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**DOCUMENT OF THE INDEPENDENT CONSULTATION  
AND INVESTIGATION MECHANISM**

**BR-MICI005-2011  
ASSESSMENT REPORT OF THE CONSULTATION PHASE  
RODOANEL MÁRIO COVAS – NORTHERN SECTIONS 1 AND 2. SECOND CASE  
BRAZIL**

**This document was prepared by the Project Ombudsperson for the Consultation Phase.**

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# Assessment Report

## Rodoanel Mario Covas Northern Section II

### BR-MICI005-2011



PROJECT OMBUDSPERSON

January 2012

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**RODOANEL MARIO COVAS – NORTHERN SECTION II**  
**BRAZIL**  
**ASSESSMENT REPORT**

**1. Background**

**1.1 The Request: processing and content**

1. On 15 July 2011, the Independent Consultation and Investigation Mechanism (ICIM)<sup>1</sup> received a request from Mr. Maurício Gomes de Souza, a resident of the Condomínio Residencial Jardim Itatinga (“Condomínio” or “Jardim Itatinga”) regarding potential environmental and social impacts that could be caused during construction and operation the Rodoanel Mario Covas Northern Section (“the Project”). The Project relates to the final section of the beltway around the Metropolitan Region of São Paulo (RMSP) (*infra* paragraph 6).
2. In his request, Mr. Maurício Gomes de Souza alleges, in addition to generic environmental impacts, that the highway to be built will pass near Jardim Itatinga, in a section that involves construction of tunnels and tunnel access. As a result, he stated, his family and other area residents would be directly affected by the Project due to (i) noise during construction and operation of the beltway, as well as other forms of pollution; (ii) loss of property value and potential resettlement of some families; (iii) damage to the physical structure of their homes due to the use of explosives during works construction; and (iv) insecurity caused by a possible increase in crime in the Condomínio neighborhood due to operation of the beltway. The Request further asserts that the project executing agency, DERSA – Desenvolvimento Rodoviário S.A., has provided no specific information to the Condomínio residents concerning measures to be taken to prevent, mitigate, and/or compensate for the specific alleged impacts.
3. On 31 August 2011, the Project Ombudsperson declared the Request eligible for the Consultation Phase, on the grounds (among others) that the project had not established sufficiently specific measures that would be adopted to prevent, mitigate and/or compensate for the adverse impacts alleged by Mr. Maurício Gomes de Souza in the area of the Condomínio.<sup>2</sup>
4. During the assessment stage, the Project Ombudsperson received statements from 63 other residents of the Condomínio and neighboring areas, asking to join the complaint submitted by Mr. Maurício Gomes de Souza and presenting arguments about the impact that the

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<sup>1</sup> The terms: Mechanism, Project Ombudsperson, Panel, Mechanism Policies, Eligibility, Consultation Phase, Assessment, and any other relevant term in this memorandum shall have the meaning assigned to them in the Independent Consultation and Investigation Mechanism (ICIM) Policy approved on 17 February 2010 and available at: [www.iadb.org/mici](http://www.iadb.org/mici).

<sup>2</sup> ICIM, Project Ombudsperson, Rodoanel Mario Covas Northern Section II (BR-MICI005/2011), Memorandum of Eligibility, 31 August 2011, paragraph 3.5.b. With respect to the environmental harm described in general terms in the Request (e.g. cutting of vegetation, risk of polluting water sources), the Project Ombudsperson considered that such impacts would, *prima facie*, be addressed within the framework of the Project “through (i) relatively concrete mitigation measures for the project’s current design phase, and by (ii) an environmental management plan that specifies the impacts and mitigation measures over the entire course of design, construction, and operation of the Project” (Memorandum of Eligibility, paragraph 3.4).

project would have on the residents of that area. Consequently, in addition to the original Requester, the Project Ombudsperson has started to regard these other 63 persons as Requesters in the case, pursuant to article 42 of the ICIM Policy.

5. In addition, in the course of information gathering for the Assessment, the Requesters provided the Project Ombudsperson with a technical report prepared by consultants engaged by the Condomínio. Among other arguments, the report reiterates and details the impacts cited by the Requesters, such as undermining the stability of embankments at the entrances to the tunnels to be built beside the Condomínio, the risk of soil pollution and operational accidents, impact on air quality during construction and operation of the project, irreversible loss of the forest reserve in Jardim Itatinga, reduced property values, increase in noise levels, and disappearance of wildlife. These allegations of specific impacts were additional to those of the original Requester for purposes of this Assessment, given the criteria applied in the eligibility determination concerning the alleged generic and specific impacts (*supra* paragraph 3).

## 1.2 The Project

### 1.2.1 Rodoanel Mario Covas – Northern section

6. The Rodoanel Mario Covas (SP-021) will be a “class 0” beltway (“expressway”) around the Metropolitan Region of São Paulo (RMSP). It will be approximately 175 km long and will interconnect the region’s 10 most important main arteries,<sup>3</sup> transforming the logistics platform from a radial to a ring configuration. Upon completion, the Rodoanel will reorganize traffic flows considerably and will improve the distribution of vehicular loads within the RMSP.<sup>4</sup> The Rodoanel is being built in stages: the Western Section is 32 km long and has been in operation since 2002; the Southern Section is 61 km long and began to operate in 2010; the preliminary environmental license for the Eastern Section was issued in 2010; and the Northern Section, addressed in the Request, is still in the design stage and will ultimately complete the ring road (Figure 1).
7. The Northern Section will be approximately 43 km in length and will be built to the same standards as the other sections of the Rodoanel, with a design speed of 100 km/h. It will be a divided (dual) highway, with three or four lanes in each direction, with surface stretches, viaducts, and tunnels, and access only at intersections. The Northern Section will link up with the Western section at the intersection with Avenida Raimundo Pereira de Magalhães; it will pass by the Governador Franco Montoro International Airport at Guarulhos, and by the Fernão Dias highway, connecting finally with the Eastern Section of the Rodoanel via the Presidente Dutra Highway (BR-116) in Arujá.<sup>5</sup>

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<sup>3</sup> These 10 arteries are the following highways: Fernão Dias, Dutra, Ayrton Senna, Anchieta, Imigrantes, Régis Bittencourt, Raposo Tavares, Castello Branco, Anhangüera, and Bandeirantes. Cf. DERSA / Consórcio JPG Prime Engenharia, *Programa Rodoanel Mario Covas, Trecho Norte, Estudo de Impacto Ambiental* [Rodoanel Mario Covas Project – Northern Section, Environmental Impact Assessment]. Volume I, page 16.

<sup>4</sup> See. IDB, Rodoanel Mario Covas Project – Northern Section (BR-L1296 and BR-L1302), Environmental and Social Management Report (ESMR), July 2011, page 17.

<sup>5</sup> According to information from DERSA and the IDB project team, the interchange initially planned with Avenida Inajar de Souza was left out of the project because of lack of interest from the Município of São Paulo.

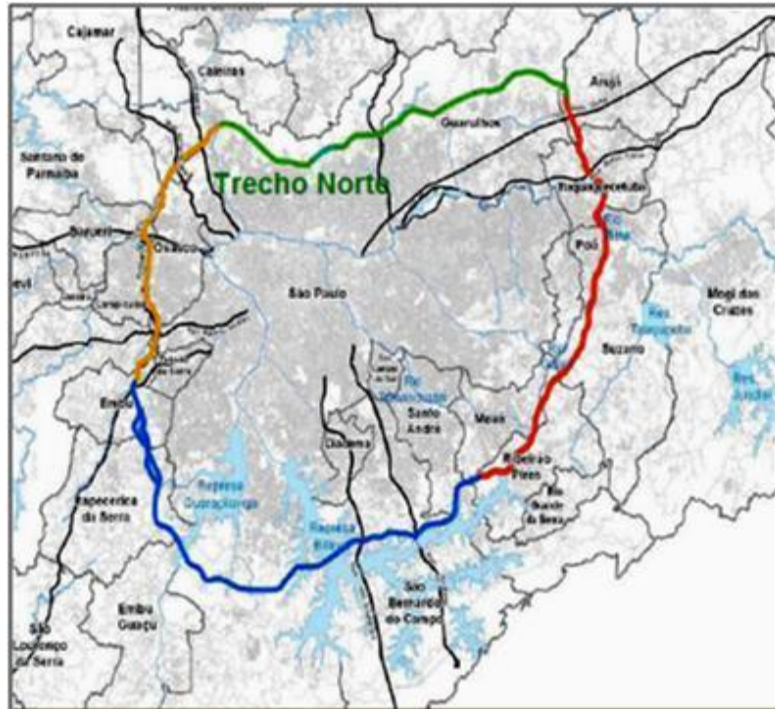


Figure 1. Rodoanel Mario Covas (Northern Section labeled “Trecho Norte”)  
Source: CETESB Opinion, page 4

8. According to the alignment of the Northern Section recommended in the environmental impact assessment and approved with issuance of the preliminary environmental license (*infra* paragraph 15), the project’s area of direct influence includes certain forest preserves, in particular the Cantareira State Park, in subsection 2S (between Avenida Inajar de Souza<sup>6</sup> and the Santa Maria region). Accordingly, in order not to encroach on the Cantareira State Park, the plan calls for three tunnels to bypass this subsection, recognizing that “interference with vegetation will occur primarily at sites outside the park located next to the pillars and access points.”<sup>7</sup> The route of subsection 2S will pass to the north of Jardim Itatinga, located in the neighborhood of Tremembé in the Município of São Paulo, in a special protection zone next to the Cantareira State Park and the Forestry Preserve (Alberto Lofgren State Park).<sup>8</sup>
9. According to the Requesters, in the area of Jardim Itatinga the highway would be built with “two parallel elevated roadways of four lanes in each direction, over a length of 1,080 meters, a width of 19.6 meters for each roadway, and a height varying between 3 and

<sup>6</sup> See previous footnote.

<sup>7</sup> Companhia Ambiental do Estado de São Paulo [Environmental Company of the State of São Paulo] (CETESB), Technical Opinion No. 018/11/IE of 20 June 2011, Process: 208/2010, Matter: Rodoanel Mario Covas – Northern Section, page 19.

<sup>8</sup> The Condomínio was approved in a regular manner, in accordance with legal requirements and procedures initiated before the state environmental attorney. Cf. JFP Consultoria de Engenharia Ltda. *Laudo pericial do Residencial Jardim Itatinga. Impactos decorrentes da implantação do Rodoanel Trecho Norte*. [Expert opinion on the Condomínio Residencial Jardim Itatinga. Impacts from implementation of the Rodoanel Northern Section], December 2010, page 7.



30 meters above ground level.”<sup>9</sup> They state that, after the elevated sections, two tunnels would be installed with their entrances excavated at a distance of 14 meters from the Jardim Itatinga property.<sup>10</sup> DERSA has confirmed that, because of changes in the engineering design, the section of roadway that passes near the Condomínio will retain the tunnel T-4 and its accesses, but the originally planned embankment will be replaced by a special engineering work, a viaduct (Figures 2 and 3; Annexes 1 and 2). DERSA explained that there could be other changes in the layout of the roadway during preparation of the final design,<sup>11</sup> which would be accompanied by new modeling and the relevant studies.<sup>12</sup>

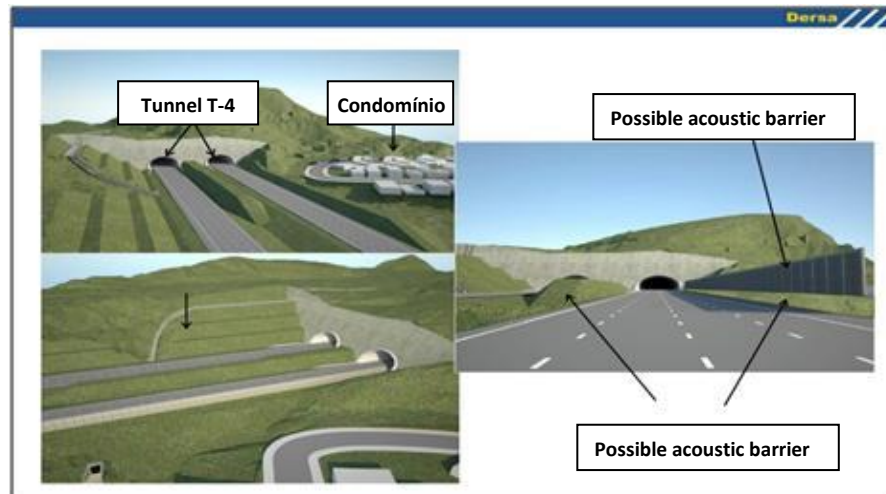


Figure 2. Accesses to Tunnel T-4 near the Condomínio. Source: DERSA/Requesters.



Figure 3. Section of the project that will pass near the Condomínio. Source: DERSA/Requesters.

<sup>9</sup> Expert opinion on the Condomínio Residencial Jardim Itatinga, *supra* footnote 8, page 9.

<sup>10</sup> Idem.

<sup>11</sup> The final design describes the basic design with the elements necessary and sufficient to build the works. Changes of this kind are common in complex, large-scale projects. For example, CETESB noted that “during the licensing process the contractor was asked to make adjustments to the alignment and to add more civil works to minimize the impacts associated with removal of vegetation, fragmentation of forest remnants, and movement of wildlife.” CETESB Technical Opinion, *supra* footnote 7, page 79.

<sup>12</sup> Cf. Consórcio JPG Prime Engenharia. *Rodoanel Trecho Norte. Resposta aos Questionamentos do Jardim Itatinga*, [Rodoanel Northern Section. Response to Questions from Jardim Itatinga] page 33.



### 1.2.2 The loan operation

10. The specific objective of the project is to improve mobility, connectivity, safety, and convenience levels for users of the regional road transportation system. The Project was submitted for approval by the Bank’s Board of Executive Directors, structured as two loan operations:
  - a. Northern Section 1 (BR-L1296) for a total amount of US\$1,049,870,000, with US\$400 million financed by the Bank. This part of the Project, which would build 22 km of highway from the Eastern Section to the Fernão Dias highway, includes the following components: (i) engineering and administration; (ii) civil works and technical and environmental supervision; and (iii) social and environmental viability. The activities under components 1 and 3, with the exception of right-of-way acquisition, will correspond to the entire Northern Section.
  - b. Northern Section 2 (BR-L1302) for a total amount of US\$1,965,363,000, with US\$748,633,000 financed by the IDB. This part of the Project, which would build 21 km of highway from the Western Section to the Fernão Dias highway, has two components: (i) civil works; and (ii) institution-strengthening.
11. On 8 November 2011, the Board of Executive Directors reviewed the two loan proposals jointly and on that basis approved loan operation 2618/OC-BR for a total amount of US\$3,015,233,000, of which US\$1,148,633,000 would be financed by the Bank, and US\$1,866,600,000 would represent the local counterpart contribution.<sup>13</sup> The borrower of the loan is the State of São Paulo, and the executing agency is the Secretaria Estadual de Logística e Transportes [State Department of Logistics and Transportation] (SLT), acting through DERSA – Desenvolvimento Rodoviário S.A., a semipublic corporation associated with the SLT. The loan contract is expected to be signed in 2012.

### 1.2.3 Potential environmental and social impacts and safeguards required in the project documents

12. The Rodoanel Mario Covas Project – Northern Section is classified as Category “A” under the Bank’s Environment and Safeguards Compliance Policy (Operational Policy OP-703).<sup>14</sup> In the context of its design, a Strategic Environmental Assessment was conducted in 2004, covering the Southern, Eastern and Northern sections of the highway; and an Environmental Impact Study specific to the Northern Section was conducted in 2010 by Consórcio JPG Prime Engenharia, an outside firm engaged by DERSA; in addition to

<sup>13</sup> IDB, Rodoanel Mario Covas Northern Section (BR-L1296). Information available at: <http://www.iadb.org/en/projects/project.1303.html?id=BR-L1296>.

<sup>14</sup> IDB, Environment and Safeguards Compliance Policy (OP-703), Section B.3: “Any operation that is likely to cause significant negative environmental and associated social impacts, or have profound implications affecting natural resources, will be classified as category A.”

- numerous supplemental analyses and studies in compliance with the national environmental licensing process.<sup>15</sup>
13. DERSA reports that the environmental studies were conducted on the basis of: (i) the recommendations in CPRN/DAIA Opinion No. 143/2001, issued by the Coordination Office for Environmental Licensing and Natural Resource Protection of the São Paulo State Department of the Environment, which established the terms of reference for the Environmental Impact Assessment and Report (EIA/RIMA) on the Rodoanel (Southern, Eastern and Northern sections); and (ii) Resolution No. 27 of 15 September 2004 of the Conselho Estadual de Meio Ambiente [State Environmental Council] (CONSEMA), which added recommendations from the Strategic Environmental Assessment of the Rodoanel program as an integral part of those terms of reference.<sup>16</sup>
  14. Consistent with the EIA, in determining the route for the Northern Section, DERSA conducted a survey of historical alternatives for alignments bypassing the city of São Paulo and the RMSP. Grouping these historical alternatives led to the establishment of three macro-alignments: (a) inner, to the south of the Cantareira State Park; (b) intermediate, to the north of the Cantareira State Park; and (c) outer, passing further north of the Cantareira State Park. The potential environmental impacts of constructing the Rodoanel in these three macro-alignments were examined. The criteria used for the analysis were: travel distance involved; incursion in conservation units, native vegetation cover in occupied urban areas; disruption of highly fragile reliefs and landscapes; and interference with water resources and supply systems.<sup>17</sup> As a result, and bearing in mind the attractiveness of the road for future users, two of these macro-alignments (inner and intermediate) were examined in greater detail for their environmental and social impacts (figure 4). The EIA concluded that the inner alignment, closer to the city center, was the best option as it would have the least environmental impact. The inner alignment will pass immediately to the south of the Cantareira State Park and will skirt the northern edge of the built-up area of the RMSP, which includes Jardim Itatinga.

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<sup>15</sup> As a general rule, the environmental licensing procedure is divided into three stages: (i) Preliminary Environmental License, issued in the preliminary phase of the project, containing the basic requirements to be met in the subsequent phases; (ii) Environmental License for Installation, which authorizes initial setup of the undertaking, once the specifications in the approved final design are met; and (iii) Environmental License for Operation, which authorizes startup of operation of the licensed project.

<sup>16</sup> Cf. DERSA / Consórcio JPG Prime Engenharia, *Programa Rodoanel Mario Covas, Trecho Norte, Relatório de Impacto Ambiental (RIMA)*. [Rodoanel Mario Covas Program, Northern Section, Environmental Impact Report (RIMA)] September 2010, Volume I, page 1.

<sup>17</sup> Cf. ESMR, *supra* footnote 4, page 67; CETESB Technical Opinion, *supra* footnote 7, pages 7-8.

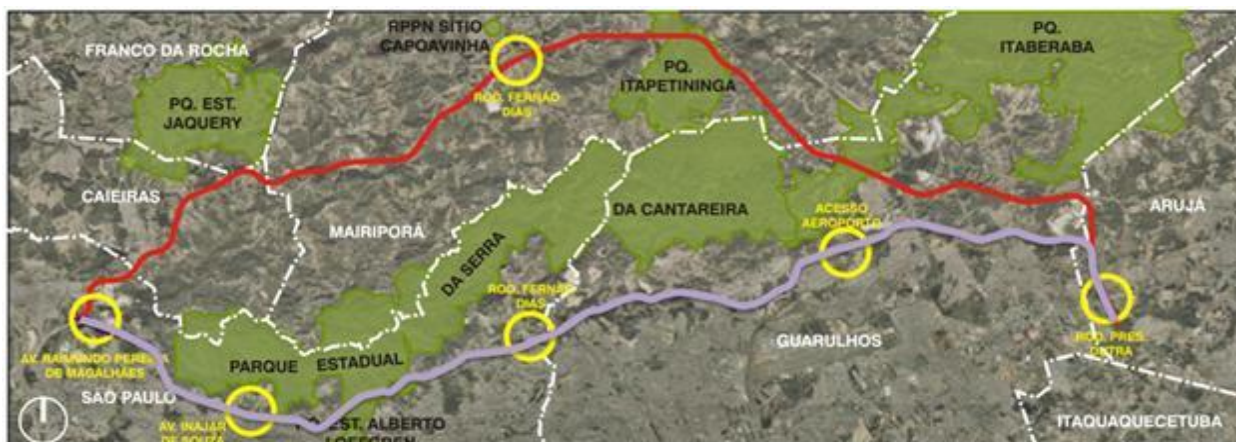


Figure 4. Inner and intermediate macro-alignments. Source: DERSA.

15. The Preliminary Environmental License for the project was granted on 28 June 2011, after the project's approval by CONSEMA,<sup>18</sup> based on Technical Opinion No. 018/11/IE of 20 June 2011 issued by the Companhia Ambiental do Estado de São Paulo [Environmental Company of the State of São Paulo] (CETESB), which includes a number of additional measures to enhance the project's environmental and social performance. In its opinion, the CETESB also indicated the measures required for issuance of the Environmental License for Installation and Environmental License for Operation of the project.<sup>19</sup>

## 2. Assessment method and findings

16. For the assessment in this case, the Project Ombudsperson team conducted the following activities: (i) technical analysis of documents and information submitted by the Requesters, the executing agency, and the Bank's project team, as well as other data collected by the ICIM team; (ii) a field visit;<sup>20</sup> (iii) virtual and face-to-face meetings with the Requesters, the executing agency, and the project team; and (iv) review of the possibilities for initiating a constructive dialogue between the parties.
17. The Assessment Stage made it possible to: (i) identify the top concerns of the Requesters and DERSA's responses to those concerns; (ii) produce a map of the main stakeholders involved in the case and their positions; and (iii) identify the opportunities and difficulties for dialogue between the parties.

<sup>18</sup> Cf. CONSEMA Resolution No. 22/2011 of 28 June 2011.

<sup>19</sup> These measures include analysis and approval of (i) the Public Information Program, including the Subprogram for Relations with Surrounding Communities during Construction; (ii) the programs comprising the Basic Environmental Plan, among them the Subprogram for Control of Erosive Processes and Sedimentation and the Water Quality Subprogram; (iii) the Expropriation and Compensation Program; and (iv) the Social Compensation and Involuntary Resettlement Program. Cf. CETESB Technical Opinion, *supra* footnote 7, pages 152-167.

<sup>20</sup> The Project Ombudsperson team conducted a mission to São Paulo to gather information on the project on 10-14 September 2011. In addition to meeting with the stakeholders, the team visited the Condomínio Residencial Jardim Itatinga and overflew the area of the completed sections of the Rodoanel and the proposed alignment for the Northern Section.



**Photo 1. ICIM meeting with the Requesters.**

Source: ICIM



**Photo 2. ICIM meeting with DERSA.**

Source: ICIM

### 3. Top concerns of the Requesters and responses of the executing agency

18. Based on the specific concerns indicated by the Requesters, and recognizing that these relate to potential, future impacts, during its working meetings and its project document research in the assessment stage the ICIM team focused on identifying studies that had already been completed, and the measures that would be taken to prevent, mitigate and/or compensate for the impacts cited. The issues addressed during the Assessment Stage included the following, in particular:
19. **Changes in the stability of slopes and damage to the physical structure of buildings.** According to the Requesters, the heavy movement of machinery and excavated materials in the areas where the tunnel entrances are to be built, together with the particular features of the terrain, will make the area more susceptible to alterations of slopes and erosion. In addition, excavation work for the tunnels could lead to the removal of rocky material, which could cause instability and affect dwellings in Jardim Itatinga, located near the entrances to Tunnel T-4.<sup>21</sup>
20. On this point, DERSA stated that “both the engineering design and the environmental control measures during construction guarantee the geotechnical stability of all slopes.” In addition, the executing agency indicated that the construction methods for drilling the tunnels will follow technical standards concerning the safety of workers and the local population, such as CETESB Standard D7.013 and NPR 9653 of the Brazilian Technical Standards Association.<sup>22</sup> In addition, before the works begin DERSA will conduct a survey of nearby buildings not on the expropriation or resettlement lists (*infra* paragraphs 36 to 39), and a report will be prepared on the condition of these buildings, in the event of claims for damage to their structures. Consequently, it will be possible to identify any risks or damage to the physical structure of these buildings and to take the necessary mitigation measures and/or provide compensation.
21. In its opinion on the EIA, which was approved by CONSEMA (*supra* paragraph), the CETESB noted that the program for environmental adequacy of construction procedures will need to be made more detailed and supplemented at the phase of the Environmental License for Installation. This program consolidates all the prevention, mitigation and

<sup>21</sup> Expert opinion on the Condomínio Residencial Jardim Itatinga, *supra* footnote 8, pages 11 and 26.

<sup>22</sup> Response to Questions from Jardim Itatinga, *supra* footnote 12, pages 23 and 38.

- corrective measures to be adopted by the construction firms hired to build the works, including measures to control erosion, silting and slope instability, as well as the inventory of buildings adjoining the right-of-way, using the models described by DERSA (*supra* paragraph 20).<sup>23</sup>
22. **Risk of soil pollution and operational accidents.** The Requesters allege that, because of the heavy movement of machinery and the installation of a rock crusher and cement plant near the entrance to the tunnels, there will be a risk of soil pollution during the works. They also argue that during operation of the highway there is a risk of spillage of toxic products in transit.<sup>24</sup>
  23. DERSA maintains that this issue is addressed in the EIA, and proposes preventive measures for managing this risk and minimizing the likelihood of its occurrence.<sup>25</sup> These measures and others will be included in the program of environmental conditions to be included in bidding documents; the program for environmental adequacy of construction procedures; in the pollution control, organization, and cleanup plan; and in the program for environmental supervision and monitoring of construction.
  24. In its opinion submitted to CONSEMA, the CETESB reviewed all the environmental impacts associated with sources of pollution at the worksites and the environmental measures proposed in the EIA, and found those actions satisfactory. As a prerequisite for the phase of the Environmental License for Installation, the CETESB required, among other measures, that DERSA provide details and additional information on the program for environmental supervision and monitoring of construction, including a subprogram for control of pollution at worksites, as well as the solid waste management plan, which must cover the wastes from civil construction, including demolitions, and hazardous materials. Other actions were required before the works begin, such as the supplementary environmental license for industrial activities and pollution sources.<sup>26</sup>
  25. **Impact on air quality.** The Requesters maintain that the EIA did not include air quality measurements at various points along the route, but limited its diagnostic assessment to the RMSP monitoring data obtained from the CETESB core network. The Requesters claim that, during the *construction phase* of the project, there will be an impact on air quality because of the removal of materials from excavation of the tunnels, the construction of temporary access roads to the tunnels, and the movement of heavy load and transportation equipment. In addition, during project *operation* the concentration of pollutants will be greater at the entrance to the tunnels, which will aggravate the impacts on inhabitants of the Condomínio. The Requesters claim that the results of the measurements showed that some parameters are above the limits allowed by law, and that pollution patterns will be determined only at the stage of the Environmental License for Operation.<sup>27</sup>
  26. DERSA claimed that the methodology for analyzing the impact of the Rodoanel on air pollution was determined by CETESB, on the basis of established mathematical models

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<sup>23</sup> CETESB Technical Opinion, *supra* footnote 7, pages 129-130.

<sup>24</sup> Expert opinion on the Condomínio Residencial Jardim Itatinga, *supra* footnote 8, pages 11 and 26.

<sup>25</sup> Response to Questions from Jardim Itatinga, *supra* footnote 12, page 38.

<sup>26</sup> CETESB Technical Opinion, *supra* footnote 7, pages 41-43.

<sup>27</sup> Expert opinion on the Condomínio Residencial Jardim Itatinga, *supra* footnote 8, pages 8, 12 and 26.



- that can “model the emissions of vehicles expected to travel over the new section; quantify potential emissions, pollutant concentrations and their conditions of dispersal, so as to evaluate the specific impact on receptors near the route.”<sup>28</sup> The modeling was done for two time horizons, 2014 and 2024, factoring in parameters for particulate matter (PM), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and hydrocarbons (HC).
27. According to DERSA, air quality impacts during the *construction phase* of the project were addressed by the EIA, which calls for mitigation measures as part of the program for environmental adequacy of construction procedures (for example, machinery and vehicle maintenance, installation of filters and other devices at temporary industrial facilities, and watering of work surfaces and unpaved roads).<sup>29</sup> Regarding the impact during project *operation*, DERSA stated that, even with growth in the fleet over time, vehicles will be of better quality and less polluting because of compulsory changes in their manufacture. In the case of the tunnels, there will not be pollution at levels of concern because the emissions, although concentrated, will be dispersed in various directions. The EIA concluded, therefore, that the impacts on air quality in the vicinity of the project right-of-way would be reversible over the medium term, with the exception of the HC parameter. DERSA said it would conduct systematic monitoring of air quality at critical points identified in the modeling, and would be able to take additional steps in relation to critical impact receptors.
28. In its analysis of the EIA, the CETESB addressed air pollution in the project *construction phase* together with other environmental impacts associated with pollution sources at the worksites (*supra* paragraph 24). In particular, it stressed that “together with measures to control soil exposure and the covering of transport vehicles, proper planning of service roads should envisage the possibility of using physical barriers to the dispersal of particulates and areas for cleaning/washing vehicles/wheels along the right-of-way and in the support areas.”<sup>30</sup> Furthermore, regarding the EIA analysis of air pollution during project *operation*, the CETESB stated in its opinion that DERSA must reassess Measure 3.03.02, Air Quality Monitoring, to take account of the recommendations from the Air Quality Division<sup>31</sup> and the Forestry Institute.<sup>32</sup> In addition to the requirements set by the CETESB, the CONSEMA determined that, for the Environmental License for Operation to be

<sup>28</sup> The models were CALroads VIEW and California Line Source Dispersion Model (CALINE), version CALINE4, used for surface segments and viaducts, and the AERMOD model. *Cf.* Response to Questions from Jardim Itatinga, *supra* footnote 12, page 29.

<sup>29</sup> *Cf.* Response to Questions from Jardim Itatinga, *supra* footnote 12, pages 38-39.

<sup>30</sup> CETESB Technical Opinion, *supra* footnote 7, pages 41-43.

<sup>31</sup> The Meteorology and Data Interpretation Section of the Air Quality Division stated in its Letter 05/11/TQQM that the study submitted by DERSA “can be accepted with respect to the modeling of the dispersal of atmospheric pollutants for estimating the impacts of the highway, even though in the case of NO<sub>2</sub> modeling in the tunnel sections used conversion factors for NO<sub>x</sub> to NO<sub>2</sub>, which lowered the estimated values.” Moreover, even allowing for overruns in some parameters measured under the most critical dispersal conditions at certain points along the route, the Air Quality Division found that the Northern Section would help to reduce congestion and consequently could have positive effects on some regions and negative effects on others in terms of air quality, for which reason it recommended close monitoring of this aspect in the RMSP. *Cf.* CETESB Technical Opinion, *supra* footnote 7, pages 41-43.

<sup>32</sup> The Forestry Institute also recommended an assessment of the impacts of emissions on areas of native vegetation and the introduction of systems for reducing pollutants, such as filtering of air from the tunnels and “green curtains” along the route. CETESB Technical Opinion, *supra* footnote 7, page 107.

- granted, DERSA must submit “a study on the dispersal of pollutants that incorporates the new standards for air quality, as recommended by the ‘Interagency Group Report, Revision of Air Quality Standards and Improvement of Integrated Air Quality Management in the State of São Paulo’ (CONSEMA Resolution 19/2011); and, as necessary, propose measures to mitigate and control potential adverse impacts.”<sup>33</sup>
29. **Increased noise levels.** The Requesters allege that the modeling of the noise level performed in the course of the EIA underestimated the volume of traffic on the Rodoanel; that it used an improper geometric projection (surface-level instead of raised roadway); that it adopted a model with technical drawbacks; and that it took noise measurements in the Condomínio only during the day. In the Requesters’ view, the noise impact on residents of the Condomínio will be even greater than that found by the modeling. In any event, they point out that the measurements already predict noise levels rising from 40 decibels (a comfortable level, equivalent to “a quiet living room”) to nearly 70 decibels (an unpleasant environment, equivalent to a “noisy restaurant” or “busy street”).<sup>34</sup>
30. On this point, DERSA indicated that the noise level studies were based on a simulation of the current and future situation, using such criteria as: traffic projections for the Northern Section of the Rodoanel for the year 2014, together with operation of the other sections; the total average daily volume; type of surfacing of the planned highway; the speed limit (in kilometers per hour); traffic flow and the geometry of the roadway. DERSA stated that the measurement was taken at 22 points along the alignment, including Jardim Itatinga.<sup>35</sup> There, measurements were taken at the quietest point in the Condomínio at 3 p.m., and the current noise level was found to be 40.9 decibels. Initially, DERSA assessed the increase in noise in the Condomínio on the basis of the highway’s original design (surface-level). With the change in the engineering design for the section that will pass near Jardim Itatinga—from surface-level to elevated—a new analysis was done, and it was concluded that the noise level in the Condomínio once the Rodoanel was in operation would reach 68 decibels (unpleasant environment). To mitigate the noise pollution, DERSA has already arranged for an initial testing of possible measures, including changes in the alignment of the highway and in the structure of the buildings. It stated that, if necessary, acoustic barriers would be installed (such as an “ecological false tunnel”), or, if needed, the right-of-way could be widened and buildings expropriated (*infra* paragraphs 36 to 39). For the final design, the studies will be detailed, and specifications will be indicated in line with the results encountered and the needs of the project.
31. CETESB examined the impacts associated with noise problems during project construction and the mitigation measures proposed by DERSA, together with other pollution sources present at the worksites (*supra* paragraphs 24 and 28). On this specific point, CETESB noted the importance of additional measurement campaigns, “not only to support the planning of operational measures but also to monitor the segments and critical times of the works, including possible complaints from the public.”<sup>36</sup> In addition, CETESB deemed that “selection and dimensioning of provisions for noise attenuation in the operation phase

<sup>33</sup> CONSEMA Resolution, *supra* footnote 18, Article 3.

<sup>34</sup> Cf. Expert opinion on the Condomínio Residencial Jardim Itatinga, *supra* footnote 8, pages 14-16.

<sup>35</sup> Cf. EIA, *supra* footnote 3, Volume VI, page 46.

<sup>36</sup> CETESB Technical Opinion, *supra* footnote 7, pages 41-43.



- should be detailed when the final design is presented, on the basis of the proposed supplementary measurement campaign, and the forward assessment,<sup>37</sup> using as assessment parameters a traffic speed of 120 km/h and the peak traffic volume on the highway, with provision as well for taking measurements at other locations that have not been assessed. This new assessment will make it possible to identify the locations where acoustic attenuation solutions are needed. The results of this new exercise and the planned mitigation measures will have to be presented as part of the environmental monitoring program for the operation, when applying for the Environmental License for Installation.<sup>38</sup>
32. **Wildlife driven away during operation of the project.** The Requesters allege that the increase in noise near the forested areas will drive wildlife away from the most affected areas to areas further inside the Cantareira State Park, since the measures proposed by the executing agency will take effect only once project construction is complete.<sup>39</sup> According to DERSA, mitigation measures will be taken so that wildlife existing in the affected areas can move away, and species that will not move on their own will be rescued by specialized teams in the course of activities to suppress vegetation.<sup>40</sup> On this point, the CETESB set out in its opinion a series of measures that DERSA will have to take: detailed presentation of the subprogram for wildlife crossings as part of the detailed engineering design program, when applying for the Environmental License for Installation; detailed presentation of the wildlife monitoring subprogram as part of the environmental monitoring program for the operation, when applying for the Environmental License for Operation; and presentation of annual reports on the outcomes of this last program during project operation.<sup>41</sup>
33. **Elimination of green areas and visual impact.** The Requesters state that Jardim Itatinga has a total area of 143,110 square meters, of which 26,140 square meters represents green areas. With construction of the Rodoanel, vegetation within the Condomínio will be cut and will not be replaced in situ, and the natural landscape of the Cantareira reserve will be interrupted by the highway structure, which will be up to 30 meters in height.<sup>42</sup>
34. On this point, the executing agency states that a significant portion of the route will be hidden behind barriers and not visible from residential areas. In addition, DERSA says that the viaducts will be slim structures with architectural lines compatible with an urban setting.<sup>43</sup> The ICIM team understands that DERSA has not yet prepared a definitive proposal dealing with the visual impact for residents of the Condomínio. According to the company, once the route and format of the noise barriers have been determined, measures can be examined to mitigate this visual impact. DERSA reported that it would offset the cutting of vegetation in the intervention areas by restoring and planting a much larger area, preferably within the same region.<sup>44</sup>

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<sup>37</sup> CETESB Technical Opinion, *supra* footnote 7, page 115.

<sup>38</sup> CETESB Technical Opinion, *supra* footnote 7, pp.114-115.

<sup>39</sup> *Cf.* Expert opinion on the Condomínio Residencial Jardim Itatinga, *supra* footnote 8, pages 12 and 27.

<sup>40</sup> *Cf.* Response to Questions from Jardim Itatinga, *supra* footnote 12, page 39.

<sup>41</sup> *Cf.* CETESB Technical Opinion, *supra* footnote 7, page 117.

<sup>42</sup> *Cf.* Expert opinion on the Condomínio Residencial Jardim Itatinga, *supra* footnote 8, pages 12, 13 and 27.

<sup>43</sup> *Cf.* Response to Questions from Jardim Itatinga, *supra* footnote 12, page 32.

<sup>44</sup> *Ibid.*

35. According to the CETESB, in addition to the other measures required for obtaining the Environmental License for Operation, and during operation of the highway, DERSA will have to show in its application for the Environmental License for Installation, as part of the detailed engineering design, that the final plan has been optimized in terms of reducing the amount of native vegetation that must be suppressed, and “present a forestry inventory of vegetation areas to be eliminated, using classification criteria established in advance and with the agreement of the CETESB technical team, to support the calculation of compensatory forestation. That calculation must provide for planting an area 2 to 6 times greater than the area eliminated.”<sup>45</sup>
36. **Potential expropriation of properties.** The Requesters allege that, due to the project’s impacts, some properties in the Condomínio could be expropriated. DERSA confirms that information, noting that if measures cannot be taken to prevent, mitigate, and/or compensate for the impacts suffered by residents, the project right-of-way could be widened. That assessment will take place only after definition of the final design (*supra* paragraphs 9 and 30).
37. In assessing the project’s impacts on the quality of life of the population, the EIA notes that there will be expropriation and resettlement of dwellings along the route’s surface segments, bridges, and tunnel approaches. The greatest impact will be on residential areas.<sup>46</sup> As mitigation measures, the EIA provides, as part of the project construction phase program, for: (a) the expropriation and compensation program, the objective of which is “to manage expropriations in areas decreed to be of public utility or other areas of interest to the project,”<sup>47</sup> targeted to the population with ownership title to their dwellings; and (b) the social compensation and involuntary resettlement program, the objective of which is “to manage the process of clearing the right-of-way in areas where there are dwellings or other installations in noncompliance with the law, where ownership title is not fully documented.”<sup>48</sup> These programs will be preceded by a social communication campaign that will provide fuller information on the expropriation process and the rights of owners.<sup>49</sup>
38. In the specific case of the Condomínio, if a family has to be removed from its property, this will be done on the basis of the expropriation and compensation program, implemented in accordance with program management provisions and the physical cadastre of properties.<sup>50</sup>

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<sup>45</sup> CETESB Technical Opinion, *supra* footnote 7, pages 82-83.

<sup>46</sup> Cf. EIA, *supra* footnote 3, Volume VII, page 204.

<sup>47</sup> EIA, *supra* footnote 3, Volume VII, page 67.

<sup>48</sup> EIA, *supra* footnote 3, Volume VII, page 68.

<sup>49</sup> Cf. EIA, *supra* footnote 3, Volume VII, page 204. In addition, CETESB will require DERSA to show, when applying for the Environmental License for Installation, that it has presented the final design of the expropriation program, along with the actions and policies adopted by the executing agency to mitigate this impact, at the meetings held with communities as part of the social communication program. Cf. CETESB Technical Opinion, *supra* footnote 7, page 26.

<sup>50</sup> Cf. CETESB Technical Opinion, *supra* footnote 7, pages 134-135; ESMR, *supra* footnote 4, pages 62-63.

The Master Resettlement and Compensation Plan (PDRI) presented to the Bank,<sup>51</sup> which deals with compensation for expropriation and the social compensation and involuntary resettlement program, provides that legitimate property owners will be compensated for the market value of their property,<sup>52</sup> in accordance with existing legislation.<sup>53</sup>

39. In this connection, the CETESB will require, among other measures, that DERSA present details of the expropriation and compensation program when applying for the Environmental License for Installation. That program must include measures relating to expropriations and relocation of families and social facilities, and must provide for each lot of works “an up-to-date physical and socioeconomic cadastre of all properties affected by the project; it must include an aerial photograph or satellite image (at a scale of 1:2000), a characterization of the properties (ownership, physical description of buildings, geotechnical risks, etc.) with photos and a brief description, cadastre of the most vulnerable groups (elderly, disabled, persons with special needs, etc.), the total area of properties and the percentage of the area affected by the project, the decree of public utility, including any service roads, evidence of negotiations under way and agreements signed with the owners.”<sup>54</sup>
40. **Loss of property value.** The Requesters allege that the value of their residences will depreciate because of their proximity to the Rodoanel.<sup>55</sup> The EIA acknowledges that there will be “specific cases of diminished property value in medium- and upscale residential areas adjacent to the right of way, as a result of permanent environmental impacts such as increased noise levels and changes to the landscape.”<sup>56</sup> However, DERSA argues that it is impossible to assess the change in property values at a specific point such as the Condomínio, using general models. Only the market, it argues, can determine the specific impact of the project on property values, which will depend on the amount that potential buyers are prepared to pay for these properties.<sup>57</sup>
41. **Increase in crime in the vicinity of the Condomínio.** In response to this allegation of the Requesters, DERSA responds that the Rodoanel is a “class 0” expressway, with access only at intersections. For this reason, there will be no flow of people along the route such as might justify this concern of the Requesters. In any event, DERSA notes, the State

<sup>51</sup> According to the PDRI, following the definition of the final design, final resettlement plans will be prepared for each lot of works for the construction strategy to be implemented. These plans are expected to be established with the involvement of the affected communities. Cf. DERSA, *Projeto Rodoanel Mario Covas – Trecho Norte, Plano Diretor de Reassentamento e Indenização (PDRI)* [Rodoanel Mario Covas Program – Northern Section. Master Resettlement and Compensation Plan (PDRI)]. June 2011, page 46.

<sup>52</sup> The values will be determined on the basis of an appraisal conducted in accordance with the standards of the Brazilian Technical Standards Association (ABNT-14653:2001 – Property Appraisal; ABNT-14653-2:2004 – Appraisal of Urban Properties and ABNT-14653-3:2004 – Appraisal of Rural Properties). The appraisal standards for urban properties of the Brazilian Appraisal and Engineering Institute, as indicated in its publication “Edificações valores de venda” [Real estate sale prices], will be used to determine and update the values of awards. PDRI, *supra* footnote 49, page 52.

<sup>53</sup> Cf. PDRI, *supra* footnote 49, pages 42 and 52.

<sup>54</sup> CETESB Technical Opinion, *supra* footnote 7, pages 155-156.

<sup>55</sup> Cf. Expert opinion on the Condomínio Residencial Jardim Itatinga, *supra* footnote 8, page 14.

<sup>56</sup> EIA, *supra* footnote 3, Volume VI, page 114.

<sup>57</sup> Response to Questions from Jardim Itatinga, *supra* footnote 12, page 40.

Department of Public Safety has conducted an analysis of crime indicators in the area of the Southern Section of the Rodoanel, and has found no adverse impact in this respect. Similar information may be collected in the future with respect to the Northern Section.

42. Furthermore, as a condition of the loan for the Northern Section, the Bank requires DERSA to conduct the same kind of study as for the Southern Section in order to monitor demographic dynamics, expansion of the urban frontier, and the change in vegetation cover in the vicinity of the Northern Section. This examination will be done by a working group that includes the Empresa Paulista de Desenvolvimento Metropolitano S.A. (EMPLASA), the Fundação Sistema Estadual de Análise de Dados (SEADE), and the Forestry Institute, in addition to DERSA and the State Department of Economy and Planning. In addition to ongoing monitoring of the area, the working group will provide technical resources in support of policies and mitigation measures for any undesirable impacts generated by the Northern Section of the Rodoanel.
43. CETESB considers the subprogram for monitoring the urban frontier, as part of the program for environmental monitoring of the operation proposed by DERSA, to be adequate for purposes of planning and reorganizing the urban fabric. On this point, the CETESB will require the executing agency, when applying for the Environmental License for Installation, to show evidence of the technical agreement for monitoring the urban frontier, “including the monitoring of employment, economic activities, real estate appreciation and depreciation, remaining forest fragments in the project’s area of influence for the Northern Section of the Rodoanel, similar to what was proposed for the [other sections] of the Rodoanel.”<sup>58</sup>

#### 4. Map of primary stakeholders and positions

44. The Assessment Stage identified the primary stakeholders in the case, i.e. the persons and/or entities who are or could be directly affected by the project, or those who have a direct influence on decisions regarding the design, implementation, and operation of the project, as well as their legitimate representatives. The roles and positions of the stakeholders are summarized below.

##### 4.1 Requesters

45. This group is formed by 64 individuals, representing their families, the majority residing at Jardim Itatinga.<sup>59</sup> Initially, all these persons stated their interest in participating in an ICIM-facilitated dialogue with the executing agency. As the Condomínio has 116 single-family residences, the Project Ombudsperson considered it likely that most of the inhabitants of Jardim Itatinga would wish to pursue the Consultation Phase and in this way initiate the dialogue process.

##### 4.2 Executing agency

46. The executing agency is DERSA – Desenvolvimento Rodoviário S.A., a semipublic corporation associated with the State Department of Logistics and Transportation (SLT). It

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<sup>58</sup> CETESB Technical Opinion, *supra* footnote 7, pages 109-110.

<sup>59</sup> As reported, some Requesters live in areas near the Condomínio (*supra* paragraph 4).

has been working directly with the Consórcio JPG Prime Engenharia engineering firm, contracted to perform the EIA, as well as other firms engaged for studies concerning the project, such as EMPLASA, SEADE, and the Forestry Institute (*supra* paragraphs 12 and 42).

47. DERSA was open to discussing viable solutions for the concerns expressed by the Requesters, and stated its intent to participate in the ICIM-facilitated dialogue process. DERSA also said the Rodoanel Northern Section project was compliant with national legislation, and cited a number of studies prepared by DERSA or outside consultants to determine the potential environmental and social impacts flowing from the project, and the relevant mitigation and compensation measures. DERSA affirmed that, once the final design was complete but, primarily, before obtaining the Environmental License for Installation, it would conduct additional environmental and social studies concerning the project in a participatory manner, in order to detail the measures that would be taken to prevent, mitigate, and/or compensate for the impacts alleged by the Requesters (*supra* paragraphs 9, 30, and 36).

## 5. Possibilities and difficulties for the dialogue process

48. **Lack of a unified position on the part of the Jardim Itatinga residents, and the condition for initiating dialogue.** In parallel with the first indications from the Requesters as to their intention to participate in the Consultation Phase (*supra* paragraph 45), the president of the Residents Association of the Condomínio Residencial Jardim Itatinga granted powers of representation to Mr. Mauro Victor, the Requester in the case, Rodoanel Mario Covas Northern Section 1 of the (BR-MICI003/2011),<sup>60</sup> to explain to the Compliance Review Panel the impacts that the Rodoanel project would cause for residents of the Condomínio. This appointment was accompanied by a petition signed by Dr. Carlos Eduardo Castro Souza, attorney for the Condomínio, and Mr. Mario Santos, owner of the Jardim Itatinga Corporation, setting out the various environmental and social impacts that the project would cause in relation to Jardim Itatinga and the general population. This information was submitted for purely illustrative purposes, as support for the allegations presented in the complaint under case BR-MICI003/2011. According to Dr. Castro Souza, the Requesters intended to proceed with the Consultation Phase in order to address the alleged specific impacts concerning the Condomínio, without forgoing the opportunity to explain to the Panel the alleged generic impacts flowing from the Rodoanel.
49. In addition, during the course of the Assessment Stage, the attorney for the Condomínio and the original Requester asked, as a condition for participating in the dialogue, that the Project Ombudsperson provide guarantees that processing of the loan operation would be

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<sup>60</sup> On 22 August 2011, the Project Ombudsperson declared this case ineligible for the Consultation Phase. Cf. ICIM, Project Ombudsperson, Rodoanel Mario Covas Northern Section 1 (BR-MICI003/2011). Determination of Eligibility. 15 August 2011. Available at: <http://www.iadb.org/es/mici/detalle-de-reclamo.1804.html?id=BR%20MICI003/2011>.



suspended during this phase.<sup>61</sup> In response, the Project Ombudsperson explained the special nature of procedures before the ICIM, emphasizing that this process did not suspend the processing or execution of a Bank financed operation, under the terms of the ICIM Policy.<sup>62</sup> The attorney and the original Requester then made it clear that they had no confidence in a dialogue process without the requested guarantee, believing that the Consultation Phase would give DERSA the opportunity to begin work on the project without meeting the legal requirements or taking the necessary measures to prevent, mitigate, and/or compensate for all the impacts caused to the Requesters.

50. Given this state of affairs, after repeated explanations about the procedure adopted during the Consultation Phase and, in particular, about the dialogue process,<sup>63</sup> the Project Ombudsperson asked the 64 Requesters, as primary stakeholders in the case, *to confirm their intention to initiate the dialogue process*. This request was based on the fact that, while each family living in the Condomínio could be affected by the project in different ways—depending, for example, on the location of their house—the issues to be discussed with DERSA during the dialogue process and the outcome of any agreement would have effects for all residents of the Condomínio. The majority of Requesters did not respond to this request for confirmation. Consequently, the Project Ombudsperson considers it neither reasonable nor appropriate to conduct a dialogue process dealing with issues of direct interest to all residents of Jardim Itatinga, without the consent of the majority of those residents.
51. **The Requesters’ loss of confidence in the executing agency.** As mentioned, some of the Requesters have expressed a lack of confidence in DERSA, and do not believe that a dialogue with the executing agency can address their concerns; this viewpoint was demonstrated in the explanations given by the original Requester in abandoning the

<sup>61</sup> In his email message of 25 November 2007, Dr. Castro Souza wrote: “Under the circumstances, in order to proceed with the panel formed at the request of Mr. Mauricio [de Souza], [the Requesters] ask that the IDB provide clear and explicit guarantees that the loan contract will not be signed, and no portion of the loan will be released to the contractor before all the actions necessary to address the impacts of the works on the community have been identified and quantified, and that an amount be withheld from the financing as a reserve to ensure performance of such actions, consistent with the points suggested and submitted earlier by the committee” (emphasis added).

<sup>62</sup> From the Policy Establishing the ICIM:

“48. Impact of Consultation Phase. The fact that a consultation phase exercise is initiated or ongoing does not halt the processing or execution of the Bank-financed operation, including disbursements by the Bank or the MIF, as the case may be. In cases where the Project Ombudsperson believes that serious, irreparable harm may result if processing or execution of a Bank-financed operation continue, the Project Ombudsperson may recommend to the President, the Board or the Donors Committee, as appropriate, that processing or execution be halted. The decision on the recommendation will be made by the body vested with the power to make such decision, subject to applicable Bank policies and legal documentation.

“50. Limitations. [...] Neither the Project Ombudsperson (nor any expert participating in the Consultation Phase) may interfere with the processing or execution of a Bank-financed operation.

“66. Impact of Compliance Review. In cases where the Panel believes that serious, irreparable harm may result if processing or execution of a Bank-financed operation continue, the Panel may recommend to the President, Board or Donors Committee, as appropriate, that processing or execution be halted. The decision on the recommendation will be made by the body vested with the power to make such decision, subject to applicable Bank policies and legal documentation” (emphasis added).

<sup>63</sup> The Project Ombudsperson explained that the purpose of the dialogue process is to identify, with effective participation by the stakeholders involved, measures capable of addressing the concerns of the Requesters.

Consultation Phase. Some Requesters have said that, in the absence of guarantees that the loan operation will be suspended during the dialogue process, the Consultation Phase could provide a tool for DERSA to proceed with construction and operation of the project (*supra* paragraph 49), and would prevent them from utilizing other mechanisms to prevent the project's alleged impacts and so ensure that their concerns are fully addressed.

## 6. Conclusion

52. In light of the foregoing, and although some Requesters have expressed their intention to continue with the Consultation Phase, the Project Ombudsperson concludes that, at present, the conditions do not exist to pursue an ICIM-sponsored dialogue process, inasmuch as: (a) the majority of Jardim Itatinga residents have not stated that they are in favor of pursuing the Consultation Phase; (b) the Requesters have lost almost all confidence in the executing agency; and (c) the condition set by the Requesters for initiating dialogue, i.e. to suspend the operation and not sign the loan contract between the Bank and the State of São Paulo, cannot be guaranteed by the Mechanism.

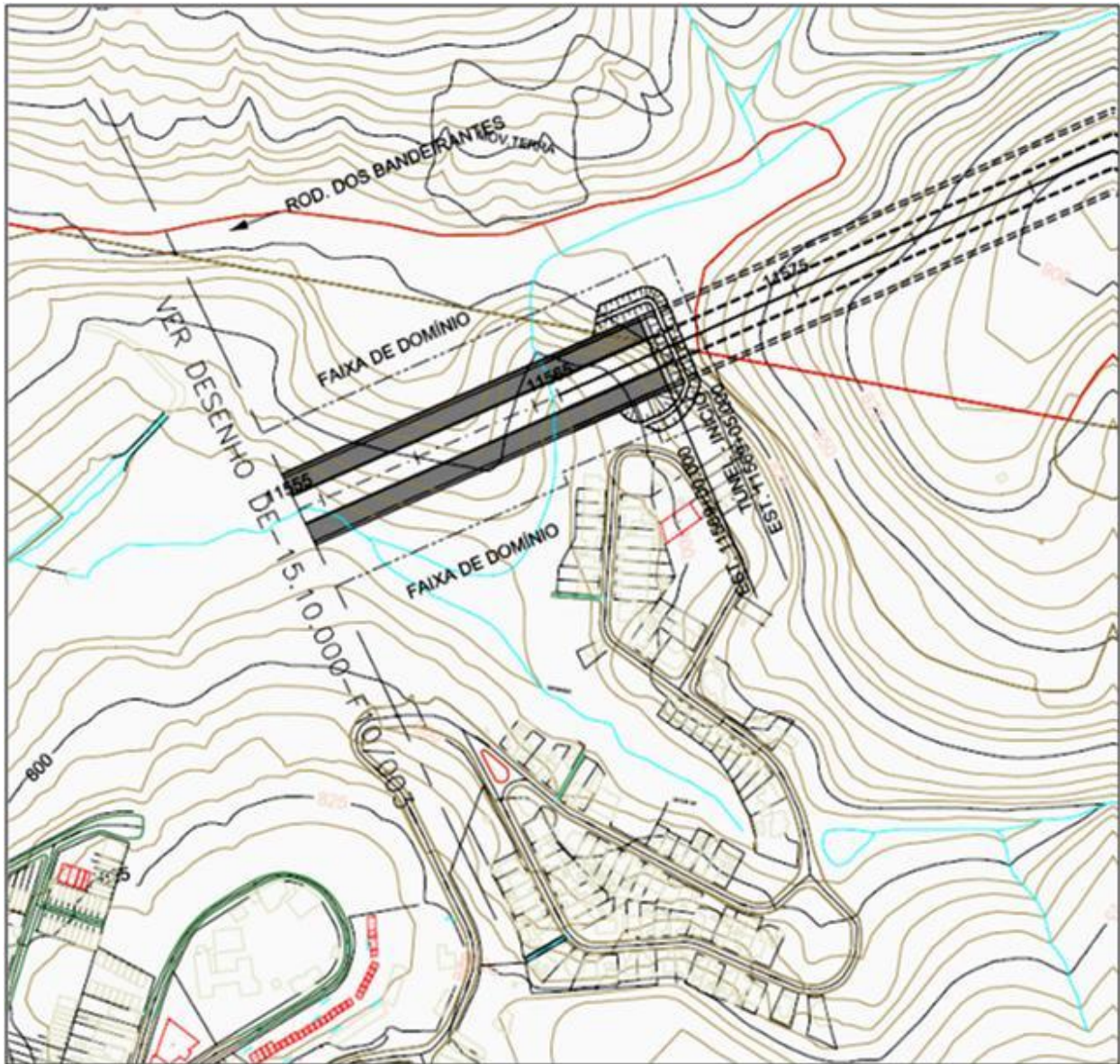
## 7. Next steps

53. Although the Project Ombudsperson finds that it is infeasible, at present, to initiate an ICIM-sponsored process of dialogue among the parties, she notes that the Consultation Phase may be reactivated by the parties, once the case has been reviewed by the ICIM Compliance Review Panel, if the conditions currently blocking dialogue are overcome, and the Request still meets the other eligibility requirements for the Consultation Phase, as provided in the Policy Establishing the ICIM.

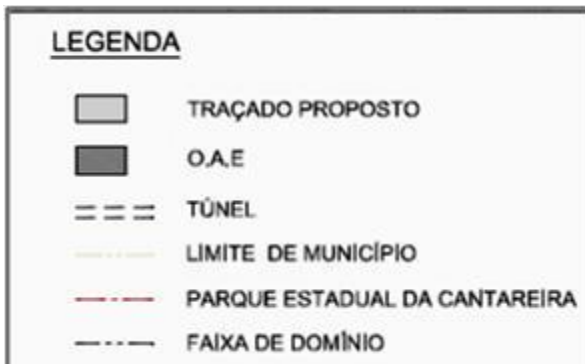


Annex 1

Borders of the project alignment in relation to Condomínio Residencial Jardim Itatinga



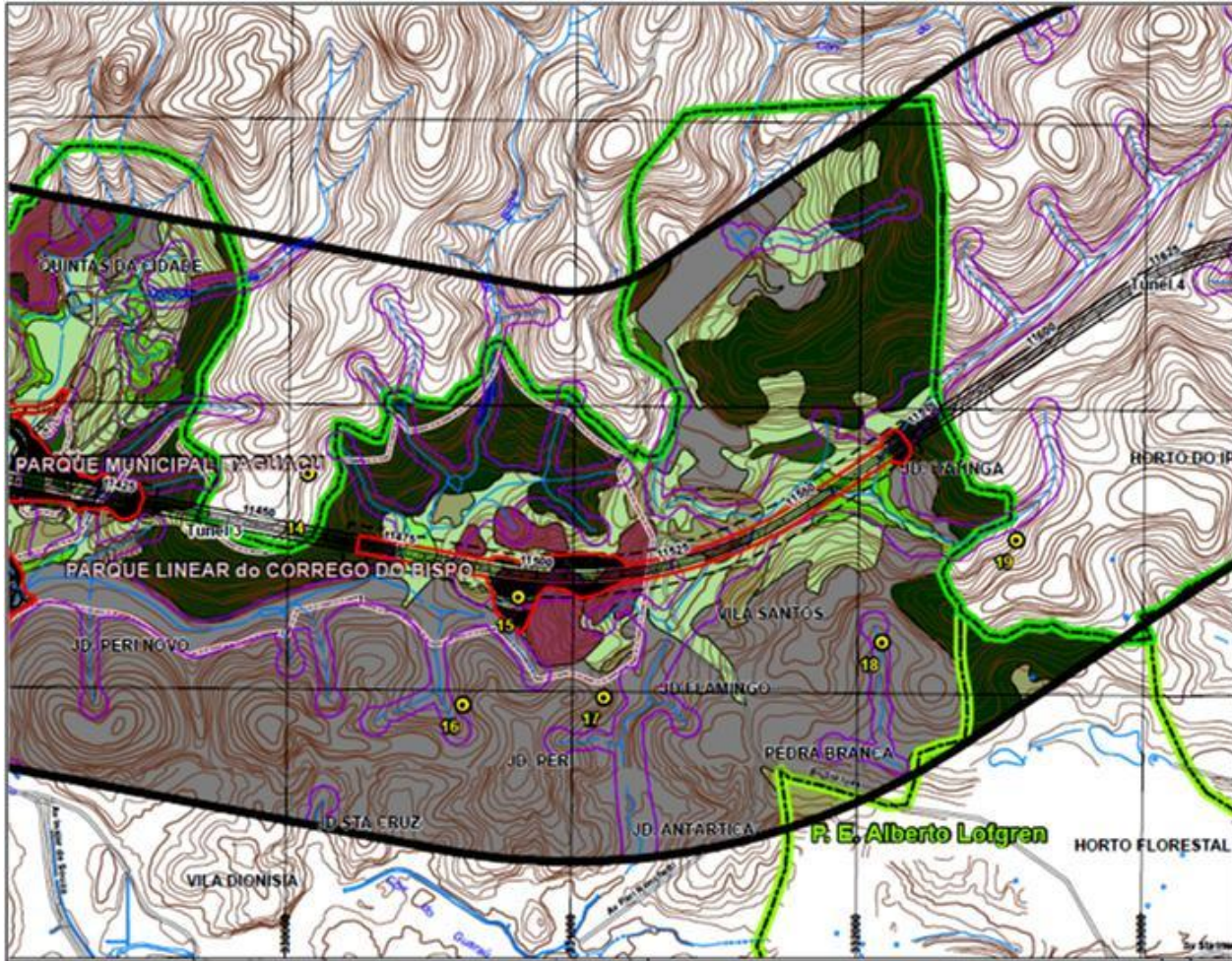
Source: DERSA / Consórcio JPG Prime Engenharia (EIA, Volume XI, Annex 12, page 6).





Annex 2

Borders of the project's area of direct influence in relation to Condomínio Residencial Jardim Itatinga



Source: DERSA / Consórcio JPG Prime Engenharia (RIMA, Volume I, page 60, Photograph 2 of 6).

