional design or design activities, appeared as imperious necessity during the public procurement implementation and not included in the technical project, which is part of documentation for participation in public procurement;

- Dismantling, transportation, sorting and storage of materials from the existing railway and their delivering to the National Railway Infrastructure Company (NRIC);
- Removal of existing ballast section, transportation of ballast and wherever applicable – its cleaning/recycling, storage and delivery to the National Railway Infrastructure Company (NRIC) for further usage;
- Design and execution of earthmoving activities, recovery activities, shaping of the ground path and reaching the design load carrying capacity according to the Technical specifications and laying of protective layer;
- Implementation of new upper construction of the railway with rails type 49 E1 and reinforced concrete sleepers with padless elastic fixture and new ballast, working out of continuous welded rail track ;

### **A. General requirements for this section**

When preparing the projects, the requirements of the Decision under the undated report for EIA and the Decision under the report for the environment shall be taken into account.

### **B. Specific requirement to the section**

The additional design work shall comprise all the parts of the CIWs, which were not in the scope of the provided Investment project.

They are:

Requirement to the Contracting Authority for construction in phases.

The events, related to the protection of environment, are clearly stated and described in details in the separate phases for implementation of project in the decision under the Updated report for EIA from 02.07.2010 for modification and supplementation of Decision for EIA by the Minister of environment and waters No 37 / 1994 and decision No 04-OC / 2007 for conformity assessment for MEW, which are an inseparable part of the Work Order.

In the Decision from 02.07.2010 and the Decision No 04 – OC/2007 of MEW the necessary events for diminishing the harmful impact on the environment has been specified.

The above mentioned measures are described in details below:

1. To design and installation of permanent noise protection barriers between the highway and the urban areas (incl. the village of Polianovo) and to be installed before the beginning of construction.
2. To design lined roadside ditches, which shall be discharged in shafts outside the limits of zone II of the sanitary protection zone of water sources for drinking water.
3. Before construction of bridge fundamentals, precipitators for the construction waste waters shall be designed and built up, before their place of discharge in the river drafts.

4. The drainage culverts shall be designed with dry path, under the level of the continuously flowing water, parallel to the sill, with the purpose of using them as crossing for amphibians, reptiles and small mammals.
5. The water accumulating gutters, situated parallel to the road, to be designed so that they block the accidental falling of animals on the road.
6. The drainage culverts shall be formed as bio-corridors in a suitable manner, by mounting guiding networks to guide the animals to them and the prevent accidental falling of animals.
7. To design and construct precipitants for guiding the waters form the precipitants of the bridges over the Harmanliiska river with the purpose of securing against leakage of gasoline products or other pollution materials in cases of accidents.
8. At the places of bridging over the rivers there should be smooth, vertical, turned with the basis to the walls facilities and a dense network to be installed, with openings of 10/10 mm, closely to the steel cot /to prevent access for small mammals and species of herpeto-fauna directly to the route/. These sections shall be grassed and populated with shrubs, in order to form near the natural environment for migration.
9. The entrance and exit of facilities shall fenced by protective networks, which will divert the animals from the facilities.
10. The bridges and their neighboring areas over the rivers and the neighboring areas from the highway shall be fenced by 2 m high networks.
11. To provide for passes for various types of animals, depending on the specifications of habitats in the sections with rich biological diversity: from km 41+000 42+500 – 6 passes; from km 44+800 to km 51+000 – 6 passes; from km 51+000 to km 52+000 – 2 passes; from km 53+000 to km 54+200 – 4 passes; from km 56+000 to km 57+100 – 3 passes and from km 60+900 to km 62+400 – 4 passes:
  - Multispecies dry subways with key species for protection: wolf, tortoises, reptiles, small mammals, bats.
  - Multispecies passes under the bridges on water
  - Pipes for passing of tortoises – at approximately every 200 m, if there is no other suitable facility.
12. To update the landscape – planning project by providing for a dry strip within the scope of the highway without trees and shrubs in the following section: from km 41+000 to km 42+500; from km 44+800 to km 51+000; from km 51+000 to km 52+000; from km 53+000 to km 54+200; from km 54+200 to km 56+000; from km 51+000 to km 52+000; from km 58+000 to km 59+100; from km 60+900 to km 62+400 and from km 62+500 to km 65+500

### **III. Volume and contents of the project**

The project design shall be formed by volume and contents in a documentation, that shall contain:

**1. Text part** – to include explanations, applied work order, detailed bills of quantities, payroll, coordinating letters etc.

**2. Drawings:**

The drawings shall contain all the necessary details, ensuring the performance of separate types of construction and installation works.

All the text and digits, inscribed on the drawings, shall be of suitable size, so that when reformatting them to A<sub>3</sub>, they could be clear and readable.

### **3. Project data**

The project design shall be submitted on magnetic media – CD – 2 pieces, and shall include: explanatory notes, drawings in DWG format, calculations, tables, bills of quantities, payrolls, front sheets, labels and log-in information. The text part shall be in Word or Excel format.

## **IV. Layout and providing project materials**

### **1. Drawings**

The originals of the drawings shall be of formats A<sub>2</sub> and A<sub>3</sub> – into the Bulgarian language. All the drawings shall be provided also reduced in A<sub>3</sub> format.

### **2. Text part**

The text part of the project design shall be prepared into the Bulgarian language and shall contain:

- Explanatory notes;
- Bills of quantities and payrolls (detailed and summarized)
- Coordination letters;
- Tables;

### **3. Number of copies**

**3.1.** For review by the Contracting Authority the project design materials shall be provided in two sets of folders, containing the whole project in A<sub>3</sub> format.

**3.2.** The project materials, after being reviewed and accepted by the Contracting Authority, shall be provided:

- In original in Bulgarian in hard cover folders  
Drawings in A<sub>2</sub> and A<sub>3</sub> and the text part in A<sub>4</sub> format, suitable for distribution - 2 copies
- Four copies of the project documentation in Bulgarian  
Magnetic media CD – 2 pieces, with the hole information in a form, suitable for distribution, the drawings in DWG format, and the text part - in Word and Excel.

## **V. limitations for the project designs**

The Bidder shall comply with the requirements, specified in the work order for additional design, and the already approved part should, in no way, be reworked:

- 1.** The situational solutions for the direct route, the cross roads, the junctions.
- 2.** Grade line solutions.
- 3.** Cross sections.
- 4.** The structure of the paving and road body
- 5.** Pipeline culverts with length up to 1.5 can be replaced by facilities of the same or higher length and height. The materials for building these facilities should comply or have higher duration than the ones, proposed in the basic project.
- 6.** The materials for building up the facilities, provided for in the main project, can only be replaced by ones, conforming to the requirements of the already approved

technical specifications, and have the same or longer duration and do not impose higher expenses for the operating.

**7.** Construction elements of the facilities, which guarantee the hydraulic regime of the water draft, should not be changes.

**8.** All the project designs, which would cause change of scope of highways and roads, subject of the technical project, and respectively could bring about additional expropriation.

**9.** All the additional project designs, that should be extended by the Assigner and coordinated with them.